Learning nursing through simulation: towards an expansive model of learning

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Abstract

This thesis explores the impact of simulation upon learning for undergraduate nursing students. A brief history of the evolution of pre-registration nurse education and the development of simulation for nursing provide background and context to the study.

The conceptual frameworks used for this study draw upon the work of Benner and Sutphen (2007) and Engeström (1994). Benner and Sutphen's work highlights the complex nature of situated knowledge in practice disciplines such as nursing. They suggest that knowledge must be constantly integrated within the curriculum through pedagogies of interpretation, formation, contextualisation and performance. These pedagogies present a framework, which enhances the understanding of the impact of simulation upon student learning. Engeström's work on activity theory, recognises the links between learning and the environment of work and highlights the possibilities for learning to inspire change, innovation and the creation of new ideas. His notion of expansive learning offers nurse education a way of reconceptualising the learning that occurs during simulation. Together these frameworks present an opportunity for nurse education to articulate and theorise the learning inherent in simulation activities.

Conducted as a small-scale narrative case study, this study tells the unique stories of a small number of undergraduate nursing students, nurse mentors and nurse educators and explores their experiences of learning through simulation. The nurse educators viewed simulation as a means of helping students to learn to be nurses, whilst, the nurse mentors suggested that simulation helped them to determine nursing potential. The students' narratives revealed that they approached simulation learning in different ways resulting in a range of outcomes: those who were successfully becoming nurses, those who were struggling or working hard to become nurses and those who were not becoming nurses.

A theoretical analysis of learning through simulation offers a means of conceptualizing and establishing different perspectives for understanding the learning described by the participants and offers new possibilities towards an expansive approach to learning nursing. The study concludes by examining what this interpretation of learning might mean for nurse education, nursing research and nursing practice.

List of Tables and Figures

List of Abbreviations

ACRM	Anaesthesia Crisis Resource Management
BA	Bachelor of Arts
BSc	Bachelor of Science
BTEC	Business and Technology Education Council
DH	Department of Health
EN	Enrolled Nurse
GCSE	General Certificate of Secondary Education
GNC	General Nursing Council
HE	Higher Education
HEI	Higher Education Institution
MaD	Making a Difference
MEd	Master of Education
MSc	Master of Science
NHS	National Health Service
NHS REC	National Health Service Research Ethics Committee
NMC	Nursing and Midwifery Council
NVQ	National Vocational Qualification
OSCE	Observed Structured Clinical Examination
PGCE	Post Graduate Certificate in Education
PhD	Doctor of Philosophy
RAF	Royal Air Force
RCN	Royal College of Nursing
RN	Registered Nurse
UKCC	United Kingdom Central Council for Nurses, Midwives and Health Visitors

Introduction to the thesis

This study explores the impact of simulation upon learning for undergraduate nursing students. Conducted as a small-scale narrative case study, it tells the unique stories of a small number of undergraduate nursing students, nurse mentors and nurse educators and their experiences of learning through simulation. The students were enrolled on the RN BSc (Hons) Adult Nursing programme at a university in England. The nurse mentors supported the students in practice in a local NHS Hospital Trust. The nurse educators facilitated clinical simulation sessions at university.

The context of the study

Seven years ago, having had a variety of roles within nursing and nurse education in the United Kingdom and in Europe, I began a new role as a senior lecturer at a university in England. I became involved with the undergraduate adult nursing curriculum and worked closely with first year students facilitating their developing knowledge and understanding of nursing. It was during this early period in my new role that I met with a student nurse who was nearing the end of her first year. This meeting, I have since realized, re-awakened my interest in the use of simulation and its potential to help students to learn nursing. As we chatted, during what was a routine meeting to check progress and ensure that everything was in place for progression to year two, Emily summarized the highlights of her year at university. She was particularly enthusiastic about her new found ability to 'really understand nursing'. She emphasized that this was quite a recent development and had come about at the end of a series of clinical simulation sessions at university. The opportunity to make sense of key aspects of fundamental nursing care during simulation, and then take those understandings into the ward during her second nursing placement 'and use them with real patients' was for her, a leap forward in her journey to become a nurse. For Emily, it was not solely the ability to efficiently carry out the practical tasks required during patient care, but the realization of the impact and consequences of that care, and the capacity to recognise when additional nursing interventions were

required. This, she stated, had occurred as a result of the simulation sessions which had promoted her understanding of nursing practice.

Sometime later, whilst facilitating simulation sessions for nursing students preparing for a practical examination, I felt that they were in agreement with Emily. The simulation sessions appeared to contribute to their confidence and competence in performing the skills of nursing and understanding the implications of their actions. Having been introduced to the work of Patricia Benner (1984) during the early part of my nursing career, I believed that simulation experiences played an important part in the progression of these students from novice nurses to advanced beginners.

This thesis has given me the opportunity to interrogate my assumption that simulation is good; to look closely at what it can and cannot do, highlighting the challenges as well as the benefits. It has enabled me to consider simulation as a means of learning for undergraduate nursing students, gathering data from students, nurse mentors and nurse educators.

Simulation and nurse education

Simulation for nurse education has been defined as the provision of facsimiles of healthcare settings, which contain hospital artefacts to provide students with mock experiences through which to practice clinical nursing activities (Wellard et al., 2007). Barnstable (1997) suggests that it is 'a method whereby an artificial or hypothetical experience is created that engages the learner in an activity that reflects real life conditions but without the risk-taking consequences of an actual situation' (p.270). Simulation is a teaching and learning strategy that complements learning in real life situations with real patients. It helps to prepare students and health care professionals for their roles and offers opportunities for conceptual knowledge and skill development.

Simulation has gained momentum in health care education over the last forty years (Wilford and Doyle, 2006). The first simulator to teach student nurses in the UK was introduced in the 1950s (Peteani, 2004). In the late 1960s, Sim One, a

reproduction of the human patient, was developed for medical students to learn to interpret heart and lung sounds. This built on the work of Asmund Laerdal who developed the 'Resusci-Anne' a simulator which revolutionised resuscitation training (Bradley, 2006). Sim One combined computer technology with basic human models (Abrahamson et al., 1969) offering a more sophisticated, accurate and realistic approach to simulation learning (Seropian et al., 2004). Despite the technological advances in simulator design, simulation learning takes many forms and spans a spectrum of sophistication from simple reproduction of body parts through to complex human interactions portrayed by high fidelity simulators (Bradley, 2006). Simulation represents clinical practice through a variety of delivery methods including role-play, case studies, computer software packages, interactive manikins and actors (Moule et al., 2008).

Whilst the concept of simulation is not new, there has been an increase in its use in nurse education both nationally and internationally (Jeffries, 2007; Kaakinen and Arwood, 2009; Warland, 2011; Lasater, 2012). The Nursing and Midwifery Council (NMC), the United Kingdom's professional body responsible for professional registration and establishing and maintaining standards, have identified standards for the safe use of simulation and its inclusion as a contributory part to practice learning (NMC, 2007a). The development of these standards was influenced, in part, by the perceived variations in the levels of competence of undergraduate nurses upon registration.

There are a number of factors which have contributed to these perceptions. The increase in student numbers across the health care professions has led to difficulties and often inadequate supervision for the number of learners requiring practice placements (Maran and Glavin, 2003; Wilford and Doyle, 2006; Murray et al., 2010). Mentors continue to struggle with the conflicting demands of the service and the learning needs of their mentees (Fitzgerald et al., 2010). In addition, as health care providers work to re-organise their services in light of the UK Government's vision to modernise the NHS (Department of Health (DH), 2011a), placement availability diminishes. These factors, and others, inhibit opportunities for learning within the clinical environment and ultimately the development and clinical competence of the student (Mole and McLaffery, 2004;

Wilford and Doyle, 2006). A further viewpoint in relation to the increased use of simulation in health care education is the need to reduce the growth in clinical negligence claims. This is an international issue and one which continues to cause concern (Henrikson et al., 2008; World Alliance for Patient Safety, 2009). Simulation, according to Warland (2011), offers an approach that enables health care practitioners to practise and develop their skills in managing complex clinical problems in a low risk learning environment, thus decreasing risk for patients.

These factors and others, which are discussed in later chapters, have encouraged nurse educators worldwide to become more innovative in nurse education delivery and the preparation of nursing students for clinical work. Simulation has become an established pedagogy for teaching the fundamental skills of nursing, providing the learner with opportunity to acquire essential skills in an environment closely representing reality (Linder and Pulsipher, 2008). Many research papers highlight the potential for simulation to address the needs and challenges that continue to concern nurse education. Nurse educators sense that simulation is a powerful student learning strategy but there is little published research which objectively demonstrates this (Prion, 2008). The absence of an evidence base may locate simulation in the periphery and it may stagnate without commitment to the development of robust research (Bradley, 2006). More research into simulation and related teaching and learning practices needs to occur if nurse education is to take advantage of the simulation experience (Harder, 2009). My research offers a perspective on simulation and learning. It explores the impact of simulation upon learning for undergraduate nursing students and recognises its limitations.

Research questions

Knowledge and understanding of simulation in nursing is developing rapidly. It is internationally recognised that simulation activities take many different forms and offer a variety of different outcomes for those who participate in this approach to learning (Lasater, 2012; Levitt-Jones, 2012). It is therefore, helpful to make a distinction between the general area of my research study, the focus of my

research and the questions that I am seeking to address. The general area of my study is simulation in nursing. The specific focus of the study is learning through simulation for first year undergraduate nursing students. The study seeks to address the following questions:

- What is simulation and how has it evolved and developed in nurse education?
- What is the experience of participating in simulation education like for the student nurse?
- What do nursing students learn from simulation?
- What do nurse mentors and nurse educators believe that students should learn from simulation?
- What are the implications of learning through simulation for nurse education, nursing practice and nursing research?

The research presented in this thesis provides valuable evidence in answer to these questions. It presents narratives from a small number of undergraduate nursing students, nurse mentors and nurse educators and highlights their experiences of learning through simulation.

The value of narrative case study research

My research was conducted as a small-scale case study of an undergraduate adult nursing programme that used simulation. Before describing the structure and organisation of my thesis, I want to briefly explain why I chose to carry out the research in this way, and to answer some important questions about case study research in relation to its approach, relevance and generalizability.

A significant amount of research on simulation has adopted a quantitative approach, often using questionnaires or surveys to identify processes and to measure outcomes. These methods suit the current climate of nurse education policy, with an emphasis upon the operation and outcomes of simulation for nursing students and the preparation of a nursing workforce for the future. However, the scale of some of these surveys, the restricted responses they allow and their analysis of data into highly simplified and generalized categories, all

make it extremely difficult to understand the experience of simulation and how it impacts upon student learning. The complexities and idiosyncrasies of the simulation experience disappear in graphs and tables demonstrating trends, comparisons and statistical significance. These quantitative results show what tends to happen on the surface rather than what deeper learning may or may not occur as a result of simulation.

Narrative case study research offers a number of advantages, which balance its small scale against the depth of knowledge it can generate (Simons, 2009). In this research, rich data with many dimensions is provided, reflecting the different perspectives on simulation at an experiential level that may often be hidden from view. It offers an holistic understanding of students', nurse mentors' and nurse educators' experiences and views of simulation in the context of their professional (and sometimes personal) lives and situations. Individual narratives also allow readers to experience something of the impact of simulation on learning, enabling connections to be made with personal experiences and conclusions to be drawn, perhaps in contrast to those offered here (Kushner, 2009). It is when these narratives are contextualised and integrated into a theoretical framework, that they become transferable to other instances and offer new perspectives for theoretical understanding (Flyvbjerg, 2006).

My background as a registered nurse and senior lecturer in adult nursing has had a great influence on this work. One of my roles within the faculty is to teach and support students on the undergraduate adult nursing programme. I have a professional interest in clinical nursing development and in enabling nursing students to learn in a safe and supportive environment. In my teaching, I endeavour to help students to integrate theory and practice in order to achieve development of competence as they progress through the programme and learn to be nurses. It is essential that students are able to learn and develop the fundamental skills of nursing as they learn to be nurses. Simulation may provide that opportunity, where students can begin to develop and refine their understanding of nursing in order to provide care for their patients.

Structure and content of my thesis

This thesis is organized into four sections. It is conventional in its structure and written in a logical order, which perhaps belies the non-linear experience that was my research journey. Discussion of my research choices and my ontological, epistemological and axiological positions in later chapters illuminate my realizations and my challenges.

Section 1 consists of two chapters which explore the literature and consider the background and context of simulation for nurse education. In Chapter 2, I present a brief history and evolution of pre-registration nurse education in the United Kingdom focusing upon changes in nurse education from the 1970s to the present day. I consider the move towards graduate only recruitment and highlight the debate regarding competence in pre-registration nurse preparation. Chapter 2 identifies the strategies used within nurse education to address concerns about competence, access to quality placements and the changing health care needs of the population. This provides context and background to the study and enables readers to position simulation within nurse education and consider its potential for learning. Chapter 2 also explores the concept of simulation for learning in relation to reality, fidelity and authenticity.

The second chapter in this section, Chapter 3, introduces the conceptual frameworks used for this study which draw upon the work of Patricia Benner and Molly Sutphen (2007) and Yrjö Engeström (1994). Benner and Sutphen's work highlights the complex nature of situated knowledge in practice disciplines such as nursing. They contend that the pedagogies of interpretation, formation, contextualisation and performance, used in clergy education, offer a valuable approach for learning nursing. Drawing upon work by Foster et al., (2005) in relation to the education of clergy, Benner and Sutphen (2007) suggest that these pedagogies offer a more interpretative, historical and contextual approach to learning nursing. For my research, these pedagogies offer a means of interpreting and exploring the impact of simulation for learning key aspects of nursing. Drawing upon the work of Engeström (1994) chapter 3 also introduces the concept of expansive learning as a means of conceptualizing simulation learning,

and offers a different understanding of the learning that takes place as students learn to be nurses.

Section 2 examines my research approach and design, and offers explanation of what I did, how I did it and the rationale for my research choices. Chapter 4 focuses upon methodology and explores my ontological, epistemological and methodological positions, and explains how they led to the research methods that I used. This chapter then progresses to consider the challenges of interviewing and dealing with the research data generated. The thought-provoking subject of how best to represent people's thoughts and experiences is followed by a discussion of important ethical considerations and the dilemmas that I encountered. Chapter 5 presents the institutional context for the students who participated in the study and gives an account of simulation and OSCE in the first year of the adult nursing programme. This description of simulation provides a more detailed look at its operation and augments discussion of the wider context presented in Chapter 2. The chapter continues by focusing upon the research participants, examining how they were selected for the study and considers how my choice of case study accommodated issues of 'generalizability'. Discussion and elucidation of data collection methods is followed by explanation in relation to how the narratives of learning through simulation are presented in section 3.

Section 3 focuses upon the participants in my study and offers a view or 'snapshot' of their experiences and understandings of simulation as students learn to be nurses. In Chapters 6 and 7 the narratives from the nurse educators, nurse mentors and students focus upon simulation in four key areas: learning and practising the skills of nursing (*performance*); learning to make links between theory, practice and context (*contextualisation*); learning to interpret information for patient care (*interpretation*) and, developing a nursing identity (*formation*). These areas link closely with the work of Benner and Sutphen (2007) and Foster et al., (2005), discussed in chapter 3, and offer new perspectives for understanding simulation and learning. Chapter 6 presents the narratives from the nurse educators' and nurse mentors' perspectives. The nurse educators viewed simulation as a means of helping students to learn to be nurses, whilst, the nurse mentors suggested that simulation helped them to determine nursing potential.

Chapter 7 presents simulation experiences from the students' perspectives. Their narratives reveal that they approached simulation learning in different ways resulting in a range of outcomes: students who were successfully becoming nurses, those who were struggling or working hard to become nurses and those who were not becoming nurses.

Section 4 presents theoretical analysis of learning through simulation and concludes with recommendations for nurse education, nursing practice and nursing research. Chapter 8 offers expansive learning (Engeström, 1994) and the four pedagogies for professional learning developed by Benner and Sutphen (2007) as a means of conceptualizing and establishing a new perspective for understanding the learning described by the participants, through their experiences of simulation. Also in this chapter, consideration of information highlighted in the data collected attempts to shed some light upon the difficulties that unsuccessful students faced in their engagement with simulation. Chapter 9 examines what these interpretations of learning might mean for nurse education, nursing research and nursing practice. Recognising the four-fold taxonomy created to elucidate distinguishing features of education for professional practice, this chapter summarizes the participants' experiences of simulation and the possibilities their revelations offer towards an expansive approach to learning nursing.

Chapter 2: The evolution of pre-registration nurse education

This chapter examines the evolution of nurse education in the United Kingdom focusing upon changes in nurse education from the 1970s to the present day, the move towards graduate only recruitment and competence in pre-registration nurse preparation. It highlights the strategies used within nurse education to address concerns about competence, access to quality placements and the changing health care needs of the population. This will provide context and background to the study and enable readers to position simulation within nurse education and begin to determine its potential for student nurse learning.

Professional nursing and nurse education

Nurse education in the 1970s and 1980s was delivered, mainly, in schools of nursing which were situated either in or close to National Health Service (NHS) hospitals. The co-location of schools of nursing and hospitals emphasized the apprentice style approach to nurse training and can trace its roots to the Nightingale reforms (Nightingale, [1859] 1980). This apprentice style approach provided 'on the job' training in which student nurses learned their nursing skills as part of the hospital nursing workforce caring for patients. Nursing students were employed by the hospital where they were training. There were some University based degree programmes at this time, but even these generally adhered to the national expectations on nurse training. The General Nursing Council (GNC) oversaw these requirements. Most nursing students undertook state final examinations for the part of the register for which they were undertaking training. Apart from a category of experimental programmes such as some of the degree courses, these examinations were universal and undertaken by all nurses on the same day.

The Briggs report in 1972 proposed significant changes to nurse education and the nurses' statutory bodies This resulted in the establishment of the United Kingdom Central Council for Nursing, Midwifery and Health Visiting (UKCC) and the four National Boards for Scotland, England, Wales and Northern Ireland.

A series of projects and working papers were commissioned and resulted in the eventual recommendations for Project 2000 (UKCC, 1986). Amongst the many recommendations, it was suggested that the number and organisation of nursing and midwifery schools should be reduced and linked with establishments of further and higher education (Department of Health Nursing Division, 1989). Subsequently, there was a period of transition where the old and the new curriculum were run in parallel: the old training type curriculum, with its focus on clinical skills and nursing care of patients mainly in hospitals, and the new curriculum with its focus upon biological sciences, sociological aspects of health and a more rounded view of patient care which included community nursing (Hart, 2004).

Project 2000 was planned and developed to change the philosophy of nurse education from an apprenticeship approach to an education-led approach, leading to a knowledgeable and clinically competent nurse 'a knowledgeable doer' (UKCC, 1986). A common foundation programme of 18 months was introduced, which aspired to give all nurses a common introduction to the basic sciences, such as biology, psychology and sociology, as well as nursing care, and to the specific skills required to undertake specialist study for their branch of nursing. This was then followed by an 18-month branch programme. The culmination of these two distinct parts of the nursing programme was to register in a particular area of nursing such as adult nursing, learning disability, children's or mental health nursing. Practical nursing skills and experience in caring for patients were achieved within clinical placement areas and during classroom skills sessions. The main difference from the previous training programme was that students were now considered to have supernumerary status and were not counted as part of the permanent nursing workforce. They received an educational bursary for their studies and were no longer salaried with the exception of a small number of students who were enrolled on hospital cadet schemes. In each clinical placement, students were to be allocated a mentor, a registered nurse who would support and facilitate their learning in practice.

The name of the programme 'Project 2000' highlighted the goal that by the year 2000, all nurses entering the register would have undertaken this type of

preparation and would thus be prepared for the demands of nursing in the next century. However, despite the changes implemented through the Project 2000 curriculum, there was significant concern from NHS management and nursing staff that this curriculum was not preparing students to work effectively as registered nurses (DH, 1999). Reduction in time spent in the clinical areas (Farrand et al., 2006) and changes to placement allocations were highlighted as key areas of concern. This perceived reduction on the emphasis of clinical skills and resulting reduction in competence, initially evolved from research which suggested that the classroom setting was not as good as the clinical placement for teaching clinical skills (McAdams et al., 1989; Gomez and Gomez, 1987). Some have argued that such claims were unsubstantiated and that there was no objective evidence that Project 2000 students were any less competent than students who undertook earlier curricula (Lauder et al., 2008). Thus, the teaching of clinical skills was, in the main, left to experience with mentors during nursing practice placements. This resulted in great variation of skills practice and competence between different placements and thus between students.

The late 1990s saw further significant changes in the NHS, many as a result of the publication of the proposals for *Making a Difference – Strengthening the Nursing, Midwifery and Health Visiting Contribution to Health and Healthcare* (DH, 1999). The Peach Commission Report (UKCC, 1999) was also published at this time. The Peach report recommendations included:

> Recruitment and selection should be a joint responsibility between health care providers and Higher Education Institutions (HEIs).
>
> The initial 18 month Common Foundation Programme (CFP) should be reduced to one year and should enable the achievement of a common level of competence. It should be taught in the context of, and enable integration with, the branch programmes and should introduce clinical skills and practice placements early in the programme.

> Practice placements should achieve agreed outcomes, which benefit student learning and provide experience of the full 24 hours per day and 7 days per week nature of health care.
>
> Students, assessors and mentors should know what is expected of them through specified outcomes and competencies which form part of a formal learning contract, give direction to clinical placements and are jointly negotiated between the health care providers and HEI's.
>
> There should be a period of supervised clinical practice of at least three months towards the end of the pre-registration programme.

Research evaluations of the Project 2000 curricula such as those by Macleod Clarke et al., (1996) and Fulbrook et al., (2000) supported the recommendations of the Peach Commission Report (UKCC, 1999) particularly in relation to clinical skills and competencies. There was a strong influence in bringing nurse education back to a closer relationship with the NHS and its workforce. Consequently, a number of pilot sites were commissioned to implement many of the recommendations of the Peach Commission Report (UKCC, 1999), which were then formally evaluated (Scholes et al., 2004). This pilot site endeavour was called '*Making a difference*' (MaD) and became compulsory for English universities. Northern Ireland adopted a similar path (Watson et al., 2004). Wales and Scotland did not adopt all of the MaD recommendations but they were obliged to revise the delivery of nursing education in their countries (Scottish Executive, 2001; National Assembly for Wales, 1999). Whilst there was variation across the UK in the delivery of nurse education, there was also similarity in relation to a shifting focus towards competency and skills-based education and training as opposed to the previous focus on a more rounded educational experience and a wider knowledge base for nursing. Nursing skills were introduced earlier into the programme. Mentors and students were given greater clarity and direction in terms of the skills that were required through specific learning outcomes and competency statements, which formed part of a formal learning contract for practice.

Following the reconfiguration of the UKCC to the Nursing and Midwifery Council (NMC) in 2002, it became the NMC's responsibility to ensure that the standards for practice were central to the nursing curriculum and to manage the professional register for nurses and midwives. The role of the Quality Assurance Agency for higher education also became relevant with its focus on ensuring benchmarking of outcomes.

The NMC oversees all aspects of nurse education in England but devolves certain functions to bodies in the other UK countries (Watson et al., 2004). The requirements of the NMC regarding the practice content in any programme are wide-ranging and as such, interpreted in different ways across the UK. Universities have some autonomy in designing programmes according to these guidelines and the similarly broad QAA benchmarks. 'Fitness to practice', the term used by the NMC to describe pre-registration nursing education requirements for registration, is a guiding concept rather than prescriptive as established in the earlier General Nursing Council requirements, which required specific nursing skills to be achieved by all students, prior to becoming a registered nurse.

In 2006, the Governments in all four UK countries set the policy blueprint for registered nurses. *Modernising Nursing Careers* (DH, 2006) was one of the most radical and important initiatives in recent years. It outlined the priorities for nursing in four key areas focusing upon a competent and flexible workforce, preparation of nurses to lead a changed healthcare system, updated career pathways and modernising the image of nursing and midwifery careers.

These ambitious goals were introduced with the aim of making a real difference in preparing nurses for the health care demands of the 21st century. Much of the responsibility for this lies with current providers of nurse education. In the last decade, there have been massive global policy shifts that impact upon health care delivery and correspondingly, on nurse education. Around the world, measures have been taken to reshape and reform nurse education, so that it can continue to develop and sustain a knowledgeable and skilled workforce (Thorne, 2006). Thus, issues such as the recruitment of students, the funding of nurse education

and the academic level of education programmes are all under continuous and widespread scrutiny.

Graduate Nursing

In 2008, the NMC ratified proposals to make nursing an all-graduate profession by 2013 (NMC, 2008a). This means that in line with the other UK countries (and many countries throughout the world), the minimum academic award for pre-registration nursing programmes in England will be a degree. This is a move that has been championed by a number of organisations. The Royal College of Nursing (RCN) (2002) argued that the complexity of nursing requires a level of knowledge and cognitive skills that correspond to degree level education. They also referred to the issue of equivalence between professions whereby non-graduate nurses have less influence with their graduate professional colleagues during clinical negotiation and collaboration. As nursing becomes a global profession and nurses opt for international mobility, they need to be prepared for work in a global world (Thorne, 2006). This is consistent with the aim of *Modernising Nursing Careers* (DH, 2006) in terms of preparing a competent, flexible workforce. The transferability of the nursing qualification offers graduate nurses the benefit of greater opportunities for work in countries where registration is at graduate level.

The case for all-graduate entry to the nursing profession has been well rehearsed (Topping, 2004); however there are considerable implications. Research by the English National Nursing Research Unit concluded that around one-third of current entrants to the profession each year do not have sufficient qualifications to undertake a degree (Mooney, 2009). There is contention that degree programmes focus on theory and research to the detriment of practice experience (Bradshaw, 2001). As a result, graduate nurses are criticised in relation to a lack of competence when they first qualify (Roberts and Johnson, 2009). This is an accusation seldom, if ever, targeted at any of the other graduate professions within health care (Thompson and Watson, 2005). For nurse education, it is important that graduate programmes combine theoretical and practical learning in order to ensure that students are prepared for the real world of nursing. As will be

discussed later in this chapter, the use of simulation has been seen as one way of achieving this, offering students the opportunity to explore and learn the complexities of competent nursing practice in a safe and controlled environment. It is with competence in mind that I move to explore the extent to which educational programmes in the UK prepare future nurses to achieve the aspirations of the modernisation agenda.

Competence and competency: controversy and confusion

The literature on competency and the assessment of competence in nursing is vast. Accordingly, definitions of nursing competence are numerous but often lack consensus instead offering ambiguity, contradiction and confusion (Bradshaw, 2000; Watson et al., 2002; Cowan et al., 2005). The literature also demonstrates that there is confusion between terms where *competence*, *competency*, *capability* and *performance* are used interchangeably and often inconsistently (Woodruffe, 1993; Dolan, 2003; McMullan et al., 2003). According to Benner (1984) competency is the ability to perform a task with desirable outcomes under the varied circumstances of the real world. In her continuum of nursing practice, Benner places competence in the middle suggesting that competent practitioners are 'consciously aware having the ability to plan for the future, but lacking the speed or flexibility of the proficient nurse' (Benner, 1984, p.26). Eraut and du Boulay (1999) make distinctions between competence as the ability to perform tasks and roles to expected standards and competence as an individualised set of personal characteristics or capabilities. Chapman (1999) defines competence in relation to doing and knowing, focusing upon the debate between doing things to people and being with people. The main distinctions of these definitions are those that suggest competence is concerned with behavioural objectives (Chapman, 1999; Eraut and du Boulay, 1999; Winskill, 2000), those who interpret competence as performance (While, 1994), and those who focus upon the psychological constructs of affective and cognitive skills (McAllister, 1998; Chapman, 1999). A more recent suggestion by Cowan et al., (2005) offers an holistic view of competence as a possible solution (Short, 1984; Gonczi, 1994). Rather than adhering to the dichotomy of nursing competence as behavioural objectives or psychological constructs, they propose the employment of an

holistic conception of competence which recognises that 'nursing practice requires the application of complex combinations of knowledge, performance, skills, values and attitudes' (Cowan et al., 2005, p.361). In light of this, it is interesting to note that the NMC have changed their definition of competence from a description of the skills required for safe practice (NMC, 2002) to a more detailed definition. The current definition describes competence as an holistic concept and the combination of skills, knowledge and attitudes, values and technical abilities that underpin safe and effective nursing practice (NMC, 2010).

In terms of the preparation of the next generations of nurses, therefore, the situation is extremely complex. Nurse education has a number of issues to address in relation to degree qualification and competence. The mandatory standards (NMC, 2010) to be implemented by 2013, and introduced at a time when entry to the profession becomes degree-only throughout the UK, include requirements for students in all field of nursing (adult, mental health, learning disabilities and children's nursing) to be educated in caring for people of all ages and also for those with cognitive impairment and learning disabilities. The change is in response to an ageing population, increased prevalence of long-term conditions and the shift in emphasis to care provision outside acute hospitals. In addition, preparation for curriculum changes and continuing concerns over access to quality placement opportunities will mean that health care and education providers must work together to ensure that students are equipped with the skills, knowledge and values that they need to ensure the best possible patient care.

Strategies to address concerns of competence and fitness to practice

In response to these concerns, and recognising the changing care needs of the population of the 21st century, universities have been setting up skills laboratories, and simulation centres or suites since the 1990s. These clinical environments built within universities represent wards or units where learning and assessment of clinical and communication skills can be carried out (Nicol and Freeth, 1998; du Boulay and Medway, 1999; Ker et al., 2003; Reilly and Spratt, 2007). The use of skills laboratories has been further developed through

engagement with simulation to contextualise clinical practice learning (McCallum, 2007).

Research undertaken to evaluate this method of skills acquisition found that the use of skills laboratories and simulation offered good opportunities for learning in a safe environment (Nicol and Freeth, 1998; du Boulay and Medway, 1999; Scott, 2001). However, it was noted that it should be included as a complementary approach to learning and should not replace clinical experience in placement (Gomez and Gomez, 1987; McAdams et al., 1989; Jeffries et al., 2002; Morgan, 2006). The laboratory environment was seen to provide a controlled setting in which students could familiarize themselves with the skills of nursing. Clinical skills laboratories and simulation of practice became an important component of nurse education. In 2006, the NMC recognised that this was a key feature of learning for many universities and piloted the *Simulation and Practice Learning Project* (NMC, 2007a) across 17 universities and higher education institutions in the UK. The aim of the project was to find out if a period of practice in a simulated environment for pre-registration nursing students could support the development of the care skills, knowledge and values needed for safe and effective practice. This project followed feedback gathered from the initial phase of the *Review of Fitness for Practice at the Point of Registration* (NMC, 2004a), which strongly supported the use of simulation and skills rehearsal (Moore, 2005).

The use of clinical skills laboratories and simulation of practice as a means of addressing deficiencies in clinical competence was developed further by the use of the Objective Structured Clinical Examination (known as the OSCE) as an assessment measure. The OSCE was originally developed by Harden and Gleeson (1979) in order to assess the clinical competence of medical students. Students rotated through a range of 'stations' where they were assessed according to precise sets of criteria. The use of OSCE for nursing has been positively evaluated (Knight and Mowforth, 1998; Khattab and Rawlings, 2001; Alinier, 2003; Major, 2005; Rushforth, 2007), motivating students to learn the clinical skills being examined, and identifying strengths and weaknesses in clinical competence.

The use of simulation has developed as nurse education has evolved. As a strategy to address concerns about clinical competence and as a means of enabling students to develop the skills of nursing, it has many supporters. It is therefore important to look at the evolution and development of simulation within nursing in more detail in order to position it within nurse education and to determine its significance for learning.

Simulation in Nurse Education

Changes in society and developments and revisions to nurse education have altered the way that nursing students learn to care for their patients competently. Simulation experiences are a feature of many nursing curriculum worldwide as educators strive to enable students to develop the complex skills of nursing, and in doing so, begin to integrate theoretical knowledge into practice.

Simulation, a technique that has been used in fields such as aviation and defence since the 1930s (Scherer et al., 2003), is now being used in a variety of ways in nursing education. Simulation takes many different forms and as a consequence there is no universally accepted definition.

In relation to undergraduate nurse education, simulation is described as a representation of a health care setting which may contain clinical equipment and offer an environment where students can practise clinical nursing activities (Wellard et al., 2007). The NMC describe simulation as a teaching approach, which will enable students to practise the required competencies for their programme of study, consolidation of these competencies being achieved in the placement setting (NMC, 2007b). Simulation is being used by universities across the world to enable student nurses to engage with clinically based scenarios, and to relate evidence to clinical decisions, informing clinical competence and confidence in a safe learning environment (Wilson et al., 2005; Moule et al., 2006; McCaughey and Traynor, 2010).

Clinical simulation does, in fact, span the centuries; models have long been used to help students learn about anatomical structures. The modern era of medical

simulation has its origins in the second half of the 20th century. Three distinct movements can be identified which have spurred the development of clinical simulation. Lærdal, a Norwegian publisher and toy manufacturer, working with anaesthetists, developed the Resusci-Anne, the part-task trainer that was to revolutionise resuscitation training through the widespread availability of a low-cost, effective training model (Tjomsland and Baskett, 2002).

The second movement is typically associated with modern simulation and concerns the development of simulators dedicated to the reproduction of aspects of the human patient. The earliest of these was the Sim One, developed by Abrahamson and Denson in the late 1960s (Abrahamson et al., 1969). However, the Sim One failed to achieve acceptance, despite promising early reports of its effectiveness in training. This was largely because the need for anything other than apprenticeship-based training had not yet been defined and, secondly, because the cost of the technology at the time did not permit more than one example to be produced.

Following these early attempts, American researchers focused significant attention on the development of team-based working in realistic simulation environments and incorporated the aviation model of crew resource management into the anaesthesia crisis resource management (ACRM) curriculum, leading to significant developments in simulators for clinical training (Gaba et al., 2001). These simulators and some European counterparts (from Holland, Denmark and the UK) form or have formed the basis for today's modern moderate to high-fidelity simulator. They have been at the forefront of the development of high-fidelity simulation. Led by the anaesthetic community, these manikins have been central to the understanding and development of simulation-based learning and training.

The use of simulation in health care education spans a spectrum of sophistication, from the simple reproduction of isolated body parts (low fidelity simulation) through to complex human interactions portrayed by simulated patients or high-fidelity human patient simulators which replicate whole body appearance and variable physiological parameters.

Recent advances have made more affordable technologies available. These technologies permit the reproduction of clinical events with sufficient fidelity to enable learners to engage in a realistic and meaningful way. At the same time, reforms in undergraduate and postgraduate health and social care education, combined with political and societal pressures, have promoted a safety-conscious culture where simulation provides a means of risk-free learning in complex, critical or rare situations (Gaba et al., 2001). Furthermore, team-based and inter-professional approaches to learning and health care are believed to be promoted through the simulated learning environment.

Studies evaluating simulation based on students' perceptions are overwhelmingly positive (Hogg et al., 2006; Johnson et al., 1999; Weller, 2004; Ker et al., 2003; Mole and McLafferty, 2004; Robertson, 2006). Most studies are relatively small yet in a study by Ker et al. (2003), 151 students evaluated a simulation exercise as a powerful learning experience. However, McFetrich (2006) highlighted that most evaluations used observation or self-report satisfaction questionnaires and more evidence of the educational and clinical value of simulators is needed. Several studies have compared simulation with other teaching methods. Simulation was found to be more effective than traditional teaching methods (Yoo and Yoo, 2003; Alinier et al., 2006) and problem-based learning (Steadman et al., 2006). Empirical data reveals that students value simulation as a teaching and learning approach. Studies by Rystedt and Lindstrom (2001), Alinier et al. (2004), Mole and McLaffery (2004) and Schoening (2006) reveal that students who were exposed to this approach found that their learning needs were met and they experienced an increase in confidence and competence. Simulated activities are also considered to have improved safety (Hogg et al., 2006).

Some researchers have evaluated whether skills laboratory practice enhances placement performance with varied results (Erickson Megel et al., 1987; Gomez and Gomez, 1987; Hallal and Welch, 1984; Love et al., 1989; McAdams et al., 1989). A literature review by Knight (1998) supports the use of a controlled, safe environment for initial practice. Freeth and Fry (2005) surveyed 199 nursing students and 35 tutors regarding their perceptions of learning and teaching in clinical skills laboratories. Respondents considered that such learning linked

theory and practice, but tutors were unsure about how students' skills centre performance reflected their placement ability. Statements about safety as a benefit of skills laboratory learning were not strongly supported (Freeth and Fry, 2005). Morgan (2006), in a phenomenological study of six first year nursing students' experiences, identified that skills laboratories provided a controlled environment which helped students link theory to practice and where procedures were taught correctly.

Simulation and Objective Structured Clinical Examination (OSCE)

As previously stated in the discussion on strategies used to address concerns of competence and fitness to practice, the OSCE offered a mechanism through which simulated clinical nursing could be assessed. The OSCE was found to be a rigorous way of identifying students strengths and weaknesses in clinical nursing practice and was incorporated into the pre-registration nursing curriculum by some universities in order to address some of the difficulties outlined above.

The OSCE was originally developed for the assessment of medical students in Dundee in the 1970s (Harden and Gleeson, 1979). Within a few years it also spread beyond medical education to other health care professions including radiology (Marshall and Harris, 2000), physiotherapy (Nayer, 1993; Wessel et al., 2003), and nursing (McKnight et al., 1987; Ross et al., 1988; Alinier, 2003). As the use of OSCE has grown, so health professionals have begun to debate many aspects of the process. A number of important strengths and limitations of OSCE have been identified within the literature relating to its role in the objective assessment of nursing practice (Watson et al., 2002; Schuwirth and van der Vleuten, 2003). Positive evaluations from students and lecturers (Ross et al., 1988; Roberts and Brown, 1990) have highlighted the broad range of skills tested (McKnight et al., 1987; Watson et al., 2002) and increased consistency of experience between students (McKnight et al., 1987). Students have also reported motivation for learning when engaging with simulation and OSCE (Bartfay et al., 2004; Mitchell et al., 2009). According to Nulty et al. (2011) simulated clinical

situations such as OSCEs are intrinsically aligned and authentic and should also promote student engagement and the achievement of desired learning outcomes.

Indeed, it is this combination of benefits that have led some to regard the OSCE as the 'gold standard' of health professional assessment (Bartfay et al., 2004). However, all such claims need to be carefully appraised before such conclusions are drawn. Furthermore, there are some important disadvantages that are also recognised within the literature. The most frequently cited disadvantage is student stress (McKnight et al., 1987; Bujack et al., 1991a; Stroud et al., 1999; Bartfay et al., 2004). Personal experience endorses this observation. Students clearly find the process enormously stressful; stress which could in turn adversely affect performance. However, studies attest to students valuing the process despite the stress involved (Bujack et al., 1991b; Stroud et al., 1999). Furthermore, both Bujack et al. (1991b) and Bartfay et al. (2004) argue that performing in stressful situations increases the validity of OSCE, in its congruence with the stressful 'real world' of clinical nursing practice. Another limitation however, is that of the complex orchestration of simulation, including faculty time, costs, and staffing (Bartfay et al., 2004).

The OSCE is integral to the simulated clinical learning environment. Currently it is used as a means to assess students' learning outcomes. However, it also has great potential as an aid to learning, directing attention to areas of significance and acting as an incentive for learning (Boud and Falchikov, 2007). In my study of the impact of simulation upon undergraduate student learning, I hope to begin to shed light upon simulation and OSCE and their roles as incentives for learning.

Learning nursing through simulation

A major assumption in my approach to this study was that literature focusing upon simulation for nursing would have at its core an emphasis upon learning. I had assumed that learning would be evident in evaluations of the use of simulation in nurse education or apparent from analysis of student participation in simulation. However, much of the literature examined addressed simulation from the perspective of a teaching paradigm rather than a learning paradigm.

There is a predisposition of the nurse education literature towards teaching, as authors are encouraged to market their work for journals, which focus upon teaching and where educational issues are 'institutionally framed' (Keen, 2007). Given this disposition, there is the temptation here to explore the teaching paradigm, to discover the influence of different teaching approaches and styles during simulation and their impact upon student learning. Whilst this would provide interesting data in terms of student learning, and a fascinating perspective upon the influence of the facilitator(s) during simulation, this is not the purpose of this study. The focus of this study is to explore features of the *learning* paradigm in order to determine the impact of simulation upon learning for undergraduate nursing students.

A systematic review of nursing simulation literature and its use of learning theory by Kaakinen and Arwood (2009) concluded that for simulation to foster student learning, there must be a fundamental shift from a teaching paradigm to a learning paradigm. They also suggested that foundational learning theory should be used to design and evaluate simulation. In a systematic review of simulation based learning in nurse education, Cant and Cooper (2010) established that 'simulation enables nurses to develop, synthesize and apply their knowledge in a replica of real experience' (p.13). Whilst much of their review focuses upon simulation as a teaching method, they do suggest that an important factor influencing learning through simulation is feedback. Cant and Cooper (2010) support the views of Issenberg et al. (2005) emphasizing the role of feedback in simulation and the opportunity it affords students to self-assess, learn and monitor personal progress. These literature reviews and my own literature searches demonstrate that, although nascent, there is a developing body of literature, which has as its focus learning and simulation. This literature was examined in order to determine how learning is defined and understood within the field of simulation for nurse education.

Defining and describing simulation for learning

A recent concept analysis of simulation as a learning strategy in the education of undergraduate nursing students resulted in the following definition:

> *A dynamic process involving the creation of a hypothetical opportunity that incorporates an authentic representation of reality, facilitates active student engagement and integrates the complexities of practical and theoretical learning with opportunity for repetition, feedback, evaluation and reflection.*
>
> (Bland et al., 2011 p.668)

Bland et al. (2011) highlight the pace at which research into simulation in nursing is evolving and identify a range of antecedents, attributes and consequences as a basis to stimulate further discussion, development and understanding in the field. A number of these features are discussed in this chapter.

