# Do Student Nurses experience a Theory-Practice Gap? A Case Study

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**Abstract**

Receiving mixed messages between what they learn at university and what they observe occurring in the clinical learning environment can make learning nursing skills a difficult, challenging, and complex process for students. A theory-practice (T-P) gap has previously been acknowledged within nursing (Rolfe 2002, Maben, Latter and Macleod Clark 2006, Monaghan 2015), yet no clear definition of the concept exists. Therefore a concept analysis of the term 'theory-practice gap' was initially undertaken in order to seek clarification of the concept and to provide an original and operational definition for the research study that followed.

This interpretivist study aimed to gain an insight from second-year nursing students regarding their experiences, if any, of a T-P gap as they learned to administer intramuscular injections (IMI). Yin's (2003) single case study with embedded units design was used as a methodological construct for the research providing the researcher with the ability to analyse the data within, between and across the cases. Nineteen pre-registration adult nursing students subsequently attended one of four focus groups, with nine proceeding to undertake semi-structured, one–to–one, interviews. The students were asked to share their experiences of learning to administer IMIs and to explore what they believed enabled and influenced them in learning this skill. They were also asked about how they made sense of the associated nursing knowledge and practice related to giving IMIs. A documentary analysis of the IMI skills lesson plan, and relevant parts of the course handbook, was also performed. Utilising Thomas' (2016) adapted constant comparative analysis four key themes emerged from the data, namely:

i. Simulation based education
ii. Students challenging practice
iii. Cognitive dissonance
iv. Mentors' practice and supervision

Interpretation of the results showed that a T-P gap existed, however not all students experienced cognitive dissonance as a result. The key factors involved included how the theories of conformity, belonging, moral distress and moral courage could be used to explain and explore the behaviours of the students and how students might seek consonance for any cognitive dissonance experienced. The study findings recommend providing students with a range of educational experiences which situate their learning in a meaningful way, with the complexities in the nature of care duly recognised.

Thereby students will be able to construct an understanding of the complex relationship between theory and practice, and also empower themselves with the important skills of questioning and challenging the practice they see. Considering that the NHS currently operates in a culture of ‘missed’ or ‘sub-optimal’ care (Bagnasco et al 2017, Price 2015), enabling students to share their concerns is an important factor in developing a culture of openness.

In addition to the original definition of the T-P gap, this thesis reveals how student nurses are affected by their clinical placement experiences, and how the need for collaboration between the university and clinical practice communities is paramount. Further research into effective methods of enabling students to debrief after experiencing discrepancies in care or sub-optimal care, and to cognitively rehearse how to plan their future behaviours or reactions to these events, is needed. This would begin to advance existing discussions about the ways in which the NHS might respond to issues raised by staff, and encourage the organization to act in open and honest ways in reporting and responding to such events.

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**Glossary**

CLE Clinical learning environment
CSL Clinical skills laboratory
ESC Essential skills clusters
DG Dorsogluteal
HCP Health Care Professional
HEI Higher Education Institution
HPS Human patient simulator
IMI Intramuscular injection
NMC Nursing and Midwifery Council
NP Nurse practitioner
RCN Royal College of Nursing
SBE Simulation Based Education
SC Subcutaneous
T-P Theory-Practice
VG Ventrogluteal

## Chapter 1 Introduction

Receiving mixed messages between what they learn at university and what they observe occurring in the clinical learning environment (CLE) can make learning nursing skills a difficult, challenging, and complex process for students. However, it is also a challenge for nurse educators, as they strive to ensure that the theoretical content of the pre-registration programme prepares students for the reality of practice. A theory-practice (T-P) gap has previously been acknowledged within nursing (Rolfe 2002, Maben, Latter and Macleod Clark 2006, Monaghan 2015), yet no clear definition of the concept exists. This introduction will highlight the factors that may be seen to influence any perceived T-P gap, including how the nursing curriculum is structured. Recent changes to the curriculum that have affected its provision, and the role of simulation based education within nurse education, are also considered.