Simulation has become an established pedagogy for teaching clinical nursing skills (Berragan, 2011), offering students the opportunity to learn fundamental nursing skills in a safe environment, which closely represents reality (Linder and Pulsipher, 2008). Jeffries (2005) describes it as an active learning strategy where the learner is central to the activity, and the role of the educator is to facilitate learning and encourage students to demonstrate self-motivation and direction. Fiengold et al. (2004) and Lambton (2008) accept the active nature of learning which is offered through simulation. They highlight further opportunities presented by this approach in terms of alternative and complementary responses to the challenge of securing consistent learning opportunities in clinical practice, and the adoption of simulation as an attractive alternative strategy in many universities.

The nurse education literature supports the use of simulation for helping students to feel more confident and competent in performing clinical work (Leigh, 2008). However, self-confidence and self-efficacy are only part of the learning picture. Other aspects of learning include conceptual knowledge and skill development.

According to Jeffries (2005) simulation is used to facilitate 'connections between and among concepts and engage students in the learning process' (p. 99). Leigh (2008) takes this further suggesting that simulation offers a safe learning environment for the translation of classroom knowledge. This notion of translating knowledge is captured by Robinson (2009) who states that the best theoretical or practical approaches to achieving learning outcomes in nursing, depend upon elements such as subject matter, learning style preferences, and multiple other instructor and learner variables. It is this notion of translating theory into practice, and thus enabling students to learn nursing which appears to unite authors in their descriptions of simulation. Macedonia et al., (2003) defend the role of simulation, celebrating its potential for learning how to make sound decisions in unpredictable health care situations that are time-sensitive and require critical thinking and advanced skills.

Simulation is said to require a controlled learning environment where students can take part in activities that reflect the realities of a real and unpredictable nursing environment (Jeffries, 2005). In this environment, according to Wilson et al., (2005), students are supported as they learn the skills of nursing assessment, react to changes in their patient's health and prioritize each patient's care needs without exposing real patients to risk (Moule et al., 2006). In comparison to the intensity and pace of the clinical learning environment, learning through simulation takes place at a measured pace in order to meet individual learning needs (Reilly and Spratt, 2007), where activity can be halted in order to explore knowledge and understanding, where feedback can be given and tacit knowledge articulated (Eraut, 2000).

These are all very positive views of simulation and the contribution that it can make when included in an undergraduate nursing curriculum. It is evident that a number of researchers acknowledge that simulation offers potential as a learning pedagogy. However, Brown and Chronister (2009) and McCaughey and Traynor (2010) caution that simply including simulation within a curriculum is not sufficient to guarantee learning. Analysis of the simulation literature suggests that there is a dearth of empirical research focusing upon the efficacy of simulation. Nevertheless, a number of researchers question the transferability of simulation

learning to practice (Kneebone, 2003; Hogg et al., 2006; Haigh, 2007; Murray et al., 2008). Prion (2008) highlights the difficulty in obtaining evidence of learning having taken place during simulation, given that such evidence would require the demonstration or observation of change in a learner's behaviour. Critics of simulation also emphasize the potential for simulation learning to be 'intimidating' and even 'fearsome' for some learners (Lasater, 2007; Lundberg, 2008), thus inhibiting their ability to learn in this environment. Clearly, if the aim of simulation is to enable students to learn in an environment that authentically mimics the clinical nursing environment, then the essential elements of that environment must be realistic. Consequently, the reality, fidelity and authenticity of simulation learning demand consideration.

The importance of reality, fidelity and authenticity for learning

The literature employs a number of terms to discuss the realism of the simulation experience (Maran and Glavin, 2003; Jeffries and Rizzolo, 2006). The term 'fidelity' is often used. However, lack of consistency in the use of the term has led to much confusion (Baxter et al., 2011). Fidelity, simply stated, is the extent to which the appearance and behaviour of the simulation match the simulated system (Farmer et al., 1999). Miller (1953) was the first to make the important distinction between engineering fidelity and psychological fidelity. Engineering, or physical fidelity is the degree to which the training device or environment replicates the physical characteristics of the real task. Increasing the engineering fidelity of the simulator inevitably leads to increases in cost and, beyond certain levels, increasing the fidelity of the training device will produce only small improvements in performance over a simpler device. Psychological fidelity relates to how realistic the participants find the simulation and, subsequently, how they respond.

Another term used to describe the reality of a simulation experience is 'authenticity'. This term is often used interchangeably with 'fidelity' and 'reality' and little distinction is made between each term. Authenticity is said to increase when the student's auditory, tactile and visual fields are stimulated by sophisticated simulators (Cant and Cooper, 2010). It is the world of virtual

reality and online simulations in which the term ‘authenticity’ has a greater emphasis and use as researchers strive to programme and develop authentic health care environments in which students can learn (Nelson and Blenkin, 2007; Cant and Cooper, 2010).

According to Reilly and Spratt (2007) in order to be effective, simulation must reflect reality. The aim of simulation is to provide the student with necessary cues in order to suspend disbelief as they become immersed in a realistic clinical situation requiring decision making, problem solving and critical thinking (Reilly and Spratt, 2007). Learning occurs when strategies are used that enable conceptual knowledge to develop contextually in settings reflecting reality (Herrington and Herrington, 2006). According to Harder (2009) well-constructed simulation can provide the contextual environment required to facilitate learning. For simulation to be effective it has to be planned to translate knowledge through action in an authentic context; this is a consistent theme in the literature highlighting the requirement to ensure that simulation authentically represents and imitates real life.

Authentic simulation is said to offer a learner-centred approach to developing knowledge and understanding for nursing (Jeffries, 2007). Studies have revealed that students state that they prefer simulation in comparison to other approaches, suggesting that it enables them to participate and engage in their own learning (Cioffi, 2001; Prion, 2007). Positive attributes such as participation and engagement are often linked to the design of the simulation activity. A well structured and delivered simulation is believed to provide opportunities for increased clinical knowledge, enhanced skill performance and development of critical thinking abilities (Prion, 2008). Harder (2009) suggests that simulations grounded in relevant theory may provide a deeper and richer learning experience.

According to Wilford and Doyle (2006), simulation may mirror the complexities of nursing practice as it allows for the simultaneous teaching of multiple learning objectives. Haigh (2007) argues that simulated practice in a university setting complements practice learning, enabling students to assimilate and synthesize their learning in preparation for nursing patients in practice settings. Universities

have continued to develop and build simulation skills centres and skills laboratories that depict actual ward areas (Knight and Mowforth, 1998; Alinier, 2003; Reilly and Spratt, 2007). Simulators have been developed to look more realistic and respond to interventions with more and more realism or fidelity (Maran and Glavin, 2003; McCaughey and Traynor, 2010). The degree to which the simulation depicts the real environment and equipment, within which the student is required to perform is important (O'Neill, 2002). This can play an essential part in making the transition to the real setting as smooth as possible, in order to reduce the reality shock of entering clinical practice (Du Boulay and Medway, 1999). It is when this is not followed that students may be blinded to the benefits of the simulation (Ross, 1988; McAdams et al., 1989). In Mole and McLafferty's (2004) study, 123 students evaluated simulated acute ward management. Realism of simulation was often questioned and some students considered that the simulated ward lacked realism. In a study by Page and Meerabeau (1996), nurses stated that simulated resuscitation could not mimic the pressures and risks of real situations. With technological advances, increasingly sophisticated simulators are becoming available. These intermediate and high fidelity patient simulators have been evaluated positively, based on students' perceptions (Bremner et al., 2006; Childs and Sepples, 2006; Schoening et al., 2006; Feingold et al., 2004; Lasater, 2007a). The focus on a realistic patient scenario facilitates the inclusion of clinical and communication skills. This, according to Freeth and Nicol (1998) enables the student to view the patient holistically rather than as an individual problem; therefore a variety of skills may be used together in the context of addressing the patient's needs. Neary (1994) refers to the adrenaline gap which affects psychological fidelity, since the students are aware that they are not nursing real patients and, therefore, do not feel the same pressure burdens. In contrast, Davis (2005) disagrees with this and actually reports students crying if the patient (simulator) dies. With current technological advances, simulators are reflecting engineering and psychological fidelity far more than the manikins of twenty years ago and moving towards providing a 'realistic' educational experience.

The spectrum of fidelity in simulation provides increasing levels of realism, functionality and interaction, in terms of cosmetic appearance and operational

capacity. That said, authenticity and fidelity are not conceptually equivalent. Fidelity is important when seeking to replicate the appearance and behaviour of a real situation (Kinney and Henderson, 2008; McCaughey and Traynor, 2010). However, authenticity can be achieved through low fidelity simulation. Whilst authentic representation of clinical practice is important for success in simulation as a learning pedagogy, the level of fidelity required to construct authenticity is less clear (McCaughey and Traynor, 2010).

Summary

A critical view of this literature may suppose that simulation is simply a different teaching strategy and, as some commentators have suggested, an approach to bridge the delivery of theory and practice (Weller, 2004; McCallum, 2007). However, the literature presents compelling reasons for attention to be given to simulation design in relation to the learning opportunities that a good and realistic design may offer. These include consolidation of learning (Hogg et al., 2006), development of competence (Kardong-Edgren et al., 2008), development of confidence (Lundberg, 2008), opportunities for instant feedback (Brigden and Dangerfield, 2008), self–evaluation (Prion, 2008) and the development of critical thinking, clinical reasoning and clinical judgement skills (Lasater, 2007a; Linder and Pulsipher, 2008).

Despite the exponential rise in popularity of simulation and research highlighting the benefits of simulated learning, there is conflicting evidence, which brings into question the reported benefits (Murray et al., 2008; Cant and Cooper, 2010). Similarly, there is still a need for robust evidence in relation to evaluation of simulation as a teaching and learning approach (Wellard et al., 2007). In addition to a lack of consensus on definitions of simulation, Bradley (2006) identifies deficiencies in evidence as a result of poorly constructed studies. Issenberg et al., (2005) support this in their review of quantitative research relating to high fidelity simulation; they found that 80% of the findings were ambiguous. Equally, more evidence is needed in order to indicate whether the knowledge and skills gained through simulation are actually translated from educational settings to competence within the clinical field.

In 1987, Christine Tanner questioned the usefulness of clinical simulations. She asked whether the judgements made were representative of the process, which would be demonstrated in clinical practice. More contemporary evidence suggests that the effectiveness of manikin based simulations for measuring physicians clinical competence remains inconclusive (Tsai et al., 2003). Similarly nurse researchers call for exploration to determine whether the knowledge and skills acquired through simulation are developed and transferred as competence and proficiency in clinical practice (Murray et al., 2008; Harder, 2009; Levitt-Jones, 2012). Although written tests and OSCEs are available during simulated exercises, the perceived abilities and confidence of participants are of no value if higher-level problem solving, decision-making and psychomotor skills are not evident through replication in clinical practice.

There is a definite move towards a greater focus on addressing this area. Professional and academic papers which focus particularly upon simulation and health care are progressing and providing a platform of robust research (Johnson et al., 2012; Levitt-Jones, 2012; Lasater, 2012). As empirical evidence to support the effect of simulation on clinical practice and patient care increases, there is recognition for simulation as a potential method for teaching and learning safe nursing practice. Chapter 3 offers two frameworks as a means of conceptualising simulation learning. They provide structures for understanding the complex nature of situated knowledge in practice disciplines such as nursing and offer a way of articulating and theorising the learning that occurs during simulation.

Chapter 3: Conceptualising learning through simulation

This study explores the narratives of students', nurse mentors' and nurse educators' experiences and views of simulation in the context of their professional lives and situations. It is when these narratives are contextualised and integrated into conceptual frameworks, that they become transferable to other instances and offer different perspectives to theoretical understanding. In order to progress such understanding this study draws upon two conceptual approaches: Firstly the work of Patricia Benner and Molly Sutphen (2007) that highlights the complex nature of situated knowledge in practice disciplines such as nursing. They emphasize that, in order to facilitate student learning such knowledge cannot be simply divided into categories of cognitive, psychomotor and affective skills (Bloom, 1968b), but must be integrated within the curriculum through pedagogies of *interpretation*, *formation*, *contextualisation* and *performance*. The first part of this chapter explores the work of Benner and Sutphen who present these pedagogies as a framework, which may enhance the understanding of the impact of simulation upon student learning. The second part of the chapter, and second conceptual approach focuses upon the work of Yrjö Engeström (1994) and his theory of expansive learning which builds upon the ideas from the Russian school of cultural-historical activity theory. His work argues that learning for contemporary workplaces needs to recognise 'learning as criticism of the given, as well as innovation and creation of new ideas, artefacts and forms of practice' (Engeström, 1994, p.1). For nurse education this may offer a means of articulating and theorising the learning that occurs during simulation.

Conceptualizing professional learning

In 1984, Patricia Benner published her book, *From Novice to Expert: excellence and power in clinical nursing practice.* Benner envisioned that her research and the ensuing model of development of expertise in nursing practice might lead to more autonomy for nurses, influence staff development programmes, contribute to stable staffing, and encourage clinical specialization in nursing education. On a more fundamental level and important for this study, her model focuses upon skill

acquisition and provides a context not only for skill development for nursing but also provides a framework for becoming a nurse.

Benner (1984) bases her model on the idea that theoretical knowledge informs practice:

> Providing nursing care involves risks for both nurse and patient, and skilled nursing requires well-planned educational programs. Experience-based skill acquisition is safer and quicker when it rests upon a sound educational base.
>
> (Benner, 1984, p.xix)

Through practice experiences, nursing students apply, adapt, and intertwine theoretical knowledge with practical knowledge to 'create a process of skill acquisition and development' (Dillon, 2002, p. 49). Benner (1984), adapting the work of Dreyfus and Dreyfus (1980), distinguishes among five levels of competence: novice, advanced beginner, competent, proficient and expert. Differentiation among the levels is determined by the nurses' focus of attention, involvement in the situation, and perception of responsibility or accountability (Benner, 1984; Benner et al., 1992; Dillon, 2002).

Benner's philosophy of learning used introspection methodology to capture the detail and rationale for nursing actions, which encouraged expert nurses to reflect upon their practice. This resulted in a graded hierarchy of performance as detailed above, the five levels of competency. Lasater (2007b) applies this approach to simulation design presenting an 'assessment rubric' to describe student nurses' development of clinical judgement or 'learning to think like a nurse'. Waldner and Olsen (2007) have pursued this in an exploration of the use of Benner's framework (and Kolb's experiential learning theory) as a means of understanding the role of simulation in the integration of theoretical knowledge to practice for student nurses. They conclude that Benner's (1984) model of skill acquisition could provide theoretical scaffolding for simulation design and implementation. They suggest that using such models is important for ensuring that students'

experiences reflect the appropriate sequence of developing nursing knowledge. Their work is valuable in its endeavour to theoretically ground the development and use of simulations in nursing education.

In more recent work, Patricia Benner and Molly Sutphen (a colleague of Benner and research scholar at the Carnegie Foundation) argue that an interpretative form of rationality is needed to address suffering and human concerns in the world and enable students to learn nursing (Benner and Sutphen, 2007). They contend that the pedagogies of interpretation, formation, contextualisation and performance, used in clergy education, offer a valuable approach for learning nursing. Drawing upon work by Foster et al. (2005) in relation to the education of clergy, Benner and Sutphen (2007) suggest that these pedagogies offer a more interpretative, historical and contextual approach to learning nursing.

The Carnegie Foundation studies of professional education

The Carnegie Foundation for the advancement of teaching in the USA has funded studies into the education of professionals in the clergy, medicine, nursing, law and engineering in a series of studies entitled *Preparation for the Professions Program.* The first study to be published *Educating Clergy: Teaching Practices and Pastoral Imagination* (Foster et al., 2005) highlights a number of issues in professional education that are shared by the clergy, medicine and nursing. The Foundation, drawing upon internal and external professional perspectives and cross-professional comparisons, seeks to elucidate teaching and learning for professional practice. With the publication of *Educating Clergy* (Foster et al., 2005) and more recently, *Educating Nurses* (Benner et al., 2010) and *Educating Physicians* (Cooke et al., 2010), these studies offer a basis for comparison to explore what might be transferable between professions in order to develop understanding of professional learning for the caring professions. According to Foster et al., (2005) professional education emphasizes the importance of 'professional identity, practice, commitment and integrity' (p.100). For clergy education, seminary students are encouraged to view themselves as part of the narrative of the profession. The ability to recognise, explore and interpret their own dispositions, beliefs, knowledge and skills is seen as essential to discernment

and action in particular situations (Foster et al., 2005). This resonates with my vision of nursing and the need for student nurses to learn to be self-aware professional practitioners able to contextualise a particular nursing situation and act with integrity and advocacy for their patients.

All of the Carnegie Foundation studies draw upon three high-level 'apprenticeships', knowledge, skill and ethical conduct, which they suggest are required for all professional practice. Through these 'apprenticeships' Shulman (in Benner et al., 2010) suggests that novices are introduced to the meaning of an integrated practice incorporating all of the dimensions of the profession. It is important to highlight that 'apprenticeship' in this context is not used as reference to the historical apprenticeship models of learning adopted by nursing and other professions, where learners were employed to work alongside skilled practitioners as they learned their profession. In the Carnegie studies, apprenticeship is used as a metaphor for the complex embodied, cognitive, skilful, ethical and experiential learning required in practice disciplines (Benner and Sutphen, 2007). The notion of apprenticeship is useful in professional education. Learning a complex practice, in which knowledge is situated and socially embedded, demands practical reasoning, skilled know-how, perceptual acuity, relational and communication skills, and ethical conduct according to Benner et al., (1996). Such an integrated practice is learned in formal programmes and also through experiential practice learning (Lave and Wenger, 1991). Benner and Sutphen's (2007) use of apprenticeship points to the complex nature of situated knowledge in practice disciplines which cannot be segmented into categories of cognitive, psychomotor and affective skills (Bloom, 1968a). In nursing, according to Benner and Sutphen (2007) knowledge, skill and ethical conduct must be integrated into all teaching and learning situations and can be more fully understood through the pedagogies of interpretation, formation, contextualisation and performance. The work of Benner and Sutphen (2007) offers a conceptual framework for this study; it also has profound implications for nursing in its potential to address theory and practice simultaneously.

This chapter and later chapters seek to explore these pedagogies and determine their value in helping to elucidate the impact of simulation on learning for

undergraduate nursing students. Benner and Sutphen (2007) treat the different pedagogies of education as if they were basically separate, or at least best explored and understood in distinction from each other. For this chapter I have done the same.

Pedagogies of formation

Formation highlights the sets of skills and practices, which form identity, character and perception, and draw attention to ways of being in the world. This 'professional formation' assumes that skills and practices as well as attitudes, values and beliefs constitute new possibilities for engaging with different events and situations. Benner and Sutphen (2007) discuss formation in relation to professional socialization thereby suggesting that students are socialized into 'a coherent and fairly homogenous social status, role performance and set of class values' (p.106). They go on to highlight the importance of the beliefs, values and attitudes, which are central to the development of professional identity. In addition to these, nursing students also develop a less conscious and deliberate 'habitus' of practice (Bourdieu, 1990) that includes an increasing set of skills, expectations and recognition from other nurses, members of the health care team and patients. Habitus, in this context, relates to the learned dispositions, skills and ways of acting and being that are often taken for granted, which are acquired through the activities and experiences of everyday life (Bourdieu, 1990).

Foster et al. (2005) advise that for the clergy, the sets of skills and practices that form identity and character also form perception, skilled practices and ways of being in the world. This vision of professional formation assumes that attitudes, values and beliefs and skills and practices combine to offer new possibilities for understanding experiences and situations relevant to members of the clergy as well as new ways of being and acting in the world and the development of professional identity. *Educating Clergy* (Foster et al., 2005) offers an insightful discourse about the transformative nature of learning the skills, habits and practices of a profession. Foster et al. (2005) argue that whilst seminary students may be formally introduced to specific features of a role, their 'socialization' into the profession is less likely to cover the constitutive content of the skills and

knowledge of professional practice. Learning the skills of a practice include learning new perceptual acuities. The student can learn to use these new insights in order to notice and interpret specific events and signs which were previously unfamiliar and not recognised before their education. Similarly, as student nurses begin to learn, they are provided with opportunities to develop new perspectives upon practice which establish new ways of responding, relating and performing in particular nursing situations.

The transformation from novice student nurse to advanced beginner (Benner, 1984) requires clinical nursing experiences that change the student's capacity to act in complex situations, as well as character skill formation that enables student nurses to begin to respond and relate to vulnerable patients. Students are required to learn skills of perception and action and form what Merleau-Ponty (1969) called a *style of comportment* in which they learn to adjust to the dynamics and possibilities of a particular situation. The actions and responsibilities of being a nurse form a habitus (Bourdieu, 1990) of skills, expectations, perceptual acuity and nursing actions, which, over time, create the foundation for skilled, embodied nursing practice (Merleau-Ponty, 1969).

Simulation may present an opportunity for student nurses to begin to learn and develop a nursing habitus, enabling students to rehearse the 'skilled know-how' required for competent nursing practice. The opportunity to experience and act in complex clinical situations through simulation may enable the student to begin to use the skills and practices of nursing. It may also facilitate the development of an understanding of a clinical situation requiring specific actions whilst fostering the growth of professional identity.

Pedagogies of interpretation

The goal of interpretation is to discover and experience new understandings. Pedagogies of interpretation ask students to situate their learning within their own world. *Educating Clergy* (Foster et al., 2005) explores how seminary students, who are learning in a particular context, are taught to consider themselves in relation to the narrative tradition of their own religions and religious texts.

Interpretation occurs as biblical and historical contexts, different theologies, biases and injustices are examined. Interpretation requires critical thinking and deconstruction in order to challenge 'the taken for granted assumptions' inherent in religious tradition. Similarly, nurse educators encourage nursing students to explore and challenge the traditions of nursing (Walsh and Ford, 1989). However, the goal of critical reflection is not to deconstruct the tradition in such a way that students do not have a sure footing or starting place from which to interpret a given situation. Instead, as Foster et al. (2005) suggest, it is to enable students to examine their own thinking and that of others in order to come to an interpretation or response which engages with a particular situation. Nurses have to have 'a tradition of practice that enables them to stand, act, improve and criticize. A self-improving practice must allow professionals to critically reflect on the practice tradition and science and technology' (Benner and Sutphen, 2007, p.106).

Current practice in nursing is based upon past lessons, experiential learning, and current science and technology. A starting point for learning nursing practice is the student nurse's knowledge and understanding of human anatomy and physiology. This is, in a sense, the certain or given knowledge and foundation upon which the student nurse can plan, implement and evaluate his or her actions. Engagement with the particular situation through interpretation will then enable the student nurse to develop a reasoned, specific and positive approach to the patient's needs. Professional practitioners are expected to demonstrate an active response to a given situation which requires more than deconstruction and critique. For example, a nurse must be confident in his/her knowledge of the respiratory system in order to recognise when a patient is having a severe asthma attack. However, this knowledge alone is not sufficient. He/she must also know what the current emergency treatment is and how to administer it. The nurse will act drawing upon knowledge of respiratory anatomy and physiology and, an understanding of respiratory pharmacology including medicines management and administration. He or she will also draw upon personal knowledge of asthma if he or she or a family member is a sufferer, has past experiences of caring for patients with severe asthma and his or her knowledge of and relationship with the patient who is having the attack. It is the engagement with and the interpretation and

synthesis of each element of knowledge and information, which enables the nurse to decide upon the best course of action for his/her patient.

Simulation may present a way of exploring how student nurses begin to learn and develop the skills of interpretation. Returning to the example of caring for a patient with asthma, initially the student will learn respiratory anatomy and physiology. He or she will also learn respiratory pharmacology including current medicines management and administration. This foundation of knowledge will form the basis of their understanding of asthma and associated respiratory conditions. Personal knowledge and experience of asthma complements this theoretical understanding with real life examples from family, friends or the student nurse himself or herself. The opportunity to have witnessed an asthma attack or the emergency care delivered by nurses during an asthma attack is not a very common occurrence. However, it may be provided and experienced through simulation. Students are encouraged to use their scientific and technical knowledge together with their knowledge of nursing actions in order to learn to provide therapeutic nursing care for a patient having an asthma attack through high fidelity simulation. Feedback and discussion following the simulation provide an opportunity for the students to use their interpretation skills to reflect upon the simulation and examine their confidence and competence in responding to a respiratory emergency. Interpretation for some students may be the opportunity to reflect upon their performance during simulation and to highlight effective nursing actions. For others, interpretation may be critical thinking and the opportunity to consider a different approach to a familiar nursing problem. Pedagogies of interpretation could facilitate a move away from pedagogies of objectification or mechanistic explanations of care, discernible in nurse education (Schott, 2009), encouraging nursing students to draw upon their own experiences, lives and worlds as they learn and develop fundamental nursing skills.

Pedagogies of contextualisation

Foster et al. (2005) show that religious tradition and knowledge is situated within local and historical contexts. Pedagogies of contextualisation feature prominently within the teaching practices of seminary educators. They call for balance

between remaining faithful to the sacred texts and religious traditions, and relevance to the contemporary experience of the religious community that their students will be serving. All practices occur in situations where social, institutional and historical factors help to shape the context of that practice.

Contextualisation is also important for nursing. Nurses must be able to determine the professional and practical knowledge required for a particular situation. They must also be able to recognise the changing relevance of facts and formal theory as the situation unfolds. Nursing practice demands that nurses are able to use the skills of reasoning in order to determine the best course of action for a particular situation. Student nurses are asked to care for patients according to the context or situation. In order to achieve this, they must be attuned and responsive to the risks, resources, possibilities and demands of the particular context. They are part of that context and, as such, are situated within the context in which they are giving care. It is in recognising their place within this context that they begin to learn the boundaries and possibilities, which will help them to learn nursing.

Simulation may offer an environment in which student nurses can begin to recognise the boundaries and possibilities of nursing within different situations. During a simulation session students may explore the different kinds of skill and knowledge needed to provide care to a particular patient, where nurse educators control the boundaries. In order to encourage students to focus upon contextualisation during simulation, scenarios with emphasis upon difference and diversity may be used. In this environment, students are encouraged to examine the boundaries and explore the possibilities, to engage in critical 'contextualised' thinking, and in doing so, learn about the importance of context for nursing.

Pedagogies of performance

In their explorations of professional performance, Foster et al. (2005) suggest that the pedagogy of performance is integral to the pedagogies of interpretation, formation and contextualisation. 'Clergy educators prepare students to perform their religious traditions as ways of living into or embodying the activity of God in the present moment and place' (Foster et al., 2005, p.170). Like clergy, student

nurses also learn to be present and bear witness to human life, illness and death. Benner and Sutphen (2007) introduce parallels to religious traditions and the compassionate stranger or Good Samaritan and highlight the difficulties of capturing the essence of performance in words. Indeed, the very act of attempting to describe performance is difficult because key nuances and actions are not readily and fully captured by the written word. Performance brings with it knowledge and skills that evade written description and, as Benner and Sutphen (2007) suggest, this is part of the mystery of excellent practice. As Polyani (1958) noted, expert practitioners always know more than they can say.

Performance occurs in a particular context or situation, depending upon interpretation and understanding in action and requires well-formed practitioners with embodied know-how (Benner and Sutphen, 2007). For example, returning to the example of the patient with asthma: in caring for his/her patient, the nurse will perform the necessary assessments and interventions (*interpretation*) in order to ensure that the patient is able to breathe and maintain good lung function. Competent performance will include supporting, managing and treating a patient and their family during an asthma attack and recognising and responding to any changes in the patient's respiratory condition (*contextualisation*). The performance is integrated and the nurse is able to bear witness to a potentially life threatening situation and perform the nursing skills required to restore good lung function (*formation*). Simulation may offer student nurses the opportunity to explore professional performance in their own practice as they prepare for real life events where they will be required to bear witness to human suffering.

These different pedagogies provide a framework for developing an understanding about the impact of simulation upon learning for student nurses. Benner and Sutphen (2007) have demonstrated that each of these four pedagogies has significance in the world of nursing, enabling nursing students to 'see themselves as part of a narrative of the profession that is embedded in a living tradition' (p.105). As a nurse educator, I recognise that often we focus upon a linear problem-solving process in order to introduce students to the fundamental skills of nursing. This exemplifies what Benner and Sutphen (2007) call a narrow, technical rationality. In order to move away from this and engage with a broader

version of 'rationality' where interpretation, understanding and relationship are key to engaging students and helping them to learn to be nurses, these pedagogies offer potential. For my research, these pedagogies offer a means of interpreting and exploring the impact of simulation for learning key aspects of nursing.

Whilst Benner and Sutphen's work (2007) offers a means of conceptualizing the complex nature of situated knowledge in practice disciplines such as nursing, there is still a need to make sense of the contradictions, dilemmas and conflicts which take place during professional learning experiences in nursing. Student nurses move between university and clinical practice settings often having ambiguous and disparate views of their learning environments. University is often viewed as a place where higher order learning takes place and best practice initiatives are privileged. The clinical environment, where patients naturally have priority, is seen as an environment where learning is bound by patients' needs, professional policies and protocols and resource availability. Understanding the complexities, challenges and contradictions of the working environment and the activity of learning in the workplace is therefore important for student nurses and those who support their learning. In order to consider the activity of learning in the workplace in more detail, it is helpful to turn to the work of Fuller and Unwin (1998). Their work over the last two decades offers some important insights and developments that can assist with understanding the relationship between learning and work.

Conceptualizing learning in the workplace

In 1998, Alison Fuller and Lorna Unwin published a paper that reconceptualised apprenticeship and explored the relationship between work and learning. Their work primarily focused upon apprenticeship for the 16 - to 25-year-old age group and the world of vocational education and training. They proposed activity theory and the work of Yrjö Engeström as useful in underpinning and theorising the learning that occurs in the workplace. In contrast to Benner and Sutphen (2007) and their view of apprenticeship as a metaphor for learning in practice disciplines, Fuller and Unwin (1998, 2012) focus upon apprenticeship as a model of learning and acknowledge the historical dimensions of post-war

apprenticeships in Britain. They also identify the formal and informal on and off-the-job learning characteristic of apprenticeship. However, similar to Benner and Sutphen (2007 and the work of the Carnegie Foundation, they also recognise the cultural and social aspects of the world of work and highlight role socialization and identity formation as important aspects of learning. Their work is important for this study in a number of ways. It offers a different perspective on the relationship between learning and work, highlighting the nature of workplace learning and the functional and transformative opportunities that this environment can provide. Fuller and Unwin (1998) suggest that activity theory and expansive learning, as proposed by Engeström, offer the key to understanding and conceptualising learning (and teaching) in a work or practice environment. Through the lens of activity theory and expansive learning they suggest that:

> The key to the development of learners is seen to be the quality of interactions which accompany the undertaking of authentic tasks. Such interactions are likely to include incidental, as well as more structured, planned and goal orientated, learning experiences. Evidence of 'expansive learning' could be drawn from the learner's ability to apply theory in 'real' situations and also in the ability to question existing practices and produce novel solutions to problems. (Fuller and Unwin, 1998, p.164)

Their work and recognition of activity theory and expansive learning have potential for conceptualising and understanding simulation learning in the undergraduate nursing curriculum. Indeed, suggestions of applying theory to practical situations and opportunities to question practice and consider innovative solutions, resonates strongly with the purpose and aims of nurse education. It is, therefore important to consider Engeström's work in greater detail.

Activity theory and expansive learning

The tradition of exploring the process by which individual learning is mediated by cultural artefacts and membership of groups within a wider community, appears to have stemmed principally from the work of Luria, Vygotsky and

Leont'ev in the early twentieth century (Cole, 1999). These Russian psychologists explored how learning and development were the products of inter- and intra-personal behaviours that were shaped by cultural artefacts, tools, expectations, rules, traditions or conventions and norms.

The premise of activity theory is that a collective work activity, with a basic purpose shared by others (community), is undertaken by people (subjects) who are motivated by a purpose or towards the solution of a problem (object), which is mediated by tools and/or signs (artefacts or instruments) used in order to achieve the goal (outcome) (Daniels, 2004) as illustrated in Figure 1 below. The activity is constrained by cultural factors including conventions (rules) and the division of tasks, power and status (division of labour) within the immediate context and framed by broader social patterns (of production, consumption, distribution and exchange) (Engeström, 2000). Activity theory is said to provide a conceptual framework from which the inter-relationship between activities, actions, operations and artefacts, subjects' motives and goals can be understood (Daniels et al., 2009). Proponents also suggest that it offers a structure through which aspects of the social, historical and societal contexts within which these activities occur may be conceptualised (Engeström and Sannino, 2010).

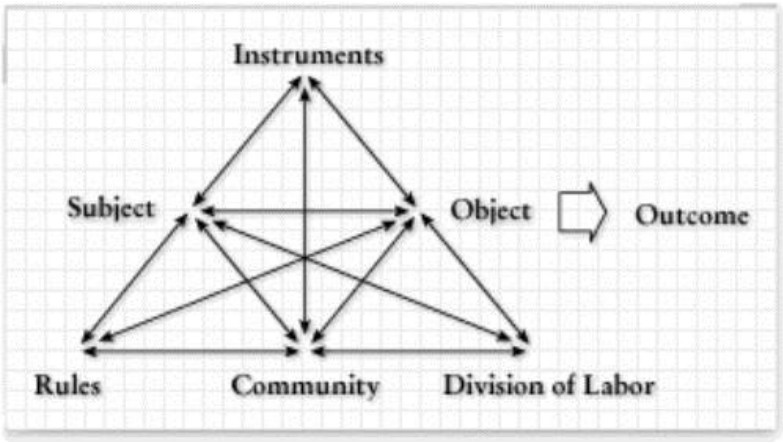

Figure 1: The structure of a human activity system (Engeström, 2000, p.962)

Engeström (2001) articulates five basic principles for activity theory as:

- The prime unit of analysis '... a collective, context-mediated and object-oriented activity system, seen in its network relations to other activity systems' (Engeström, 2001, p.6).

• Activity systems that are 'multi-voiced' (Engeström, 2001, p. 7), embracing multiple viewpoints, traditions and interests. 'Participants carry their own diverse histories and the activity system itself carries multiple layers and strands of history engraved in its artefacts, rules and conventions' (*ibid*).

• Activity systems that take shape and are transformed over lengthy periods of time, suggesting a concept of 'historicity' (*ibid*). History embraces both 'the local history of the [particular] activity and its objects', as well as the wider 'history of the theoretical ideas and tools that shape the activity' (*ibid*).

• Change and development arising from 'contradictions' that are 'historically accumulating structural tensions within and between activity systems' (*ibid*).

• Activity systems that are subject to 'expansive transformations'. These are the product of the 'aggravation' of contradictions, such as when individuals 'question and deviate from established norms' which 'escalates into collaborative envisioning' (*ibid*) towards an alternative collective viewpoint.

Activity theory emphasizes change rather than stability, with its focus on the dynamics of learning rather than the learner as a participant in an established system. According to Engeström (2001) the principles of activity theory offer a framework through which the learning environment can be explored and expansive learning opportunities highlighted.

> The object of expansive learning activity is the entire activity system in which the learners are engaged. Expansive learning activity produces culturally new patterns of activity.
> (Engeström, 2001, p.139).

Thus, rather than focusing upon vertical learning processes (as discussed previously p.41), aimed at elevating students upward to higher levels of competence, horizontal or sideways learning and development described by Engeström (2001) as 'expansive learning', might offer a complementary perspective.

Expansive learning has been applied to a wide range of studies and interventions (Engeström & Sannino, 2010), such as human computer interaction (Makino,

2007), mathematics and workplace learning (FitzSimons, 2003), the impact of ICT reforms on teacher education (Rasmussen and Ludvigsen, 2009), and the development of a conflict monitoring network (Foot, 2001). For nursing and nurse education, the theory has been used in a study on learning among nurses and adult educators who function as 'portfolio professionals' in that they contract their services with a range of employers and organisations (Fenwick, 2004). Haigh (2007) has explored the use of expansive learning for simulation in midwifery education.

For student nurses, their activity systems are the university and the clinical practice environment. Learning for student nurses requires engagement with both systems and may often provide a source of tension when the academic ideal of nursing taught in university conflicts with the reality of clinical practice. This conflict or cognitive dissonance (Festinger, 1957) illustrates another principle *Contradictions as sources of change and development* through which an opportunity for expansive learning is created. Similarly, constant changes within the NHS which require students to adapt and think flexibly about their professional work are representative of the principle of *historicity of activity*. The inter-professional nature of health care and the relationship between the student and their nurse mentor typifies the principle of *multi-voicedness.* Engeström (2001) suggests that the process of expansive learning should be understood in relation to the recognition and resolution of successively evolving contradictions. In a diagrammatic representation he illustrates the 'ideal' expansive cycle (Figure 2), and notes that:

> In fact, one probably never finds a concrete collective learning process which would cleanly follow the ideal-typical model. The model is a heuristic conceptual device derived from the logic of ascending from the abstract to the concrete. Every time one examines or facilitates a potentially expansive learning process with the help of the model, one tests, criticizes and hopefully enriches the theoretical ideas of the model.
>
> (Engeström and Sannino, 2010, p.7)

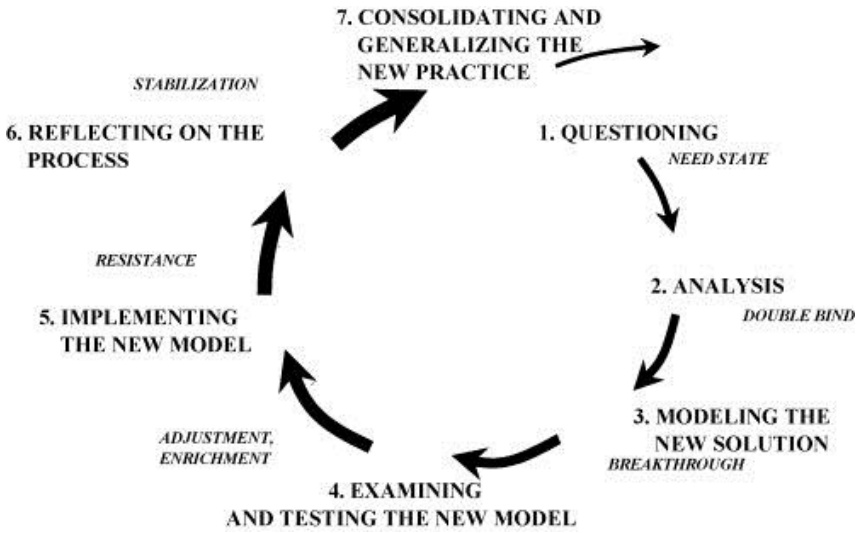

Figure 2: Sequence of learning actions in an expansive learning cycle (Engeström, 1999, p. 384).

Engeström (2001) describes an ideal-typical expansive cycle as a continuous and action-based activity. The first action is that of questioning, criticizing or rejecting some aspects of the accepted practice and existing wisdom, he calls this 'action questioning'. The second action is that of analyzing the situation. He suggests that analysis involves mental, discursive or practical transformation of the situation in order to discover causes or explanatory mechanisms. One type of analysis is historical-genetic; it seeks to explain the situation by tracing its origins and evolution. Another type of analysis is actual-empirical; it seeks to explain the situation by constructing a picture of its inner systemic relations. The third action described is that of conceptualizing or modelling the newly found explanatory relationship in some publicly observable and transmittable medium. According to Engeström (2001) this means constructing an explicit, simplified model of the new idea that explains and offers a solution to the problematic situation. The fourth action is that of examining the model, running, operating and experimenting on it in order to fully grasp its dynamics, potentials and limitations. The fifth action is that of implementing the model by means of practical applications, enrichments, and conceptual extensions. The sixth and seventh actions are those of reflecting on and evaluating the process and

consolidating its outcomes into a new stable form of practice.

Simulation experiences may provide an opportunity for expansive learning, where students can be supported to consider the contradictions between what is taught in university and clinical practice leading potentially to learning, development and change.

Summary

Benner and Sutphen's (2007) pedagogies of professional practice and Engeström's (2001) theory of expansive learning complement each other and are used in this study as a means of interpreting and understanding my data. As participants shared their stories and experiences of simulation with me, they highlighted a number of themes which impact upon student's abilities to learn nursing. Some of the themes were unexpected, emphasizing the diversity of students who enter the programme. Other themes had commonalities and appeared to represent a shared understanding of what it is like to learn through simulation. My interest is in the nature of the learning that occurs as a result of experiencing simulation. The pedagogies of formation, interpretation, contextualisation and performance provide a framework through which learning, or not learning, to be a nurse through the medium of simulation can be understood. Chapter 8 shows how these pedagogies relate to the notion that simulation offers an expansive approach to learning.

Chapter 4, which follows, explores the methodology for this study and highlights my ontological and epistemological positions. The chapter explains my choice of research methods and describes some of the challenges of data collection and analysis.

Chapter 4: Methodology

This chapter explores my ontological, epistemological and methodological positions, and explains how they led to the research methods that I used. I briefly revisit the issues around my axiological positions mentioned in chapter 1, and give a reflective account of the development of my values and beliefs, and their impact upon my research. This chapter then progresses to consider the challenges of interviewing and dealing with the research data generated. The thought-provoking subject of how best to represent people's thoughts and experiences is followed by a discussion of pertinent ethical considerations. A full discussion of the methods used and the context for this case study follows in chapter 5.

Positioning myself as researcher within the research process

Undertaking what has been described as 'methodological self-consciousness' (Finlay and Gough, 2003, p.4), has become an integral component of qualitative enquiry (Lipson, 1989; Baillie, 1995; Allen, 2004; Toffoli and Rudge, 2006). The 'story behind the story', which reflexivity provides, inevitably gives rise to greater insight into the researcher and the nature of the research (de Laine, 2000; Finlay and Gough, 2003). Social science research has identified the growth of reflexivity and acknowledgement of the researcher's position within their research (Giddens, 1991; Griffiths, 1998, 2003). Nursing research has also highlighted awareness of this methodological concern (Lamb and Huttlinger, 1989; Freshwater and Rolfe, 2001; Munhall, 2010).

Recognising reflexivity or methodological self-consciousness and the ability to show how my position within my research might affect my interpretations and conclusions was important. Reflexivity is an active process that offers opportunities to explore actions and decisions and to deliberate their influence on this study. My case study re-presents the experiences and views of participants and constructs an interpretation of their stories of simulation. It is vital that I demonstrate to readers how I came to my interpretations and conclusions and the steps that I took to minimise the risks and challenges of being a researcher who was an insider within the research field.

However, reflexivity goes beyond acknowledgement of the inevitable situatedness of self in my research. It is more than a discussion of my values, previous experience in nursing and assumptions about simulation, although this is a helpful starting point. It is the demonstration of when and how different aspects of self (Peshkin, 1988; Clandinin and Connelly, 1994) impacted upon the research and also myself as the researcher. Peshkin (1988) uses the concept of 'situational subjectivity' to highlight this and uses the term 'multiple I's' as he raises awareness of the enabling and disabling potential of subjectivity. Simons (2010) draws attention to the research self and personal self in case study research, suggesting that in a research context, it is the interaction of the personal sense of self with the research and the dynamic that this creates which is important.

Before commencing my research, I (the research self) recognised that my position at the university may have had an effect upon participants in relation to the student – lecturer relationship (Lindsay et al., 2002). In order to address this, I conducted my study at a campus where I did not teach regularly, focusing upon students with whom I had minimal, if any, contact during their first year. Similarly, I interviewed mentors who worked at a Trust with whom I had no previous working relationship. However, I did interview colleagues from the Department of Nursing and Midwifery and endeavoured to treat them with sensitivity and care.

In order to address the personal self and thus my own subjectivity, I kept a research diary. This took the form of a reflective journal which was constantly at my side during the development of my research focus and subsequently during data collection, analysis and the writing of my thesis. Noting how I was feeling during each of these stages enabled me to sense when my emotions and feelings were engaged. It enabled me to expose positive and negative feelings and ultimately to recognise and monitor when I felt moved to act beyond my role as researcher. An example discussed later in this chapter, regarding the inclusion of two student participants, challenged my personal self and my subjectivity. Whilst these participants offered a valuable perspective on learning through simulation, my emotional and personal self was troubled by their possible motivations. I was

also concerned in relation to their potential vulnerability given that they had been unsuccessful and unable to engage with simulation learning. I recognised that I was moving beyond my role as researcher and seeking to support them as an educator. Acknowledgement of these feelings and subsequent discussion and support from my supervisory team and colleagues enabled me to recognise the challenges of my position within my research and ultimately to come to an ethical decision with regard to their inclusion.

As discussed in chapter 1, my background as a registered nurse and senior lecturer in adult nursing has had a great influence on this study. I learned to be a nurse in an era and environment, which placed great emphasis upon the psychomotor domain of learning (Bloom, 1968b) and skills acquisition (Dreyfus and Dreyfus, 1980). The 'simulation' of the 1980s took place in a clinical room with beds and manikins and a variety of clinical equipment. In this room we, as student nurses, were introduced to nursing, and were taught a range of skills from bed making to the more complex tasks of wound dressing techniques and catheterization. Rehearsal and refinement of these skills occurred in the real world of clinical practice, where we cared for patients in hospital wards and occasionally in their homes. Hospital-based schools of nursing relied upon standardized and explicit syllabuses, which listed biomedical subjects and specific practical skills (Bradshaw, 2000). Nurse preparation involved acquiring theoretical knowledge, which related to the care of patients and involved an assessment of personal qualities, including moral character and how well we interacted with our patients and colleagues (Bradshaw, 2000). In this environment, we were very quickly socialized into nursing, and were employed by our teaching hospital as members of the nursing workforce with clear roles, responsibilities and boundaries (Melia, 1987). Learning in many senses was a by-product of patient care. Indeed, as reflected in Melia's (1987) work on the occupational socialization of student nurses, the structure of nurse training was a compromise between the education of nurses and the provision of a nursing workforce. The compromise was represented in the employment of large numbers of student nurses who, under the supervision of a small number of registered nurses, undertook much of the staffing of hospital wards. Learning and mentorship in the early 1980s was inconsistent and varied. On some wards, where

the culture was one which emphasized the importance of the ward and the role of the ward sister in supporting learning (Fretwell, 1982), students felt valued, and learning was an important feature of nursing care delivery. On others, students were constrained by tradition and hierarchy and quickly adopted the routine practices of that environment, sometimes as a means of survival in what was felt to be a challenging learning environment.

As discussed in chapter 2, nurse education has evolved, and student nurses are now supernumerary; they undertake placements in clinical practice to learn. They are not employed as members of staff (NMC, 2004b). However, this does not mean that students do not work while on placement; they are expected to learn through supervised participation in clinical work (Arkell and Bayliss-Pratt, 2007). Each clinical environment, whether it is a hospital ward, a GP surgery or a patient's home, should nurture and support learning, offering students the opportunity to explore, understand and participate in delivering fundamental nursing care. Learning should occur through the development of knowledge, understanding and empowerment, rather than routine, ritual and fear. I recognise that for some this vision may seem somewhat aspirational. Policy changes, practice demands, resource availability and financial constraints drive the current environment of health and social care in which nurses work. Media headlines do little to enhance the public's trust and confidence in nurses, as they strive to provide care for their patients (Triggle, 2012; Bingham, 2012). I am a nurse, one who recognises that practice setting demands, resources and constraints are the conditions that dictate the possibilities for good nursing practice. This is the context in which nurses must demonstrate that they can make a difference and the context in which students must learn. Nurses learn the skills of perception and action, and form what Merleau-Ponty (1969) called a style of comportment, in which they learn to adjust to the solicitations and possibilities of a particular situation. However, in order to develop these skills and form ways of nursing in particular situations, students need to learn and develop the fundamental skills of nursing. Supporting students to learn these fundamental skills in preparation for particular practice situations, and helping to reinforce their understanding of what to do, how to do it and why they are doing it is central to my role and my beliefs about nursing and nurse education.

Deciding on the research approach: 'My Journey'

This research uses a case study approach. My decision to adopt such an approach fused rationally, pragmatically, and emotionally with my research ambitions. However, such a statement alludes to smooth and unproblematic decision making, which was not the case at all. I acknowledge, with some embarrassment, that initially I ignored literature on case study research, assuming that other methodological approaches were my panacea. I had used phenomenology for previous research dissertations and was tempted to continue with this approach on the grounds of familiarity and its prevalence in nursing research. In fact, it was only during the course of investigating broader solutions concerning research methods that I was inadvertently re-directed to case study methodology, having focused upon this approach to research at the beginning of my doctoral studies. In the process, I learnt a valuable lesson demonstrating how familiarity and pre-conceived notions regarding certain approaches could infiltrate the process, cloud judgements, and limit options before I had even commenced my research.

Furthermore, I presumed that as a novice researcher, a blended or mixed approach was my focus. After eliminating a variety of other methodological options, I revisited literature on the case study approach. As my familiarity increased, so did my confidence and I began conceiving it in a new light. It appeared a more open, flexible, and achievable approach than I first envisaged. Johnson et al. (2001) conclude that analysis of varied examples of qualitative research shows some methods to be more flexible than was often admitted. They describe 'British Pluralism' as an attempt to accept this reality whilst maintaining rigour through integrity, clear accounts, reflexivity and constructive critique of one's own work and that of others. My methodological journey also helped me to recognise what some call the 'false dualism' of research (Pring, 2000; Silverman, 2006). There is a danger for researchers to draw contrasts and divisions between different approaches to research, namely quantitative and qualitative research. Researchers work in different paradigms and distinctions must be made according to the appropriateness of the approach for the task and not only in relation to epistemological and ontological concerns.

There are times when I question whether there are other methodological options, which I could have considered more openly and in greater depth. Whilst such discrepancies haunt my sense of perfectionism, equally my pragmatic self is conscious that research is never simple, perfect, or finite. Furthermore, I am content with the methodological decisions that I have made. My case study research approach supports my aspiration to embrace the voices and meanings of my participants, to explore new theoretical dimensions concerning simulation, and to capitalise on my own sense of place within nursing.

This is a journey of research. Having decided upon my approach, I have since experienced the realities, enormities, and consequences of its implementation. However, my eyes are now wide open and my mind conscious of the rationale underpinning my research approach. I have come to comprehend the need for establishing a defensible research approach in order to produce a study, which can be valued in the scholarly community. Nevertheless, I recognise that the process is far from being clear-cut or rational; it is messy. I have made mistakes and my work has also proved to be personal.

When my research ambitions failed to fit with my view of methodological options, I found myself searching for alternatives. It made me apprehensive. It required that I progress beyond my comfort zone to consider alternatives. It necessitated a more critical analysis of readings and the consideration of a possible reformulation of my research purpose. I had to confront myself as both researcher and human being, in terms of my values, fears, insecurities, and passions. Thus, what essentially began as a simple acquaintance with research methodology as a pragmatic means to resolve the issue of approach, evolved into a journey in which I realised that the process of pursuing research is inextricably linked to the process of discovering oneself.

I concur with Finlay (2002) who explores the opportunities and challenges of a range of reflexive approaches, and consider that recognition of my feelings during this process is both legitimate and useful in academic research. Within the text of this thesis, I have attempted to identify personal and professional factors and interests, which have influenced my work and my approach to researching the

impact of simulation upon learning. Whilst this may be insufficiently critical for some (Nelson 2005), it is recognition of my position within the research and my own limitations as a researcher who was an insider to the organization in which my research was carried out.

In search of possibilities

In this thesis, I present the words of the participants and propose possibilities for understanding their experiences of simulation and what that might mean as students learn to be nurses. I do not claim to have discovered the *truth* (Silverman, 2006) and recognise that different people reading my work may well form different interpretations and have different theoretical understandings. I have some difficulty with suggestions of certainty of truth (Popper, 1959, Hammersley, 1989) and acknowledge that this is a philosophical minefield against which I am only beginning to prepare my defences. However, I am clear that whilst this study does not claim truths, it does propose different understandings of learning through simulation. In order to establish a trustworthy and defensible research approach, and present these understandings for others to evaluate, it is important that I provide evidence of my position in the research.

There is general agreement among qualitative researchers about the importance of critically evaluating research through the application of criteria. However, when it comes to choosing criteria, there is considerable divergence of opinion (Willig, 2001). As Guba and Lincoln (1994) acknowledge, 'the issue of quality criteria is not well resolved, and further critique is needed' (p.114). Over the last 20 years, many solutions to the challenge of how to identify appropriate qualitative criteria have been proposed. As Seale notes, 'The urge to generate criteria for judging good-quality studies seems irrepressible' (Seale, 1999, p.43). Differences in emphasis tend to mirror the commitments of different researchers: taken as a whole, however, some measure of consensus or overlap is apparent. Whilst the issue of quality criteria remains unresolved (Rolfe, 2006), it is generally agreed that research needs to be '*trustworthy*' (a term often used in place of 'validity' in the qualitative researcher's dictionary), in the sense of being able to demonstrate

both *rigour* (process) and *relevance* (end product) (Lincoln and Guba, 1985; Rolfe, 2006).

I share the views of Polkinghorne (1983), Bochner (2001) and Finlay (2006), that ethical, literary and creative dimensions should feature in the evaluative criteria applied to qualitative research. The strength and contribution of qualitative research lies in the way that it can capture the richness and ambiguity of lived experience and the diversity and complexity of the social world. A qualitative study should be judged on its ability to draw the reader into the researcher's discoveries, allowing the reader to see the worlds of others in different ways (Finlay, 2006). This study offers the reader a snapshot of the participants' experiences and views of simulation as students learn to be nurses.

Case Study Methodology

Case study has different meanings for different people and in different disciplines (Gomm et al., 2004; Merriam, 1988; Stake; 1995). In seeking to characterize case study some authors compare it with other social research approaches (Gomm et al., 2004), whilst others focus upon what case study research is not (Merriam, 1988; Flyvbjerg, 2006). Case study is most commonly defined by the choice of case rather than the choice of methods (Stake, 2000) or paradigmatic approach (Denzin and Lincoln, 2000), yet it is not sufficient to define case study by citing topic alone (Yin, 2003).

Merriam (1988) offers a definition with emphasis on the qualitative, the particular and the singular, as well as drawing attention to a major mode of reasoning in making sense of data.

> The qualitative case study can be defined as an intensive, holistic description and analysis of a single entity, phenomenon or social unit. Case studies are particularistic, descriptive and heuristic, and rely heavily on inductive reasoning in handling multiple data sources. (Merriam, 1988, p.16)

Similarly, Yin (1994) describes the characteristics of case studies compared with other research strategies and what each can achieve. He states 'case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident' (p.13). In this definition, case study is not defined by object or particularity, but is a comprehensive research strategy, incorporating specific data collection and analysis approaches to investigate phenomena in real-life contexts. These definitions of case study have a common commitment to studying a situation or phenomenon in its real-life context, to understanding complexity and to defining case study other than by methods. Differences relate to philosophical, methodological and epistemological preferences.

The literature highlights some confusion about the name, nature and use of the term *case study* (Merriam, 1998; Zucker, 2001; Simons, 2009). Case study has been identified as a research design (Bergen and White, 2000), a research method (Jones and Lyons, 2004), a research strategy (Yin 2003), a data collection method (Gangeness and Yurkovich, 2006) and a teaching technique (Henning et al., 2006). Merriam (1998) attributes some of this confusion to the conflation of case study as 'both the unit of study (the case) and the product of this type of investigation' (p.27). Bryar (1999) suggests that the case study has received less attention in nursing research because of the potential confusion between case study as a research strategy and the use of case studies as learning tools in nurse education. Similarly, different perspectives on case study methodology amongst experts in the field (Stake, 1995; Yin, 2003) may contribute to confusion regarding the application and implementation of the methodology, dissuading nurse researchers from using this approach. In a recent review of case study methodology in nursing research, Anthony and Jack (2009) state that case study is a legitimate methodology, which is justified and appropriate for use in nursing science. Notwithstanding the differences and misunderstandings amongst methodological experts, the use of case study methodology in nursing science is growing and warrants continued analysis and use for the progression of nursing knowledge development.

Case study enables the experience and complexity of programmes to be studied in depth and interpreted in the socio-political context in which the programme is enacted (Yin, 2003; Kushner, 2009; Simons, 2009). Accessible case study reports allow the reader to vicariously experience what has been observed or reported and to use their tacit knowledge in understanding its significance (Kushner, 2009). Case study can document multiple perspectives, demonstrating the views of participants and the interactions between them in narratives of simulation in action. It has the capacity to offer purposeful, situated or interrelated descriptions of phenomena, connecting practical complex events to theoretical abstractions (Stake, 2000). A case study approach in this study enables exploration of the impact of simulation on learning for undergraduate student nurses, recognising the complexity of nurse education and the unique journeys that students are undertaking. Case study offers the opportunity to explore and understand elements of this journey and the dynamics of change which impact upon it.

Case study also has the potential to engage participants in the research process, which is significant from a political and epistemological point. It offers the potential for a shift in the 'control' of knowledge and recognises the importance of relationships and narratives in the perception and understanding of reality. It also provides an opportunity for me to be reflexive in understanding the case and myself. Case study is flexible in that it is neither time dependent nor constrained by method (Yin, 2003; Simons, 2009). This sits well with my position as a part-time doctoral student offering flexibility in terms of timescale and responsiveness to shifts in focus and unanticipated consequences often experienced by researchers (McDonnell et al., 2000). It is important to state that formal generalization for policy-making is not the aim of this case study research (Kushner, 2009). The aim is particularization – to present a rich portrayal of a single setting to inform practice (Simons, 2009), to establish the value of the case and, to add to knowledge of simulation learning. Case study is acknowledged for its capacity to offer a high level of contextual, detailed knowledge (Stoecker, 1991; Bryar, 1999) and ability to connect theoretical abstractions to complex practice, which is of value in nursing research and for nurse education (Luck et al., 2006; Baxter and Jack, 2008).

Narrative Case Study

All portrayals of individuals in case study research are, in some way, about lived experience (Simons, 2009). It is this lived experience that the researcher attempts to capture as a means of elucidating the specific focus of the study. Often this illustration of lived experience is achieved through some form of story or narrative. Elements of a person's lived experience may be documented through cameos, profiles or portrayals as part of the analysis of a case study of a social or educational programme (Kushner, 2009). In social and educational research, narrative has a research history of its own which is well documented within the qualitative research domain (Clandinin and Connelly, 1994; Goodson and Sikes, 2001; Hollway and Jefferson, 2007).

Simply stated, narrative case study is a case study that tells a story. Clandinin and Connelly (1994) highlight narrative and story as the common way through which we communicate experience. Telling stories is a 'lived and changing experience [and] in the telling [we] reaffirm them, modify them and create new ones' (Clandinin and Connelly, 1994, p.415). Narrative for these authors is both phenomenon and method; they use the term 'story' to denote the phenomenon, 'people by nature lead storied lives and they tell stories of those lives' (p.416) and narrative for the inquiry itself, that is, describing such lives and writing narratives of experience. Narrative case studies have value in the knowledge and understandings that they generate. They also reflect the researcher's values. Communicating with others through storytelling is central to human life. In telling and re-telling stories, people convey their emotions, identities and relationships. Many of our social institutions are built upon the opportunities for sharing narratives about our experiences of life. Similarly, a considerable part of nursing involves telling and listening to stories. As nurses, we listen to our patients as they tell stories about their lives, and we share this privileged information with colleagues in order to provide care and to support patients during periods of illness. As nurse educators and researchers, we undertake work in order to 'tell stories' about the world of nursing, informing others (students, other nurses and the wider health care community) of ways in which patients can best be cared for.

Limitations of case study

Within the literature, discussions of the limitations of case study often centre around issues of management of mass data (Yin, 2003); the uncontrolled intervention that case study is in the lives of others (Walker, 1986); the distorted picture that case study can give of a specific situation (Hammersley and Gomm, 2000), and that case study is locked in time whilst the participants may have moved to a more contemporary understanding of a situation (Walker, 1986). Further concerns focus upon personal involvement and subjectivity of the researcher (Jensen and Rodgers, 2001), the way in which inferences are drawn from a single case (Bryar, 1999) and the validity and usefulness of findings to inform policy (Flyvbjerg, 2006). I appreciate many of these concerns; yet I do not necessarily see them all as limitations of the approach. Design of the case study and rigour are important ways in which I, as a researcher, can overcome the traditional criticism of the case study method (Yin, 2003).

I spent some time considering the choice of approach for my study. Flyvbjerg's (2006) paper exploring five misunderstandings about case study research went some way to allaying my concerns regarding selection of my case. Similarly, Gobo (2004) highlighted that many of the most important, theoretically productive qualitative research studies were based upon single cases. However, the subject of generalizability was still a troubling concept. Often, and undoubtedly the basis for this study, a case is chosen simply because it allows access (Simons, 2009). Indeed, even if there were the facility to construct a representative sample of cases, the sample size would be so large that it would potentially preclude the intensive analysis preferred in qualitative research (Mason, 1996). This raises a question pondered by quantitative and qualitative researchers alike; how do we know how representative case study findings are regarding all members of the population from which the case was selected?

For qualitative researchers who focus upon description, this is not an issue. Stake (1995) debating the intrinsic case study, clearly states that no attempt is made to generalize beyond the single case or build theories. However, unlike Stake, I believed that qualitative research should offer explanations, which are

generalizable in some way, or at least have a wider significance (Mason, 1996; Simons et al., 2003). Flyvbjerg (2006) makes some important points about some of the misunderstandings of case study research, suggesting that formal generalizations should not be overvalued. He highlights that the case study is well suited for attempting to refute initial hypotheses and uses Popper's (1959) famous example, that the observation of a single black swan would be sufficient to falsify the proposition that 'all swans are white'. As Flyvbjerg (2006) suggests, the case study is well suited for identifying 'black swans' because of its in depth approach: what appears to be 'white' often turns out on closer examination to be 'black' (p.228). Flyvbjerg's (2006) arguments with regard to generalizability and other misunderstandings of case study research strengthened my confidence in the use of case study and in the processes that I had used to select my participants. Gobo's (2004) work supported this highlighting that quantitative and qualitative researchers are often concerned with problems of generalization. As Gobo (2004) argues, some phenomena are by nature more pervasive than others and in such situations, if the population is quite homogeneous, a small sample may be sufficient.

Exploring simulation: assessment and learning

Data was collected primarily through interview with nurse educators, nurse mentors and students. During their interviews participants drew upon their experiences of simulation, which included role-play, case studies, computer software packages, interactive manikins and Observed Structured Clinical Examination (OSCE). In addition to this, I was able to see each student in action and observe an episode of simulation. This was achieved by observation of video recordings of students' experiences of simulation, which I viewed (with permission) before each interview. These video recordings of simulation were of a practical assessment, an OSCE, where students were assessed as they carried out fundamental nursing skills in a clinical simulation environment. The opportunity to observe the student's OSCEs was important for a number of reasons. These reasons included the opportunity to verify individual perceptions of practice with actual conduct; to become familiar with each student's approach to simulation offering opportunities for prompts (if required) during the

interview. It was also useful to have visual information about the students' competence in the fundamental skills of nursing, in order to be able to respond sensitively to those students who found simulation difficult.

It is important that I emphasize my understanding that OSCE is an assessment tool with a primary purpose of helping to monitor and grade students' abilities. However, it is the learning aspect of that assessment upon which I wish to focus. OSCE offers the potential for authentic assessment of the fundamental skills of nursing (Wiggins, 1989). The notion that assessment tasks should acknowledge and engage with the ways in which knowledge and skills are used in authentic settings is important (Boud, 2007). Assessment has a major influence upon learning, directing attention to areas of significance, acting as an incentive for learning and having a powerful effect upon students' approaches to their learning (Boud and Falchikov, 2007). Assessment also guides students, emphasizing what they can and cannot succeed in doing (Boud, 2007). It is this aspect of OSCE that I wish to highlight. My observation of the students' OSCEs, and their descriptions of OSCEs during their interviews, focused upon demonstration of learning. OSCE was the simulation medium through which they could demonstrate, describe and reflect upon their learning.

Data Collection: using Interviews

Chapter 5 gives a full account of my research methods explaining the rationale for my decisions. However, my decision to use interviews as the main method of data collection was not taken without considerable analysis of the literature.

The use of interviewing as a means of information acquisition is so extensive that it has been said that we live in an 'interview society' (Atkinson and Silverman, 1997). Researchers are recognizing that interviews are not neutral data gathering tools, but active interactions between two or more individuals which lead to negotiated and contextually based information. By analysing interviews, and thus how people talk to one another, researchers and readers of research can gain access to a cultural universe and the assumptions embedded within that universe. As Rapley (2004) declares:

> We are never interacting in a historico-socio-cultural vacuum, we are always embedded in and selectively and artfully draw on broader institutional and organisational context. (p.26)

Many studies that use interviews do so in an effort to elicit the interviewee's perceptions. Silverman (2006) cautions that the interviewer must guard against attaching a single meaning to the response that they receive. As Gubrium (1997) establishes, there are multiple meanings for a given experience or situation which are represented by what people say to the researcher, to each other, to carers and so on. This raises the important methodological issue concerning whether interview responses are to be treated as offering direct access to 'experience' or as actively constructed narratives involving activities which themselves demand analysis (Holstein and Gubrium, 1995). Whilst both positions are legitimate, I move towards the latter and position myself with constructionism. According to constructionists, interviewers and interviewees are always actively engaged in constructing meaning (Holstein and Gubrium, 1997). My decision to use interviews goes beyond the positivist viewpoint as a means of gaining access to facts or beliefs about the world. One of the aims of using interviews was the generation of data which would give an authentic insight into people's perceptions and understandings. The constructionist view sits well with the aims of my study and my use of interviews, and as Rapley (2004) suggests:

> Interview interactions are inherently spaces, which both speakers are engaged (and collaborating) in 'making meaning' and 'producing knowledge'. (p.27)

It is important to consider what 'making meaning' represents in terms of the researcher and the data. Indeed, as Denzin (1994) states, 'there is only interpretation. Nothing speaks for itself' (p.500). There are two important points to be made here. The first is to acknowledge that it is the researcher who tells the story and illustrates the case, making choices about data gathering and collection methods. These choices clearly inform the process of making meaning, as the researcher decides which data to include in order to develop the story. Thematic

structure, analysis and interpretation all help to convey the meaning of the case. The second point, in relation to making meaning, is the potential for misrepresentation or confusions of interpretation of the data. Goodson and Sikes (2001) discuss the risk of contamination of meaning between the research participant and the researcher and the reader of the research. There is potential at any point in these 'layers of interpretation' for meaning to be misrepresented, whether by the participants and their recollection of the simulation experience, or myself as the researcher failing to clearly communicate the participant's understanding to the reader.

Interviews share with any conversation an involvement in moral realities (Silverman, 2007). They offer a rich source of data, which provide access to how people account for their life experiences. It is in the acknowledgement of this, and recognition of the challenges of interview and asking questions for sociological reasons, that researchers become sensitized to the issues and become better informed about this approach. Oakley (1981) noted:

> Interviewing is rather like a marriage: everybody knows what it is, an awful lot of people do it, and yet behind each closed front door there is a world of secrets. (p.41)

Oakley's comment prompted me to consider my own approach to interviewing. I believed that I knew how to talk to people. Communication and the ability to question, interpret, clarify and explain are central to my working relationships and something that I believe I do well. Yet these relationships were different to the relationships that I had with the participants for my study and as such, required a different approach. This was not a therapeutic relationship that I might have with a patient, or a relationship where the goal was one of engaging students in learning. The students, mentors and educators who participated in my study needed to be valued and respected for their own social history and their perspective of the impact of simulation upon their learning. It was important that I respected their views and recognised the moral and ethical foundations of our research relationship as I represented their experiences through narrative.

Data analysis: Writing and reading narratives

Chapter 5 details the challenges and deliberations that I experienced as I considered how to present the narratives. These narratives are based primarily upon interviews with each participant. As such they are not objective representations of learning through simulation and, indeed, could not be such (Simons, 2009). As some of the data illustrate quite clearly, there were often quite different interpretations of learning through simulation from the students, the mentors and the nurse educators. Each of their accounts is true, in the sense that they reflect the beliefs, values and understandings of the speaker. In this respect, the differences in their stories and personal understandings of simulation are more illuminating than the pursuit of some factual resolution (Gerring, 2007) or *truth* (see p.53).

It is also important to highlight that these stories are narrative constructions created by the participants and myself. They are the stories which the participants told during research interviews and as such, offered them an opportunity to begin to make sense of learning through simulation at that time. They are recollections weighted with an underlying purpose of which even the speaker may not have been aware. It is perhaps understandable that some researchers find interviews untrustworthy, underlining the treatment undertaken by some to provide sanitized accounts from interview data (Silverman, 2006). However, as Hollway and Jefferson (2007) suggest, all human narratives are deceptive, offering only what the speaker wishes to share in an effort to protect against painful experiences. This may be true of the students who did not progress to the next year of the programme. The issue here is not the truth of what the participants said, but the revealing nature of the stories that they chose to tell. Here the focus of understanding moves from *what* to *how* and *why*?

The presentation of these narratives has been achieved through selection, interpretation and ordering of small sections of lengthy interview transcripts. As a researcher, my own values and interests will have had influence upon this selection. Some narratives are presented in great detail, some only briefly although evidence from them has informed the research as a whole. A challenge

for me was to ensure that the student nurses' voices were heard alongside those of the mentors and educators. Mentors and educators with experience of research interviews and personal views of simulation gave full and lengthy responses to my questions. In contrast, some of the students' responses were quite brief. Thus, in terms of research data, I had a set of thick transcripts from mentors and educators and, in contrast, thin ones from a number of the students. In order to analyse the data, I was presented with some concerns. Conventional methods of coding and grouping according to themes and categories may have left the results heavily weighted in favour of the mentor and educator responses. In order to create some balance and give voice to the students, I decided that, rather than slicing through transcribed interview data in search of phrases or sentences in order to illustrate themes, I would use extracts from students, mentors and educators interviews and the students' reflective accounts to illuminate understandings of simulation. This has been extremely important, and I have gone to great lengths to ensure that I have presented stories from all participants with honesty and integrity (Wolcott, 1994; Sandelowski, 1998). As a researcher I am committed to understanding first hand the student experience of simulation, and I have endeavoured to achieve this with empathy and ethical comportment.

Ethical considerations

Ethics concerns the way in which we behave in relation to the people with whom we interact (Simons, 2009). Participants in a research study need to know that the research takes cognisance of respect for autonomy, beneficence, non-maleficence and justice (Beauchamp & Childress, 1994). A fundamental ethical principle in research is non-maleficence, and whilst 'doing no harm' may appear unquestionable, it is not as straightforward as it may seem. It is important, in a given research context, to establish what 'doing no harm' means to individuals both in terms of data collection and reporting. Through the development of a research relationship between researcher and participant, trust is built and participants may speak quite openly and frankly about their experiences. In doing so they may unintentionally reveal something they did not intend. In this situation, it is the researcher's responsibility to ensure that no harm is done and that sensitive information is not inadvertently misused or the participant's

openness exploited. Similarly, the researcher's reporting should not place the participant 'at risk' of misrepresentation or distortion of their original views and experiences. Whilst it is difficult to account for and protect against such challenges, there is an argument here for an ethical stance, which places importance upon the primacy of relationships in specific contexts (Christians, 2003) rather than individual rights and universal principles. For the researcher, trust and respect are paramount in the development of good research relationships with participants, and will enable difficulties to be resolved through dialogue and mutual understanding (Schwandt, 2001; Etherington 2007).

In effect, ethics is situated practice, which is inextricably linked with politics and the social, personal and political context of the case being studied (House, 1993; Simons, 2009). As House (1993) suggests:

> Some of the most intractable ethical problems arise from conflicts among principles and the necessity of trading off one against the other. The balancing of such principles in concrete situations is the ultimate ethical act. (p.168)

In order to discuss this further, I will outline ethical processes and considerations from my own concrete situation. It is in the practice of 'ethical comportment' (Merleau-Ponty 1969), illustration of ethical issues and analysis of ethical decisions taken during my research that I can know that I have acted ethically in relation to all who were part of this case.

Research involving human participants, must have ethical approval prior to commencement. Gaining access and achieving full ethical approval for this study was an extremely lengthy process involving submissions to and interviews with the National Health Service Research Ethics Committee (NHS REC), the NHS Trust Research and Development Unit and the University Ethics Committee. Morse (1997) warns that gaining access can take as long as the data collection, but should be viewed as a learning experience.

Initially students were contacted by e-mail to invite them to attend an informal meeting, which took place within a classroom at the university. During the informal meeting, discussion took place in general terms rather than specific terms to limit bias on the information sought from the potential participants during data collection (Field and Morse, 1985). A checklist was used at the meeting to ensure that the participants were informed of all the necessary details, to allow them to make an informed choice as to whether to participate in the study. Initially, participants were informed that an individual interview was required together with a video and sound recording of their OSCE and access to their written reflections about simulation experiences. They were advised that they could refuse to answer particular questions, withdraw from the research at any time, and an assurance of confidentiality and anonymity was given. Students were also informed of the meaning of, and need for, reading their text to support a correct transcription of it, which would mean that they would be contacted again at a later date. A written information sheet was issued to students detailing what would be required of them should they volunteer for the study (Appendix 1). This initial meeting provided an opportunity to arrange suitable dates and times for subsequent meetings and expressions of interest (Field & Morse, 1985). Once students had volunteered to participate and signed written consent forms (Appendix 2), permission was sought to contact their registered mentors in their practice placements. Nurse mentors and nurse educators were given verbal and written information about the research study and asked to make contact if they were interested in participating in the study.

Becker (1964) and Ramos (1989) state that although confidentiality may be promised, the small number of respondents and depth of detail within qualitative research might make it difficult to disguise identities. Minor details, for example age, could be changed if the participants could be recognised by the other students and/or staff (Archbold, 1986). Each participant was given a pseudonym. Thus, as Couchman and Dawson (1990) explain, participants were offered confidentiality and anonymity. Prior to analysis, information was stored on a personal computer in compliance with the Data Protection Act. The list of participants' names was kept securely in a different place from the transcripts.

Every effort was made to respect the participants' views and treat them with dignity.

Informed Consent

Polit & Hungler (1995) explain that informed consent means that participants should have adequate information regarding the research, are capable of comprehending the information, and have the power of free choice, enabling them to voluntarily consent to or decline participation in the research. Therefore, after reading the information sheet (Appendix 1) and verbally agreeing to participate, written informed consent (Appendix 2) was obtained from each participant prior to commencing the interviews. I continue to contemplate the concept of informed consent. I question whether the students who participated in my study were fully cognisant of the implications for them of participating in my study. How can some of these students, with little or no previous experience of the research world, give fully informed consent to have their experiences of simulation shared locally, nationally and internationally in the name of progress and knowledge development for nurse education? Chapter 5 details my approach to this ethical dilemma.

Ethical dilemmas

In discussing ethical dilemmas, I am reminded of the National Health Service Research Ethics Committee panel, to which I was required to defend my research proposal. One of the members of the sixteen strong panel asked me the question, 'How can you assure us that you will protect the students who decide to participate in your study?' At the time this was a question that I had expected and I illustrated to the panel the many safeguards that were in place to allow participants to withdraw at any time, my commitment to anonymity and confidentiality and my understanding of the importance of the development of an ethical research relationship. For the panel, this appeared satisfactory, and I was given ethical approval for my study (Appendix 3). However, when I began to recruit participants for my study, I was faced with an unexpected ethical dilemma. Two students approached me and asked to join the study. They had relevant experiences to share and they were sure, perhaps more clearly than other students,

that for them simulation had had a marked impact upon their learning. Both students had failed to engage with simulation; they had been unsuccessful in their OSCEs and were awaiting a faculty field board decision regarding their continuation on the programme. My immediate thoughts were confused. These students offered a very different view of simulation. What would I discover through interview and what would I do with that information? Was this for them an opportunity to appoint blame and highlight a range of personal extenuating circumstances or an opportunity to 'make sense' of their experiences? Their position on the programme was uncertain. Would participation in my study 'harm' these students?

Flick (2009) indicates that many ethical dilemmas arise from the need to weigh the research interests against the interests of participants. On the one hand I was excited at the possibilities offered by inclusion of these students; on the other I was concerned that their involvement might cause them 'harm', that potential discussions of failure and lack of engagement may detract from the focus of my study and require elements of support which would extend beyond the boundaries of my research. Discussions with colleagues and my supervisory team encouraged me to consider my own position personally, epistemologically and ethically, to consider the stringent ethical requirements to which I had agreed and to recognise the voluntary nature of the students' requests to participate in the study. My experience resonated with House's (1993) theory of ethical decision-making and the relational and situated nature of ethics. It is only in and through participant-researcher relationships developed in the field, supported by ethical principles and guidelines and context-specific negotiations, that ethical activity can be determined. I returned to the students and briefly explained my dilemmas concerning their participation. Both students were confident that they understood the implications of participation and were clear that the necessary safeguards were in place to enable them to reconsider participation at any time. Their participation offered an important perspective to this thesis.

This chapter has explored my ontological, epistemological and methodological positions, and explained how they led to my research approach. The challenges of

interviewing and dealing with the research data generated, how best to represent people's thoughts and experiences and ethical considerations illustrate my research journey and the development of my understanding of the complexities of this process. Chapter 5 gives an account of my research methods, explaining what I did, how I did it and the rationale for my decisions.

Chapter 5: Setting the scene for the case study: context and methods

In this chapter, I begin by presenting an account of simulation and Observed Structured Clinical Examination (OSCE) in the first year of the adult nursing programme as the institutional context for the students who participated in the study. My description of simulation here provides a more detailed look at its operation and augments discussion of the wider context presented in Chapters 2. The chapter proceeds by focusing upon the research participants, how they were selected for the study and pursues the question of how my choice of case study accommodated issues of generalizability. Discussion and elucidation of data collection methods is followed by explanation in relation to how the narratives of learning through simulation are presented.

Simulation: the institutional context

Within the university, students are offered a number of opportunities to learn clinical nursing skills through simulation during the first year of the undergraduate adult nursing curriculum. They are given the opportunity to undertake routine procedures, designed to build confidence and competency, before actually applying these to real patients in placement settings. As background work in preparation for simulation, students are expected to read and learn about clinical nursing skills and complete multiple-choice questions (MCQ) before attending the sessions. Proof of successful completion of the MCQ tests is required for attendance at the simulation sessions. Some simulation sessions are timetabled, whilst others are provided on a drop in basis to enable students to practice their nursing skills more informally, with a member of staff available for advice and feedback. The Faculty of Health and Life Sciences has well equipped skills simulation suites within the university (see Figure 3 below) that provide opportunities for the demonstration and practice of nursing skills working towards professional competencies. The suites have sophisticated video recording and playback equipment in order to review group interactions and assess individual approaches and communication skills. Observation rooms allow

analysis for learning purposes in a discreet, non-intrusive way. The suites are regularly updated to ensure that all equipment is current and closely related to that used in clinical practice.

Figure 3: The simulation suite

The simulated clinical learning environment is also used as a means to assess students' learning outcomes through OSCE. First year adult nursing students are required to perform OSCEs as part of module assessment. The following discussion offers illustration and explanation of the faculty OSCE programme with particular reference to the first year adult nursing curriculum. As discussed in chapter 2, it was the influence of assessment (in this case OSCE) upon learning that I wished to highlight. The opportunities afforded by OSCEs to direct attention to areas of significance, act as an incentive for learning and exert a powerful effect upon students approaches to their learning (Boud and Falchikov, 2007) offered evidence of learning. The OSCE also acted as a guide for students, emphasizing what they can and cannot succeed in doing (Boud, 2007). My observation of the students' OSCEs, and their descriptions of OSCEs during their interviews, focused upon demonstration of learning.

The first year adult nursing OSCE programme

The delivery and assessment of comprehensive nursing care (Bujack et al., 1991a; Bujack et al., 1991b; O'Neill and McCall, 1996; Nicol and Freeth, 1998) was of particular importance to the university clinical skills teaching team when developing and updating the programme for simulation in 2008. Whilst simulation had been used to teach clinical skills for a number of years, the team sought an approach which would raise the profile of simulation and offer assessment opportunities which would provide evidence in relation to student learning outcomes from simulation. The philosophy of holistic patient care, which the curriculum delivered through practical and theoretical teaching sessions, was considered important and led to the development of an holistic patient-centred OSCE rather than adopting the workstation approaches mentioned in much of the OSCE literature (Calman et al., 2002; Major, 2005). A small group of teachers from the clinical skills team and interested academics developed the OSCE for the adult nursing curriculum. The OSCE for each student centred on a model patient, providing an opportunity for students to demonstrate the role responsibility and interpersonal, clinical and caring skills that had been taught and demonstrated through simulation in the pre-registration nursing curriculum. The nursing OSCE was designed to be both formative and summative. The formative OSCE took place prior to commencement of placement for the first year undergraduate adult nursing students. The summative OSCE took place at the end of year one, just before the first summative assessment in the practice placement setting. This approach was considered to be supportive for student clinical nursing skills development and achievement (Howard, 1999), with the emphasis of both formative and summative OSCEs being on constructive advice, support and feedback to the student.

The OSCEs took place in three campuses assessing up to 350 first year adult nursing students. The resources and numbers of students dictated that the design of the OSCE, at each site, was three concurrent simulated patient encounters (one per student) (Carpenter et al., 1993), where each student would provide holistic care to a patient (Figure 4). This would accommodate the large number of

students in as short a time as possible whilst providing parity across sites and between students (Howard, 1999)

Figure 4: Examples of scenarios for OSCE

Joseph (SimMan) is going to be our patient for this scenario. You need to treat him as you would a patient in real life. ……. will be the voice for Joseph.
We are looking after Joseph Black. He is a 42 year old gentleman who came in today for elective surgery on an in-growing toenail on his right foot. He needs routine observations before surgery. Can you check his pulse, respiratory rate and manual blood pressure and record it on the observation chart please? The Early Warning Score does not need to be documented.
For the purposes of documentation it is midday on 01/10/2009

Pulse, Respiratory rate and Blood Pressure measurement and recording

I am your mentor today. ……. is going to be our 'patient' for this scenario. We are looking after Albert Green a 65-year-old gentleman, who has been admitted with a lower respiratory tract infection. Albert requires a routine urinalysis and is on a fluid chart. He has just passed 230mls of urine in a bottle. I have labelled the sample and put it in the dirty utility room for you. I am your mentor on the ward and I would like you to record a urinalysis and calculate the fluid balance. For the purposes of documentation it is midday on 01/10/2009.

Urinalysis and Fluid balance measurement

Students were supported during their OSCE by assessors who stayed in one OSCE area (see Figure 3) with the same patient profiles (Figure 4) and, although marking the students' performance against pre-determined criteria, would also act in the capacity of qualified nurses to provide support and advice to the students if needed (thus simulating the mentor-student relationship). Assessment documentation used performance criteria familiar to the students to demonstrate student learning and achievement.

The patient scenarios used model patients who required a range of clinical nursing skills such as observation and recording of vital signs, administration of oxygen, fluid balance measurement and recording, wound care and aseptic technique, measurement and recording of body mass index. Communication and interpersonal skills were observed throughout the OSCE. Skills such as measurement of blood pressure, pulse and repirations or measurement of fluid balance (See scenarios in Figure 4) were randomly allocated to each student. The OSCE format was linked closely to the stage of the students' learning and teaching of clinical skills delivered within the programme so far.

For each site, each day would require:

- Three assessors drawn from the clinical skills teaching team with a reserve list drawn up in the case of sickness.
- Three 'patients'. The model patients required for each session were to be recruited from members of academic staff in the School of Adult Nursing and experienced nursing colleagues from local NHS Trusts. They would be briefed as to their role, with emphasis on the need for consistent performance.
- One extra assessor to focus upon retesting as required.
- One member of staff (academic) to co-ordinate the OSCE session supporting staff and students.
- Two invigilators to oversee students on arrival.

Immediate written feedback from the assessors was provided in duplicate. One copy was given to the student and a second copy was kept for the module leader for evaluation and evidence of summative assessment for field boards and

external examiners. Verbal feedback was recorded by video at each station for moderation and evaluation.