### 1.1 Curriculum requirements

In the UK all professional nurse education takes place within higher education institutions (HEI), and the Nursing and Midwifery Council (NMC) validate the curriculum. The NMC set out its vision for professional values in the Standards for Pre-Registration Nursing Education, which includes the essential skills clusters (ESCs) (NMC 2010). There is no set curriculum that the NMC stipulate, instead the guidance contained in the standards and the ESCs, is the framework to which all universities design their curriculum and specific provision. Each university's curriculum is in turn approved and validated by the NMC on an individual basis. Within the NMC (2010) standards, it is stipulated that nurse education should consist of a minimum of 4,600 hours to be divided equally between theory and direct clinical practice.

Within the Standards for Pre-Registration Nursing Education the NMC state that 'all nurses must act first and foremost to care for and safeguard the public. They must…be responsible for safe, compassionate, person-centered, evidence based nursing that respects and maintains dignity and human rights' (NMC 2010 p.13). These values are reiterated within the NMC Code of Professional Conduct (2015a), and indeed nursing internationally takes pride in its high moral and ethical values, strict professional regulation and advanced educational attainment. However these values are often at odds with the provision of health care and its demands (Bagnasco et al 2017). Lord Rose's report on leadership in the NHS (Rose 2015) described the care environment of the NHS as being unstable and undergoing constant change – nurse education is one aspect of this dynamic care environment.

As student nurses are studying for a degree level university award in addition to a professional registration, the NMC requires that summative assessments are taken in both the theoretical and practical elements of the degree course. Registered nurses who are called ‘mentors’ are responsible for undertaking assessments in the CLE. These nurses need to have met the professional requirements to become a mentor (NMC 2008), however they are supported in practice by university ‘link lecturers’. Under this arrangement link lecturers do not actively assess the students themselves but do receive feedback from the mentor regarding a student’s clinical performance. The task of assessment rests upon the mentors’ judgement, though in reality they will liaise with the link lecturer and often seek support from them; particularly when a student is at risk of not achieving their clinical competencies. Thus it is easy to surmise that an effective collaboration between the university and the practice environment is required in order to enhance effectiveness and assure the quality of the learning experience for all students.

### 1.1.1 Simulation based education within the nursing curriculum

Greater emphasis on skills training has been seen with the publication of the Simulation and Practice Learning Project (NMC 2007b), whereby 13 HEIs, including Oxford Brookes University, evaluated the use of simulated learning opportunities as part of the direct hours component of the course. The study concluded that simulation could not replace direct clinical experience, yet it could complement and substitute up to a maximum of 300 hours of the 2,300 hours of direct care, when undertaken in a designated learning environment. At the time of writing, the NMC have just closed a consultation process on the new draft standards for pre-registration nurse education that are due to be introduced in September 2019. As part of the draft standards for pre-registration courses, the NMC has proposed simulation activities may be further increased to a maximum of half of the 2,300 hours which students are required to spend in practice during their degree. If this proposal is accepted, it may fundamentally change the significant role that simulation plays within nurse education, as time in the CLE will be reduced for students, and discussion about where theory and practice sit within the curriculum would become highly relevant.

The aforementioned NMC (NMC 2007b) project also recognised that simulation based education (SBE) had value not only to prevent litigation, as reported by the NPSA (NPSA 2009), but as a learning strategy. By enabling students to use a ‘trial and error’ approach in a safe environment, and by standardising the skills education of each

student nurse, SBE ensures their safety and that of their clients and the public (NMC 2010). The introduction of ESCs for pre-registration educational standards of proficiency have also added weight to the SBE debate by emphasising the importance of specific clinical skills acquisition.

Therefore all HEIs that provide nurse education now have skills suites, which are realistic mock clinical environments, and use human patient simulators (HPS) for simulated practice purposes. These HPS are often high-fidelity computerised versions, used alongside scenarios and simulated events to ensure all students are given equal opportunities and experiences to practice their nursing skills. Simulation is seen as a clinical practice that closely mimics the real clinical situation (Rauen 2001); yet one that can provide a more focused and deeper learning experience by helping students to develop confidence and competence whilst supporting evidence based learning in a safe environment, before delivering care to real life patients (Mikkelsen et al 2008, Moule 2011). Its success is partly by virtue of its risk free environment but also, as suggested by Bantz (2007), due to the fact that it reduces the anxiety of novice nurses from having to perform in the practice setting.