A schedule was drawn up to accommodate all the students. This required a 30-minute slot for each student. An audible signal in the form of a minute timer at each station was used to signal the end of each student's OSCE time period, which was 20 minutes, allowing a little extra time for feedback. Students were briefed four to six weeks in advance by providing them with written and verbal instruction regarding the purpose and format for the OSCEs and the time of their appointment. Students were given the OSCE criteria (Appendix 4) in advance of their OSCEs in order to be able to practice their skills both during simulation sessions and in placement.

Student support was managed in a variety of ways. In preparation for OSCE, students were offered opportunities for clinical nursing skills practice and practice OSCEs during simulation teaching sessions and drop-in sessions. All students were given a pocket sized OSCE criteria handbook, which they could take into clinical practice settings or refer to during simulation sessions. Written information was provided in module handbooks and on the faculty intranet pages. Briefing sessions were held to explain the procedure and 'what to expect on the day'. On the day of the OSCE students were again briefed before their exam. Following the OSCE, verbal and written feedback was given immediately from the assessors. If students were unsuccessful they were given the opportunity for a retest on the same day. A member of staff was available to discuss their OSCE and provide opportunities to engage with the initial feedback provided in preparation for their retest. For those who were still unsuccessful or, for whatever reason, did not feel able to be retested on the same day, another date was offered giving them further opportunity to practise their skills.

OSCEs provided an excellent opportunity for me to observe the simulation performance of each participant. Whilst each student had a number of hours dedicated to simulation experiences during the first year of the programme, the OSCE offered an opportunity to observe their uninterrupted performance in a simulated learning environment. As the simulation was recorded for assessment and moderation purposes, with the permission of each student, I was able to

observe their performance without impacting upon it in any way as an observer. The narratives in chapter 7 include dialogue concerning the students' experiences of simulation, during simulation sessions and during OSCE. It is acknowledged and has been discussed (Chapter 2) that the very nature of the OSCE engenders anxiety and nervousness for those who are being assessed. However, I decided that the opportunity to watch each participant performing nursing skills in a simulated environment, through video recording, offered a most valuable insight into their experience of simulation. Whilst the students might be nervous, my assumption was that they would also want to do their best, demonstrate their learning and succeed in their OSCE. This would give me a greater insight into their engagement with simulation, which could then be matched against the information that they shared with me during interview. Synthesis and analysis of this information confirmed that simulation had impacted upon their learning; for some this was a positive experience and for others, less so.

Selecting the research participants

The research participants in this study were full time first year undergraduate students undertaking the RN BSc (Hons) Adult Nursing programme, nurse educators who facilitated simulation sessions and registered nurse mentors who supported students in practice.

As discussed in chapter 5, it was important that I recognised that my position at the university may have had an effect upon some participants in relation to the student – lecturer relationship (Lindsay et al., 2002). In order to address this, I conducted my study at a campus where I did not teach regularly, focusing upon students with whom I had minimal, if any contact during their first year. Given that nurse education was moving towards an all-graduate intake (NMC, 2008), I also decided that I would focus solely upon adult nursing students enrolled upon the degree programme and not the diploma programme. This decision was made pragmatically in order to achieve a contemporary view of simulation with the potential to build upon information from this study in the future. Given these initial parameters, nine undergraduate nursing students were selected from a group of thirty. These students were chosen in recognition of their registration on

the BSc programme for adult nursing, their placement zone at a Trust with whom I had no previous working relationship, and their experience in simulation, with the aim of gaining rich, in-depth information in relation to my research questions (Patton, 2002).

The nurse educators and nurse mentors were selected owing to their availability and willingness to participate in the study. Their selection was in recognition of their experience in supporting and facilitating nursing students' experiences of learning through simulation. In addition, the nurse mentors worked at a NHS Trust with whom I had no previous working relationship.

Whilst the parameters of part-time doctoral research steered me towards accessibility and convenience, I was also guided towards purposive sampling as a means of choosing a case and selecting participants, in order to illustrate my interests in simulation and learning. Denzin (1994) counsels purposive and not random sampling methods as the researcher seeks out groups, settings and individuals where the processes being studied are most likely to occur. Silverman (2006) advises practical and clear decision-making and demonstration of that decision making process. He suggests that sampling in qualitative research is neither statistical nor purely personal; it is theoretically grounded. He continues, suggesting that theoretical sampling has three main features, choosing a case in terms of one's theory, choosing deviant cases and changing the sample size during the research.

Exploring Silvermans's (2006) three features of theoretical sampling, and applying Glaser and Strauss's (1968) discussion of awareness contexts, I acknowledged some important considerations for selecting my participants and thus addressing issues of representativeness and generalizability. Firstly, the issue of whether the faculty approach to simulation was typical was not the critical issue. It was the experiences of the students learning through simulation and whether they were broadly typical of other students experiencing simulation in other universities to which my theory referred. Further and future studies might focus upon different groups of undergraduate nursing students or different branches of nursing. Secondly, for my student participants it was likely, given my

presumption that simulation was good, to focus upon successful motivated students who appeared, at first glance, to be engaged with the programme of study. However, 'deviant cases' (Silverman, 2006), in the form of two students who had not been successful in simulation, offered exciting and important possibilities. On the one hand they offered an opportunity to explore a different view of simulation and to test my initial assumptions about the nature of simulation. On the other they enabled me to accommodate a different perspective of simulation.

The participants selected for the study are briefly introduced in the tables below (Tables 1, 2 and 3). A more detailed biography for each participant is provided in chapters 6 and 7. The information included here offers some background and context for the reader.

The Student nurses

The nine student nurses' ages on entry to the programme ranged from 18 to 45, with four students entering directly from further education. In relation to previous work experience, ten of the eleven student nurse participants had been exposed to the world of work before they began the programme. All of the students had experienced the environment of health and social care, either through employment as health care assistants, placements during FE courses or other work within health care. Entry qualifications for student participants ranged from traditional GCSE, A level and degree qualifications to NVQ courses in health and social care, access to HE courses and BTEC diplomas in health and social care studies. All of the participants met the minimum requirements on the Universities and Colleges Admissions Service (UCAS) tariff.

Pseudonym	M or F	Age on entry to BSc programme	Previous work experience	Entry qualifications	Progress to Year 2
Clare	F	18	Health and social care placements on BTEC course	GCSE Science BTEC Diploma in Health Studies	Yes
Mary	F	21	Volunteer for meals on wheels, child minding, au-pair, Health care assistant	GCSEs and Science	Yes
Nisha	F	25	Laboratory technician	A level Maths and English Access course	Yes
Annie	F	32	Administration and office work	8 GCSEs Access course	Yes
Sally	F	34	Florist Health care assistant	GCSEs Access course NVQ 2 and 3(health)	Yes
Ray	M	34	Building work Carer/ health care assistant	Access Course	No
Tania	F	42	Administrative work Health care assistant	7 O levels A level Maths NVQ 2 and 3(health) Access course	Yes
Lynne	F	42	Part time office work Health care assistant	Access Course	No
Caroline	F	45	Office work Shop assistant Health care assistant	BA English	Yes

Table 1: The Student Nurses

The Registered Nurse Mentors

Table 2 offers a brief view of the four nurse mentors' experiences before beginning their nurse education. It shows the differences in age on entry to nursing, their career pathways following registration and their academic and professional qualifications.

Pseudonym	M or F	Age on entry to nursing	Previous experience before nurse training	Nursing Experience	Qualifications
Kay	F	18	Military training	Gynaecology Orthopaedic nursing, General medical and Surgical Nursing	Enrolled Nurse Registered Nurse Nurse Mentor BSc Nursing student
Val	F	22	Carer	Vascular nursing, Trauma and orthopaedics, Rehabilitation.	Registered Nurse Diploma in HE Nurse Mentor Nurse Prescriber BSc Nursing student
Gillian	F	22	Undergraduate (Biology) Gap Year New Zealand and Australia	Rehabilitation Care of older people Dementia care	BSc (Biology) Registered Nurse BSc (Hons) Adult Nursing Nurse mentor MSc Nursing student
Pat	F	40	Office work Volunteering	Care of older people, Medical Nursing, Community Nursing	Registered Nurse Nurse mentor Clinical skills teacher Manual handling trainer

Table 2: The Registered Nurse Mentors

The Nurse Educators

Table 3 offers a brief view of the three nurse educators' experiences before beginning their nurse education. It also shows their ages on entry to nursing which were quite similar, their career pathways into education following registration and their academic and professional qualifications.

Pseudonym	M or F	Age on entry to nursing	Previous experience before nurse training	Nursing Experience	Qualifications
Elaine	F	18	Direct from School	Coronary care, Intensive care, Cardiothoracic Nursing and transplantation, Clinical teacher (Medical Nursing) Nurse Tutor Lecturer Senior Lecturer	State Registered Nurse Critical Care Nursing Clinical Teaching MSc Nursing
John	M	18	Direct from School	Medical Nursing Accident and Emergency Nursing Lecturer Senior Lecturer	Registered Nurse Bachelor of Nursing (Hons) PGCE MSc Nursing PhD
Helen	F	20	Assistant Matron at boarding school	Overseas – private and public sector Community nursing Clinical skills co-ordinator Lecturer Senior Lecturer	Registered Nurse Community Nursing BSc Health and Social Care MEd

Table 3: The Nurse Educators

Collecting data: the interviews

Simons (2009) suggests that the interview has four main purposes. One is to document the interviewee's perspective on the topic. A second is the active engagement and learning it can promote for the interviewer and the interviewee in identifying and analysing issues. The third purpose, according to Simons (2009) is the inherent flexibility it offers to change direction to pursue emergent issues, to probe a topic or to deepen a response, and to engage in dialogue with participants. Semi-structured interviews may have a set of questions; however the interviewer can deviate from these and ask other questions depending on the answers elicited from the respondent (Polgar and Thomas, 1995). This can ensure that all the topics are covered while still being individual to each respondent (Polit and Hungler, 1995). Additionally, according to Rubin and Rubin (1995) the semi-structured interview can keep the interview on course, yet still allow for flexibility to explore new concepts that develop from the interview. Questions that are not understood can be rephrased, and reluctant or anxious respondents can be helped and given encouragement to answer (Keats, 2000). The fourth purpose, according to Simons (2009) is the potential to uncover and represent unobserved feelings and events that cannot be observed. In interview, people often reveal more than can be detected or reliably assumed from observing a situation (Fontana and Frey, 2005), which can prove insightful for the interviewer and the interviewee.

Interviews took place at the convenience of each participant and were arranged by telephone and via e-mail to plan suitable dates and times. The interviews were carried out from December 2009 to May 2010. When there was more than one interview planned for the day, at least one hour was allocated between each interview to allow for over-running and to provide the opportunity for a break. The semi-structured interview allowed me to pursue the students' experience of simulation, ask in-depth questions, and be based on my research questions (Britten, 1997). Tape recording the in-depth interviews was important since memory is limited, and what is remembered may be shaped by past experience and differ from the actual conversation (Johnson, 1995).

The role of the interviewer

Stern (1980) notes that it is impossible to have control over the presence of the interviewer and their reactions. However, instead of being viewed as an intrusive factor which influences the interviewee (Hutchinson, 1993), Stern (1980) believes that the personal experience of the interviewer may enhance the understanding of the problem. I was known to all of the participants as a member of the faculty staff with a specific interest in learning and simulation. I had previous experience in the interview process for qualitative evaluative research asking open and closed questions, although less experience in using interviews for case study research. Creswell (1998) warns that in qualitative research interviews, asking appropriate questions and relying on the students to discuss their experiences requires patience and skill. Seidman (1991) supports this by highlighting that a basic requirement is the interest that the researcher has for the participant's stories. Jasper (1994) and Polit and Hungler (1995) identify the use of reflection, clarification, requests for examples and the conveyance of interest through listening techniques as important interview aspects. It was anticipated that a number of open-ended questions would be used during the interview, such as 'Tell me about your experience of simulation ...? ', or 'How did you feel about your experience of simulation ...? ' This, according to Field and Morse (1985), would help prevent leading the thoughts of the participant. Morse and Field (1996) state that '... the important point is that the participants often know better than the researcher exactly what is and what is not relevant to the topic' (p.73). Therefore, questions were used which would focus the discussion without leading or causing bias in the question. Additional questions were only asked if the conversation became confused or there was a need to clarify or further investigate a particular point (Morse and Field, 1996). Gorden (1975) and Ely et al (1991) identify this as good interviewing practice.

The questions asked and prompts used during the interviews were as follows:

Questions for all participants

- Tell me about your experience of simulation in relation to the adult nursing programme.

- Can you explain and give examples of the impact of simulation on learning?
- What role, if any, do you think simulation has in relation to learning?

Prompts for students

- Can you describe your simulation activities?
- Can you describe some of your simulation experiences?
- What have you learned during simulation?

Prompts for educators and mentors

- Can you tell me what you think about simulation and OSCE?
- What do you think that students should learn from simulation?

Chenail (2011) discusses the use of pre-testing or pilot tests in order to try out proposed interview methods and to determine whether proposed methods will perform as initially conceived. Van Teijlingen and Hundley (2001) propose a number of advantages to the inclusion of a well-conducted pilot study which, they suggest, can help investigators begin to address instrumentation and bias issues. The interview questions for this study were pre-tested with three first year student nurses from my own campus. These students volunteered to take part and had previously taken part in simulation sessions and OSCE. The interview questions for educators and registered nurse mentors were also pre-tested with local colleagues. The questions and prompts (noted above) were found to be most appropriate during testing and elicited focused discussion on the topic of simulation experience.

Developing trust and communication between researcher and participant has been commented upon by a number of authors. Parahoo (1997) stated that during an interview participants may reveal '... their inner thoughts if the researcher is skilful enough and if a trust is built up with the respondent' (p.302). However, he does not disclose how this trust should be developed, but recognises trust as being achieved when the researcher extracts the information from the participant. Streubert and Carpenter (1999) describe the importance of making the participant as comfortable in space and time as possible: 'The more comfortable each participant is, the more likely he or she will reveal the information sought' (p.23).

Gorden (1975) argues that throughout the interview, the role of the interviewer is to observe the participants' emotional needs, empathize and communicate warmth, with the aim of putting the participant at ease. Polit and Hungler (1999) also state the need for a good relationship between participant and interviewer, in order that the participant will '... feel comfortable in expressing their honest opinions' (p.346). The cultivation of trust was important and, I believe that the participants' narratives offer evidence of the mutual respect and trust, which was developed during the study.

On reflection, I enjoyed the interviews that were conducted during the course of this study. On many occasions, I felt that they were more of a conversation, albeit that the participants were the principal speakers in our conversations. It is important to note that much of my career as a nurse has required the establishment of rapport, active listening and open questioning with patients and clients, as I assess their needs and begin to develop a plan for their nursing care. Similarly, my role as a nurse educator is enhanced through the ability to establish a collaborative and open relationship with students and colleagues, creating interactive and honest relationships. Communication and the ability to question, interpret, clarify and explain are central to my working relationships and something that I believe I do well. As Strauss and Corbin (1990) suggest, the interviewer draws '... upon past experience and theoretical knowledge to interpret what is seen, with astute powers of observation, and good interactional skills' (p.18).

The interview setting

Field and Morse (1985) suggest a quiet, uninterrupted interview, where the researcher listens carefully, is receptive and non-judgmental. The interviews took place in a variety of settings, all of which were chosen by the participants in an effort to ensure that the environment was non-threatening to each participant. These settings included visitor rooms, nurse managers' offices and seminar rooms in the university. A sign was placed on the outside of the interview door to advise that the room was in use and provided information for anyone arriving for their interview appointment. The seating was arranged so that I was at right angles to the participant to allow eye contact and observation of non-verbal gestures

without appearing threatening, which helped to establish rapport and trust in the relationship (Gray, 1994). The closing of the interview was equally as important (Keats, 2000). At the end of each interview, the participant was always asked: 'Is there anything you would like to ask me?' and 'Is there anything else I should have asked you?' (Morse and Field, 1996). Finally, each participant was thanked for taking part. If there were discussions after the audiotape was switched off these were noted as memos. The need for later contact to read transcriptions was explained, and it was expressed that there would be a time lapse between the interview, completion of transcriptions and data analysis.

Interview Data: recording and transcribing

The next stage within the interview process involved the recording and transcribing of the interview data. Transcription is an immensely time consuming process. Review of the literature suggested that an hour's worth of interview would take between six and seven hours (Britten, 1997), from three to twelve hours (Swanson 1986), or from four to six hours (Holloway & Wheeler, 1996) to transcribe. Yet self-transcription stimulates analysis of the data (Swanson, 1986) and immerses the researcher in the data (Holloway & Wheeler, 1996). Six to seven hours were initially allowed to transcribe one hour of interview. The transcriptions were completed with the shortest taking three hours and the longest six hours. The transcriptions were page-numbered, and a fact sheet was attached containing the date, location and time of interview, as well as the pseudonym for each participant.

Collecting data: Using Reflective logs and accounts and video recordings

During the course of the study, I maintained a reflective log as described by Koch (1994), Silverman (2000) and Wellington et al. (2005). This involved engaging in a process of self-reflection on observational, methodological, theoretical and personal notes, which Silverman (2000) and Moon (2002) express can encourage the researcher to be meticulous in record keeping and reflective about the data. In this way, the researcher's understanding, as well as the available literature on the

topic, is made clear, and skills, practices and meanings are accessible for the research participants and colleagues.

In addition to my own reflective notes, the students gave permission for me to read their own reflective accounts of simulation experiences. This was useful as supplementary information in addition to the interviews (Flick, 2009). However, Flick cautions that one of the problems in analysing documents is 'how to conceptualise the relations between explicit content, implicit meaning, and the context of functions, and the use of the documents and how to take these relations into account in the interpretation of the documents' (p.261). For my study, the students' reflective accounts added an extra dimension; an opportunity to explore personal interpretations and constructions of simulation written by the students after a simulation experience (White and Stancombe, 2003). These reflective accounts were referred to during the interviews to complement our conversations, to clarify meaning and to explore different aspects of the students' experiences of simulation.

Observation of student OSCEs via video recordings

Similarly, in addition to the reflective accounts, video recordings of students' experiences of simulation were viewed (with permission) before each interview. These were video recordings of a practical examination, where students were required to carry out fundamental nursing skills in a clinical simulation environment.

In order to be able to observe the students during a simulation experience and avoid the inevitable effects of research observation (Adler and Adler, 1998; Angrosino, 2005), the video recordings were extremely useful. The use of video recordings for simulation and OSCE is accepted practice in nurse education (Nicol and Freeth, 1998; Alinier, 2003). The students, despite feeling initially conscious and nervous of the presence of the recording equipment, later forget that the equipment is there and focus on the simulation experience (Bujack et al., 1991b). These recordings are used for assessment and moderation purposes and have also been used for student self-assessment (Jay, 2007). In viewing the recordings, I was able to see each student in action and observe an episode of

simulation. This was important for a number of reasons which included the opportunity to verify individual perceptions of practice with actual conduct; to become familiar with each student's approach to simulation offering opportunities for prompts (if required) during the interview; and to have visual information about the student's competence in the fundamental skills of nursing in order to be able to respond sensitively to those students who found simulation difficult.

Whilst the main focus of data collection was the interviews, supplementary information from the student reflective diaries and the video-recordings helped to inform my study. This so called '*triangulation'* of different methods of data collection (Denzin and Lincoln, 2005; Flick, 2009) provided different perspectives, which added to the richness of the information, collected in answer to my research questions.

Analysing the data

Some of the issues concerning representation of experiences and narrative accounts have been discussed in Chapter 4. I wish to focus here upon how the data was analysed and employed in chapters 6 and 7 for the purpose of presenting and discussing the participants' views and experiences of simulation. In terms of both the analysis and use of the data, I was aware of criticisms suggesting that qualitative research often tends towards an anecdotal approach to the use of data in relation to conclusions or explanations (Silverman, 2000). Bryman (1988) highlights the dangers of making excessive claims from misleading 'snippets' or fragments of conversation. The accusation of 'cherry-picking' the data, or providing what in terms of the media would be considered empty 'sound bites' is often levelled at qualitative research by its critics.

Through immersing myself in the data, I developed a deep familiarity with it. I transcribed the recordings of each interview, I read and re-read the interview transcripts and traced emerging narrative themes between each participant group (students, mentors and educators), and over the whole set of interviews for all participants. I engaged in what Denzin (1994) calls 'the art of interpretation' (p.500). Such interpretation is often discussed in terms of transforming qualitative

data (Wolcott, 1994; Boyatzis, 1998; Sandelowski, 1998). Whilst it is possible to make distinctions between interpretation and analysis, it is also important to note that these are not discrete processes. They are iterative and interactive throughout the research. As I read the transcripts, identified the content of the interviews and began to 'get a feel' for the data, images, flashes of insight and representations of simulation came to me. I began to move between the data, the understandings that I was developing, the literature that I was reading and my research questions. I began to connect themes through this analytical process and thus develop my interpretations.

Denzin (1994) suggests that within the social sciences 'there is only interpretation. Nothing speaks for itself' (p.500). As I organized the data, and identified emerging ideas about simulation, I began to look for themes and patterns, and as I did so I made decisions about which data to include as evidence for the story that was developing. It was me who was making sense of the data. Wolcott (1994) expands this point and suggests that data that do not 'speak' to the researcher are not likely to 'speak' to the readers of the research. In order to convey the meaning of the case, I needed to select data which would engage my readers and tell a story or stories about simulation.

In order to reduce and make sense of the data that I had collected and move towards generation of issues, themes and patterns, I employed progressive focusing, a process outlined by Parlett and Hamilton (1972). This involved three stages – making initial sense of the data, reducing data to issues, themes or areas for further exploration, and explanation. It began with refinement of my research questions in light of early data collection and my developing understanding of simulation and learning for undergraduate adult nursing students. This continued throughout the data collection process as foreshadowed issues were reframed, my interview questions redefined and I developed a clearer sense of simulation in its real life context. Once I had a clear sense of the simulation experience for my participants and was able to identify evidence from their interviews and reflections to justify my propositions, I was able to move to the third stage of progressive focusing which was explanation. However, for my thesis and in order to reflect the intuitive nature of data processing and making sense of the data, and

linking with conceptual understandings of professional practice learning, I prefer the term 'interpretation'

In addition to progressive focusing, I also engaged in validation of my analysis with a number of the participants, experienced colleagues and my supervisory team. As well as providing a strategy to ensure accurate representations of the participants views and experiences, this also went some way to addressing my aspirations to give equal voice to all of my participants and create a sense of balance between myself as the researcher and the participants in the process of the research. Figure 5 offers a diagrammatic representation of this data analysis process:

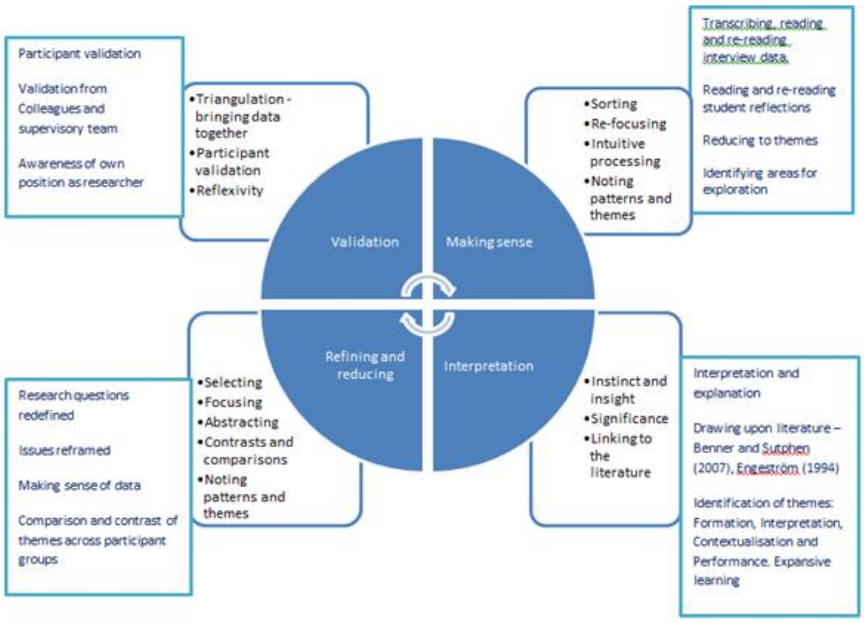

Figure 5: Data analysis process

For most commentators, analysing research data is a challenging and frequently daunting process. Coffey and Atkinson (1996) suggest analysis of the results of qualitative enquiry demands both methodological knowledge and intellectual competence. Analysis, they maintain, is not simply adhering to one correct approach or technique, but being methodical, scholarly and intellectually rigorous in applying imagination, reflexivity and flexibility. I have broadly attempted to follow their advice, and the results can be seen in chapters 6 and 7.

Presenting narratives of learning through simulation

Structuring chapters 6 and 7 was a challenge, in terms of how to present the narratives. As discussed with regard to analysis of my data in Chapter 4, it was important to find a means of creating some balance and giving voice to the participants, whilst presenting their narratives with honesty and integrity. To this end, I start by introducing each participant, giving a brief biography, offering readers an opportunity to become acquainted with each of them in relation to their professional histories and their experiences of simulation in nursing. I wanted to stay true to the participants' accounts, which revealed their understandings and views of simulation. I was concerned about fragmenting their accounts, wishing to remain as close to the personal account from participants as possible. Wellington et al., (2005) and Silverman (2006) caution against the inclusion of inconclusive anecdotal evidence, or attempting to make excessive claims from small fragments of interview data. This is not an issue confined to qualitative researchers alone. I would suggest that for any written report, regardless of its methodological origins, problems of misrepresentation and simplification exist. What is important is to achieve a balance between interpretation and honest representation of data. In order to address this, I met with participants to confirm accuracy and representation in the transcripts of their interviews. I also shared with them my developing interpretations of their learning through simulation. Many of the participants expressed a desire to read the completed thesis.

As a means of organizing the data to discuss the students' experiences and views of simulation, the student narratives were organized into three groups. Categorisation of students or learners according to their approaches to learning is well documented, and I was minded not to overcomplicate presentation of their narratives with unnecessary divisions and sub-divisions. My reading highlighted a range of different descriptors used to classify student engagement with learning (Coates, 2005; Waller, 2006). Fortuitously, the solution to this presentation conundrum evolved from the data that I had collected. It was the words of the nurse mentors and nurse educators in their accounts of simulation learning, which offered a more clear and relevant categorisation for the student nurses in this study.

Throughout their narratives, the nurse educators and nurse mentors described student nurses' experiences and outcomes of simulation learning in relation to three key areas (a) successfully becoming nurses, (b) struggling or working hard to become nurses and (c) not becoming nurses. I adopted these three categories to present some order and distinction to the student nurses' narratives. These narratives are presented using extracted material from their interview transcripts, reflective accounts and my reflections and perspectives of their simulation experiences.

The conceptual framework for this study discussed in chapter 4, based upon the work of Benner and Sutphen (2007), also shaped the presentation of the participants' narratives. Whilst the framework clearly offered a different way to understand simulation and learning, it also offered a means of presenting the narratives through a fourfold taxonomy. The participants' narratives present evidence of development and learning in each of the four pedagogies, identified by Benner and Sutphen (2007), of performance, contextualisation, interpretation and formation. As single entities the pedagogies could be used to demonstrate key development and learning in a specific area related to nursing. Together, the pedagogies offered a full developmental framework through which students, engaging with simulation, could begin to recognise the learning and development required to become a nurse.

This chapter has explored the methods that I used to collect and present my data. As many research texts suggest this is a challenging and on occasion, daunting process. It requires constant engagement, reflection and analysis. As noted by Savin-Baden and Howell Major (2010), the range of qualitative approaches has increased and this has led to even greater uncertainty about how to consider and use qualitative research. They maintain that data collection and analysis is not simply adhering to one approach or method, but embracing uncertainty and ensuring intellectual, methodical and scholarly imagination and reflexivity to explore what might be possible.

Chapter 6: Narratives from the Nurse Educators and Nurse Mentors

This chapter presents the nurse educators' and nurse mentors' experiences and understandings of simulation as part of their undergraduate adult nursing programme. Where possible, I have used their words to share their views about simulation and learning. The narratives from the nurse educators and nurse mentors focus upon four key themes: learning and practising the skills of nursing (*performance*); learning to make links between theory, practice and context (*contextualisation*); learning to interpret information for patient care (*interpretation*) and, developing a nursing identity (*formation*). These areas link closely with the work of Benner and Sutphen (2007) and Foster et al. (2005), discussed in chapter 4, and offer a new perspective for understanding simulation and learning.

The participants have been introduced in Tables 1, 2 and 3 (Chapter 5) enabling the reader to obtain some background and context. A more detailed biography introduces each participant here in chapter 6 and also the student nurses in chapter 7. The nurse educators facilitated clinical simulation sessions at the university. The nurse mentors supported the students in clinical nursing practice in a local NHS Hospital Trust.

The Nurse Educators: helping students to learn to be nurses

Three nurse educators participated in this study. They completed their nurse training between 1980 and 1988 following a traditional nurse education experience within a school of nursing prior to the commencement of the Project 2000 programme. Consequently, the nurse educators learned nursing through an apprentice style approach which provided 'on the job' training as part of a hospital nursing workforce caring for patients. Their exposure to simulation began and developed through their roles as nurse educators.

Helen: simulation as an indicator for learning and engagement

Helen left school having completed her GCSEs and was unsure of her plans for the future. She began work at a girls' boarding school as an assistant to the pastoral staff, and after a couple of years, at the age of 18, became an assistant matron. It was the health aspect of her role that inspired her to apply to begin her nurse training. Helen was the first in her family to become a nurse. She learned to be a nurse in the 1980s following the traditional training type curriculum discussed in Chapter 2, with its focus on clinical skills and nursing care of patients mainly in hospitals.

Following qualification as a registered nurse in 1988, Helen travelled to Australia where she spent a year working in both private and public health sectors. On her return to the UK, she worked within the community and went on to train as a district nurse. A variety of roles within the community care setting helped to highlight and develop her interest in nurse education and she took on roles that enabled her to focus upon supporting student learning in practice. An opportunity arose to move into nurse education as a clinical skills co-ordinator in 2001. This role required Helen to plan and deliver the teaching of fundamental clinical skills for the undergraduate nursing curriculum. Helen grasped this opportunity and continued to work within higher education becoming a senior lecturer for the adult nursing programme. Alongside her role at university, she completed a BSc in Health and Social Care and a Masters in Education (MEd).

Helen had little exposure to simulation as part of her own nurse training and developed her understanding of simulation through teaching, facilitating and assessing clinical skills in the undergraduate nursing curriculum. As the curriculum changed and evolved, she witnessed the evolution of simulation in nurse education from the low fidelity use of body parts and case study scenarios to the high fidelity environment of the simulation suites used today, and incorporated this into her teaching.

Helen's biography illustrates her experience in nursing and her interest in the development of clinical skills for undergraduate students. Helen used her own

knowledge and understanding of the fundamental skills of nursing to teach others. She drew upon her experiences in clinical practice to encourage students to place the patient at the centre of all nursing interventions, establishing their needs and recognizing their unique requirements. Helen shared her passion and enthusiasm for skilled patient-centred nursing care with students as she supported them in simulation sessions and observed their practice during OSCEs. Helen saw simulation as an environment in which students could learn to be good nurses.

During her interview, Helen indicated that the development and demonstration of a competent nursing performance was a positive aspect of simulation:

> *I think it* [simulation] *makes them* [undergraduate nursing students] *focus on skills in that they do need to know what they're doing, and I think because they have simulation sessions and the OSCE, they learn about it. In that way it's positive. I think that they value that we're actually watching what they're doing. They have made the effort to think about what they are doing, the elements of the skills that they are performing and then they demonstrate to us either during simulation sessions or in their OSCE that they can safely perform a particular nursing skill.* (Helen - nurse educator - 37, 18[1].)

Helen saw a link between simulation, learning and performance. She was clear that the physical demonstration or performance of fundamental nursing skills during simulation enabled students to show that they were learning successfully. Equally, a poor performance during simulation, according to Helen, was evidence of a need for further learning or, in some cases perhaps, an indication that a student was not suited to nursing:

> *I also think that for those who aren't successful, sometimes it just highlights why they're not doing so well, in a way that sometimes*

[1] Each quotation is identified by the name of the participant, their role, the page of transcript and the line number. This method ensures clear identification of the participant and efficient location of the narrative passage within the transcripts of the interviews.

> *they say, 'I'm not very good at that' and it gives them the opportunity to go away to practise, even though some of them find it really hard. For some of them, they might not pass the first year and their goal of becoming a nurse. It may be a good way of showing them that this is not the career for them.*
>
> (Helen - nurse educator – 37, 27.)

Helen viewed simulation as a useful part of the nursing curriculum, and one which could offer a valuable means of determining the potential of a student to understand the context of care. She explained that simulation offered an opportunity to observe a student's practice and assess their knowledge and understanding in relation to a specific patient context:

> *We need to be able to guide the students … to tell them what they are doing well, to determine their level of knowledge and understanding and to help them to develop and improve their practice. I think that feedback sometimes helps them to make the links themselves, to confirm why we need to record a patient's blood pressure and what that is telling us about the patient's condition. It really is all about making those links and then everything starts to fit into place.*
>
> (Helen - nurse educator -35, 28.)

According to Helen, making links between theory and simulated practice enabled students to contextualise the nursing care that they were learning to deliver. Similarly, she highlighted that simulation could also offer an environment in which students could safely learn to interpret the clinical information that they regularly measured and recorded:

> *I also think that simulation gives the students lots of opportunities to think about what they are doing. I mean actually realizing that for a particular scenario the patient has a high blood pressure or raised respiratory rate and what that means. What should they do next? Who do they need to inform? Can they link this to their*

> *biology and what is happening for the patient? It's all a question of interpreting the information and then knowing the next step.*
> (Helen - nurse educator – 36, 6.)

Helen indicated that learning to interpret patient information, through a simulated patient scenario, enabled students to synthesize their knowledge and understanding, demonstrate their learning and begin to determine the nursing care required.

Helen identified a number of different ways that students approached simulation. She suggested that simulation gave confidence to students who worked well and were motivated about becoming a nurse. For those who struggled with simulation and succeeded through determination and perseverance, she suggested that it helped them to recognise the value of their efforts. Helen also suggested that simulation might offer some students evidence of the need to work harder or think differently about their approach to nursing. Finally, Helen stated that there were some students for whom simulation demonstrated that they had not succeeded due to a lack of commitment to their studies, or a lack of understanding of the requirements of the role of the nurse:

> *At the end of the day it* [simulation] *is a good indicator of how well they are adapting to becoming nurses. It helps them to start to behave and feel like nurses, to develop an individual approach to their care and to recognise some of what it means to be a nurse*. (Helen – nurse educator – 38, 11.)

Helen's comment indicates how she saw simulation as a means of helping some students to begin to form a nursing identity and to learn how to think and behave like a nurse. In particular, she viewed simulation as a valuable means of determining the potential of a student to become a nurse.

Elaine: simulation as a means of providing a supportive learning environment

Elaine began her nurse training after leaving school in 1977. She had wanted to be a nurse for as long as she could remember and, like Helen, was the first in her family to pursue a career in nursing. Having qualified as a registered nurse, with a strong interest in high dependency nursing, Elaine worked in coronary care and intensive care. She formalised this interest with a course of study in intensive care nursing in 1984. Following successful completion of the course, Elaine moved to a specialist hospital where she worked with patients who had undergone transplant surgery. It was in this environment that she recognised: '*I liked working in that kind of environment, nurturing, teaching, that sort of thing … I had always had that kind of interest.'* A post as a clinical teacher arose on a medical unit, enabling Elaine to work with student nurses. From there she moved into a School of Nursing as a nurse tutor, and when the School of Nursing moved into the local university, she became a lecturer in nursing. Elaine has an MSc in Nursing and teaches predominantly on the undergraduate adult nursing curriculum.

Elaine trained as a state registered nurse in the 1970s following the General Nursing Council curriculum (see Chapter 2). As with Helen, simulation experiences during her own introduction to nursing were limited to classroom demonstrations and thus, her knowledge and understanding of simulation was acquired and developed through engagement with the curriculum as a nurse educator. Elaine's biography demonstrates her passion for teaching. Her early career was spent supporting patients as they learned to adapt and become independent following transplant surgery. Using these skills and her desire to nurture and support, Elaine moved into nurse education where she supported and encouraged students as they learned to be nurses.

Elaine was positive about the way simulation addressed the performance element of nursing in relation to students' attitudes and behaviours:

> *The skills suite feels like a hospital environment, students react to that and their attitude and behaviour is that of a professional. It helps that we have staff who are experts in their field facilitating the sessions and role modelling the behaviours that we expect from the students. I think it works because the students begin to act like nurses.* (Elaine – nurse educator - 40, 27.)

She suggested that the authenticity of the environment (as discussed in chapter 2) and the presence of expert role models supported and encouraged the students to give a professional nursing performance.

Elaine indicated that simulation also offered students an opportunity to interpret clinical information and to contextualise this for the scenario in which they were taking part:

> *I think in simulation and during an OSCE we ask them to break down the performance of the skill into quite distinct parts … so we give them the scenario, and if I use the oxygen therapy one, you've got an elderly lady who is breathless, a very realistic scenario, I think it makes them think then, older person, breathless, think about each part. That I think helps them to start to think like nurses … to plan … to prepare and to assess the patient before they move on to delivering the care. To consider what is important and what isn't and what their priorities are. To think about what they might do if the situation changes and the patient deteriorates. It may also help them to evaluate the care that they have delivered.* (Elaine – nurse educator – 42, 17.)

Her example showed that for some students simulation and OSCE helped to establish that students were learning to be nurses. She was keen to point out that this learning included the ability to begin to notice the importance of a changing situation when a patient's condition deteriorated. Elaine saw simulation as an opportunity for students to learn and demonstrate recognition of important changes in their patient, and to show an awareness of the different aspects of

professional knowledge, which may be relevant for their simulated patient. In essence, she highlighted the importance for students to identify and acknowledge the context of patient care.

In the example used by Elaine, by the end of the first year, a nursing student caring for an older patient who was breathless, would be expected to recognise and implement key nursing skills. These skills would include excellent communication, understanding of basic respiratory physiology and what breathlessness might mean for an elderly patient. Recognition of the requirements for the safe administration of oxygen, and communication and dissemination of any important details about the patient, which may impact upon her current condition were also important and relevant nursing skills. Elaine gave examples of simulation sessions and OSCE scenarios, which encouraged the students to focus upon interpretation and contextualisation as part of the process of learning to deliver good patient care. She also recognised that demonstration of these key features of nursing confirmed that students were beginning to form a nursing identity:

> *This is quite a lot to ask of a first year student, but those that are good are doing it by the time they get to their OSCE. If you like, the simulation sessions and OSCE just help to confirm that for these students, they are learning to be nurses and are progressing well.* (Elaine – nurse educator – 42, 31.)

Like Helen, Elaine endorsed simulation as a means of establishing a student's ability to grasp the fundamentals of nursing care. For Elaine and Helen, a good performance during simulation was indicative of good progression and evidence that a student had the potential to become a nurse. Whilst Helen focused upon simulation as a means of establishing successful or unsuccessful learning, Elaine was interested in the potential for simulation to demonstrate higher level skills and critical thinking. For Elaine, this included the ability to contextualise care, to recognise key information and interpret that information in order to deliver appropriate care to the patient. Elaine suggested that during simulation, students

were able to demonstrate their knowledge and understanding of the importance and relevance of theory, practice and the patient's nursing context and through this, display their potential to become a nurse:

> *It* is *helpful for us to know that a student who has done some simulation and passed their OSCE, not only knows what to do but also the how and why and that is very important. It is important that they learn to give nursing care in a clinical environment with real patients. I don't see us at odds or trying to do something that's very different to practice, I just see us as being mutually supportive. If we can work in partnership with practice to make sure that students are linking theory to practice then we should feel confident that they will be safe and effective nurses.*
>
> (Elaine - nurse educator – 41, 18.)

Elaine was clear that simulation had an important part to play in the education of nursing students. Like Helen, she saw simulation as complementary to practice learning in order to help students to understand the *what, how* and *why* of nursing in order to achieve safe and effective patient care.

John: simulation as a means of learning for professional nursing practice

John began his nurse training in 1982 after completing 'A' levels at school. His family had a long tradition working in the mining industry and his father was the first to '*break the mould*' choosing to move away from mining and work as a salesman. John was the first in his family to focus upon nursing as a career. His early career began in medical nursing and then moved to accident and emergency nursing: '*That for me was and is where my heart is. Never two days are the same and each day you really do feel as if you are making a difference.*' John studied for a degree in nursing in 1988, followed by a Masters degree in 1998. He had recently completed his doctorate, studying the field of critical care.

John's biography indicates his desire to make a positive contribution to the lives of others. He achieved this through direct patient care in the dynamic setting of accident and emergency nursing and, through his role as a nurse educator helping students to learn the fundamental skills of nursing care. John's commitment to learning is further illustrated by his own achievements in higher education.

In a similar way to Helen and Elaine, John was introduced to simulation through his role in nurse education. His nurse training had included classroom-based skills learning, with the majority of his skill acquisition having taken place in practice working and learning with patients in hospital settings. John was a keen advocate of simulation as a means of learning for student nurses:

> *For me simulation is the way forward. It is getting harder to give students the opportunities that we had – by that I mean the exposure to patients. It's changed, patients are sicker, turnover is greater, litigation is a big thing and mentors are finding it hard to find the learning opportunities that students need. We, in universities as nurse educators, need to play our part. We need to get them started.* (John – nurse educator – 49, 14.)

John signalled that although potentially stressful for students, simulation could offer a unique environment for observation and development of their nursing performance. He believed that the stress of being observed in a simulation environment was a useful reflection of the daily challenges of the ward environment:

> *Knowing that we are watching them as they do the simulation whether it's a scenario or an OSCE can be a little off putting. But thinking about it, there are times in practice when there are others around watching you, maybe other professionals or visitors and of course the patient is always watching what you are doing. So simulation can help students to learn how to act in front of others, how to be professional in their actions and their interactions with others.* (John – nurse educator – 50, 14.)

He explained that nurses are regularly required to perform the skills of care delivery in front of an audience made up of patients, their families and friends and colleagues. John described how simulation provided a safe environment in which student nurses could rehearse their performance, learn to manage their concerns about being observed and develop a professional approach to the essential skills of nursing.

John indicated that contextualisation, and recognition of specific patient characteristics which might impact upon their nursing care needs, was an important element of simulation learning:

> *Say for example a student nurse who is measuring a BP* [blood pressure]. *Whilst they are doing that they should also be assessing the patient looking at mood, pain, mobility, skin condition, oxygenation, respiratory function … sorry I'm off on one! But you know what I mean. The chance to practise that or even have an OSCE scenario about it is a really great way to develop and learn before you get into practice and have to deal with the real thing.*
>
> (John – nurse educator – 49, 29.)

John illustrated how learning through simulation could enhance a student's understanding of a patient's context of care. He described how a student could assess their patient and build up a picture of that patient. In doing so, the student could begin to recognise the many different elements, which influenced the context in which nursing care was delivered.

John also explained the potential of simulation to help students to develop the skills of interpretation:

> *The chance to practise that or even have an OSCE scenario about it is a really great way to develop and learn before you get into practice and have to deal with the real thing. You can get it into your head, work out priorities and what the information is telling*

> *you, interpret observations and clinical measurements and plan care …* (John – nurse educator - 49, 32.)

John's enthusiasm for simulation, and its potential for helping students to learn to interpret key nursing information, was evident throughout his interview. He clearly believed that simulation offered a beneficial approach for students to develop their identities as nurses and begin to experience the complexities of professional practice:

> *I really do believe that it* [simulation] *helps students to learn nursing, to begin to develop a nursing identity and develop and hone their skills and understanding of the complexities of nursing.* (John - nurse educator – 50, 1.)

However, John did not view simulation as the solution for all students and all learning. He questioned the capacity of simulation to suit all students, and to support them sufficiently in order for them to learn to make the links between nursing theory and nursing practice. This was in contrast to Elaine who had no reservations about simulation. For Elaine there was no question or doubt that simulation could help students to learn. John was more critical:

> *It doesn't have to be high fidelity all the way but it does have to support learning. Perhaps we should look at that a bit more to make sure that each student is getting the most from it. Are they making the links between theory and practice? Is simulation helping them to understand the physiology of a raised blood pressure or the psychology of losing a limb? Of course it won't suit all students because we know that they all have different leaning styles. But we can look at it as providing opportunities that they would or might otherwise miss.*
>
> (John - nurse educator - 50, 18.)

Like Helen and Elaine, John also saw simulation as complementary to clinical practice and not as a replacement to time spent nursing real patients:

> *I think we have to be careful here, as it should not replace reality. No dummy however sophisticated, or actor for that matter, can really provide the experience of working with a sick patient. The emotion, the frailty of life, the buzz of the environment, ... all play a part. We can simulate some things but we can't simulate it all. And we shouldn't … to learn to be a nurse you need to nurse real people and learn to manage each different situation … it's what makes you a better nurse.* (John - nurse educator – 50, 4.)

Whilst he recognised that simulation was useful in helping students to learn to become nurses, he also highlighted the learning opportunities and possibilities for learning that could only be accessed through nursing patients in a hospital ward or in their homes. John gave further examples of the richness of experience available for students as they engaged with real people and their unique experiences of illness.

Summary

All three nurse educators had been introduced to simulation through their roles as nurse educators. Their own nurse training had not included simulation. Through engagement with simulation as a pedagogical approach for learning, they discovered the possibilities and limitations of this approach for nurse education. All of the nurse educators had their own perspectives on to how simulation could facilitate learning. Helen saw simulation as an indicator of learning and engagement. She suggested that students who performed well during simulation demonstrated key attributes of good nursing and were successfully learning to become nurses. As she described simulation, she took this a stage further suggesting that simulation might also offer indication of a student's weaknesses and difficulty in learning to become a nurse. Elaine was very positive about simulation. She highlighted the learning opportunities afforded through simulation and the support that this environment offered for students to learn the skills of nursing. John was also an advocate of simulation. He elucidated the possibilities of simulation for learning nursing, yet he also recognised that it

could not replace the real experience of working with sick patients. All of the nurse educators acknowledged the complementary nature of simulation learning.

The Nurse mentors: helping to determine nursing potential

Four nurse mentors participated in this study. Three of the four mentors completed their registered nurse training between 1998 and 2006. The fourth, Kay, returned to nurse education to convert from enrolled nurse to registered nurse, which she completed in 2002. The nurse educators completed their nurse training much earlier, between 1980 and 1988. Consequently, the nurse mentors had a more contemporary nurse education experience during the period when simulation was evolving, and some had previously experienced simulation during their own nurse education programmes.

Val: simulation as a means of identifying good nurses

Following voluntary and part-time work in care homes as a carer, Val knew that she wanted to be a nurse. She completed her adult nursing programme in 2006. She explained: *'Nobody in my family is in the profession; my Mum works in activities but not in the medical or nursing profession. It is just something I wanted to do from working in the care home'.*

Val's first post as a registered nurse was on a vascular ward. That ward closed and she was relocated to work on a trauma ward, where she worked for two years. She then applied for a more senior nursing role on a rehabilitation ward and began to work there as a ward sister in April 2009. In 2010, Val enrolled on a nursing degree programme and completed the palliative care degree module, the teaching and assessing in practice module and the nurse-prescribing module. During her adult nursing programme and as part of her degree, Val had been introduced to simulation learning and OSCE. Val became a mentor for undergraduate nursing students in 2008.

Val's biography highlights her pursuit of continuous professional development and learning and her first-hand experience of simulation. This experience helped her to support students and to help them to learn to perform confidently with

patients. Val saw simulation as helping students to develop their confidence through learning and practising the key skills of nursing:

> *I know some of the students on the recent OSCEs that have been here where they've had to do manual blood pressures, they have practised at university during simulation sessions, have gone round and practised manual blood pressures on patients and staff because they know they've got to do it and understand it, and they want to know that they have got it right and that they are doing it properly. It's a really good way of learning the skills moving from simulation at university and then carrying on their learning as they perform the task, like BP measurement, continuing to develop their confidence as they perform it with us on the wards with patients and supported by their mentors.*
>
> (Val – nurse mentor – 20, 14.)

Val used the example of blood pressure measurement to explain how students gained confidence in their performance, moving from simulation within a university environment to the refinement of their performance with patients whilst on placement. This was important for Val as she saw these skills as evidence of good nursing.

Val talked of the benefits of simulation for students as they learned to contextualise patient information. Having had personal experience she believed that simulation had enabled her to learn to consider important aspects of the patient's situation and learn to understand what this might mean in relation to the nursing care that was required:

> *Simulation helps … I know I've done it. When I did my prescribing course it helped put everything into place. Students who are confident think about what the observations really mean … they look at the patient and if it is a 90 year old lady who has had a number of strokes, they understand that blood pressure measurement is important and that we need to use the obs*

> [observations] *to make sure that the medication is working, and we need to check other things like fluid balance, and we need to think about the patient – is she worrying about being in hospital? Those students can do that.*
>
> (Val – nurse mentor – 21, 4.)

Val drew upon her own experiences of simulation and highlighted the complexity of learning to understand the nursing skills required for safe and effective patient care. She suggested that successful students were able to make links between theoretical propositions, the nature of nursing practice and the context in which the patient was nursed. According to Val, it was in bringing these different yet related aspects of patient care together during simulation experiences that students were able to begin to understand what was needed for the patient. Confident students demonstrated the ability to contextualise patient care and, in doing so, demonstrated to Val that they were good nurses.

Val also identified the value of simulation and ward based nursing practice in supporting the development of interpretation skills:

> *I think the students that have passed their OSCEs are people that have worked for it, have been practising in simulation sessions and on the ward for it and have a much more mature outlook. They are the ones who try to interpret and use all of the information that they have about the patient and make the links between theory and practice.* (Val – nurse mentor – 20, 31.)

Learning the skill of interpretation through simulation and supported nursing practice on the ward was, for Val, evidence of successful student learning. She suggested that good students were able to integrate their learning during simulation and perform well at their OSCE. These good students also demonstrated the formation of a nursing identity, which Val saw as essential to success and becoming good nurses:

> *I think in terms of a good nurse, I think simulation and the OSCEs for some of them, really does affect them. They're a bit more mature; they know they've got to do it to learn and to move forward, so they just get on with it. They might panic about it inside but they don't show it. They are becoming nurses and they are learning how it feels to think and act like a nurse. If you watch them you can see it, they behave like nurses.* (Val – nurse mentor – 24, 24.)

Val believed that formation of a nursing identity in relation to a student's attitude and behaviour was, in part, affected by their exposure to simulation experiences. In her eyes, good students embraced the learning opportunities offered by simulation. Val suggested that this learning was evident in their mature approach to patient care.

Throughout her interview, Val drew upon her own experiences of simulation and highlighted the complexities of learning to understand the nursing skills required for safe and effective patient care. She suggested that good students were able perform a range of clinical nursing skills. These students were also able to interpret and make links between theoretical propositions, the nature of nursing practice, patient information and the context in which the patient was nursed. According to Val, it was in bringing these different aspects of patient care together during simulation experiences, that students demonstrated that they were forming nursing identities and learning to be good nurses.

Gillian: simulation as a means of developing confidence for good students and supporting weaker students.

Gillian completed her nursing degree in 1998 and worked within the field of rehabilitation and elderly care nursing. Before commencing her nursing education, she left school after her 'A' levels and studied for a Biology degree with the intention of teaching. She took a gap year after graduating and travelled to Australia and New Zealand. On her return, having had some time to consider

her future, Gillian decided to apply for nursing: *'Nursing made sense in many ways and my biology was certainly a help.'*

Over the last three to four years, Gillian's interests had moved towards the nursing care of patients with a diagnosis of dementia. Gillian was studying for a Master of Science degree and hoped one day to move into nurse education.

Although she had not experienced much simulation during her own undergraduate nurse education, Gillian was introduced to simulation and OSCEs when she undertook a nurse-prescribing course as a registered nurse as part of her continuing professional development. Gillian had been a mentor for ten years:

> *It's quite interesting really because as students we didn't have much real simulation, not like it is now, and we certainly didn't do OSCEs. But I've just done the prescribing course and I really do know what it is like now. So I think, or I hope, that I'm a bit more aware of what students need.*
>
> (Gillian – nurse mentor – 51, 26.)

Gillian had considerable experience in mentoring and supporting students, and recognised that her own personal and professional learning was helpful in providing a good practice learning experience for them.

Gillian saw simulation as useful in helping students learn how to perform certain clinical skills in a safe environment, away from the unpredictable and demanding environment of the hospital ward:

> *As a mentor, I want students to be able to carry out a range of clinical skills in their first year ... you know like the obs* [observations]*, urinalysis, fluid balance, aseptic technique* [wound dressing techniques] *... those sort of things. It is important that they get the chance to practise these things and, sometimes a confused older patient is not always the best place to start. Having the chance to learn these skills in a safer*

> *environment, which is dedicated to learning, and then checking that learning through an OSCE is a brilliant way to learn. I wish we'd had more chance to do that in our training.*
>
> (Gillian – nurse mentor – 51, 29.)

Gillian acknowledged the fragile and often unpredictable environment in which patients with a diagnosis of dementia were cared for. She highlighted the importance of practice, rehearsal and skills assessment in helping students to learn their nursing skills. Gillian also recognised that the clinical learning environment on placement could present some challenges. These challenges required students to be able to adapt their performance and recognise the ever-changing context of patient care, and were important for their learning and development. Gillian indicated that simulation alone was not enough to enable students to learn to understand the complexities and dynamics of patient care:

> *However, it is still vital that students get the opportunity to learn through carrying out these skills with patients. They learn to talk to the patient, to gain their trust, to try to calm them a bit if they are unsettled and that's really important. Equally, they also learn that on some occasions you just need to call it day and try again later. Good students can do that. The weaker students have more problems often getting into a tricky situation because they haven't been able to take a step back and work out the best for that patient. Simulation can help with that and scenarios where students have to consider specific patient concerns are useful.*
>
> (Gillian - nurse mentor – 52, 6.)

Gillian explained that students could be supported to learn to contextualise care through simulation. She focused upon two issues here; her recognition of the importance of learning in a clinical environment with real patients, and identification of good students and weaker students. Gillian reported that some students, the *good* students, had engaged with simulation and were able to contextualise nursing care following exposure to real situations on the ward. These good students demonstrated the skills of clinical reasoning as they decided

upon the best course of action for their patient. She highlighted the value of simulation in helping other students, the *weaker* students, to consider and explore the context of patient care and learn to identify contextual factors which were important for planning care. Gillian suggested that simulation might offer support for weaker students to learn and develop these skills before carrying them out in practice.

Gillian was also clear that simulation offered guidance in relation to the interpretation of patient information:

> *What I'm looking for is the student who has the confidence to carry out the skill and knows what to do with any results, who to report to, how to document them. Those students, I believe, are the ones who learn, who take the opportunity to practise the skills through simulation and who ask questions to help them relate it all to patients in the unit.*
>
> (Gillian - nurse mentor – 52, 13.)

Gillian highlighted the importance of interpreting patient information and having the confidence to trust and act upon those interpretations. She felt that simulation could help good students to develop confidence in their nursing interpretation skills and demonstrate a confident approach to patient care.

Having experienced learning through simulation during her own professional development, Gillian was clearly an advocate of this approach to learning:

> *Last week we took some time to do dressings. That was like a ward based simulation – no patients were involved just other members of staff who were guiding the students. I think that they found it helpful. They were certainly showing confidence and motivation. It was good to see how far they have come since starting their placement with us. They are now showing that they are competent in a range of nursing skills. I think it makes all the difference in the first year and can really help them to succeed. It*

> *shows us, and them, that they are learning to be nurses. It gives them the confidence to deliver nursing care and feel like nurses.*
>
> (Gillian - nurse mentor – 52, 20.)

Gillian illustrated the value of simulation in supporting students as they learned to be nurses. She identified the development of confidence and competence demonstrated by students as they began to form a nursing identity.

Gillian's narrative highlighted her belief that simulation was important for helping to identify good nurses. In the same way as Val, Gillian was able to draw upon personal experience of simulation in order to support student learning. She had a clear view of what a good first year student nurse should be able to achieve by the end of their placement, yet also recognised the challenges of learning in an elderly care setting and the need for support for weaker students. Gillian suggested that simulation could provide some of that support. Whilst she was clear that placement learning was essential, she also indicated that simulation offered a safe environment where skills could be performed and practised without risk to patients or students. Gillian highlighted the importance of learning to recognise and interpret patient information, and accept the responsibility of documenting and sharing important information with other members of the health care team, in order to ensure safe and effective patient care. She implied that good students were also able to engage in critical thinking and reflection in order to determine the appropriate care for each patient. According to Gillian, simulation offered students the opportunity to question nursing practice, to establish the best course of action for their patients and, in doing so, demonstrate their confidence as they successfully learned to be nurses. For Gillian and her colleagues, simulation helped them to determine which students showed potential and were good students, and which students needed further support.

Kay: simulation as a means of building skills for resourceful nursing practice

Kay trained as an enrolled nurse (EN) in the armed forces completing fifteen years' nursing service. Her nursing experience included orthopaedics, gynaecology and general medical and surgical nursing. After leaving the armed forces, she spent time considering her options and took a number of different jobs. She found these jobs unfulfilling and returned to nursing, initially working in a nursing home. Kay completed a conversion course from enrolled nurse (EN) to registered nurse (RN) in 2002. Following registration, she worked part-time until she secured a permanent post on a surgical ward. Kay remained on that ward and became a senior sister. In addition to her clinical role, she was also responsible for student nurse support and education on the ward. During her enrolled nurse training and her conversion course, Kay had no exposure to simulation. She had acquired experience of simulation through links with local HEIs, where she occasionally taught clinical skills and assessed OSCEs on the undergraduate nursing curricula.

Kay's biography highlights her role in supporting students to learn nursing. She developed her knowledge and understanding of simulation through teaching others and through this, recognised the possibilities that simulation offered for learning and developing skilled nursing practice.

Kay was clear about the need for students to practise and rehearse key nursing skills and the benefits of engaging with simulation to achieve this:

> *I do think that it is important that they* [students] *look for practice opportunities. Whatever it is that they need to go over, to become a bit more confident with, simulation can help. They can do something as simple as repeating a task until they know it, right through to giving specific care to a simulated patient and looking at the whole scenario. That's where I think simulation really works, it helps them to learn to perform a task and it helps them to really learn the steps of that task.*

(Kay – nurse mentor - 31. 15.)

Kay believed that simulation offered a means of helping students to develop their nursing performance. Through the rehearsal of key nursing skills students could develop confidence in their delivery of fundamental nursing care.

Kay asserted that once a confident performance of a nursing skill had been achieved, the student could then progress and begin to learn how to adapt their performance for individual patients:

> *Once they have done that they can move on to thinking about how to approach a particular situation. You know, thinking about what a particular patient might need and how to go about it. You can see them learning to read the situation and then realizing that it is ok to do things in a slightly different way if that is what the patient needs. Simulation is quite a safe place to try this out.* (Kay – nurse mentor – 31, 20.)

Kay acknowledged that simulation could provide a safe environment in which students could learn to adapt their nursing practice, in recognition of a patient's context and health care needs. She suggested that simulation presented a way for students to slowly build and develop their nursing skills. Similarly, Kay highlighted the importance of building and developing the skills of interpretation:

> *I often find that the medication administration simulation that I have set up helps them to learn to interpret information. I have put some scenarios in which give interactions and contra-indications and they need to work through it, to interpret the information they have.* (Kay – nurse mentor – 31, 25.)

Kay gave an example from a ward-based simulation where students practised medication administration. In this simulation, Kay had created specific patient scenarios, which required the students to recognise, interpret and act upon the information provided. Failure to recognise and interpret the information correctly

would result in medication errors. As the students engaged with the simulation, they were encouraged to provide a verbal commentary to give rationale for each step of the administration process. Acknowledgement of the reasons for their actions provided opportunity for demonstration of their knowledge and understanding of key elements of medication administration. Registered nurses who facilitated the simulation offered support and guidance and encouraged the students to learn to interpret key information and build up their skills in this area.

Assimilation of learning from simulation into practice was, for Kay, an indication that a student was successfully learning to become a nurse:

> *I guess that is how they learn. They take the information from university and make sense of it on the ward. They think about what they need to do, what they can do, what is possible with this patient and then they do the procedure or take the observations or do the dressing. It may not be following the guidelines completely but it will be safe and competent and effective. That's when they start to show that they are learning to be nurses and thinking like nurses.* (Kay - nurse mentor – 29, 6.)

Kay suggested that as students began to build and link their learning from simulation, and their knowledge and understanding of best practice, to the realities of the clinical context and caring for their patients, it was then that they began to demonstrate that they were forming a nursing identity. She explained that the ability to depart from the script and consider different possibilities for safe, effective and resourceful care demonstrated that the students were learning to be good nurses.

Kay's narrative emphasized her belief that simulation provided an environment for students to build and develop their skills in preparation for nursing practice. Unlike Val and Gillian, Kay had little personal experience of simulation. Instead, she drew upon her experience of facilitating and demonstrating clinical skills during university based simulation sessions, ward-based simulations and

assessing OSCEs. Kay believed that simulation had a number of benefits in terms of safe practise opportunities. She saw simulation as having a key part to play in helping students to learn the skills of performance, contextualisation and interpretation and to help develop their identity as nurses. However, Kay also felt that the vibrancy and energy of the ward learning environment were very important because they encouraged and enabled natural and spontaneous interactions between student nurses and their patients. It was in this environment that she believed good students were able to build and develop their skills to provide safe and effective care. These students also had the confidence to recognise different possibilities and new solutions for care and were learning to deliver creative and resourceful care for their patients.

Pat: simulation as a means of preparing for the challenges of bearing witness to human events

Pat was 40 when she came into nursing. Before nursing she had had a range of part-time employment including office and retail work. She undertook a part-time programme just before the Project 2000 programmes began and so was able to learn within a more traditional 'school of nursing' environment but, as a part-time student, with the flexibility of term time hours. Following registration, Pat began her nursing career working with older people. The funding for that role came to an end and Pat moved into the Acute Trust working on a general medical ward, but as she explained: *'I didn't cope very well with the shift patterns and the children were still small, so I found it a bit daunting. I had a best friend who was a district nurse and always said to me that I should go out into the community … which I did … And I've been in the community ever since.'*

Pat worked as a community nurse and progressed to a more senior nursing role with greater responsibility for the nursing team and management of the nursing workload: '*Politics led me to realize that I needed to do something else because I'd really got as far as I could without going into management.'* A secondment opportunity arose at the local University to teach clinical skills which Pat managed on a part-time basis alongside a part-time community caseload. Pat mentored students in practice in her community role, facilitated simulation

sessions and taught mandatory clinical skills including manual handling in her role as associate lecturer at the university.

Pat's biography reveals her personal understanding of the opportunities and challenges experienced by mature learners in higher education. It also illustrates her unique professional role in supporting undergraduate nursing students in a variety of learning environments. As a facilitator and demonstrator of clinical skills, Pat used the simulated learning environment to help students to learn their nursing skills. As a mentor she was able to draw upon that learning to explore situations in practice, and help students to learn how to manage complex clinical situations.

Pat was clear that simulation was an important learning and teaching strategy for the development of clinical nursing skills in the undergraduate nursing curriculum because it offered a safe environment:

> *Simulation I think is important as it helps the students to make sense of some of the nursing skills that they will need to learn. They need to know how to care for patients and that means knowing how to take a temperature, how to measure fluid balance and how to change a simple wound dressing. For first year students, learning how to perform these nursing skills is essential and simulation is a safe way to do it.*
>
> (Pat - nurse mentor/educator - 46, 20.)

Pat illustrated how simulation could offer students a safe way of learning to perform key clinical nursing skills. In a simulation environment, she believed that students could learn what to do and how to do it in readiness for nursing patients. Pat also highlighted that simulation offered students the chance to work on difficult, challenging or complex situations:

> *Simulation can give them* [students] *the chance to learn about some of the really difficult situations that they can face. We can give them a scenario about a patient dying and ask them to start*

> *thinking about what they might do and how they might feel. Often the feedback from those sessions is really good. Yes … they start to share their feelings, their fears … to think about how it feels for the relatives, about how they will approach the patient and how they might react to a difficult situation. It is important to give them that opportunity, to explore it. Simulation is a safe place to do that before they experience it in practice.*
>
> (Pat - nurse educator/mentor – 47, 28.)

Pat combined her experience as a mentor and educator as she discussed how simulation could help students to develop their professional performance as nurses. Similar to Kay, in Pat's view, simulation offered the opportunity to introduce difficult yet realistic situations and encourage students to consider what the appropriate nursing actions might be. Equally, she believed that simulation presented a catalyst for students to begin to explore their personal responses to illness and death and to prepare for the challenges of bearing witness to human events. Pat recognised that the performance of bearing witness to human events such as death and dying was often difficult for students. Through simulation, Pat believed that students could begin to explore their personal responses and develop their own approach, or performance, to this difficult nursing situation.

Pat highlighted the importance for students to learn to recognise and appreciate the patient's world and their nursing context at home, which could be rehearsed through simulation:

> *In people's homes the environment is different – a cat may jump up, the budgie fly across the room and you have to deal with it. We can model that in simulation to help the students learn what they can do in those situations. Then they can see that we strive for best practice and we always need to make sure that we show safe practice. It's using common sense and your knowledge of the patients' situations to give the patients the best care possible. Once they have got that then they can start to develop their own nursing practice and apply it to different situations. Simulation*

> *can give them the chance to learn about some of the really difficult situations that they can face.*
>
> (Pat - nurse educator/mentor – 47, 22.)

Pat drew upon her background as a community nurse and, as she facilitated simulation sessions, she encouraged students to consider their responses to some of the challenging contextual issues of community care. Pat recognised the unique environment of a patient's home and the difficulties that students may face delivering often quite complex nursing care in the home environment. Employing this expert knowledge, she inspired the students to consider a range of potential responses to the contextual possibilities and challenges of nursing a patient in their home.

Pat also highlighted the role of simulation in helping students to interpret patient information:

> *They also learn to think about the patient and what the patient's observations mean. What does the patient say, how are they feeling? The students learn to use all of this information to decide what the patient needs. They learn to interpret clinical information such as observations, biochemistry results, which helps to inform the nursing decisions which need to be made. I believe that learning about all of this gives them the confidence to be good nurses and to realize just how much they have achieved.*
>
> (Pat - nurse educator/mentor – 49, 14.)

Learning to interpret the broad range of information available was, according to Pat, important for the decision making process. She believed that the opportunity to learn this through simulation would help students to develop their confidence, and recognize that they were becoming good nurses.

For Pat, the culmination of simulation learning for students was a successful OSCE and the development of a nursing identity. Pat took great pride in seeing

good students successfully demonstrate their learning and show that they were becoming good nurses:

> *It's actually really lovely and encouraging when you see a student go through the whole criteria and pass and you watch them and you think, actually they did learn from what we taught them. They learnt from simulation sessions and they've learnt from the online material and they've learnt from clinical practice ... that's a good, positive feeling. Also I like seeing students in their uniform in university when they do their OSCE because you actually see them as the professional starting out which is very different from them being in mufty. There is something that happens when they put their uniforms on, for most of them, and they look like a student nurse and they behave like a nurse. That's important for me and it's important for patients. When everything slots into place and they carry out the skills and show us that they know what they are doing, that's when you know that simulation has worked and that they are starting to be nurses.*
>
> (Pat - nurse educator/mentor – 46, 28.)

A successful OSCE performance and a professional demeanour demonstrated to Pat that learning had been achieved through simulation, and that a student was forming a nursing identity.

Pat's narrative reveals her commitment to student learning and her pride in seeing successful students demonstrating the attributes of good nurses. Pat highlighted the importance for students to learn to perform the skills of nursing, recognise and interpret the patient's world and the nursing context and develop their identities as nurses. Like Val, Gillian and Kay, Pat recognised that simulation offered the opportunity to introduce different nursing situations and encourage students to consider what the appropriate nursing actions might be. Equally, she believed that simulation presented a catalyst for students to begin to explore their personal responses to difficult and complex nursing situations and to prepare for the challenges of bearing witness to human events.

The nurse mentors viewed simulation as a means of recognizing nursing potential and identifying students who were becoming good nurses. Their perceptions and views of simulation emphasized the benefits of simulation for the safe supervised practise of nursing skills in preparation for the challenges of caring for patients in different environments. Val saw the potential of simulation to identify good nurses. Similarly, Gillian recognised the benefits of simulation promoting confident nursing performances for good students and offering supportive learning opportunities for weaker students. Kay continued the theme of good nursing and saw simulation as an opportunity for good students to build skills for resourceful nursing practice. Pat developed this further highlighting the possibilities afforded to prepare for the challenges of bearing witness to human events. For the nurse mentors, simulation helped good students to flourish and develop confidence in their abilities to provide resourceful, safe and effective nursing care. For weaker students it highlighted areas of concern, the need for further support and issues of engagement with the adult nursing programme. From their perspective, simulation enabled students to explore difficult situations and recognise their own responses to the suffering of others. It also provided a supportive and safe learning environment in which students could rehearse their skills in preparation for caring for patients.

Summary

The nurse educators and nurse mentors clearly recognized the impact of simulation as students learned to be nurses. The nurse mentors saw simulation as a means of identifying which students were becoming good nurses. Whereas, for the nurse educators the focus was slightly different; they saw simulation as a means of helping students to learn to be nurses. Whilst the nurse educators and one of the nurse mentors had not had first-hand experience of simulation in their pre-registration education, this did not appear to influence their views of the benefits or challenges of simulation for learning. Both nurse educators and nurse mentors emphasized the importance of clinical practice for students and the complementary nature of simulation learning. Nurse mentors also highlighted the need for students to use their simulation learning efficiently and effectively for the patients that they nursed in a hospital ward or in their homes. They wanted the

students to put their learning in to practice. For the nurse mentors, the recognition of the differences between the best practice environment of simulation and the real and often complex world of the patient was also important and evidence of the formation of a nursing identity. Students demonstrating such recognition and self-awareness were deemed by the nurse mentors to be good nurses.

For the nurse educators and the nurse mentors simulation afforded students opportunities to learn and practise the skills of nursing (*performance*); learn to make links between theory, practice and the patient's context (*contextualisation*); learn to interpret information for patient care (*interpretation*) and develop a nursing identity (*formation*). Learning and development in all of these areas demonstrated that students were learning to be good nurses. For participants in this study, simulation appears to be doing more than has been previously perceived. The next chapter looks at simulation from the perspective of the student nurse.

Chapter 7: The Student Narratives

> *THE OSCARS*
> *Initially on hearing about simulation and the OSCE at the beginning of the course, an image of the cinema academy awards or 'OSCARS' was conjured up. I wondered what place OSCARS had within a pre-registration nursing course.*
>
> (Annie - student nurse - R1, 3.)

For students, simulation at this university was inextricably linked with their end of year assessment tasks or OSCEs. The status of the OSCE for students is demonstrated in Annie's vision of the OSCE being something akin to an 'OSCAR'. As highlighted in chapter 1, assessment guides students, and emphasizes what they can and cannot succeed in doing (Boud, 2007). It was this aspect of OSCE that students described and illustrated and to which some students attributed their feelings of confidence.

This chapter presents a view of the students' experiences and understandings of simulation as they learned to be nurses on an undergraduate BSc adult nursing programme. Their narratives are constructed from the stories which they told during research interviews and through their reflective writing. They offer an opportunity to begin to elucidate and understand learning through simulation from the students' perspectives. Throughout their narratives, the nurse educators and nurse mentors described student nurses experiences and outcomes of simulation learning in relation to three categories (a) successfully becoming nurses, (b) struggling or working hard to become nurses and (c) not becoming nurses. I adopted these three categories in order to present some order and distinction to the student nurses' narratives and to show how simulation contributed not just to becoming a nurse but also to not becoming or 'unbecoming' a nurse (Colley, 2005). As in chapter 6, this chapter draws upon the work of Benner and Sutphen (2007) and the four key areas of performance, contextualisation, interpretation and formation to present the student nurses'

narratives. Each narrative starts with a brief biography of the students giving some background and context to their decisions to learn to become nurses.

Simulation and successfully learning to become a nurse

Sally: simulation as a means of building skills for confident nursing practice

Sally's family were experienced healthcare professionals. Her mother was a theatre nurse, her grandmother a nurse and her grandfather an anaesthetist. It was presumed that she would also join the health care world. Instead, '*almost as an act of rebellion*', Sally left school at the age of sixteen and trained to be a florist. Despite enjoying the creativity of her work, Sally found the hours long and the pay poor. Following a search for a different job, she started to work in care homes. When Sally was nineteen, her grandfather became seriously ill with cancer; treatment was not an option and he requested to be nursed at home. Sally helped to nurse her grandfather until he died. '*That was my turning point! I got more involved in care work and I stayed in it then and used to work for a charity.*' Sally continued to work in this environment and progressed her knowledge and understanding of health and social care through the achievement of National Vocational Qualifications (NVQ) at levels 2 and 3. During this time Sally married and had three children. Sally's husband served in the armed forces and, whilst her work for the charity was rewarding, she harboured a growing desire to become a nurse. This was not possible for some time, as military life required the family to move and relocate on a regular basis. In 2008, Sally's husband reached the final year of his military service and she took this as her '*now or never*' opportunity to begin her education to become a nurse.

Sally's biography clearly demonstrates her commitment to caring for others. The determination to develop and enhance her care skills was a key feature of Sally's resolve to become a nurse. In the same way that she had initially rebelled against nursing as a career and the presumption that she would follow in her families' footsteps, once she was accepted on to the programme, Sally grasped every

opportunity to learn nursing. She highlighted the importance of learning how to perform clinical nursing skills with safety and accuracy:

> *I think it's very important. I was very unsure before of why we did it* [simulation]*, to be honest, and I kept thinking you're learning this in practice, why are we doing this? The thing that I feel is very relevant is that simulation gives you the chance to learn so many things about the nursing skills, you really do practise and drill the correct procedure and not only that, because you're being taught by the University and you're working in different places, although they may do it different, it may not be wrong, but it's not the University way, so it means you're learning the correct way.*
>
> (Sally - student nurse - 3, 7.)

Sally recognised that simulation offered her the opportunity to practise and rehearse her clinical skills in order to achieve a good performance. She identified that nursing staff working in different areas might approach a given nursing skill in a different way; in essence they had adapted their nursing practice. Sally sought confirmation that her performance was *correct* and that she was a safe practitioner. She realized that simulation offered her the means to check and assess her performance against best practice standards.

Sally also described how simulation and her OSCE had helped her to consider and demonstrate the importance of contextualizing her nursing care:

> *I think that during my OSCE, that moment when my mind went blank, I remember thinking to myself, ok what would you normally do now … think through the steps … and I was able to think about the information that I already knew about the patient and what that would mean for his care. Thinking about individualizing his care I suppose, because it is important to make sure that you have thought about what is right for them, not just think about the task.* (Sally - student nurse - 3, 18.)

Sally established a requirement to think beyond completion of the nursing task and consider the best course of action for her patient. She was contextualizing the care that she was delivering and, in doing so, demonstrating that she was thinking beyond the assessment task and focusing upon her patient's needs. During her OSCE Sally was able to review what she already knew about her patient and consider what she would 'normally' do if presented with this situation whilst on placement or during simulation sessions. She was drawing upon her previous learning to help her to demonstrate how she would plan and deliver care for the patient in her OSCE.

During her interview Sally acknowledged the opportunities afforded through simulation to learn to interpret patient information:

> *Simulation has helped me get the basics right and then think about the other things that are important. Like thinking about what the observations mean. That's really good because then you start to use your biology knowledge and think about the cardiovascular system or the urinary system, and it all helps you to interpret what is happening to the patient. Doing it in simulation gives you a bit more time to really think about it and make the connections.*
>
> (Sally - student nurse - 3, 30.)

Sally had learned that time spent during simulation presented an opportunity to synthesize her learning and develop her skills of interpretation. The simulation environment afforded time to consider patient information and relate it to previous learning in order to build up a clinical picture of her patient. She was building up her knowledge and understanding of nursing through simulation.

For Sally, simulation and OSCE had changed her understanding of what it meant to be a nurse:

> *I do think if we hadn't done simulation and the OSCE, I wouldn't know it as well as I do now. I think I feel a bit more confident*

> *because I've passed my OSCE and I've got that piece of paper that says I'm competent and I have no reason not to do that right. As a student nurse, having been a carer before, yes, I do feel different. I think I feel like a nurse. I feel as if I'm important, not that carers are not important, they play a vital part, and having been one myself I know that they do a lot of the work, but I do feel more important but more responsible as well. I suppose you do get that sense of becoming a professional, you're leading that way so you act in that manner*.
>
> (Sally - student nurse - 3, 23.)

Sally highlighted the differences between her previous role as a carer and her role as a student nurse. Essentially, she emphasized the professional nature of nursing and the responsibility that was incumbent upon her as she learned nursing. Through engagement with simulation sessions, learning about best practice in nursing and achieving a good performance in her OSCE, Sally described the confidence she now felt and the successful development of her identity as a 'professional' nurse.

Sally's narrative reveals her thoughtful and questioning approach to her learning and her determination to perform nursing skills safely and correctly. Sally describes how simulation and her OSCE helped her to build up her knowledge and understanding and become a confident student.

Tania: simulation as a means of perfecting skills for confident nursing practice

For Tania, nursing was never a career that she would have chosen when she was in her twenties. The very thought of sick people was difficult for her at that time. Tania began her working life in the banking and insurance industries, progressing her way up the management ladder until she became '*fed up*' with her working life. She took a redundancy package and travelled to abroad for three months. This was, for Tania, '*a wonderful life*' and on her return to the UK, she worked for a year with a mortgage broker and '*hated every minute of it.*'

Family and friends worked locally within nursing and medicine. After considerable thought and discussion, Tania went for an interview to become a health care assistant. She was successful and started work at the local hospital. Tania enjoyed her work so much that she decided to develop her knowledge and understanding, undertaking NVQ courses in health and social care, which supported her role as a health care assistant. Tania liked this approach to professional learning and following an Access to Higher Education (HE) course at the local Further Education (FE) College, she applied for a place on the adult nursing programme.

Tania's biography describes her early working life and her drive and determination to find fulfilment. Her eventual decision to explore the world of health care, in spite of her initial feelings of unease at working in this environment, provided the realization that she could find fulfilment in health care work. Recognition of her passion and enjoyment in caring for others and her desire to learn galvanized her decision to pursue a career in nursing. Tania's life experience informed her approach to learning, as she used a mature and rational approach to develop a skilled and confident approach to nursing care.

Tania described how she used simulation sessions to 'perfect' her performance of clinical nursing skills:

> *I have found that simulation has helped me quite a lot. During simulation I can try things out, practise my skills until I have perfected them. With the help of the facilitators and other students I can use the simulation sessions to get it right. Making sense of things, helping to work it out when you are less pushed for time and you know that it is ok to ask questions to whoever is leading the session.* (Tania - student nurse - 15, 14.)

Having the time to rehearse her skills and to check her performance with a member of university staff was important for Tania. Like Sally, she was keen to ensure that she was getting it right and developing her nursing performance.

Tania acknowledged that simulation provided an opportunity to consider the care that she was learning to provide to patients and, to ensure that it was appropriate for each patient's needs:

> *Now I feel more confident about thinking about the patient. Simulation has really helped with that, our tutor reminded us that we needed to think about the right care for each patient. To be able practise that and ask questions has really helped me to learn.* (Tania - student nurse - 15, 28.)

Tania described how she had begun to consider the context in which care was provided. She talked about her confidence and how opportunities to rehearse patient care, and ask questions about that care, had enabled her to learn to deliver care that was patient centred. Learning to make sense of patient information was also important to Tania:

> *Then you can begin to get the confidence about what a high BP really means and what this will mean in the scenario for the 87-year-old lady who has kidney problems. You make the links and understand why keeping her blood pressure at a certain level is so important and what the medications may do to alter that. It's like a jigsaw really and when the pieces fall into place, you feel more confident and start to feel that you are becoming a nurse.*
>
> (Tania - student nurse - 15, 18.)

What was important to Tania was the feeling of confidence that she experienced when she was able to demonstrate her knowledge and understanding during simulation. She offered an example from a simulation session when she was required to measure and record a patient's blood pressure and interpret the results. Making the links between the information that she had gathered from measurement of the patient's blood pressure and interpreting what this meant for her patient was an important milestone for Tania, giving her the confidence to recognise that she was successfully becoming a nurse. This sense of confidence and professional awareness was apparent in her written reflection:

> *The next day when I went on to the ward I felt as if all the boxes had been ticked and my confidence levels soared. … Now I had been given a stamp of approval from the university. I could feel confident that the way I was doing it was correct and that's all that matters. Now I was starting to really feel like a nurse.*
>
> (Tania - student nurse - R3, 8.)

Tania describes how she felt after having successfully completed her OSCE. Returning to her practice placement, she describes success in her OSCE as a stamp of approval from the university, and acknowledgement of correct and safe practice. This recognition of progress gave her feelings of confidence and belief that she was becoming a nurse. Similarly, during her interview Tania explored her developing professional identity:

> *Professionally, I feel more valued as a student for some strange reason now, I feel I've crossed a bridge here … and I probably feel I've reached a level that I can now move on to the next stage. Now I feel a proper student and I will end up being a proper nurse.* (Tania - student nurse - 16, 12.)

Tania had developed confidence through simulation and a successful OSCE performance, and was now beginning to recognise that she was becoming a nurse. She suggested that success in her OSCE meant that she was following the required standards and doing things *properly*. This was important to Tania and like Sally, engaging in learning during simulation had helped her to form a nursing identity.

Tania's narrative describes the importance of developing, and feeling confident. She needed to know that she was developing as a nurse, learning the appropriate response to patient situations and able to carry out safe and effective nursing care. Simulation and OSCE offered Tania a means of rehearsing and perfecting her nursing skills and developing confidence in her nursing performance.

Mary: simulation as a means of rehearsing skills for confident nursing practice

Mary commenced the adult nursing programme at the age of 21. She had *'always wanted to do something involved with people'* and so came to university with a range of experience that included volunteer work, child minding and au-pair work abroad. Initially her focus had been dentistry. Nursing had been a consideration, but with good A level grades, and encouragement from school and her parents, Mary had been encouraged to apply for dentistry.

An important time during her teenage years had been her grandmother's illness. Mary had helped her mother to care for her grandmother at home. The Marie Curie nurses who had supported the family during the later stages of her grandmother's life particularly inspired her: '*I saw the Marie Curie nurses with her and they were fantastic. They were just the nicest people that I had ever met. They were really nice to all of us and I thought, I really want to do something like that*'.

Before applying to university, still with dentistry as her focus, Mary decided to get some work experience within the health and social care sector and became a health care assistant at a local hospital. She '*absolutely loved it*' and decided that she wanted to become a nurse and so applied for the adult nursing programme.

Mary's biography describes her wish to work with and care for others. Inspiration drawn from her personal life and work experience highlighted possibilities for her future career and helped her to make the decision to become a nurse. Mary was passionate about nursing, and her commitment to learning to provide the best possible care for her patients was evident throughout her interview:

> *When we have simulation sessions it's great being able to have a go at the procedures and that's when I think I learn most by doing it myself… having a go … but being able to check each step. It's hard to do that on the wards 'cos you don't want to make the patients think that you don't know what you are doing … they*

> *need to know that you can do it, not feel like you are learning on them. But doing it in simulation, using a case study or in the skills room … it helps you to think about what to do and how you can help them.* (Mary - student nurse - 2, 13.)

Mary described how she engaged with simulation sessions to learn how to carry out and deliver clinical nursing skills. She explained the difficulties and challenges of the placement learning environment and her desire to appear confident and competent with her patients. Mary found that simulation enabled her to check her progress, to consider different approaches and work towards a competent patient centred performance. In this environment, she could practise and rehearse her nursing skills in preparation for a confident performance with her patients.