Simulation has been recognised as an innovative pedagogical approach (Moule 2011) and is different to traditional lecture style, didactic learning not only in its obviously distinctive learning environment but also in its outcomes, style and delivery. It has become an established feature within nurse education over the last decade and Bland and Tobell (2016), in their grounded theory study exploring the attributes of SBE, define it as using innovative teaching and learning strategies that contribute to addressing tensions between theory and practice. Considerations of how these tensions are resolved, with what effect, and whether simulation represents one way to reduce the impact or existence of a T-P gap for student nurses, are fundamental questions in this research study.

### 1.2 The nature of nursing care

Recent advances in the philosophy of nursing care have espoused an evidence-based approach in tandem with a move to providing patient centred care (Mc Cormack and McCance 2010). However, whilst the objective is to provide a patient experience which is dignified, respectful, and with excellent clinical care; evidence suggests that while organisations might aspire to a standard of care that reflects these values, the reality of the quality of care delivered is often somewhat different (Care Quality Commission,

2010; NHS Confederation, 2010) and may be considered to fall into the premise of discrepancies of care.

### 1.2.1 Discrepancies of nursing care

Regrettably, since the inception of this research study, there have been several reports into patient care, which have highlighted the need for nurses (and all healthcare staff) to speak up when they have concerns about care provision or delivery. The recent serious failings in health care provision in the UK were highlighted in the Mid Staffordshire NHS Foundation Trust Inquiry (Francis 2013), the Keogh Report (2013) and the Winterbourne View Hospital review (DoH 2012b). All of these reports have the potential to tarnish the public image of nursing, although nurse education within the UK has to some extent remained outside the scope of these investigations. Darbyshire and McKenna (2013) believe these media reports have influenced nursing students' images, expectations and experiences of nursing. Consequently, nursing students may find that whilst being taught in their curriculum to adhere to the code of professional conduct, often they are receiving mixed messages when they compare what they learn at university to what they observe on clinical placement. Whilst most discrepancies seen in practice will be minor, and almost certainly not as serious as a 'professional dilemma', the Willis Commission (2012) did note that students are often inadequately supervised and observe poor professional practice from their mentor role models. Some of these discrepancies might be considered to be what the literature calls a 'theory-practice (T-P) gap', and an exploration of this concept forms the basis of this study. The issue of the students' experience of any T-P gap is also a central feature of this study, pertaining to how they cope with it, what they feel about it and how they do, or do not, question or challenge practice.

The concept of a T-P gap can occur within any area of nursing practice and indeed many skills which student nurses are taught may result in a T-P gap; these include aseptic technique for wound dressings, manual handling of patients, and the restraining of patients/de-escalation techniques. These examples form part of the many day-to-day activities that students observe or take part in. Intramuscular injections (IMIs) were chosen to be emblematic of the concept of the T-P gap, as it is a skill that is easily accessible to students as they consider their developing skill in practice. My own professional and academic interest in IMIs, and my enthusiasm for encouraging and increasing contemporary debate surrounding their techniques of administration, are further reasons why IMIs were selected as the exemplar nursing skill in this research study.

## 1.3 Context of the study

The administration of IMIs forms part of the ESCs (NMC 2010) and is taught to student nurses using a SBE approach. It is one of many clinical skills performed by all registered nurses and may appear to an onlooker to be an easy skill to execute; yet the practice of administering injections is fraught with inconsistencies and complications. Often nurses' injection practices are not evidence based and the result is that they use a variety of techniques, without being able to sufficiently rationalise or fully explain their practice (Walsh and Brophy 2010). This in turn leaves student nurses in a precarious and possibly confused position, as the methods of IMI administration that they are taught in university may not be directly reflected by what they see practitioners using in clinical practice. As skills simulation learning is now a fundamental part of the pre-registration nursing curriculum, it is essential that educators know what issues students face when applying skills learning in practice. It is equally important that practice colleagues are aware of the evidence base that is taught to students in university in order that a seamless and compatible approach to providing nurse education and patient care is delivered.