When describing her OSCE performance, Mary outlined how she carried out the skills required, constantly focusing upon the patient's needs:

> *It* [the OSCE] *was much better than I had expected. I expected something terrible and when I went in it was actually relatively easy in comparison to what I had expected. I did catheter care, and BP,P and R* [blood pressure, pulse and respiration rate]. *I was fine with both of them. Once I knew what they wanted me to do I just got on with it. It was me and the patient … I wasn't really thinking about anyone else I just chatted to the patient and explained what I was doing and it was ok.*
>
> (Mary - student nurse – 3, 4.)

Mary explained how simulation had enabled her to consider her performance as a nurse, both in terms of delivering nursing care and developing a practised and professional nursing performance for her patients. She also established that she had used her communication skills during her OSCE to demonstrate an authentic interaction with her patient. Having viewed a video of her OSCE, it was clear to me that Mary had a very natural and caring approach to her patient. She gave a confident patient-centred performance, which was commended by the member of

staff who took the role of the patient. Mary demonstrated that she was successfully learning to contextualise her nursing care.

Mary also recognised that simulation had helped her to begin to make sense of patient information and physical signs and symptoms of illness:

> *I think that simulation and the OSCE really helps us to think about what we know about our patients and link it to what is happening to them. It gives us the chance to think about what a low BP means or what might happen if the patient is in pain.*
>
> (Mary - student nurse - 3, 17.)

She identified her developing ability to interpret patient information and to recognise the links between her observations of her patients, and what this might mean in relation to their condition and requirements for nursing care. She described how simulation had helped her to make those links and enabled her to begin to make connections between what she had learned and what was happening for her patient.

Like Sally and Tania, Mary described the sense of confidence that she felt having engaged with simulation sessions and completed her OSCE:

> *Now I've completed my OSCE I do feel confident … I do feel more like a nurse …it's funny... I do feel a lot more confident and now I think if I hadn't done the simulation sessions or had the OSCE I wouldn't feel ready to go into next year.*
>
> (Mary - student nurse - 5, 2.)

Mary described the relationship for her between a successful OSCE performance and her self-confidence. She had engaged with simulation and learned about clinical nursing skills in preparation for her OSCE, and she achieved success. The assessment had given her confidence to move forward; it had demonstrated her learning and established that she was progressing well. Mary described the sense

of feeling like a nurse and highlighted the development and formation of a nursing identity following her simulation experiences.

Mary's narrative identifies her commitment to learning and her perseverance in using simulation to help her to develop a patient-centred approach to nursing care.

Sally, Tania and Mary illustrated how simulation had helped them to learn the fundamental skills of nursing. They believed that simulation had helped them to build, perfect and rehearse their nursing skills in preparation for confident nursing practice. These students were achieving their goals and engaging with simulation opportunities to practise and develop their nursing skills. They drew upon previous learning from their first year of the programme, and sought to synthesize their knowledge and understanding during simulation experiences. They used simulation as a learning activity where they were able to get answers to their questions, explore the best approaches to care and rehearse and refine their nursing skills. Their narratives identify key themes such as developing a nursing identity, learning to interpret and contextualise information about their patients and professional performance. Sally, Tania and Mary demonstrated that through active engagement with simulation, they were successfully learning to become nurses.

Simulation and struggling or working hard to become nurses

Caroline: simulation as a means of developing confidence through learning and assessment

Caroline was in her forties when she began the adult nursing programme. She had previously been employed in administrative roles and spent some time working in the retail industry. Caroline had stayed at home with her children when they were young. When they were older, she completed a degree in English and had considered teaching. After some deliberation, she decided that she did not want to work within a school environment and so returned to office work. It was when a close friend was diagnosed with breast cancer that she had '*a major rethink about*

life'. Sadly, her friend died and the following Christmas, Caroline handed in her notice at work and left the UK to travel and visit friends. During time spent abroad and on her return home, Caroline had a '*deep think*'; she discussed her future with close friends and her daughter (who is a nurse) seeking something that was '*worthwhile*'. As a result, Caroline began work as a health care assistant and really enjoyed the opportunity to care for and work with others. Sadly, she lost another friend to cancer. Caroline was quite involved in his care, and it was this second experience of loss which helped her to realize that she wanted to become a nurse.

Caroline's biography illustrates her search for *worthwhile* employment and a role where she could care for others. She had had a full personal life caring for her family, taking on a variety of different jobs and had experienced higher education as a mature student. However, it was the death of two friends from cancer that forced Caroline to consider her future, to use her life experience and to find a role where she could fully exploit her desire to make a difference in the world through caring for others. Caroline commenced the adult nursing programme with experience of higher education and experience of working within the health and social care environment as a health care assistant. She had also experienced challenging situations by caring for close friends through illness and death. This seemed to be good preparation for nursing.

During her interview, Caroline talked about simulation sessions that she had engaged with and described how these sessions had helped her to practise and rehearse her clinical nursing skills:

> *When we were in the simulation sessions recently, I was talking to some of others and we were all saying how good it feels to be able to do this, to practise the skills and get them right. It gives you confidence. Somehow working together in small groups … we were able to help each other to feel more confident and to talk about the things that we felt less confident about. Then we moved on to different scenarios, which looked at a different skill and worked together to get it right. That was good.*

(Caroline - student nurse - 7, 12.)

Caroline talked about her enjoyment of learning using examples from group simulation sessions to illustrate her recognition of the value of shared learning and problem solving for developing fundamental nursing skills. She recognised that simulation had enabled her to practise her clinical skills in order to achieve a confident and accurate nursing performance.

Caroline indicated that simulation had enabled her to begin to integrate and contextualise her learning. This was demonstrated during her OSCE when the assessor asked her some questions about blood pressure measurement and recording:

> *Then she asked me a couple of questions. She said to me, 'How do you know this is the right size of cuff for your patient?' In my reflection, I remember saying that you wouldn't have put the wrong size cuff on Simman* [the human patient simulator] *because you wouldn't catch us out, but I did say looking at him, it was obvious it was the right size because it was a medium and Simman was a normal looking man, he wasn't fat, he wasn't thin. It was afterwards when we talked about it, the 80% rule and I had completely forgotten that. ... It was also at that point that I realized that in fitting the blood pressure cuff properly, I would be able to get the most accurate reading. Using a cuff that was either too small, not in the right position or positioned over clothing would give me an inaccurate reading, which may have serious consequences. That also taught me to think about every patient as an individual, what is right for one patient may not be for the next.* (Caroline - student nurse - 9, 1.)

Caroline had recognised that previous learning related to blood pressure and cardiac function was important here. She had been taught that The British Hypertension Society (2011) guidance states that in order to obtain an accurate blood pressure measurement, the cuff bladder length should be approximately

80% of the circumference of the upper arm and the cuff bladder width should be optimally 40% of the circumference of the upper arm (Figure 6).

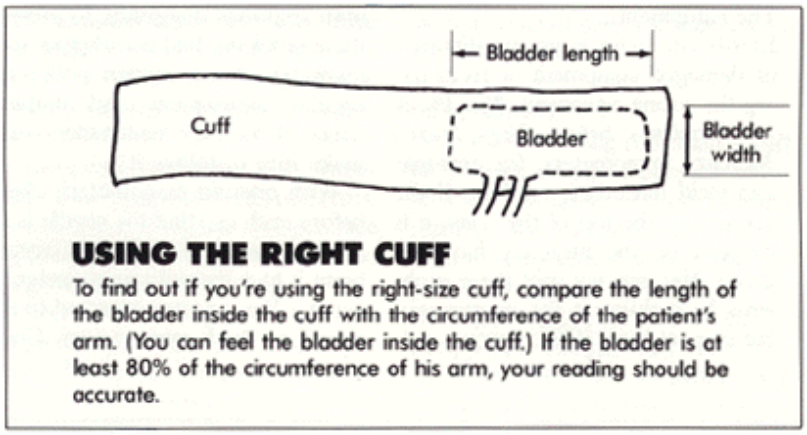

Figure 6: Blood pressure cuff sizing (With permission from The British Hypertension Society, 2011)

There were a number of important aspects in relation to this learning experience. Through her account of her OSCE, Caroline demonstrated her developing knowledge and understanding of key concepts for nursing practice. She confirmed that she was working hard to learn to contextualise information during a simulation experience. She had learned in preparation for the assessment and she had learned about cuff sizing and accurate measurement during her OSCE. Assessment had a powerful influence upon Caroline's learning, directing her attention to areas of significance, and acting as an incentive for learning (Boud and Falchikov, 2007). Caroline had discovered a deficit in her knowledge, but with support from her assessor, she had been given the opportunity to develop her understanding of blood pressure measurement. She had also learned to recognise the importance of this knowledge for future patient-centred nursing practice. She had been reminded that patient care should have its focus upon the recipient of care and should be planned with the patient's context in mind.

Caroline identified occasions where simulation had encouraged and helped her to interpret patient information in order to plan nursing actions:

> *Simulation has helped us to learn to think about the patient information that we are measuring and recording. I know that when I was doing the BP in the OSCE I was thinking about what that BP meant for the patient when I was recording it. As it was it was quite normal but if it had been high or low I would have told my mentor or the assessor in the OSCE. I had some questions about it and was pleased that I could answer these quite easily.'*
>
> (Caroline - student nurse - 11, 2.)

Again, Caroline referred to her OSCE and recalled how she had considered how she might act if her patients' blood pressure was low or high. She demonstrated that she was learning to interpret key information and use this information to consider her nursing actions. Through interpretation she was able to synthesize her knowledge and understanding and ensure that her patient received effective nursing care. The assessment, her OSCE, had enabled her to consolidate her learning and demonstrate that she had learned to interpret patient information and knew how to act in accordance with her interpretation.

Throughout her interview, and on observation of her OSCE performance, it was clear that Caroline was working hard as she began to learn to be a nurse:

> *I am stopping to think now. I know the best practice guidelines and where to find them. I know what should be done and have practised … during simulation. Really being able to look at our clinical skills practice and to make sure it's right and that we are doing the right thing for our patient is really important. Its good to have the chance to do it … to practise where we aren't harming anyone and we can keep practising until we are confident. I also feel more confident being able to ask questions … so that I know why I am doing it in a specific way. If a patient were to ask me now, I would be able to tell them why and the evidence behind that particular procedure. It makes me feel more confident as a student nurse.* (Caroline - student nurse - 12, 1.)

Caroline indicated that having safe opportunities to practise nursing skills during simulation had enabled her to develop her confidence and to begin to understand the rationales for nursing care. Her accounts of simulation offered a positive view of practice learning and awareness of the work that she needed to do in order to succeed. This learning had helped her to begin to develop her identity as a nurse.

Caroline's narrative revealed that she was working hard and engaging with learning opportunities during simulation and through OSCE assessment. She had an honest approach to her learning recognising her strengths whilst clear about her limitations and the areas of nursing that she needed to focus upon. Caroline also highlighted the importance of rehearsal and described the growth and development of her confidence as she learned through simulation.

Nisha: simulation as a means of identifying weaknesses through assessment and developing confidence through rehearsal

Nisha is Somalian and came to the UK from Fiji 7 years ago. She lived in London and the North East before moving to the South West of England. Nisha studied Mathematics and English at A level at FE College before applying for the BSc in adult nursing. She was initially offered a place at a university in London, but was unable to accept as her father, who was living in Africa, became ill. Nisha went to Africa to care for her father. Sadly, her father died. On her return to England, she re-applied for a place on the adult nursing programme. During this time she completed an access to higher education course with a focus upon health and social care. She began her BSc in adult nursing the following year.

'My father was a doctor and I learned about what he did whilst working at the same hospital as a laboratory technician. I did the access course which was very useful, especially as English is my second language. I want a career in nursing. I have a desire to go back home one day, to help people when the situation is less difficult. I want to be able to help.'

(Nisha - student nurse - 12, 18.)

Nisha's biography reveals her commitment and her intent to pursue a career in nursing. The death of her father strengthened her resolve to succeed in nursing, with her hope of eventually returning home to continue her nursing career.

Nisha found the simulation sessions valuable as a means of supporting her clinical skills learning:

> *I need to learn this and be able to do it for my patients and to become a nurse. The practice sessions* [simulation] *and the OSCE are helping me to do that … I am now more confident. I can do the skills and I feel proud that I can do it to the right standard. Only if I would have doubts I would seek help and I would check what we need to do.* (Nisha - student nurse - 14, 28.)

In the same way as Sally, Tania, Mary and Caroline, Nisha found that the opportunity to practise during simulation gave her the confidence to perform a range of skills and to continue to develop her nursing performance. She described confidence and pride at being able to achieve the right standard in her performance and stated that simulation sessions and her OSCE had enabled her to achieve this.

Nisha acknowledged that simulation sessions had helped her to think about a patient centred approach to nursing care:

> *I think it helps me to think about what is happening for my patient and to think about the care which is best for them. I am learning that every patient is different and having the chance to practise my skills helps me to make sure that they get the care that they need.* (Nisha - student nurse – 15, 22.)

Nisha's comments indicated how she was beginning to contextualise her patient's care. She was learning to consider the patient's context and use this information to deliver patient centred nursing care. She also recognised how simulation had helped her to develop her skills of interpretation:

> *I know that if I was unsure about a set of observations or a patient's condition, then I am confident that I can look after my patient and tell my mentor or whoever is in charge. I have learned about the importance of giving information to my colleagues. I am also more confident on knowing what the observations are telling me about the patient. We spent some time learning about that and practising that in simulation and I know that I can understand what is happening to the patient and I know what to do next. For emergency situations, I practised the BLS* [basic life support] *and for other situations, I can also use the assessments to check that my patient is not having airway or breathing problems and then get help. This gives me more confidence and makes me feel that I can be a good nurse.*
>
> (Nisha – student nurse – 15, 1.)

Nisha illustrated a development in her confidence as a result of learning to interpret patient information during simulation and OSCE. She suggested that recognition and understanding of a patient's signs and symptoms was important. Similarly, Nisha also highlighted her developing understanding of what to do with patient information and recognition of the need for an immediate nursing response in an emergency. According to Nisha, simulation had provided her with an opportunity to develop these important nursing skills. Confidence and the development of confidence were important to Nisha and simulation was helping her to achieve confidence as she learned to be a nurse.

One area of concern for Nisha was her ability to carry out her nursing skills in a timely manner. Whilst she had the knowledge and understanding in relation to the fundamental skills of nursing, she was struggling to complete nursing tasks on time. She described her OSCE experience:

> *We had two to do, I did oxygen therapy and blood pressure. I ran out of time because I spent more time I think doing the blood pressure. 'Cos I wanted to do well and I was making sure to*

> *remember all the bits, and because of that I ran out of time and got a referral, and I had to do the oxygen therapy again.*
>
> (Nisha - student nurse - 14, 4.)

Nisha had focused upon the detail of blood pressure measurement, and in doing so had run out of time to complete the second element of her OSCE. She acknowledged during interview and in her reflection, that whilst safe and accurate measurement was important, it was also essential for her to be able to complete a skill like blood pressure measurement and recording in a timely manner. Nisha recognised that the ward environment did not offer the luxury of time and that, as a first year student, she would often be required to measure a range of observations for a number of patients. Through her OSCE assessment she had learned that she needed to work swiftly and effectively. According to Nisha, simulation had offered a safe practice opportunity in order to refine and execute her nursing skills in a more effective and timely way:

> *I think it was really important for me to be happy with how to do blood pressure and use a manual machine. Now I can just grab a machine and do a patient's blood pressure. I found it hard at first, because I knew that I was slow but on my second placement, because I had the time to practise in the simulation suite, I am feeling much more confident that I can be a good nurse.*
>
> (Nisha - student nurse - 14, 20.)

In the same way as Caroline, Nisha had recognised that simulation had offered her a safe and effective way to develop her nursing performance. Despite struggling to complete her OSCE, she had worked hard using simulation opportunities to gain confidence and improve the execution of key nursing skills. Nisha was working hard to establish her identity as a nurse.

Nisha's narrative exposes her commitment and determination to learn the skills of nursing and to practise until she believed that she had achieved competence. Her OSCE revealed that she had learned what to do and the rationale for specific nursing skills. It also highlighted that her performance needed some rehearsal in

order to achieve timely completion of her nursing skills. Assessment had emphasized elements of performance with which Nisha was less confident. Simulation enabled her to rehearse her nursing skills and develop a confident and effective performance.

Annie: simulation as a means of recognizing and embracing the challenges of learning to be a nurse

Annie left school with GCSEs and A levels and went into administration and secretarial work. She married and took time away from work to have two children. Once her children had started school, she began to consider her options and recognised that nursing had *'always been in the back of my mind'*. She decided to do a part-time access course at the local FE College, *'just to see how it went and whether I could get back into study'*. The access course also gave her some experience of health and social care placements, which was important to her as she had no previous experience of caring and was the first in her family to consider nursing as a career. Annie began the degree programme for adult nursing having thoroughly enjoyed the experiences of the access course, and feeling that this was her opportunity to begin '*a career, something that can make a difference'*.

Annie was very clear that simulation had facilitated her learning in relation to clinical nursing skills:

> *It* [simulation] *makes you think how to do things properly and it's good because it just gives you that kind of feeling that you think about … 'OK right how do I do it .. think about it .. ok I have to do this next and then that' … I have to say I still carry my skills guidelines with me. I did struggle at first, and it did worry me because everyone else seemed to get on well in simulation sessions. I think it does give you that … 'Yes I am doing it right'… do you know what I mean? Because you will have to do it every day, it's nice to have that sort of … I'm doing it right to the*

standard expected of me.

(Annie - student nurse - 11, 11.)

Like the other students, Annie also established that simulation had confirmed that she was able to achieve a competent nursing performance. Annie highlighted that she was a novice in the world of health and social care. She used simulation to help guide her practice to ensure that she was following the correct procedure and achieving the *right* standard. For Annie, simulation gave her the confidence to work hard and develop a competent nursing performance:

> *Initially on hearing about simulation and the OSCE at the beginning of the course, an image of the cinema academy awards or 'OSCARS' was conjured up. I wondered what place they had within a pre-registration nursing course. Indeed to what extent was I performing to an audience and how did this circumstance reflect reality? In conclusion, I consider that simulation and the OSCEs are an excellent and essential format for learning and assessment that by design place the students under pressure without exposing patients to any risk. Having now been initiated into this particular 'club', I realize that this process does require the student to master role-play as well as clinical skills and perhaps my initial reaction was more apt than I realized! Managing yourself in stressful situations is also an important learning experience… Simulation and OSCEs do determine whether we are competent to perform the most fundamental nursing skills and when we have practised, rehearsed and passed, provide us with the confidence to undertake these tasks in the clinical arena and to feel more able to call ourselves nurses.*
>
> (Annie - student nurse - R1, 3; R3, 5.)

Annie also focused upon the performance element of nursing, highlighting that for her it was important to work hard to master the role of the student nurse through simulation, in preparation for a live nursing performance with patients in a clinical setting. Like the other students, she described the confidence that she

now felt as a result of exposure to the stressful experience of her OSCE. She also highlighted the role of OSCE and simulation in assessing and determining a competent nursing performance. This excerpt from Annie's written reflection really captured her understanding of simulation and OSCE and her realization of the learning and development that she had achieved.

In her interview, Annie illustrated her belief that simulation was an effective environment through which students could focus upon the context of care for their patients:

> *Talking through what we do in simulation is also a really good way to think about what it all means. If we have had a scenario which is about a breathless old lady then we can start to think about all the other things that are important like her mobility, her hydration, is she comfortable and how does she feel today. That helps it all to fit into place and helps us to work out what to do next.* (Annie - student nurse - 11, 6.)

Consideration of the patient's context, through discussion and simulated practice enabled Annie to spend time thinking about nursing. Deliberation and reflection of contextual information helped her to learn about the physical, psychological and sociological factors which affected her patient and learn to take them into account as she learned to develop an holistic, patient-centred approach to care. Simulation sessions also afforded time to reflect upon patient information learning to interpret key physiological and psychological indicators:

> *... it also helps to work out what is happening to the patient, what a high respiratory rate means and what the fluid balance chart is telling us.*
>
> (Annie - student nurse – 11, 12.)

Annie was learning to interpret nursing observations and use this information to develop an understanding of the patient's physiological condition.

Whilst recognizing that she had initially struggled, Annie explained that taking part in simulation and completing her OSCE had gone some way in establishing her identity as a nurse:

> *Not having a nursing background before I started, I now feel that I have got to where I should be at the end of Year 1. That's quite nice really it gives you a confidence boost. I am starting to feel like a nurse, which is a really big step and makes me feel proud of what I have achieved so far*.
>
> (Annie – student nurse – 11, 24.)

Through her reflection (see above) and during her interview, Annie acknowledged the progress that she had made. She summarized the learning that she felt she had achieved through simulation. There was the suggestion that successful learning in simulation and a positive OSCE performance had enabled her to develop competence and confidence and strengthen her identity as a nurse. In the same way as Caroline and Nisha, Annie also emphasized the role of simulation in helping her to develop confidence in her skills.

Annie's narrative captures her understanding of simulation and OSCE and her realization of the learning and development that she had achieved. She describes how she has learned to contextualise and interpret patient information, and the feelings of pride and confidence that this has generated. Annie's reflection offers evidence of her development from her initial cautiousness and uncertainty to recognition and willingness to embrace the challenges that OSCE and simulation offer for student learning.

Clare: simulation as a means of supporting and encouraging learning through assessment

Clare was 18 when she began the degree course in adult nursing. At school she had taken the GCSE science course, which she had really enjoyed. At FE College, she did the BTEC National Diploma in Health Studies and studied a range of science, health and social care subjects. The positive experiences of her health

care placements during the diploma course, encouraged Clare to become the first in her family to pursue a career in nursing:

> *During the course we had different placements in different settings. I went to a nursing home, community with a physiotherapist and OT, a stroke rehabilitation ward and a general care of the elderly ward. After that I decided to do the degree course at university. The diploma gave me a really good grounding – everything that we have covered so far at university was touched on during the BTEC course – so it's not all new knowledge.* (Clare - student nurse - 6, 7.)

Clare's biography illustrates a developing interest in science and health care. Having commenced her diploma immediately after leaving school, it was important for Clare to experience the world of work. The practical experience of placements in health and social care settings confirmed for her that she wanted to work with people and enjoyed the caring aspect of her diploma studies.

Clare believed that previous learning had prepared her well for the adult nursing programme. However, during her interview, she acknowledged that she initially had not fully engaged with simulation sessions to support her learning. Becoming a university student and introduction to all of the social opportunities on offer had taken priority for Clare. It was on reflection and consideration of her learning in preparation for her OSCE, and forthcoming nursing placement, that she recognised that her nursing studies had been somewhat overlooked:

> *I think perhaps I should have practised more and taken the opportunity to use the skills room and the online stuff as well.* (Clare - student nurse - 9, 1.)

Clare took up the opportunities that simulation offered in relation to clinical skills practice in preparation for the end of year OSCE. The forthcoming OSCE assessment was acting as an incentive for learning and emphasizing the learning that needed to be achieved. The knowledge that she would be required to

demonstrate and explain her understanding of specific clinical skills during OSCE helped Clare to refocus her engagement with the programme and with simulation. Her reflection of her OSCE experience, suggested that despite a slow start, she was engaging with simulation and learning to be a nurse. In her reflection she examined her feelings prior to the exam:

> *I was feeling a mixture of feelings at this time – anxious, scared, worried about doing it all wrong, not preparing enough, letting myself down. Strangely though, I was also feeling quite positive, as I knew that I had done as much as I could to prepare myself for this exam. I also felt in my mind that if I could perform the skill as required, then I would rather know, as I wouldn't want to be practising skills on the ward which could endanger patients' lives.* (Clare - student nurse - R1, 20.)

> *… I know it is my responsibility to make sure that I am competent in all skills and that I perform them as best practice indicates to ensure that my patients are safe.*
>
> (Clare-student nurse R2, 22.)

Recognition of the value of simulation and OSCE and the opportunities afforded to safely rehearse the skills of nursing suggested that Clare was beginning to engage with her learning and appreciate the importance of a safe and effective nursing performance. She explained her comprehension of the significance of safe nursing practice and the responsibility she had for patients in her care. Clare also recognised the personal responsibility inherent in her role as a student nurse, and highlighted the personal realization of what she needed to learn in order to work towards a confident nursing performance.

During her interview, Clare described how, having re-engaged with the adult nursing programme, she was thinking about her nursing performance and learning to develop the skills of patient centred care:

> *I am starting to think about the patient more. Before I really started to go to the simulation sessions, I think I was just performing tasks. Now I am taking Mrs Smith's blood pressure or doing Mr Jones' peak flow and I understand a bit more that it is important to think about the patient.*
>
> (Clare - student nurse - 8, 24.)

Clare demonstrated that she was beginning to think about the needs of her patient and was learning to contextualise her nursing care. She was also beginning to recognise the significance of regular measurement of patients' vital signs and what this might mean for future health care interventions for her patients:

> *Now I know what it really means. If my patient has a high blood pressure I can go and tell someone but I also know what is happening and why the blood pressure is rising most of the time.*
>
> (Clare – student nurse – 8, 11.)

Despite a slow start, Clare acknowledged that engagement with simulation and completion of her OSCE had helped her to gain confidence in interpreting patient information. Clare began to realize that engagement with simulation, and the adult nursing programme, was beginning to enhance her learning and help her to become more confident in her nursing skills:

> *Through undertaking this process I feel I have learnt a lot about myself, I feel so much more confident that I can really achieve things when I put time and effort into it.*
>
> (Clare - student nurse - R2, 17.)

> *But I am happy and feel confident for next year and I am beginning to realize that I can be a nurse.*
>
> (Clare - student nurse - 9, 6.)

Clare was forming a nursing identity and recognised that she was learning to become a nurse. She described the feelings of confidence and happiness that she

now experienced and recognised that this was a direct result of working hard to learn through simulation in preparation for her OSCE.

Clare's narrative illustrates her personal and professional growth and development. Engagement with simulation and the requirement to complete her OSCE assessment helped Clare to refocus her commitment to learning and to practise her nursing skills. Through hard work and the realization that simulation could help her to learn to interpret and contextualise her nursing care, Clare recognised that she was learning to become a nurse. Simulation and her OSCE gave her the confidence to pursue her ambition to be a nurse.

Caroline, Nisha, Annie and Clare all demonstrated that they were working hard to become nurses. For Nisha and Clare, consideration of their engagement with simulation and their OSCE experiences had highlighted that they were struggling and offered an opportunity to focus upon specific elements of nursing practice to improve their nursing performances. For Caroline and Annie, simulation experiences demonstrated the value of hard work as they developed confidence in their nursing performances. Caroline, Nisha, Annie and Clare had all begun to interpret and contextualise patient information, they were beginning to form nursing identities and acquire confidence in their nursing skills.

Simulation and not becoming nurses

Lynne: simulation as a means of identifying concerns and challenging confidence

Lynne left school at the age of sixteen, unsure of the possibilities for employment. She took on a range of jobs including bar work, domestic work and temporary employment in a local supermarket. Lynne married and had children and did not consider long-term employment for some time, as she became more and more involved in caring for her children and her elderly parents. She had taken on some part-time work when her children had started school, but had found it hard to settle into a particular field of work. Encouraged by a friend, who was in the final year of the adult nursing programme, Lynne began to consider

nursing. She was the first in her family to think about a career in nursing and to consider applying for a place at university. Lynne felt that she needed some support to begin to study and so enrolled on the part-time access course at the local FE College. As she had no previous experience of caring, she also began to work part time as a care assistant in a local nursing home. She completed the access course and was accepted for the adult nursing programme.

Lynne's biography details her early working life and her commitment to caring for her family. Apart from caring for her elderly parents and bringing up her children, Lynne had no real experience of health and social care and so took on a part-time role as a health care assistant. Lynne had a lot of responsibility, caring for her children, her elderly parents, part-time work at a nursing home and completion of a part-time access course. Acceptance of a full-time place on the adult nursing programme was a considerable commitment given her existing responsibilities.

Having been introduced to simulation and opportunities to practise the range of mandatory and fundamental nursing skills, Lynne began to recognise that she was struggling. This was highlighted during the end of year OSCE:

> *... there were two really nice ladies in there who told me about my patient and what I had to do for her. I had to do her blood pressure and all the observations and then I had to give her oxygen. I had tried to learn the blood pressure and the obs* [observations], *so I thought that that would be ok, but I knew that I didn't know much about the oxygen. Anyway, I did the blood pressure and it didn't go too well. I couldn't hear it properly and I couldn't get the cuff to go round the arm. It kept blowing up and just coming off ... and I found out after that I had the stethoscope in the wrong way and hadn't turned the hearing bit round properly. I was so embarrassed. I just ran out of time in the end and didn't have time to do the oxygen, which in a way I was relieved about. I knew I'd mucked it all up. .... I knew what they were going to say. To be fair they were really nice and went over*

> *everything and what I should have done and how I could do it better next time.* (Lynne - student nurse - 20, 26.)

Lynne recognised that if she were to make the transformation from care assistant to student nurse, she would have to improve her performance of clinical skills. The simulation sessions and her unsuccessful OSCE had emphasized that she had not met the level of performance needed for a first year undergraduate nursing student.

Lynne became aware of differences between the care that she had previously delivered as a part-time care assistant in a nursing home, and the nursing skills that she was now learning during simulation sessions at university:

> *I am starting to realize that some of the work that I learnt in the nursing home was not the best way to do things. I just copied the others and did what they told me … and when I had been there for a bit it came naturally. You did your work with one patient and then moved on to the next … We didn't know all about the different steps you need to do to ... I thought that I could do it ... I was even lifting the wrong way and could have hurt myself and the patients …* (Lynne - student nurse – 21, 31.)

This was a pivotal moment for Lynne. Whilst she recognised that she was struggling with her academic work, her difficulties with the fundamental clinical skills of nursing was a very important sign. Simulation had confirmed that she was not demonstrating the knowledge, skills and understanding required to provide fundamental nursing care. She was relying on previous experience and routinely carrying out tasks which she believed were satisfactory and suitable for her patients. Lynne had not engaged with simulation sufficiently to learn how to provide safe and effective patient centred care. In her routine performance of tasks, she was not contextualizing her care for each patient. Indeed by her own admission, simulation had shown that she was not becoming a nurse. However, this was not solely about her ability to demonstrate a correct nursing procedure during simulation. Lynne was not able to engage with simulation and the adult

nursing programme for a number of reasons. She was trying to juggle the requirements of full time study with family commitments and the care needs of her parents. Lynne had also continued her part-time employment with the nursing home and was working to supplement her income. Given this situation, it was difficult for her to fully engage with her learning.

Lynne was frank about her difficulties and described that, on occasion, she did not understand what the results of certain tasks, observations and her assessments of the patients represented in relation to physiological changes for patients:

> *I can't always remember why we do things. It's trying to make the links with what we learn. When I do blood pressure I know what to do when to listen and what to write down…. But if you ask me to explain it … you know the biology bit … that's when it gets a bit confusing. I have tried to learn the biology and used the things that they put online. It's still hard for me to put it together …*
>
> (Lynne – student nurse – 21, 16.)

Lynne was not able to interpret patient information, nor was she able to link this information to the biology that she had learned at university. Thus whilst she could, on occasion, measure a patient's blood pressure and record his or her temperature, she was unable to explain the significance of the results that she obtained. Ultimately, Lynne began to recognise that simulation and an unsuccessful OSCE provided evidence of the difficulties that she was having on the programme:

> *I need to have a think about whether this is right for me. I still need to pass some things including my OSCE and I'm not sure whether I can do that. I'm not feeling sorry for myself, but I know that I'm not really comfortable with what I'm doing now. I like working on the wards but maybe I should be a health care assistant rather than a nurse. I still need to learn about the clinical skills whatever I decide … so I will redo my OSCE. But*

> *maybe this has just shown me that being a student nurse is not for me.* (Lynne - student nurse - 21, 23.)

Whilst she had learned a lot about safe and effective health care, Lynne acknowledged that she was unable to achieve the required levels of performance, and had not learned to contextualise or interpret patient information. Lynne realized that she was not developing an identity as a nurse.

Lynne's narrative reveals the challenges and difficulties that she was experiencing. Personal responsibilities, previously learned working practices and the commitment of full time study tested her ability to fully engage with her learning. Simulation and her unsuccessful OSCE provided evidence that she was struggling. Excerpts from her interview demonstrate confusion and her difficulty in thinking logically about what she was doing. Simulation also offered realization of concerns regarding her previous practice, thus undermining any confidence that she may have had. Her views and beliefs in relation to what she thought she could do were now being brought into question, and the safety of her care was being challenged. This was difficult for Lynne and she withdrew from the course towards the end of their first year. An exit questionnaire suggested that she would continue to work within the health and social care environment as a care assistant.

Ray: simulation as a means of understanding learning and challenging reliance upon previous experience

Ray had undertaken a range of employment before commencing the adult nursing programme. Early in his working life, having '*not done much at school*', he took on casual labouring work. When his father became ill, he stopped work to care for him until he died. This experience of care encouraged him to take on the role of a carer helping to support older people who needed help with a range of activities from personal hygiene to feeding and mobilising. After a few years working as a health care assistant in a hospital setting, supported by friends who were health care assistants and nurses, he attended the local FE College where he undertook

an access course. On completion, he applied to begin his adult nursing programme.

Ray's biography illustrates a range of work experience, earlier in a variety of practical jobs and later in health and social care. Having cared for his father through illness and to the end of his life, Ray became a carer and progressed to work as a heath care assistant in the local hospital. His decision to commence the adult nursing programme was based upon his enjoyment of working in a health care setting and was supported by friends and colleagues. Other than his access course, which provided an introduction to the study of health and social care, Ray had no experience of full time study at degree level.

There was, to my mind, no doubting that Ray wanted to become a nurse; however, the requirements of the degree programme proved challenging. This was highlighted during his OSCE particularly in relation to his performance of fundamental clinical nursing skills:

> *I was going to do blood pressure and urinalysis and at the beginning they told me a bit about the patient. I felt ok 'cos I can do those things – I've been doing them for years. Um…. But also then I tried to think in my head what I needed to actually do … to complete it and get it right. I was trying to remember what was written in that booklet, but I couldn't, so I just did it the way I always do it, which I thought was ok. Then they sent me out of the room … for a few minutes while they talked about what I had done … and then I went back in. I failed blood pressure and had added up my fluid chart wrong on the fluid balance and a couple of other things… and so needed to redo them. To be honest they did tell me what I had done wrong ... but by that stage, 'cos they had told me that I had failed, I couldn't concentrate.*
>
> (Ray - student nurse - 17, 16.)

Ray had not engaged with the learning required to further develop his knowledge and understanding in relation to the nursing skills that he had initially learned as a

health care assistant. He did not appear to recognise the importance of understanding the practical and theoretical basis of every day nursing skills. Like Lynne, his description of his OSCE demonstrated confusion and suggested that he was unable to think logically with regard to his nursing performance and completion of the assessment task. This was exemplified during his OSCE where he was required to demonstrate the measurement and recording of blood pressure. As I observed Ray measuring blood pressure during his OSCE (by video recording), I noticed that he was not confident with the equipment and was not following the recommended procedure, often omitting key stages in the measurement process. When asked by the assessor for rationale for his actions, he was hesitant and gave inappropriate answers. Rather than learning the criteria for blood pressure measurement and practising the skill during simulation sessions, Ray had presumed that his previous experience would be sufficient. This unfortunately was not the case and, with an inadequate performance, Ray failed his OSCE. Ray had not developed the required level of performance for key nursing skills.

When I talked with Ray during his interview it was quite clear that he approached 'nursing work' with the intention of 'getting the job done'. For Ray, task completion was important and offered evidence of his position as an efficient member of the team:

> *Some of the stuff that we talk about … the case studies and the skills sessions … they look at things in a different way. I know what it's like in the real world … you just have to get on with it … there's no time for half of the stuff they talk about. It just doesn't happen like that … you don't have the time, nor the staff.*
>
> (Ray – student nurse – 17, 29.)

This did not sit well with the patient centred approach to care, advocated by the university and its health care partners, where each patient was recognised as an individual requiring his or her own personally tailored package of care. Ray appeared to have difficulty with the concept and function of contextualizing care, preferring to approach his work in a task orientated manner.

As a health care assistant, Ray had been measuring blood pressure for a number of years. Whilst he recognised some of the steps and skills involved in managing the equipment and was competent in communicating with his patients, he was less sure of the clinical picture that the blood pressure recording represented:

> *I get it now. I didn't get it then. I did things the way I have always done them and I didn't learn what I should have learned. I know what to do but not enough about why we do it and how it all links together – you know the biology.*
>
> (Ray - student nurse – 18, 3.)

Initially, Ray believed that his previous experience as a health care assistant was an advantage when he began the adult nursing programme. As a health care assistant, he had worked in a variety of settings and in his last post he had been one of the more senior care assistants. In that role, he had been confident in his abilities and felt that he knew how to care for patients admitted to the ward. As a student, during simulation sessions, his knowledge and understanding was being called into question and, on some occasions, found to be in conflict with what was being taught. This was unsettling for Ray and challenged his assumptions that he was good at his job. It also questioned his previously held beliefs about his ability to study to be a nurse. Simulation and OSCE had highlighted that Ray was not able to demonstrate an acceptable level of knowledge and understanding. Whilst he felt that he was able to perform a number of nursing tasks, he was not able to underpin his performance with the required nursing knowledge. In essence, he had not learned to recognise and interpret nursing information.

Like Lynne, Ray acknowledged the difficulties that he was facing as he tried to learn to be a nurse:

> *To be a nurse it's not enough to know what to do, you've got to know how and why and I need to learn that. I've learned a lot through doing this and through the course. It's not enough to*

> *think you can get by … you've got to do the learning if you want to get on.* (Ray – student nurse – 18, 5.)

Having experienced simulation and undertaken his OSCE, Ray admitted that he was not forming a nursing identity and had not engaged in the programme sufficiently to learn to become a nurse. His realization that he needed to extend his knowledge and understand why specific nursing tasks were carried out in certain ways was important. This suggested that whilst he had not been successful on this programme, he had learned that engagement was key to success and to safe and effective patient care. Ray also withdrew from the course towards the end of his first year. An exit questionnaire suggested that he would continue to work within the health and social care environment as a care assistant.

Ray's narrative reveals his reliance upon previous experience and his perspective of the 'real world of nursing'. His assumption that he was good at caring for others was challenged during simulation sessions and during his OSCE assessment. Simulation and OSCE established that he was not able to underpin his performance with the required nursing knowledge and understanding of the patient's context and needs. However, Ray eventually recognized the importance of hard work and engagement for successful learning and safe and effective nursing care. This was a valuable realization for his future as a health care assistant.

There are several themes which dominate Ray and Lynne's narratives: difficulties in managing their learning, challenges in developing a nursing identity, threats to their confidence and personal assumptions of competence and problems translating simulated experiences to support their practice learning. For Lynne and Ray, simulation experiences suggested that they were not becoming nurses.

Summary

This chapter has explored the students' experiences of simulation as they learned the fundamental skills of nursing. Students who were successfully becoming nurses found simulation and OSCE helpful. Sally, Tania and Mary recognised the

benefits of simulation for the safe supervised practise of nursing skills. Similar to the views of nurse mentors and nurse educators, they saw learning through simulation as enhancing their confidence as they learned nursing. Students who were struggling or working hard to become nurses found that simulation and OSCE helped them to work hard and to look more closely at their nursing performance. Caroline, Nisha, Clare and Annie, identified that learning through simulation enabled them to develop competence and confidence. It had also helped them to recognise areas of concern and ultimately, encouraged them to work hard to strengthen their skills and identities as nurses. In contrast, for two students simulation and OSCE raised some important concerns and established that they were not progressing successfully towards becoming a nurse. For Lynne and Ray, simulation highlighted deficits in their knowledge and understanding of fundamental nursing skills. It established that they were unable to think logically and consider what their nursing actions in a given situation might be. Reliance on previous experience and the weight of other responsibilities challenged their commitment and engagement with the adult nursing programme.

For all of the participants in this study, success appeared to be dependent upon development and learning in four key areas: nursing performance, communicating and relating information to the patient's specific situation, interpreting information, and nursing identity. Benner and Sutphen's (2007) work focusing upon performance, contextualisation, interpretation and formation offers a model where interpretation, understanding and relationship are key to engaging students and helping them to learn to be nurses. Their pedagogical model offers a framework through which the participants' narratives can be further explored and an understanding sought regarding the impact of simulation upon learning for student nurses. Their perspectives on professional learning reflect an expansive approach and challenge students, nurse educators and nurse mentors to consider the dynamics of learning in different settings.

Chapter 8: Simulation: an expansive approach for professional and personal learning in nursing

This chapter provides a synthesis of the key issues and findings emerging from my data. It considers Patricia Benner and Molly Sutphen's (2007) pedagogical model for professional learning in relation to expansive approaches to learning and offers different perspectives for understanding learning through simulation. Yrjö Engeström's (1994) work on activity theory and expansive learning supports the contribution of this model towards the revelation and elucidation of effective learning through simulation in nurse education. The chapter offers illustrations of the different activity systems to which student nurses are exposed, together with analysis of the expansive learning processes that occur between these systems as the students learn to be nurses. For the students who were not successful during simulation and for whom learning was not effective, some further discussion is needed. Therefore, in this chapter I also focus upon information highlighted in the data collected, which may shed some light upon the difficulties that unsuccessful students faced in their engagement with simulation. This raises some challenges for nurse education, which are further discussed in Chapter 9.

Chapters 6 and 7 describe the participants' perceptions and views of simulation and are presented as narratives. A narrative approach to research involves the processes of analysis and synthesis (Polkinghorne, 1995). The etymological roots of analysis mean `taking apart', while those of synthesis mean `putting together', so that the two would appear to be polar opposites. Yet it is in the execution of both of these processes that data is interpreted and the phenomenon being studied is understood. Analysis, interpretation and synthesis are also achieved through writing:

> From start to finish, writing is the art and process through which we make sense – give order and meaning – to what we have found.
>
> (Simons, 2009, p. 142)

It was through data analysis, progressive focusing and in the writing of this thesis (particularly in the writing of chapters 6 and 7) that I began to 'see' the story about simulation and learning that needed to be told. I was eager to retain authenticity of the data whilst sharing the insights that I had gained and, engage the reader in the possibilities for simulation and learning that I had discovered.

I had discovered that the nurse mentors viewed simulation as a means of recognizing nursing potential and identifying students who were becoming good nurses. Their perceptions and views of simulation emphasized the benefits of simulation for the safe supervised practise of nursing skills in preparation for the challenges of caring for patients in different environments. For the nurse educators the focus was slightly different; they saw simulation as a means of helping students to learn to be nurses. Similar to the views of nurse mentors and nurse educators, the students saw learning through simulation as enhancing their confidence as they learned nursing. Students who were struggling or working hard to become nurses found that simulation and OSCE helped them to work hard and to look more closely at their nursing performance. Students also identified that learning through simulation enabled them to develop competence and confidence. It had also helped them to recognise areas of concern and ultimately, encouraged them to work hard to strengthen their skills and identities as nurses. In contrast, for two students simulation and OSCE raised some important concerns and had established that they were not progressing successfully towards becoming a nurse.

These discoveries were clearly important for nursing education and practice, yet to my mind did not adequately reveal the nature of personal and professional learning inherent in the experiences that the participants had shared with me. Their stories had highlighted their recognition of links between simulation experiences and becoming nurses. In order to tell their stories, I needed to find a way of highlighting the nature and characteristics of professional learning that they had revealed. I also needed to illuminate their perceptions and views that learning through simulation was much more than the repetition and performance of key nursing tasks. It was with this in mind that I returned to the literature and

took as my starting point skills acquisition (Dreyfus and Dreyfus, 1980) (see chapter 3).

Learning a complex practice, in which knowledge is situated and socially embedded, demands practical reasoning, skilled know-how, perceptual acuity, relational and communication skills, and ethical conduct according to Benner et al., (1996). For all of the participants in my study, success appeared to be dependent upon development and learning in four key areas: nursing performance, communicating and relating information to the patient's specific situation, interpreting information, and nursing identity. In nursing, according to Benner and Sutphen (2007) knowledge, skill and ethical conduct must be integrated into all teaching and learning situations and can be more fully understood through the pedagogies of interpretation, formation, contextualisation and performance. The work of Benner and Sutphen (2007) offered a means of synthesising my data and provided a conceptual framework for my study through which I could explore the nature of personal and professional learning through simulation.

My reading and understanding of Benner and Sutphen's (2007) work had helped me to establish and conceptualise professional and personal learning in nursing. However, I also needed to illuminate the participants' views which suggested that learning through simulation was much more than the repetition and performance of key nursing tasks. Benner and Sutphen's (2007) pedagogies offered clarity in respect of the key themes of professional learning, yet I still sought a means of elucidating the nature and approach of that learning. Participants had clearly established the challenges and complexities of the different learning environments of the university and clinical practice settings. They had also drawn attention to the complexities of workplace learning in the healthcare environment. It was my supervisor who drew my attention to the work of Fuller and Unwin (1998) and their explorations of the activity of learning in the workplace. Their work offered some important insights and highlighted developments that helped me to begin to understand the relationship between learning and work. Their work also re-introduced me to activity theory and the work of Yrjö Engeström.

This was an illuminating moment or, as Wisker (2012) describes 'the crossing of a conceptual threshold'. I had now identified the conceptual tools that I needed in order to explore the nature and approach of learning through simulation. Engeström's work would enable me to explore the notion of learning as a complex, multi-faceted, non-linear activity. It would offer a conceptual understanding of learning which took place in different environments, was undertaken by individuals with different goals and was mediated by different artefacts or instruments.

Drawing upon the work of Benner and Sutphen (2007) and Engeström (2001), I was able to shed light upon participant's views of simulation learning. This chapter provides synthesis of my research findings and offers different meanings and understandings of the role of simulation for learning nursing.

Simulation and expansive learning

A useful way of conceptualising aspects of the learning identified in this study is through activity theory, and in particular through the notion of expansive learning articulated in the context of workplace learning by Engeström (2001). Activity theory emphasizes change rather than stability, with its focus on the dynamics of learning rather than the learner as a participant in an established system. As discussed in chapter 3, simulation experiences may provide an opportunity for expansive learning, where students can be supported to consider the contradictions between what is taught in university and clinical practice leading to learning, development and change. According to Engeström and Sannino (2010):

> as activity systems are increasingly interconnected and interdependent, many recent studies of expansive learning take as their unit of analysis a constellation of two or more activity systems that have a partially shared object. (p.6)

The context of nurse education has changed significantly over the last four decades from an apprenticeship model of learning based primarily in healthcare settings to graduate level learning in university combined with practical

experience in healthcare settings (see chapter 2). Thus the activity systems for nurse education today are the university and the healthcare setting. The diagrams below illustrate the activity systems for nurse education. Figure 7 represents the activity system for the university and Figure 8 the healthcare setting.

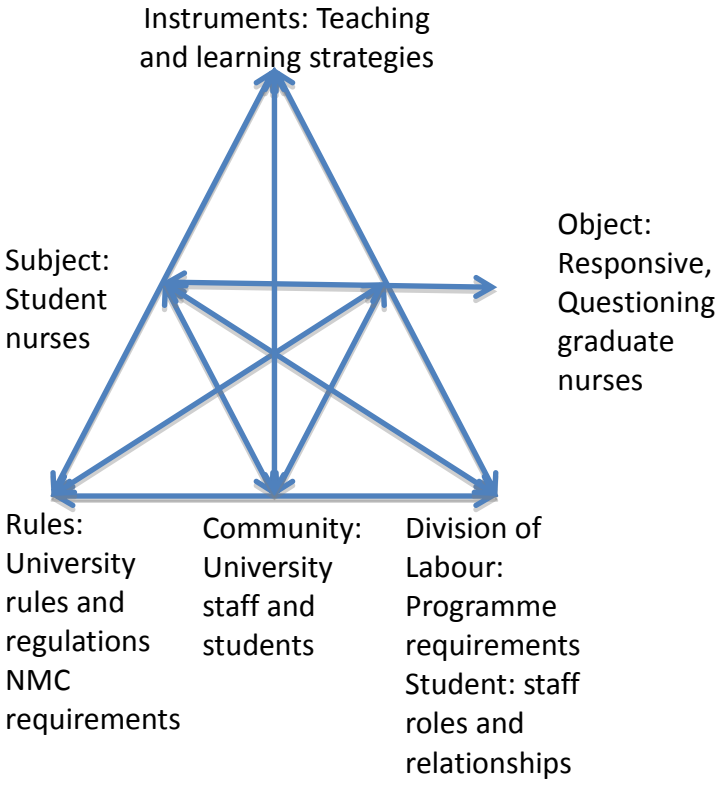

Figure 7: The activity system of the University

Figure 7 shows the activity system of the university where the object is to produce graduate nurses who are capable of questioning and developing nursing practice in response to patient needs and changing evidence bases (Haigh, 2007). They are subject to the influences of the university community such as staff student relationships and academic and professional rules and regulations.

In contrast, the activity system of the healthcare setting (Figure 8) has as its primary object the well-being of each patient. In this system, student needs are necessarily a lower priority and the object, in relation to nurse education, is to

produce a nurse who is fit for purpose in a specific context with specific working practices.

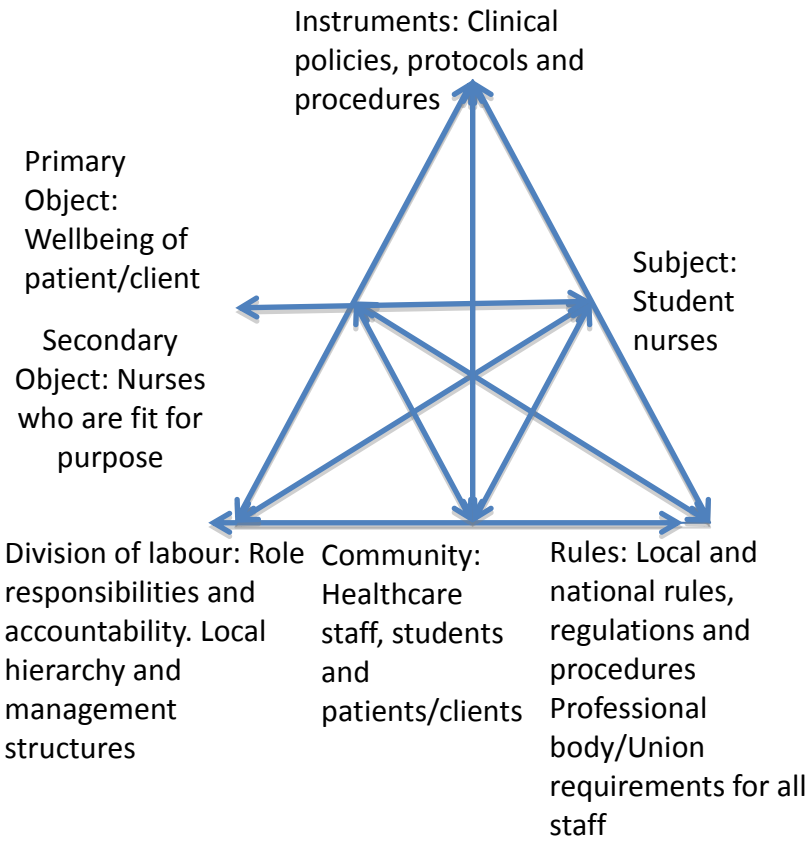

Figure 8: The activity system of the Healthcare setting

In this activity system, students are exposed to a community where additional rules, regulations and responsibilities apply. In this environment the prime focus is safe and effective patient care.

These activity systems produce and are subject to influences, tensions and contradictions, which offer different conceptions of learning and different views of nursing practice. According to Engeström (2001) these contradictions and tensions can be addressed by means of an expansive learning process, in which the two parties together generate a new, shared object and concept for their shared activity. In effect, the many different elements of these activity systems lead to rethinking and consideration of how things should be done in order to

continue to achieve the collective objective of enabling student nurses to learn to care for patients.

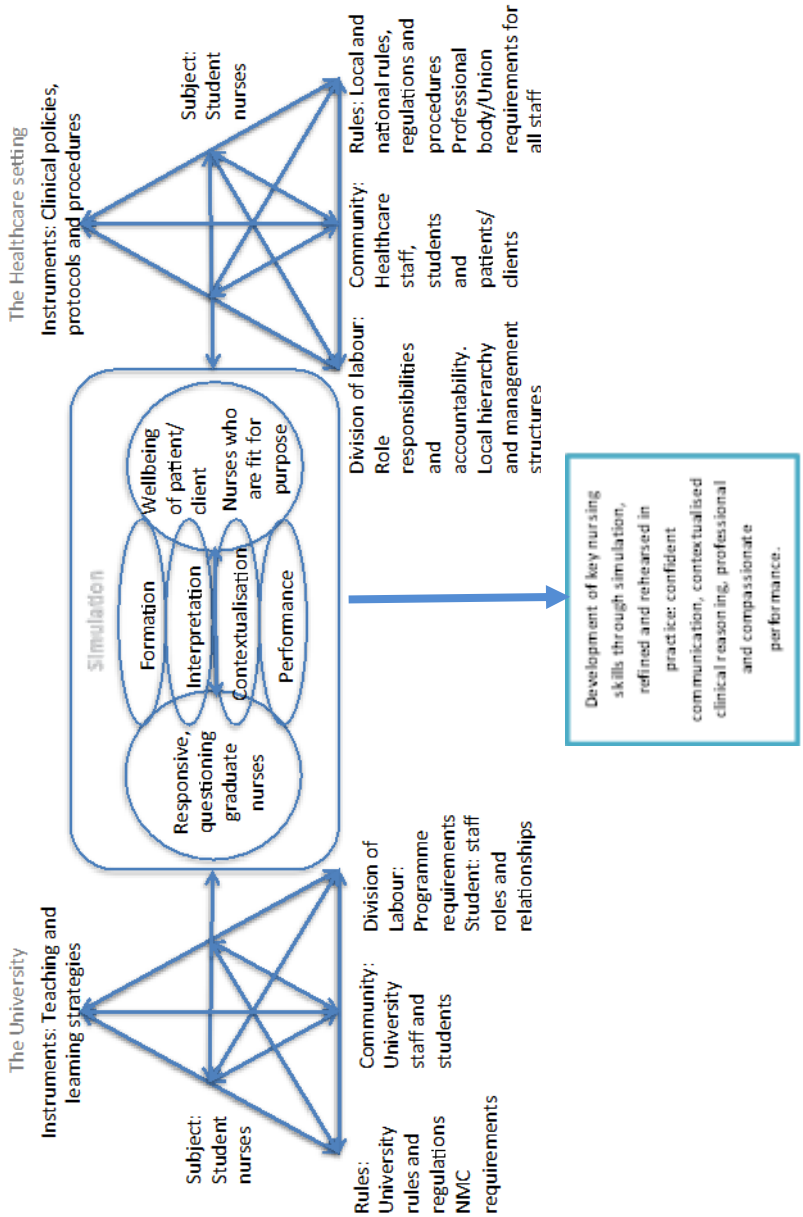

Figure 9: The inter-dependent activity systems of the university and the healthcare setting

Figure 9 demonstrates the potential for expansive learning to occur as the activity systems generate a new shared object and concept for their shared activity. In this case, the shared activity or object focuses upon student nurses learning to nurse.

The concept which supports this activity highlights the experiences shared by participants in this study and is drawn from Benner and Sutphen's (2007) pedagogical model for professional learning. The environment that supports this activity is simulation.

The real test of a theory about learning is its capacity to generate learning which helps us to make sense of our world and prepares us in some way for the future (Engeström, 2001). Engeström (2001) states that there is a tendency to depict learning and development as vertical processes, 'aimed at elevating humans upward, to higher levels of competence' (p.153) (see Figure 10). Traditionally as discussed in chapter 2, nursing students engaged in clinical nursing skills following step-by-step procedural guidelines, learning to perform the nursing task (for example, measurement and performance of blood pressure or a simple wound dressing) in class and then refining their skills on placement in a healthcare setting. Through this vertical model of learning the students began to act like nurses and gain competence in specific nursing skills.

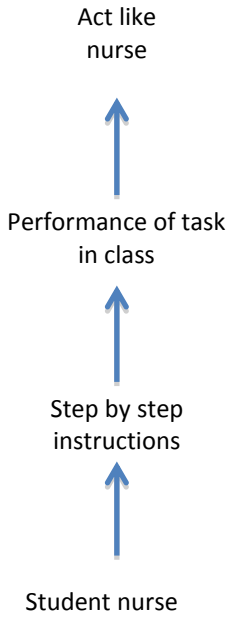

Figure 10: Vertical learning

Engeström (2001) suggests a complementary perspective, where learning can also be viewed in terms of horizontal or sideways development. This study provides examples of such a complementary dimension.

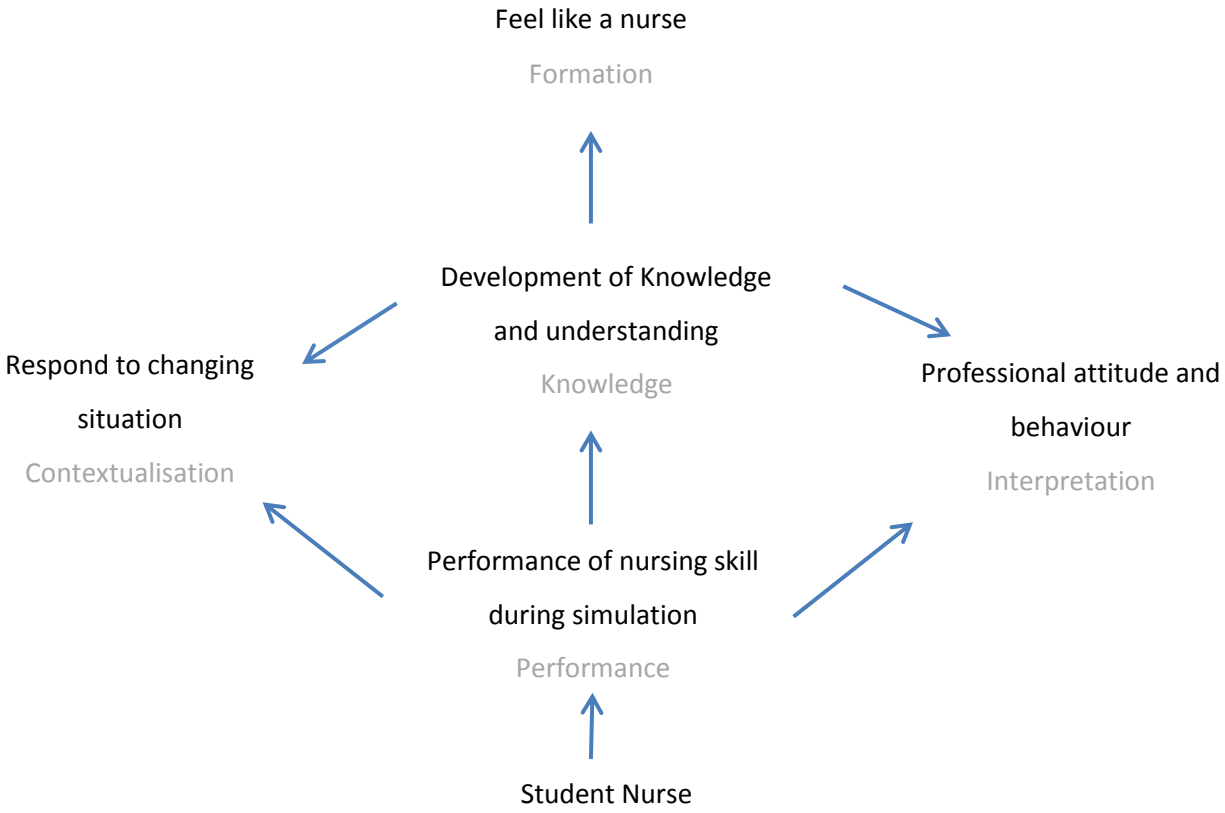

Figure 11: Horizontal or sideways learning

Figure 11 illustrates the notion of horizontal or sideways expansion of learning through simulation. It highlights the learning that students described as they participated in simulation and became attuned to nursing situations. Rather than performing procedural tasks in a step-by-step manner, as the students engaged with the simulation environment and the care of their patients in this environment, they recognised that as their knowledge and understanding developed, they were beginning to respond, behave and feel like nurses, albeit in a simulated environment. The sections that follow offer evidence of their expansive approaches to learning and engagement with horizontal or sideways learning and development (Engeström, 2001).

Simulation and expansive learning for the formation of nursing identity

There are many issues pertinent to the development of nursing identity, such as the role of the nurse mentor, the role of the nurse educator, the notion of practice,

the role of employment and the need to acquire practical and theoretical knowledge. There are also aspects of peer collaboration, role modelling and social participation, which benefit and support the development of professional identity for student nurses. Simulation may have a part to play here, offering an environment where, as one student nurse, Annie eloquently stated:

> *Simulation and OSCEs do determine whether we are competent to perform the most fundamental nursing skills and, when we have practised, rehearsed and passed, provide us with the confidence to undertake these tasks in the clinical arena and to feel more able to call ourselves nurses.*
>
> (Annie - student nurse - R6, 8.)

This initial development of professional identity was seen to be important for all participants, offering valuable opportunities to enable students to begin to understand the complexities of nursing (Scholes, 2008). John and Elaine (nurse educators) and Gillian and Pat (nurse mentors) suggested that it was important that the development and formation of a nursing identity took place in a setting which offered support, encouragement and feedback in order to help the students to gain confidence (Morgan, 2006). They proposed the simulation suite as a suitable setting. All of the nurse educators and nurse mentors acknowledged that professional identity could then be further enhanced and nurtured within clinical practice through role modelling and mentorship (Gordon, 2005).

The student nurses began to develop a way of conducting themselves (a habitus of practice) formed from new understandings, new skills and judgments and new perceptions (Benner and Sutphen, 2007). As they began to engage with their learning and participate in simulation sessions, they became attuned to nursing situations and, rather than performing tasks, following step by step instructions, and acting like nurses, they recognised that they were beginning to respond, behave and feel like nurses. The students were demonstrating an expansive approach to learning and engaging in what Engeström (2001) calls horizontal or sideways learning and development.

Simulation and expansive learning for the interpretation and contextualisation of patient care

All nurses are required to contextualise and interpret a range of information in order to provide the best care for their patients. Within nurse education, as students are encouraged to learn the skills of interpretation, they are advised to consider their knowledge and understanding of a particular situation. This knowledge is based upon past lessons, learning in university and healthcare settings, scientific theories and explanations, and interpretation of data from technological equipment. Students begin to make links between theory and practice and, as a result, they learn to interpret and contextualise patient information. Interpretation and contextualisation in nursing also require critical thinking and deconstruction in order to challenge 'the taken for granted assumptions' inherent in health care traditions. Nurse educators encourage nursing students to explore and challenge the traditions of nursing (Walsh and Ford, 1989) and to strive for evidence-based, critically analysed nursing care. Nurses must have 'a tradition of practice that enables them to stand, act, improve and criticize. A self-improving practice must allow professionals to critically reflect on the practice tradition and science and technology' (Benner and Sutphen, 2007, p.106).

Participants in this study highlighted the benefits of simulation providing opportunities for students to learn to contextualise and interpret patient information in order to respond to changing patient scenarios and develop evidence-based strategies to determine the most appropriate and effective nursing care for their patients. Elaine, Helen, and John (nurse educators) all emphasized the importance for students to learn to establish the context of care. They highlighted the situated nature of knowledge (Lave and Wenger, 1991) and the need for students to begin to perceive which aspects of their professional knowledge and skill were relevant to their patient's changing situation. Benner and Sutphen (2007) call this 'practical reasoning' or reasoning about a patient in a particular situation. They explain that recognizing the importance of context will enable nurses to be responsive to a particular situation and learn to find their limits. They suggest that it also offers the potential for nurses to establish new

possibilities and different approaches to delivering nursing care to their patients. Tania's narrative offered a good example of this:

> *I have found that simulation has helped me quite a lot. Making sense of things, helping to work it out when you are less pushed for time and you know that it is ok to ask questions to whoever is leading the session. Then you can begin to get the confidence about what a high BP really means and what this will mean in the scenario for the 87-year-old lady who has kidney problems. You make the links and understand why keeping her blood pressure at a certain level is so important and what the medications may do to alter that. It's like a jigsaw really and when the pieces fall into place …*
>
> (Tania - student nurse - 15, 25.)

Both the university and the healthcare settings are contexts that give meaning and coherence to learning. Some elements of healthcare contexts may be perceived by students to be similar to university contexts; students may perceive themselves to be horizontally transferring (Engeström, 2001) more or less the same knowledge in largely unchanged forms into a different setting. On the other hand, students may be aware that the clinical practice setting is quite different although not unrelated to what was learnt at university. The students would need to engage in some form of reflective process in order to question what is happening in the clinical setting and why it is being done in that way and not another. The students would be essentially abstracting or theorizing the clinical situation, referred to by Schön (1995) as 'reflective transfer'. In clinical practice the primary object of activity is the well-being of the patient. The context of this activity is a busy and demanding environment where it can be difficult for students to find time to reflect on an episode of patient care either during or after the event. In the simulated environment time can be taken to address the needs of the student and provide opportunities for deliberation and reflection upon episodes of care (Alinier et al., 2006). According to Lasater (2012) and Levitt-Jones (2012) simulation can provide space for students to identify what they already know about the clinical practice setting from previous work experience or

university learning, to identify what this may contribute to clinical practice and what the gap is between clinical practice and university. Simulation is said to require a controlled learning environment where students can take part in activities which reflect the realities of a real and unpredictable nursing environment (Jeffries, 2005). Jeffries (2005) suggests that simulation is used to facilitate 'connections between and among concepts and engage students in the learning process' (p. 99). It is in this environment that students may begin to acquire the skills of clinical judgment and to recognise the influence of contextual factors on the development of that judgment (Benner et al., 1996; Rhodes and Curran, 2005: Benner et al., 2010). In essence, simulation may offer an opportunity to support 'reflective transfer' and enable students to explore the contradictions (Engeström, 2001) between the activity systems of the university and healthcare settings and develop their skills of interpretation and contextualisation.

Simulation and expansive learning for the development of a competent nursing performance

Performance is a difficult concept to capture. It occurs in a particular situation or context, it involves understanding in action and evidence-based interpretation and requires well-formed practitioners with well-honed skills of practical reasoning and clinical judgment (Benner and Sutphen 2007). Benner (1984), in her seminal work *From Novice to Expert* suggested that nursing performance could begin to be understood through the examination of the performance of an expert practitioner. However, as Polyani (1958) notably suggested, the tacit knowledge of experts is not easily captured in words. There are elements of nursing performance which evade description and analysis, concealing themselves as intuitive and personal knowledge (Moch, 1990) deeply embedded in the subconscious until it is required in a particular clinical situation (Meerabeau, 1992; Berragan, 1998). Nursing performance is problematic in terms of explanation, yet it is something that nurses continue to pursue as they attempt to define nursing and elucidate the art and science of nursing practice.

Cognitive issues often dominate nurse education in university settings, and less attention is paid to the emotional content and performance element of learning experiences. There is clearly a strong affective element to nursing performance and the experiences encountered through nursing interventions with patients. Most nurses can give examples of inspirational nurse-patient episodes that profoundly affected the development of their nursing performance. Equally, however, most can also tell of occasions where they felt humiliated or inadequate in front of patients and colleagues, not knowing how to manage a difficult situation. Such experiences often endure in the memory for decades.

Sally noted in her interview that she enjoyed caring for patients and that simulation had helped her to begin to develop a practised and professional nursing performance. Similarly, Annie highlighted the performance element of nursing in her reflective account. She described the importance of working hard to master the role of the student nurse through simulation, in preparation for live performances with patients in a clinical setting. Pat, through her unique position as nurse mentor and nurse educator, believed that simulation presented a catalyst for students to begin to explore their personal responses to illness and death. She suggested that simulation might have the potential to prepare students for the challenges of bearing witness to human events. Sally, Annie and Pat emphasized the importance of learning to recognise and interpret the complexities and nuances of nursing in order to begin to develop a professional nursing performance. For Lynne and Ray, erroneous assumptions about their performance abilities and reliance upon skills previously learned through custom and practice presented a barrier to the development of their nursing performance.

In real health care settings, learning is, in a sense, a by-product of care. The health care needs of the patient must always take priority over the educational needs of the student. In this environment, nursing performance may be less of a priority as student nurses focus upon the needs of their patients and the tasks delegated to them by other members of staff. Simulation, however, deliberately places the student's needs at the centre of attention and provides the opportunity to create conditions of best practice for learning (Berragan, 2011). This is an 'educative environment' (Engeström, 1994) where students have access to

authentic tasks, plentiful interactions, and learning in preparation for nursing practice. For some of the participants in this study, simulation offered an 'educative environment' which provided opportunities to confront the emotional climate within which clinical nursing skills were performed in the confines of a 'safe' learning environment. It enabled them to consider their professional performance, to consider the human experience of illness and begin to prepare to bear witness to human life and death.

Whilst the discussion so far has attempted to offer some concrete examples that illustrate the potential for simulation to offer an expansive approach to learning, the very nature of activity theory and diagrammatic representation of activity systems is abstract in its portrayal. In order to counter this and to 'ascend from the abstract to the concrete' (p.7), Engeström and Sannino (2010) propose the use of specific epistemic or learning actions which together form an 'expansive cycle or spiral' (*ibid*). As discussed in chapter 3 (see Figure 2, p.47), an expansive learning cycle provides illustration of the learning process and how it might evolve. It offers a heuristic conceptual device to assist movement from abstract theorization to concrete learning actions.

Expansive learning cycles

Maintaining the theme of nursing performance, as discussed in the previous section, there are many options for the development of expansive learning cycles which may help students to move from theorization of issues in nursing to more concrete learning actions. Pat highlighted her belief that simulation presented a catalyst for students to begin to explore their personal responses to illness and death. An expansive learning cycle which focuses upon performance, may include some of the following learning actions as student nurses engage in simulation learning to explore end of life care:

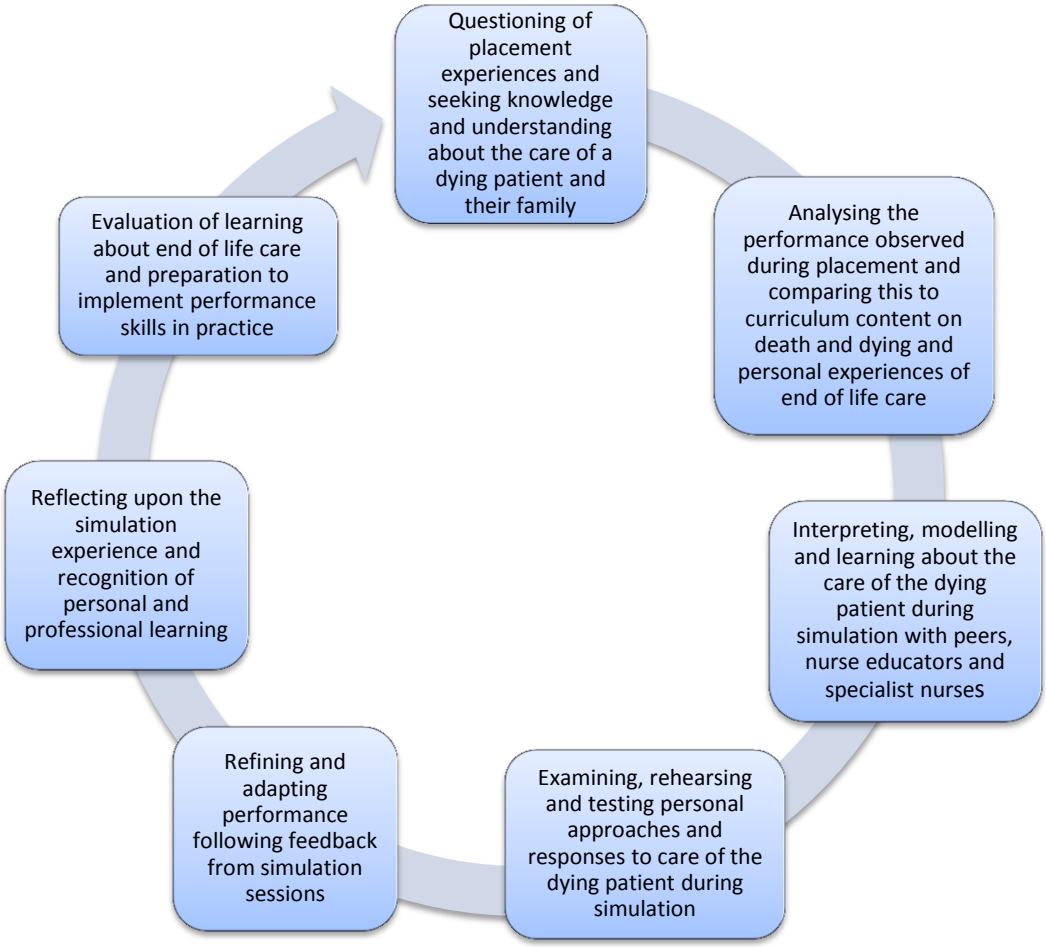

Figure 12: An expansive learning cycle for end of life care

The expansive learning cycle illustrated above (Figure 12) offers an heuristic device through which simulation learning in relation to end of life care can be conceptualised with particular reference to nursing performance. The opportunity for students in this study to begin to develop a nursing performance and to start to understand what was required for the development of therapeutic relationships with their patients (Rogers, 1957) was important. The ability to confront difficult human situations, to experience their personal responses to illness and death, and to begin to acquire the skills of nursing through simulation was highly valued by the students, the nurse mentors and the nurse educators. Knowing what to do, how to do it and why they were doing it, was significant for the students. Equally, recognition of the emotional content of nursing was meaningful for them. Their narratives highlighted the opportunities afforded through simulation, to practise, rehearse and refine their nursing performances and to recognise their own responses to the frailty of human life. The use of the simulation environment

to learn to question, criticize and transform nursing practice, illustrated in Figure 12, links well with the central tenets of an expansive approach to learning (Engeström and Sannino, 2010). It is with the learning environment in mind that I move to consider Fuller and Unwin's (2004) work, and their characterisations of expansive and restrictive learning environments.

Expansive and restrictive learning environments

In order to help make sense of the lived reality of learning (and apprenticeship) Alison Fuller & Lorna Unwin (2004) identified two characterisations, using the terms expansive and restrictive to provide a helpful way of analysing learning environments. They characterised expansive and restrictive forms of apprentice experience which they observed in their work with young people undertaking vocational education and training. They argue that an apprenticeship characterised by features of expansive learning will create a stronger and richer learning environment than that comprising features associated with the restrictive end of the continuum.

Fuller and Unwin's (2004) use of the term expansive builds upon the work of Engeström (1994) who writes:

> We speak of expansive learning, or third order learning, when a community of practice begins to analyse and transform itself. Such expansive learning is not any more limited to pre-defined contents and tasks. Rather it is a long-term process of re-defining the objects, tools and social structures of the workplace.
>
> (Engeström, 1994, p. 43)

Fuller and Unwin's (2004) work resonates with the research presented in this thesis on a number of levels, and offers exciting possibilities for conceptualizing and framing the learning highlighted by student nurses during simulation. As well as applying the term expansive to learning, Fuller and Unwin (2004) have used it as an analytical tool to shed light on the interaction between institutional

context, workplace learning, and individual development. They suggest that focusing upon the ways in which different companies constructed apprenticeship programmes provides a window on the wider culture of learning in organisations. Fuller and Unwin (2004) advocate that companies which offer an expansive approach to apprenticeship are more likely to create learning opportunities for all their employees which foster 'deep learning' (Marton et al, 1984), 'investigative deep-level learning' (Engeström, 1994), and 'the work of the imagination' (Wenger, 1998).

For the student participants who were successfully learning to be nurses and those who were working hard to become nurses, the potential for simulation to foster deep learning is an interesting area for further research. The focus upon apprenticeship learning and learning cultures has many parallels with the workplace organisations in which student nurses are currently placed for their clinical experience. For those students who were not successful and who were not becoming nurses, it could perhaps be said that restrictive characteristics acted as a barrier to their learning and development.

Struggling and not becoming a nurse: exploring the barriers and restrictions to simulation learning.

For two of the students in this study, simulation demonstrated that they were not developing a nursing identity; they were unable to interpret nursing information and contextualise it and could not demonstrate a competent nursing performance. For these students simulation had showed that they were not becoming nurses. Lynne and Ray experienced difficulties underpinning their actions with the required nursing knowledge and their dependence upon previous experience created a barrier to learning and prevented them from engaging with the opportunities presented during simulation. However, data collection revealed further information, which may have relevance here.

As part of the data collection for this study, previous work experience, ages of participants on entry to nursing and entry qualifications were collected. Whilst recognizing that the sample size for this study is small, there are some interesting

points to consider. Age did not appear to be a barrier to engagement with simulation. Indeed, all participants (with ages ranging from 18 to 57) acknowledged the potential of simulation as a way of learning nursing. For Lynne and Ray, entry qualifications appeared to have a bearing upon their abilities to engage and learn through simulation.

There is no literature that relates entry qualifications for nursing and engagement with simulation per se. However, integrative reviews of the literature revealed that, in general, students in the UK with lower or unconventional entry qualifications appeared to be more likely to leave nursing programmes early (Houltram, 1996; Kevern et al., 1999; Pryjmachuk et al., 2009), with similar evidence from the USA (Jeffreys, 2007). Vocational qualifications and general entrance programmes (for example access courses) are regarded as being unconventional qualifications when compared with school-leaving qualifications. In this study, students who had conventional entry qualifications (O levels, GCSEs, A levels, diplomas in health studies and degrees) appeared to be able to engage with their learning and use their simulation experiences to help them to learn to be nurses. The two students with only non-conventional qualifications on entry struggled with simulation, finding engagement with this approach to learning difficult. This is interesting and has important implications for the management, access and delivery of simulation learning within the adult nursing curriculum, and more generally in relation to recruitment to adult nursing programmes.

Previous work experience and health care roles also provided a challenge for two of the students as they struggled with the new requirements of their roles as student nurses. Engagement with simulation proved difficult for these students as they adhered to the ritual and routine of past practices. Lynne and Ray experienced some challenges and difficulties as they sought to become nurses. They both began the adult nursing programme with previous health and social care experience. As health care assistants, they had learned ‘on the job’, acquiring skills through traditional custom and practice within their working environments. Through their narratives, both Lynne and Ray highlighted the difficulties and inconsistencies that simulation had exposed. Instead of being able

to build upon past experience, their previous ways of working were challenged by the adult nursing curriculum and the requirement to learn to deliver evidence-based nursing care. Their knowledge and understanding was called in to question and as Ray explained:

> *To be a nurse it's not enough to know what to do, you've got to know how and why and I need to learn that.*
>
> (Ray – student nurse – 18, 5.)

According to nurse educator Helen's assessment, this was a *'wake-up call'* and indicated that Ray and Lynne were not '*adapting well to becoming a nurse'*. In relation to nurse mentor Kay's view of developing a nursing identity, they had not used the opportunities provided during simulation to learn how to provide safe and effective patient care. Indeed, by their own admissions, simulation had shown that nursing was not for them. Lynne and Ray found it very difficult to make the change from previous ways of working and adopt the role of a student nurse. This resonates with Fuller and Unwin's (2003) work on workplace learning and the potential of the expansive-restrictive framework to illuminate dimensions of organisations, such as 'learning culture', relevant to the creation of learning environments (Cole, 1999; Daniels, 2004). Exposure to a restrictive apprenticeship model, where access to learning was restricted in terms of tasks, knowledge and location, as they learned to be health care assistants, Lynne and Ray may have experienced a number of "restrictive" approaches to learning. Traditionally the training of health care assistants has focused upon competence-based qualification and limited opportunities for development and reflection (Bach et al., 2012). This echoes some of the features of Fuller and Unwin's (2003) restrictive learning environment. The move to an expansive learning culture where the emphasis was upon participation, questioning, and reflection offered a very different approach, and one which both students found difficult. Their previous work experience and personal assumptions about their abilities to carry out the fundamentals of nursing care may have been challenged by new approaches introduced during simulation.

As highlighted in chapter 2, critics of simulation emphasize the potential for simulation learning to be 'intimidating' and even 'fearsome' for some learners (Lasater, 2007; Lundberg, 2008), thus inhibiting their ability to learn in this environment. Whilst the students who were not successful did not overtly suggest that they had found their simulation intimidating or frightening, their previous experiences of formal learning with little previous exposure to simulation learning may have impacted upon their ability to engage with this approach to learning nursing. Similarly, Ray and Lynne both spoke of the difficulties that they experienced when their approaches to the delivery of care had been brought into question, when compared to the skills demonstrated during simulation:

> *It's been difficult. I thought that I was ok at this but I've learned my lesson. This has made me think about some of the ways that I have been doing things and it's hard to face up to the fact that you haven't been doing it in the best way.*
>
> (Ray - student nurse - 18, 23.)

> *I am starting to realize that some of the work that I learnt in the nursing home was not the best way to do things.*
>
> (Lynne - student nurse - 22, 10.)

Clearly, if the aim of simulation is to enable students to learn and begin to develop their identities as nurses in an environment that authentically mimics the clinical nursing environment, then learning must be adequately supported. Identification of potential barriers or restrictive aspects of the learning environment must be identified and addressed. The essential elements of the simulation environment must be realistic and provide a safe environment in which students can observe and practise different approaches to nursing care. An expansive approach to learning through simulation may also offer a setting where students can explore and examine the role of the student nurse and the responsibilities incumbent upon them in that role to deliver safe, evidence-based nursing care.

Summary

This chapter has explored four pedagogies for learning (Benner and Sutphen, 2007) as a means of conceptualizing and establishing an expansive understanding of the learning that can occur during simulation. Participants suggested that simulation had the potential to offer an environment in which the students could begin to practise the performance of nursing and bear witness to human events (performance) and acquire the skills of 'practical reasoning'. It also offered the opportunity to consider the context of care (contextualisation), interpret nursing information (interpretation) and learn to develop their identities as nurses (formation). Students who demonstrated development in each of these pedagogies were successfully learning to become nurses. Students who were unable to show development in each of these pedagogies were not successful. These features support the contribution of this pedagogical model towards elucidation of an effective and expansive approach to learning in nurse education. They also help to illustrate the different activity systems to which student nurses are exposed, and the expansive learning process that can occur between these systems, and is experienced by students as they learn to be nurses. Chapter 9 examines what this might mean for nurse education, nursing research and nursing practice.

Chapter 9: Learning nursing through simulation: towards an expansive model of learning.

The purpose of this final chapter is to review my research and explore the significance of my discoveries for nurse education, nursing research and nursing practice. This chapter returns to my research questions and answers them in relation to the outcomes of this study. Using a four-fold taxonomy created to elucidate distinguishing features of education for professional practice, this chapter summarizes the participants' experiences of simulation and the possibilities their revelations offer towards an expansive approach to learning nursing.

Outcomes and achievements

This study set out to explore the impact of simulation upon learning for first year undergraduate adult nursing students. Key interests included the evolution of simulation in nurse education, the student experience of participating in simulation, and perceptions and explanations of learning through simulation from nurse educators, nurse mentors and nursing students. There has been a predisposition for nurse education literature to focus upon simulation in relation to teaching with less debate upon the possibilities for learning (chapter 2 explores this trend). In addition to this, nursing literature has highlighted the exponential rise in popularity of simulation, and research which advocated the benefits of simulated learning focusing upon implementation in the curriculum, technological developments and skills acquisition. There is now a move to devote more attention to this area through studies which focus solely upon simulation and health care. Exploration of nursing simulation is progressing, and professional and academic papers are providing a platform of robust research (Moule, 2011). Nurse researchers are now offering reviews of the current literature and concept of simulation, considering its use and application in a range of curricula, thereby raising contemporary issues and reflecting upon the student experience of this mode of learning. However, there is still a gap in the simulation

literature for nursing. Whilst researchers are beginning to explore pedagogical approaches to simulation, and examine the theoretical underpinnings of this approach to learning nursing (Kaakinen and Arwood, 2009; Cant and Cooper, 2010), this area of research is still in its infancy. This study concentrates on that gap and offers theoretical possibilities which support simulation as a pedagogy for learning nursing.