This thesis and research study was planned and formulated by personal interest in the topic of the theory-practice (T-P) gap, with particular reference to intramuscular injections. From personal experience as a patient, through to acting as a link lecturer for nursing students, it was clear that the practice of nursing skills in the clinical learning environment (CLE) varied from the theory and simulated based education (SBE) taught at university. This led to questioning why such discrepancies existed and how student nurses would contend with such disparities existing in their two different, yet complementing, learning environments.

## 1.4 Developing the research questions

The general notion that a T-P gap in nursing might exist, together with the previously discussed rise of the use of SBE within the nursing curriculum, mean there is an opportunity for tensions to arise. This tension has prompted the study of student nurses' experiences of a potential T-P gap in nursing using IMIs as an exemplar. However prior to the study commencing it was deemed essential to understand and define the concept of a T-P gap, in order to provide a universal and operational definition of the term.

### 1.4.1 Performing a concept analysis

Initially a concept analysis of the term 'theory-practice gap' was required. Rodgers' evolutionary model (2000) was used to complete this, and consequently a definition of the concept was proffered. The literature review, conducted as part of Rodgers' process, identified the antecedents, attributes and consequences of the T-P gap which were subsequently discussed. Within the literature review, one antecedent, one attribute and one consequence of the concept were used as headings to critically appraise and discuss the associated literature in greater detail. These were particularly chosen for their relevance in answering the research aims and objectives. Subsequently, the theory of cognitive dissonance was also explored, with exemplars given from nursing studies, in order that parallels could be identified if they occurred within the study.

### 1.4.2 Aims and Objectives

The research aims and objectives for this study were developed following an initial scoping review of the literature and recognition that in relation to IMI practice a T-P gap may exist, the scope of which was unclear. How students were affected by a T-P gap was also unclear; thus an investigation into their experiences was merited.

The aims and objectives of the research study were thus:

**Aims:**

1. To explore the existence of a theory-practice gap
2. To explore student nurses' experiences of administering intramuscular injections (IMI) within their clinical practice placements.

**Objective 1:** To complete a concept analysis of the term 'Theory-Practice Gap'

**Objective 2:** To investigate current IMI skills education provision for student nurses by reviewing the ways in which IMI techniques are taught at university level, by considering the foundations of and influences on current educational practice and their relationship to evidence-based practice.

**Objective 3:** To identify the knowledge, learning, and other influences[1] that affect the techniques in which nurses administer IMIs.

**Objective 4:** To explore student views on the influence of nursing mentors with regard to IMI practice when they are in clinical placement.

**Objective 5:** To pursue the question: If a T-P gap exists, what strategies do student nurses use to negotiate this gap?

## 1.5 Structure of the thesis

In section 1.4.1 it was outlined how in chapter 2 a concept analysis of the term 'theory-practice gap' was undertaken in order to seek clarification of the concept and to provide an original and operational definition prior to the research study. Following this, a literature review was undertaken of the antecedents, attributes and consequences of a T-P gap and can be found in chapter 3.

After ethical approval was gained, recruitment began and second-year nursing students from a university in the south of England were invited to take part. A more comprehensive description of the case study approach and the recruitment process will be discussed in chapter 4 of this thesis. A case study design approach was used (Yin 2003), and nineteen students attended one of four focus groups, with nine students later progressing to participate in one-to-one semi–structured interviews. A documentary analysis of the IMI lesson plan and the relevant parts of the students' course handbook were also used for data collection purposes. Chapter 5 presents the narrative representations from the student participants in addition to the documentary analysis; these were used in order to reveal the findings from this study. Chapter 6 discusses the 4 key themes, which were identified in the results. The thesis concludes with chapter 7, where the limitations of the study are presented and recommendations for education and practice, together with implications for future research, are proposed.