Having highlighted the focus and aims of this study, it is important to address my research questions and establish what has been achieved.

The review of the literature and previous research showed that simulation, a technique that has been used in fields such as aviation and defence since 1930s (Scherer et al, 2003), has been adopted by nurse education as a means of supporting practice learning. It takes many forms, which are dependent upon the environment, the participants and the purpose of the simulated activity, and, as a consequence, there is no universally accepted definition. Simulation activities require engagement with a range of delivery methods and modes, which include low-fidelity basic simulators such as a simulated wound or injection site, high-fidelity interactive manikins with life-like qualities, role play, OSCE, case studies and virtual online environments (Moule, 2011).

Clinical simulation spans the centuries, with models having long been used to help students learn about anatomical structures. The modern era of medical simulation has its origins in the second half of the 20th century with European and American researchers at the forefront of the development of high-fidelity simulation. Led by the anaesthetic community, simulation manikins have been central to the understanding and development of simulation-based learning and training to date. Nurse education has maintained its awareness and use of simulation as the technology has progressed, moving from the clinical skills classrooms of the 1950s, to the use of early simulators in the 1970s and 1980s and the development of simulation laboratories or suites in the late 1990s. Today, nurse education continues to explore simulation as a means of supporting students to learn nursing. Increased understanding of technologically enhanced learning

strategies and the drive for improved patient outcomes, safety and experience have provided the impetus for increasing interest in simulation for learning.

Students suggest that the appeal of simulation is its capacity to offer them exposure to real-life scenarios in a safe environment. Within this setting they can rehearse skills, learn through trial and, in some cases, error, receive feedback and using high-fidelity simulators, can also learn from patient response and outcomes (Benner et al., 2010). Through practice and feedback in a simulation environment, students can be supported to develop confidence and competence prior to delivering care in real practice settings. Sophisticated simulation techniques can be used by facilitators to support the development of intricate psychomotor skills and also help learners to establish the skills of critical thinking, decision-making and problem-solving. Simulation also provides facilitators with a vehicle (OSCE) to support the assessment of student competencies in preparation for skill delivery in the practice setting. Simulation has evolved and can include a wide range of fidelity and complexity from the use of replica body parts to learn procedural tasks, to the use of virtual learning environments and high fidelity human simulators where complex integrated packages of nursing care can be planned, delivered and evaluated. Simulation offers a range of learning environments that support students to learn, refine and develop their nursing skills for patient care.

The analysis of data gathered from students showed that they spoke candidly about their simulation experiences, celebrating their successes and highlighting their challenges, as they engaged in simulation as first year undergraduate adult nursing students. For some the experience was positive, enabling them to demonstrate their potential and to begin to learn about the complex world of nursing. For others, the experience was challenging and highlighted difficulties in their ability to engage with simulation and learning nursing.

For the students who participated in this study, successful learning was dependent upon development in four key areas: demonstrating a professional performance and bearing witness to human events (*performance*), communicating and relating information to the patient's specific situation (*contextualisation*), interpreting

information (i*nterpretation*), and forming a nursing identity (*formation*). Students who demonstrated learning and development in each of these areas were successfully learning to become nurses. They also learned to take pride in their achievements and developed confidence from the realization that they were learning to be good nurses. Students who were unable to show learning and development in each of these areas were not successful and left the programme.

The analysis of data from the nurse educators showed that they saw simulation as a means of helping students to learn to be nurses. They suggested that it should be used to determine the potential of students to learn to be nurses; it provided a supportive learning environment and helped students to learn in preparation for professional practice. The nurse mentors viewed simulation as a means of helping to determine nursing potential, in essence working out which student would be a good nurse. They discussed simulation in relation to identifying good nurses and the opportunity for good students to develop confidence and providing support for weaker students. The nurse mentors also suggested that simulation helped students to build skills for resourceful nursing practice and prepared them for the challenges of bearing witness to human events. Both nurse educators and nurse mentors emphasized the importance of clinical practice for students and the complementary nature of simulation learning. Nurse mentors took this discussion further, highlighting the need for students to use their simulation learning realistically and effectively for the patients that they would nurse in a hospital ward or in their homes. For them, it was the recognition of the differences between the best practice environment of simulation and the real and often complex world of the patient, which was important. Students demonstrating such recognition, confidence and self-awareness were deemed by the nurse mentors to be successful. According to the nurse educators, students who performed well during simulation demonstrated key attributes of good nursing and were successfully becoming nurses. Helen, an experienced nurse educator, took this a stage further suggesting that simulation might also offer a means of identifying students who were struggling to learn to be nurses.

This study offers an understanding of students', nurse mentors' and nurse educators' experiences and views of simulation in the context of an

undergraduate adult nursing programme. Their narratives, contextualised and integrated into conceptual frameworks (Benner and Sutphen, 2007; Engeström, 2001), offer different perspectives on current theoretical understandings (presented in chapter 8). Participants in this study have suggested that whilst simulation clearly offers an opportunity to learn and rehearse a range of clinical nursing skills, it can also highlight key features of potential as students learn to become nurses.

Having a greater understanding of the learning that occurs through simulation experiences will enable educators and practitioners to harness the potential of simulation for the development of a competent, confident and caring nursing workforce. This will have implications for nurse education, nursing research and nursing practice.

Implications for nurse education

Simulation: an expansive approach to learning.

Simulation clearly offers potential for learning nursing. In order to be effective, however, such activity needs to have a solid theoretical foundation. Taking a root and branch approach, the key features of formation, interpretation, contextualisation and performance, identified and discussed in chapters 3 and 8, could helpfully revise and refresh what some might suggest is an atomised approach to simulation learning (Brown and Chronister, 2009; McCaughey and Traynor, 2010). Using these four key features to inform an expansive view of learning (Engeström, 2001; Fuller and Unwin, 2004; Haigh, 2007), simulation experiences could enable students to think beyond the physical tasks that they are learning to perform and develop an understanding of the sense of salience, situated cognition and action required in particular nursing situations (Benner et al., 2010).

Some theories of learning are focused upon processes where a student acquires knowledge or skills in such a way that a corresponding and lasting change in their behaviour may be observed (Watson, 1913). The knowledge or skill to be

acquired in these situations is stable and reasonably well defined, and is taught or facilitated by a teacher who is familiar with the nursing curriculum. This is essential in order to introduce students to the knowledge and skills which underpin nursing practice. However, an important concern is that some of the more intriguing kinds of learning in nursing conflict with these assertions. As health and social care continues to evolve, nurses encounter situations that are new, unknown, and for which they have no previous learning or experience. In important transformations of professional and organizational practices, nurses must be ready to learn new forms of activity, which have not yet been conceived. These activities are learned as they occur. There is no competent teacher to help students to learn in these situations. Standard learning theories are incongruent and have little to offer for understanding these processes (Engeström, 2001).

Today, in an environment with constant organizational change and calls for nurse education to provide students who are fit for practice (Holland et al., 2010), nurse educators use simulation as one approach that will help students to develop some of the nursing skills that they will need for the future (NMC, 2010). The opportunity to use simulation to explore a patient scenario supported by pedagogies of formation, interpretation, contextualisation and performance, offers an expansive approach to learning and a contrast to the linear task orientated approaches of the past. From a personal perspective, this would offer a more liberating experience for nurse educators and an integrative experience for nurse mentors and students.

To take a common example, when students learn to measure blood pressure they often learn in simplified and de-contextualised situations where their ‘patients’ are healthy fellow students or a low-fidelity part simulator, in this case an arm. This is a good beginning and is a good first step in the acquisition of clinical skills. However, the next step, following an expansive approach, should be in preparing the students to use the skills of assessment and practical reasoning. In a simulation scenario, an 85-year-old lady who is known to suffer from hypertension and is complaining of shortness of breath and chest pain, will need measurement of her blood pressure and other vital signs, rapid interpretation of that information and recognition of her unique situation, in order to determine an

effective nursing response. Supporting students to interpret and contextualise their nursing performance through integrated simulation experiences would provide an opportunity to enhance their learning, development and formation as potential nurses in preparation for patient care on placement. The ability to assess a patient, develop the skills of practical and clinical reasoning and critical reflection, and develop a professional performance has obvious benefits for nursing practice. The contradictions between the best practice environment of the simulation suite in university and the complex and constantly changing environment of the hospital ward provide opportunities for learning, development and change. This expansive approach to simulation may offer nurse education the means to achieve its aspirations and support students as they learn nursing.

Engeström and Sannino (2010) explain that their theory of expansive learning expands its analyses in different directions, offering different perspectives for learners. This is important for nursing and for students who are learning to become nurses. Supporting students to consider a nursing situation from a different perspective may help them to learn to assess their patient. It may also help them to develop the skills of practical and clinical reasoning and critical reflection, and develop a professional performance whilst recognizing the differences between the best practice environment of simulation and the real and often complex world of the patient. As they learn, they move between different activity systems and begin to identify contradictions between systems, which will impact upon the nursing care that they are able to deliver, as highlighted by the nurse mentors in this study.

Simulation and realistic learning.

If simulation is to provide an effective addition to clinical experience, it must reflect the contextual realities of everyday practice (Berragan, 2011). The nurse educators and nurse mentors in this study suggested that practising tasks on isolated models, however sophisticated, offered a limited experience. Whilst this offers a first and necessary step for skills acquisition at the level of performance, recent developments in scenario-based simulation, using inanimate models attached to simulated patients, provide contextual settings in an effort to address

these limitations (Kneebone, 2003). The nurse mentors and nurse educators emphasized that simulation should offer an experience that is complementary to practice learning in order to help students to understand the experience and context of patient care.

The nurse mentors highlighted the need for students to use their simulation learning realistically and effectively. It was the recognition of the differences between the best practice environment of simulation and the real and often complex world of the patient, which they felt was important. There has been a broad acceptance of the concept of a theory–practice gap in undergraduate nurse education programmes for some time (Oussey and Gallagher, 2007), with assertions that many nursing students are unable to transfer their university acquired knowledge to the clinical setting, or that they are inadequately prepared for clinical placements by the university (Maben et al., 2006). This might be considered to be a form of 'cognitive dissonance', where the academic ideal of nursing taught in higher education conflicts with the reality of clinical practice. Cognitive dissonance may also provide an explanation for the responses of students to the conflict they encounter as they engage the academic ideal with the clinical reality, the theory–practice gap (Festinger, 1957; Meyer and Xu, 2005).

In response to this global phenomenon, nursing programmes strive to offer students every opportunity to link theory with practice whilst recognizing the realities of nursing practice. Students often work extremely hard to address academic challenges in the belief that skills developed during theoretical elements of the programme will readily transfer to the practice environment (Sharples, 2011). The challenges of the practice environment are very different from those which may be encountered during learning in university. Consequently, these different challenges require students to develop a new range of skills for practice. Rather than worrying about these difficulties and conflicts, expansive learning embraces these challenges and suggests that contradictions between these systems offer the potential for growth and development.

The NMC (2010) requires students to demonstrate competence in a wide range of areas, such as knowledge development, critical understanding, practical skills,

and professional standards (Flanagan et al., 2000). However, nursing is more than competence, adherence to standards and the development of a wide range of skills. Nursing is about embodied and skilled know-how, a sense of salience, situated cognition and responsive action (Benner et al., 2010). Nursing is about caring and the development of a therapeutic relationship with each patient. Nursing is a privilege and should be undertaken with recognition of the need for dignity and respect in care. The key features of formation, interpretation, contextualisation and performance provide a framework for students to acknowledge these aspects of nursing. Through simulation, students can begin to explore and recognise what each of these features means for their development as nurses. An expansive learning approach supports the development of a realistic view of nursing as students learn and understand the care that they are able to give to their patients.

Simulation and supportive learning.

The experiences and outcomes of learning through simulation were significant for all of the students in this study. According to Mezirow (1990) the 'most significant learning experiences in adulthood involve critical self-reflection' (p.13); students who were having difficulty reflected, that whilst they had not been successful, they had still learned both personally and professionally. Some of the factors which appeared to cause difficulty, and challenge their capacity to engage with the adult nursing programme, included previous work and learning experience, the learning environment and accessing support.

During their interviews, students highlighted that simulation sessions offered potential for collaborative and participative learning. Working in small groups, they were able to share their knowledge and understanding of the patient situation and work together in order to establish a safe and effective plan of care. Learning through the reflective observation of peers during simulation scenarios (Seropian et al., 2004) was acknowledged as a positive experience. Perhaps this approach with the support of peers may enable others to take advantage of collaborative learning opportunities during simulation, and provide a supportive and enjoyable learning environment. Encouraging a 'peer assisted learning' approach (Topping

and Ehly, 1998) for simulation might offer students a less intimidating setting in which to learn nursing. It may also support some students to make the move from carer to student nurse through role modeling and the opportunity to question the situated learning model upon which they had come to depend. Rather than placing value upon informal knowledge and some of the routine, ritualistic and restrictive practices in health care, an expansive approach to learning through simulation and recognition of the four features of formation, interpretation, contextualisation and performance, may help struggling students to begin to understand the need for compassionate, knowledgeable and evidence-based nursing care.

A pragmatic approach would be to use the four key features as a core vision for nurse education. All learning in nursing could embrace these central tenets in order to support and conceptualise nursing practice. For undergraduate nursing, this could offer an expansive framework for supporting nursing students to rehearse a confident nursing performance, demonstrate the ability to contextualise and interpret patient information and succeed in developing a nursing identity. These features must be at the forefront of education and practice if graduate nurses are to address the current calls for leadership, nursing workforce management and above all, compassionate nursing care (Care Quality Commission, 2011; Robb, 2012).

Implications for nursing practice

Simulation as complementary and expansive learning

Much of the learning and development of clinical nursing skills for novice student nurses is shifting from real life to simulation. At a superficial glance this makes sense. The protected environment of skills laboratory and virtual reality simulators are perhaps the only places in which it is safe to make mistakes and learn from them. Indeed, the opportunity to make mistakes, to explore the consequences of any given clinical action without risking actual harm, opens up possibilities that would be unthinkable within a real clinical environment (Berragan, 2011).

Moreover, radical changes in patterns of health care and decreasing exposure to patients are rendering traditional apprenticeship inadequate or unacceptable, especially in terms of gaining clinical expertise. Here, simulation is becoming a necessity rather than an optional extra (NMC, 2007b). It is therefore all the more important to develop a critical approach to what any given simulation has to offer. In the current context of pressures of workload and litigation, nursing skills acquisition in practice environments may be difficult to achieve in terms of available time, cost-effectiveness and patient safety. However, it is important that nurse education recognises that skills laboratory simulation can only provide part of that learning experience. It should never replace time spent with patients but be an addition to clinical placement experience. Simulation clearly offers enormous potential for safely developing expertise in nursing. In order to be effective, however, such activity needs to be part of a broader picture, supporting and linking with actual clinical practice and having a solid theoretical foundation. On occasion, simulation-based training can appear to be dominated by technology, thus losing its links with the wider world of health care and the important focus of enabling student nurses to learn to be nurses (Kneebone, 2003).

Expansive learning theory supported by a pedagogical model for professional learning offers a strong foundation for simulation. The opportunity for students to compare and contrast the different activity systems of university and healthcare settings offers an 'educative environment' in which they can begin to develop an expansive approach to their learning.

Simulation and the essence of practice learning for nursing

Whilst acknowledging that there is evidence, within the literature (Chapter 2) and the participants' narratives (Chapters 6 and 7), of the obvious benefits of including simulation within an undergraduate nursing curriculum, there are also some concerns. The literature and the participants have suggested that simulation works, but does it translate into practice? Is there the potential that simulation may take over from or replace reality? Whilst recognising and applauding the benefits and possibilities of simulation for clinical nursing skills development, this raises concerns about the 'wholesale' and uncritical adoption of this

pedagogical approach. Where is the patient in all of this – the living, breathing, idiosyncratic human being with whom we interact minute-by-minute and day-by-day? As part of this interaction with our patients, we, as nurses, learn to construct our own professional identities. This element of learning nursing and the nurse's role resonates well with an expansive approach to learning, where subjects, actions and situations are just as important as activity systems, organizations, and the historical and cultural context in which nursing (activity) takes place (Engeström and Sannino, 2010). It is this theoretical view, which particularly highlights the reflexive approach required by student nurses as they learn 'how to be a nurse' as well as how to perform the clinical nursing skills required to care for their patients.

Another concern is that we may be overtaken by the speed of developments within simulation technology; perhaps being encouraged to move away from our initial views of the undergraduate nursing curriculum and how it should support students to become nurses. As supporters of simulation, it is natural to be seduced by new and more capable technologies. There is the very real possibility that our focus will move from real patients and the evolving identities of student nurses, towards the endless possibilities of the technology. The human patient simulator becomes the substitute for the real patient thus denying the student nurse opportunities for realistic and responsive interaction. Similarly, the use of an actor, whilst offering human contact, reduces the possibilities for complex and realistic interaction as interventions are briefed and scripted. In such settings, the professional identity construction of the student nurse may be overlooked. Whilst some student nurses will competently transfer learning from the simulated environment to the hospital ward, there will be others who will not. Thus, as highlighted by Bligh and Bleakley (2006), this may inadvertently promote simulation of learning rather than learning by simulation. This may be related to inappropriate identity construction in the simulated setting where students fail to socialize into their roles as student nurses. Thus, within their practice placements, students may be unable to manage their professional identity, finding it difficult to translate their learning in order to care for real patients and work as a member of a clinical team (Ross, 1988; McAdams et al., 1989). The student nurse may pretend or feign knowledge and understanding or competence, which in reality,

they do not have. Bligh and Bleakley (2006) call this 'unchallenged dissimulation', suggesting that this may be linked with inappropriate identity construction in simulated settings. Taken to its ultimate conclusion, patient safety may be compromised; the possibilities are extremely worrying and offer an important area for future research. The four key features used to conceptualise learning in this study may offer a way of addressing this concern. Open discussion of formation, interpretation, conceptualization and performance, during feedback from simulation experiences, could encourage students to consider their professional identity, nursing knowledge and nursing performance. Successful learning during simulation experiences could provide the confidence that students need to transfer their learning to practice situations. The evidence will be in future research studies, which explore different ways to conceptualise simulation learning and the transferability of that learning to practice.

van Oers' (1998) theorization of transfer or as he refers to it, 're-contextualisation', uses an activity theory framework, and involves a focus on the role of context and the ways in which it can encourage limited or more expansive transfer. van Oers' work focuses on the school mathematics classroom and his ideas may provide useful insights about different forms of transfer between university and work activity systems such as nursing. Activity theory, provides the tools to examine the purposes and structures of activity systems, and highlights boundaries and gaps between systems. Rather than viewing boundaries as unchangeable, proponents of activity theory and expansive learning understand them as potential stimuli for new developments, which can both connect and develop the interacting activity systems (Engeström 2001; van Oers, 1998). Activity theory and expansive learning theory may prove a useful means to examine the transfer of learning from simulation to clinical nursing practice; they offer an interesting perspective for future research.

Simulation and healthcare policy

Over the past ten years, the Department of Health has highlighted the potential value of technology in the education, training and development of the health and social care workforce. *A High Quality Workforce* (DH, 2008) identified the 'need

to use modern education techniques if the government are to fulfil their ambition to widen participation in learning and to enhance the learning environment for both those in training and those undertaking continued professional development' (p.42). Responses to the White Paper consultation *Liberating the NHS: An Information Revolution* (DH, 2010) stressed how a revolution in the use of information and IT in health and social care services can demonstrate both greater efficiency and improved quality of care. In addition, respondents also highlighted the importance of leadership, culture change and education of staff to take this agenda forward.

The Framework for Technology Enhanced Learning (DH, 2011b) highlights the use of learning technologies such as high-fidelity simulation suites and offers a framework for the appropriate use of e-learning, simulation, clinical skills facilities and other innovative approaches to healthcare education. It recognises that significant investment has already been made in learning management systems for e-learning, in the development of e-learning content and in the provision of simulation and clinical skills facilities. It also aims to address issues that have been raised in recent reports on medical education and training, such as Sir John Temple's report 'A Time for Training' (DH, 2010) which reported on the impact of the Working Time Directive and the report by Professor John Collins evaluating the Medical Foundation Programme (DH, 2010). In both of these reports, it was noted that doctors in training sometimes feel that they are required to act beyond their level of competence. Whilst both of these reports are medically orientated, they do have relevance for nurse education and nursing practice, as staffing ratios, competence and nursing accountability are constantly raised as causes for concern in nursing (European Federation of Nurses Association, 2012). This study has shown that simulation enables students to learn the skills of nursing and offers a tangible way for them to demonstrate that they are successfully becoming nurses. When nursing students fully engaged with simulation learning, the practices and pedagogies of formation, interpretation, contextualisation and performance enabled them to recognise and develop the embodied know-how of skilled and competent nursing practice (Benner et al., 2010). Simulation has the potential to support uni-professional, multidisciplinary and inter-professional learning for health and social care (Salas, 2008).

The Department of Health (2011b) *Framework for Technology Enhanced Learning* has at its centre the aim of improved patient outcomes, safety and experience. It suggests that whilst simulation has the potential to improve confidence and competence, the opportunities it offers for multidisciplinary and inter-professional learning are not being fully exploited. Recommendations propose that as part of a managed learning process, healthcare professionals should learn skills in a simulation environment and using other technologies before undertaking them in supervised clinical practice. Those responsible for developing curricula should recommend what role simulation should play to support learning and assessment. They suggest that the use of simulation should be achievable and clearly mapped to specific learning outcomes in identified areas of the curriculum. These recommendations resonate with this study and expound the vision of many nurse educators. However, simulation should not be used as an end in itself, but should be appropriately integrated in a blended approach to learning and implemented to address specific learning or clinical needs. In short, simulation should be patient and service driven, educationally coherent, innovative and evidence-based. It should deliver high quality educational outcomes and value for money ensuring that access is equitable and provision of the highest quality (DH, 2011b). It is these goals, which should drive the simulation research agenda.

Implications for nursing research

This chapter has highlighted a number of areas, which offer possibilities for future research. I end by reiterating the assertions of Knight and Mowforth (1998) who, some years ago suggested that more research into simulation for nurse education was needed.

All nurses need to be exposed to experience and evidence that offers a different perspective, a surprise, or something unexpected. Nurses need to move from superficial awareness to deeper understandings, shifting from certainty to doubt as they ‘seek to understand traces, influences and meanings’ (Edwards, 2002, p.166). Nursing research should investigate the experience of simulation in

relation to the participants' personal and professional histories. Research should also investigate the potential for simulation to support the development of students as they learn to be nurses, exploring opportunities for identity development, interpretation, contextualisation and the achievement of a nursing performance. Whilst quantitative approaches play their part in providing a picture of trends and developments in simulation, they cannot provide insights into the personal and professional learning experience of simulation. In order to make the best use of scarce resources to support student learning and the student experience, we need to understand this experience from the perspectives of all who are involved. In-depth qualitative research methods can support and confirm quantitative results, and enable us to gain a richer and deeper understanding of the participants' experiences, beliefs and sentiments. They offer an important opportunity for the students' voices to be heard.

Qualitative and quantitative research methods present ways in which nurses can begin to develop and explore the existing evidence-base for simulation as a pedagogic approach for nursing. Evaluative research is needed to facilitate our understanding of the impact of simulation, to explore the potential and scope for learning outcomes and to investigate how learning can be transferred to practice settings. Research and evaluation of past and present simulation approaches and designs can also help to identify best practice in simulation in the widest context to include teaching, learning and assessment strategies. Given the economic climate, higher education institutions would benefit from gaining greater understanding of the full costs of simulation implementation and management. A collaborative and inter-professional approach to this evaluation would provide robust and relevant data on which to base future health care education and practice.

Conclusion

This study has explored and highlighted the importance of a strong theoretical foundation for simulation learning. Opportunities to consider nursing in a different way, reflecting upon nursing care from different perspectives, offer

potential benefits to each student's development as a nurse and, most importantly, to the quality of care delivered to their patients. Engagement with expansive learning and professional practice learning, introduced through simulation, could enrich their nursing and, as health care and the patient population continue to change and evolve, enable students to develop an adaptive and critical understanding of nursing.

Whilst I have offered a pedagogical model for professional learning and expansive learning theory here, there is potential for an eclectic and diverse approach to theory depending upon the nature and purpose of the simulation. Whatever the approach and theory or theories which guide and support that choice, nurses must explore the basis for learning through simulation. Rather than be overwhelmed by the technology or persuaded to jump on the simulation bandwagon, we must ensure that simulation is achieving its intended goal of helping students to learn to become good nurses.

For nursing research there is clearly much to do and much which will impact upon nurse education and nursing practice. This thesis has introduced a different perspective for simulation and learning. It has highlighted the value placed upon simulation by students, mentors and educators, as a means of identifying and nurturing nursing potential. It has offered an approach which captures and elucidates the key features of professional practice described by Foster et al (2005) and Benner and Sutphen (2007). Formation, interpretation, contextualisation and performance provide a framework for learning and understanding embodied and skilled nursing practice. Rehearsal and refinement of these features through simulation experiences and an expansive approach to learning offers possibilities for their transfer to the real world of nursing practice. These features are not just additional ways of learning nursing and developing fundamental nursing skills; they are ways of knowing nursing (Berragan, 1998). I urge mentors and educators to consider this approach to simulation as one way to support students as they learn to be nurses. Whilst I recognise that not all nurses will welcome such an aspirational view, I hope that this thesis will encourage discussion and debate. Nursing needs to act, to re-engage with the public and to secure its position at the centre of good health and social care provision. The

approaches discussed in this thesis may offer a starting point. There is real potential for simulation to help students to understand the key features of nursing and learn to deliver skilled, integrated and compassionate care to their patients.

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Appendix 1

Participant Information Sheet

I would like to invite you to take part in my research study. Before you decide, I would like you to understand why the research is being done and what it would involve for you. I will go through the information sheet with you and answer any questions you have. I suggest this should take about 20 minutes.
Part 1 tells you the purpose of this study and why you have been invited to take part.
Part 2 gives you more detailed information about the conduct of the study.

1. **The Study – What is the impact of simulation upon learning for undergraduate nursing students?**

What is the purpose of this study?

The purpose or aim of this study is to explore the impact of simulation upon learning for undergraduate nursing students and develop an understanding from the perspectives of students, lecturers, and nurse mentors. Simulation has become established as a way of teaching the fundamental skills of nursing, providing the learner with opportunity to acquire essential skills in an environment closely representing reality (Linder and Pulsipher 2008). Nurse educators sense that simulation is a powerful student learning strategy and this study aims to explore and characterize that learning.

On a local level, the study will be important as it focuses exclusively upon undergraduate nursing students. As the Faculty of Health and Life Sciences moves towards an all graduate intake for adult nursing, this study will be important in shaping curriculum development and in providing evidence for re-validation of the undergraduate programme. The study will highlight the importance of partnership and collaborative working, seeking to explore the experience of students, nurse mentors and educators, and addressing national nursing policy requirements.

I am undertaking this study as part of a programme of doctoral study. During the study I will meet regularly with educational supervisors who will guide and support my research conduct.

Why have I been invited to take part?

You have been invited to take part because I would value the opportunity to explore your experiences and perspectives as someone who is either directly (students, nurse educators) or indirectly (nurse mentors) involved in simulation in the undergraduate adult nursing programme.

Do I have to take part?

It is up to you to decide to join the study. I will describe the study and go through this information sheet. If you agree to take part, I will then ask you to sign a consent form. You are free to withdraw at any time, without giving a reason.

2. How will the study be conducted?

The study

I will interview all participants for 30 to 40 minutes giving you an opportunity to discuss your experiences and perspectives of simulation. In order to inform our conversations during the student interviews, I will observe the video and sound recording made of your simulation experience during your first year OSCE. I will also be asking students for permission to read your written reflections of simulation experiences. Following initial analysis of the interview transcripts, I will meet with participants again to clarify and confirm my interpretations.

What are the possible benefits of taking part?

There are a number of benefits for you as participants in this study:

- the opportunity to share views/ideas/experiences of simulation in the undergraduate adult nursing curriculum.
- the opportunity to shape curriculum development and provide evidence for re-validation of the undergraduate adult nursing programme.

- exposure to and participation in nursing research
- the opportunity to reflect upon your experience and/or understanding of simulation and identify any learning which may have taken place during or as a result of simulation.

Will my taking part in the study be kept confidential?

Your anonymity, confidentiality and privacy will be respected and maintained throughout the study. I will follow ethical and legal practice and all information about you will be handled in confidence. All data from interviews will be made anonymous and stored securely in accordance with data protection and university requirements. Data may also be looked at by my doctoral supervisory team to check that the study is being carried out correctly. All will have a duty of confidentiality to you as a research participant and we will do our best to meet this duty.

Ethical Approval

This research study has been looked at by an independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by the Southmead Research Ethics Committee and the University Ethics Committee.

Thank you for taking the time to read this information sheet. Please do not hesitate to contact me if there is anything that is not clear.

Liz Berragan
Elizabeth.Berragan@uwe.ac.uk
Senior Lecturer in Adult Nursing
Academic in Practice

e-mail:
Phone: 07500 992128

Appendix 2

Participant Identification Number for this study:

CONSENT FORM

Title of Project: **What is the impact of simulation upon learning for undergraduate nursing students?**

Name of Researcher: Liz Berragan

Please initial box

1. I confirm that I have read and understand the information sheet dated..... (version.....) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my legal rights being affected. ☐

3. (STUDENTS ONLY) I understand that my OSCE will be video and sound recorded as detailed in my module handbook (Skills for Adult Nursing UZWSBM-20-1 January 2009). I give my permission for the researcher to have access to the recordings of my OSCE. ☐

4. I understand that data collected during the study, may be looked at by the researcher's supervisory team. I give permission for these individuals to have access to the data. ☐

5. I understand that all data from interviews will be made anonymous and stored securely in accordance with data protection and university requirements. ☐

6. I agree to take part in the above study. ☐

_____	_____	_____
Name of Participant Signature	Date	
_____	_____	_____
Name of Person Signature taking consent	Date	

When completed: 1 for participant; 1 for researcher file.

Appendix 3

Ethical Approval

Elizabeth Berragan

From: nicola.coe@nbt.nhs.uk
Sent: 27 October 2009 20:04
To: Elizabeth Berragan
Cc: margaret.stoddart@nbt.nhs.uk; helen.andrew@nbt.nhs.uk
Subject: NBT Trust Approval for study 2232 'What are the benefits of using Observed Structured Clinical Examinations in the Undergraduate Nursing curriculum?'

Follow Up Flag: Follow Up
Flag Status: Completed

Project Title:- What are the benefits of using simulation and Observed Structured Clinical Examinations in the Undergraduate Nursing curriculum?

Project_ID :- 2232

Start_date :- 27.10.2009
End_date :- 10.05.2012

I am pleased to tell you that the above project has been approved by North Bristol NHS Trust and that the University of West of England will act as sponsor for this study.

We wish you every success with your study. We are keen to support good research at North Bristol NHS Trust and are pleased that you have decided to conduct your project here.

Approval is given on the understanding that this project be carried out according to Good Clinical Practice and within the guidelines of the NHS Research Governance Framework for Health and Social Care* and in particular:

- You have responsibility for ensuring that, all participants sign informed consent (whenever applicable) and that the protocol agreed by the local research ethics committee is adhered to by yourself and any co-workers.

- You are required to provide us with information about any amendments to the protocol, changes in funding, personnel or end date and any research-related adverse events.

- Any staff working on this study at this site must have been issued with a contract with NBT (honorary, substantive or bank) before they commence work on the study at this site

In addition, other information may be requested from time to time and lay summary of the results will be requested from you at the end of the study.

In accordance with the NBT Research Monitoring and Audit policy, this study may be subject to audit by the R&D Office.

Many thanks

Nicola Coe
Deputy Director of Research (North Bristol NHS Trust) Honorary Research Fellow (University of the West of England)

Mob: 07515 866272
Tel: 0117 323 5209
Fax: 0117 323 6192
www.nbt.nhs.uk/researcheducation/research/Default.htm

NHS

National Research Ethics Service

Southmead Research Ethics Committee
Beaufort House
Southmead Hospital
Westbury-on-Trym
Bristol
BS10 5NB

Telephone: 0117 323 5207
Facsimile: 0117 323 2832

17 September 2009

Mrs Elizabeth Berragan
Senior Lecturer in Adult Nursing
University of the West of England
UWE The Academy at Commonhead
Great Western Hospital
Marlborough Rd, Swindon
SN3 6BB

Dear Mrs Berragan

Study Title: **What are the benefits of using Observed Structured Clinical Examinations in the Undergraduate Nursing curriculum?**

REC reference number: **09/H0102/46**

Thank you for your letter of 13 September 2009, responding to the Committee's request for further information on the above research and submitting revised documentation.

I have considered the further information on behalf of the Committee.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Ethical review of research sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

For NHS research sites only, management permission for research ("R&D approval") should be obtained from the relevant care organisation(s) in accordance with NHS research governance arrangements. Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at http://www.rdforum.nhs.uk.

Where the only involvement of the NHS organisation is as a Participant Identification Centre, management permission for research is not required but the R&D office should be notified of the study. Guidance should be sought from the R&D office where necessary.

Sponsors are not required to notify the Committee of approvals from host organisations.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	*Version*	*Date*
Participant Consent Form	2	16 July 2009
Participant Information Sheet	2	16 July 2009
Interview Schedules/Topic Guides		21 July 2009
Letter from Sponsor		21 July 2009
Covering Letter		22 July 2009
Protocol		26 January 2009
Investigator CV		21 July 2009
REC application		22 July 2009
Participant Information Sheet	3	13 September 2009
Response to Request for Further Information		13 September 2009
Evidence of insurance or indemnity		01 August 2009

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Now that you have completed the application process please visit the National Research Ethics Service website > After Review.

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

The attached document *"After ethical review – guidance for researchers"* gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

We would also like to inform you that we consult regularly with stakeholders to improve our

service. If you would like to join our Reference Group please email referencegroup@nres.npsa.nhs.uk.

09/H0102/46 **Please quote this number on all correspondence**

Yours sincerely

Sue Bowman.

Dr David Evans
Chair

Email: Sue.Bowman@nbt.nhs.uk

Enclosures: "After ethical review – guidance for researchers"

Copy to: *Prof Robin Means, UWE*
R&D office for North Bristol NHS Trust

Elizabeth Berragan

From: Helen Andrew [Helen.Andrew@nbt.nhs.uk]
Sent: 02 August 2010 14:25
To: Elizabeth Berragan
Subject: The value of OSCE in the Undergraduate nursing curriculum (v1) (2 232)

Dear Liz

RE: The value of OSCE in the Undergraduate nursing curriculum (v1)
R&I Ref: 2232

Please accept this email as confirmation of receipt of your letter dated 25 May confirming and approving the change of title to " The impact of simulation and OSCE on learning for undergraduate adult nursing students". Your R&I reference number will remain 2232.

We have updated our records accordingly.

Best wishes

Helen

Helen Andrew

Senior Research Governance Officer

Research & Innovation
North Bristol NHS Trust

Floor 3 Learning & Research building | Southmead Hospital | Bristol | BS10 5NB
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North Bristol NHS Trust - www.nbt.nhs.uk

1

Appendix 4

OSCE Criteria - examples for pulse, respirations and blood pressure and oxygen therapy

University of the West of England
BRISTOL

School of Health and Social Care

Pulse, Respiration & Blood Pressure OSCE

Student Number:

Place student ID sticker here.

Date of assessment:

Performance Criteria	Pass	Fail	Comments
Introduce self and procedure to patient.			
Cleans hands prior to patient contact			
Using radial or brachial site takes **PULSE** for a minimum 60 seconds.			
Document pulse on the observation chart accurately.			
Inconspicuously observe the **RESPIRATORY** rate for a minimum of 60 seconds. (Can use stethoscope if required).			
Document respirations on the observation chart accurately.			
If required remove clothing to expose arm, palm of hand upwards.			
Locate brachial **and** radial pulses.			
Appliy the correct size **BLOOD PRESSURE** cuff 2-3cms above the antecubital fossa with the bladder centre over the brachial artery.			
Place the sphygomomanometer so it at the patients' heart and the nurses eye			

level.			
Palpate the radial pulse and inflate the cuff until the pulse can no longer be felt.			
Cleans the stethoscope (ear pieces and bell/diaphragm) with an alcohol/chlorhexidine swab.			
Places the stethoscope (bell or diaphragm) over the brachial artery			
Inflates the cuff to 30mmHg above the estimated systolic pressure.			
Releases valve slowly (about 2-3mmHg per second)			
Continues to deflate cuff slowly until sure last Korotkoff sound has been heard.			
Documents Blood Pressure on the observation chart accurately.			
Communicates with the patient throughout.			
Overall Assessment.			

Assessors Name:

Assessors Signature:

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Procedure guidelines for Pulse, Respiration & Blood Pressure.

Performance Criteria	Rationale.
Introduce self and procedure to patient.	Ensure patient understands who you are and your role and specific aim and gives his or her valid consent.
Cleans hands prior to patient contact	To minimize the risk of cross infection.
Using radial or brachial site takes **PULSE** for a minimum 60 seconds.	So sufficient time can be allowed to detect for irregularities or other defects.
Document pulse on the observation chart accurately.	To monitor differences and detect trends; any irregularities should be brought to the attention of appropriate senior nurse and medical team.
Inconspicuously observe the **RESPIRATORY** rate for a minimum of 60 seconds. (Can use stethoscope if required).	So sufficient time can be allowed to detect for irregularities or other defects.
Document respirations on the observation chart accurately.	To monitor differences and detect trends; any irregularities should be brought to the attention of appropriate senior nurse and medical team.
If required remove clothing to expose arm, palm of hand upwards.	To enable access to brachial artery and prevent constriction of arterial blood flow.
Locate brachial **and** radial pulses.	To identify position for stethoscope and estimate systolic blood pressure respectively.
Apply the correct size **BLOOD PRESSURE** cuff 2-3cms above the antecubital fossa with the bladder centre over the brachial artery.	To prevent inaccurate results being obtained. (BHS, 2006).
Place the sphygomomanometer so it at the patients' heart and the nurses eye level.	The manometer should be at the patients' heart and the nurses eye level to obtain an accurate recording.
Palpate the radial pulse and inflate the cuff until the pulse can no longer be felt.	To allow an estimate of systolic blood pressure to prevent over/under inflation of the cuff.

Cleans the stethoscope (ear pieces and bell/diaphragm) with an alcohol/chlorhexidine swab.	To minimize the risk of cross infection.
Places the stethoscope (bell or diaphragm) over the brachial artery	To allow the brachial blood pressure to be heard.
Inflates the cuff to 30mmHg above the estimated systolic pressure.	To prevent blood from flowing through the arterty.
Releases valve slowly (about 2-3mmHg per second)	At a slower rate of deflation venous congestion and arm pain can develop resulting in a falsely low reading. At a higher rate of deflation the analogue needle may fall too quickly, resulting in an imprecise reading.
Continues to deflate cuff slowly until sure last Korotkoff sound has been heard.	To ensure an accurate reading has been obtained.
Documents Blood Pressure on the observation chart accurately.	To monitor differences and detect trends; any irregularities should be brought to the attention of appropriate senior nurse and medical team.
Communicates with the patient throughout.	Promote patient satisfaction and understanding.

References:

Dougherty and Lister (Ed) (2008) *The Royal Marsden Hospital Manual of Clinical Nursing Procedures (Student Edition)* 7th Ed. Oxford: Blackwell Science.

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Oxygen Therapy OSCE

Student Number :

Place student ID sticker here.

Date of assessment :

Performance Criteria	Pass	Fail	Comments
Introduces self to patient. Explains procedure to patient.			
Clean hands with soap and water *or* alcohol gel.			
Correctly checks drug chart (using assessor as mentor). * Checks patient number against patient wristband.			
Chooses the correct mask for oxygen administration.			
Sets the flow rate correctly.			
Correctly apply the mask with instruction to patient			
Signs and dates the drug chart.			
Apply pulse-oximetry probe to monitor effectiveness of oxygen therapy.			
Clean hands with soap and water *or* alcohol gel			
Overall Assessment.			

Assessor Name :

Assessor Signature :

* clearly written and indelible; clearly identifies the patient; specifies the substance to be administered, together with strength, dosage start and finish dates and route of administration; be signed and dated by the authorized prescriber.

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Procedure guidelines for Oxygen Therapy

Performance Criteria	Rationale.
Introduces self to patient. Explains procedure to patient.	To ensure the patient understands the procedure and gives his or her valid consent.
Clean hands with soap and water *or* alcohol gel.	Hands must be cleaned before and after every patient contact to minimize the risk of cross infection.
Correctly checks drug chart (using assessor as mentor). * Checks patient number against patient wristband.	To ensure that the patient is given the correct drug, in the prescribed dose. To protect the patient from harm (NMC, 2008). To comply with NMC (2007) *Standards for medicines management*.
Chooses the correct mask for oxygen administration.	The most appropriate device is selected to meet the patients needs.
Sets the flow rate correctly.	To ensure that the patient is given the correct drug, in the prescribed dose To protect the patient from harm (NMC, 2008).
Correctly apply the mask with instruction to patient	So patient understands what is happening and thus to help the patient tolerate the oxygen therapy.
Signs and dates the drug chart.	To meet legal requirements and hospital policy. (NMC, 2007).
Apply pulse-oximetry probe to monitor effectiveness of oxygen therapy.	To provide a written record of the patients therapy.
Clean hands with soap and water *or* alcohol gel	To reduce the risk of cross infection.

Dougherty and Lister (Ed) (2008) *The Royal Marsden Hospital Manual of Clinical Nursing Procedures (Student Edition)* 7th Ed. Oxford: Blackwell Science.

NMC (2007) *Standards for medicines management*. Nursing and Midwifery Council, London.

NMC (2008) *The code: standards of conduct, performance and ethics for nurses and midwives*, Nursing and Midwifery Council, London.

NPSA (2007) *Promoting safer use of injectable medicines, Alert no. 2007/20*, 28th March, NPSA, London.