[1] Initially within these objectives, IMI policy was to be explored and reviewed. However policies were not found, although a standard operational procedure (Feetham & White 2016), and IMI clinical procedures from clinicalskills.net exist (Merriman & Greenway 2016). These provide contemporary guidance and instruction for administering IMIs.

This study enhances nurse education knowledge and provides an original contribution to knowledge in two ways. Firstly, it seeks to provide a conceptual definition for the T-P gap, and by being able to clarify its causes, its authenticity and the effects it may create. Secondly, by furthering an understanding of how students may react to a T-P gap, it is essential for nurse educators to understand and reflect upon how students might seek consonance for any cognitive dissonance by perhaps questioning, challenging or adopting conforming behaviours.

The challenge, therefore, was to bridge any identified T-P gap, in order to benefit future skills teaching and learning; primarily by educators embracing and planning for situations, collaborating with practice colleagues, and understanding the experiences that students are likely to encounter within the clinical environment.

The study's findings recommend providing students with a range of educational experiences, which situate their learning in a meaningful way and with the complexities in the nature of care duly recognised. Thereby students will be able to construct an understanding of the complex relationship between theory and practice, and will be empowered with the important skills of questioning and challenging the practice they see, in order that their skills to speak out can be perfected and practised.

## Chapter 2 Concept analysis of the theory-practice gap

This chapter will explore why a concept analysis of the term T-P gap was deemed necessary and subsequently it will detail the steps taken using Rogers' (2000) process. It will conclude by examining the aspects that are integral to the T-P gap, together with a diagrammatic representation of the concept analysis (see figure 2-2).

### 2.1 Justification for undertaking a concept analysis of the theory-practice gap

For this EdD thesis, the main aim of the research project was to investigate in relation to the theory-practice gap (T-P gap) the experiences of second-year student nurses who are learning to administer IM injections. It became apparent after reviewing the literature at the start of this research project, that a working definition and clarity regarding the characteristics of a T-P gap was necessary. No such definition existed within the literature and the term was often used in an implicit way, making assumptions that the reader would understand what was implied by it. Therefore a concept analysis of the T-P gap was deemed necessary to provide the clarity and definitions requisite for the research project, in addition to understanding its application within nursing and its implications for nurse education.

The first reason that a concept analysis of the T-P gap was justified is, as indicated, the term occurs regularly in literature used in nurse education, but often without full definition or description. From the outset of this research study, it was noted that although contemporary research frequently mentions the T-P gap, researchers often eschew coherent definition - more often the gap is referred to merely as being 'bridged', 'breached', 'avoided' or 'negotiated'. Duncan, Duff Cloutier and Bailey (2007) argue that it is crucial within a professional discipline that concepts embody a shared meaning if they are to be effective for communication. Secondly, Paley (1996) indicates that the term has an everyday colloquial use, but that this is prone to vagueness and ambiguity. Thirdly, as a consequence of the lack of consensus regarding a definition, it was felt important to undertake a conceptual analysis of the term. As concepts are the carriers of meaning, the term 'T-P gap' required clarification, to identify its defining attributes as well as to produce order out of semantic chaos (Paley 1996). No clarity about its virtual or real characteristics was proffered in the literature; hence there are omissions and confusion in understanding, or giving meaning, to the phenomenon. Therefore by undertaking this concept analysis, the objective was to clarify the conceptual problem, thus providing a foundation for the research aims, questions and forthcoming inquiry.

## 2.2 Framework

Walker and Avant (2005) suggest several reasons for completing concept analyses - ranging from developing operational definitions, clarifying the meaning of an existing concept, and adding to theory. Burns and Grove (1993) deem the process for undertaking a concept analysis to be linked with philosophical inquiry, which in turn uses intellectual analysis to clarify meaning. Conceptual clarity is important for research, as it is an integral part of the terminological theory of a study, and concepts need to embody a shared or common meaning to be effective in communication within the professional discipline. In achieving this, according to Duncan, Duff Cloutier and Bailey (2007), the concept becomes valid for the advancement of the nursing profession and practice. Many professions use their own discipline-specific methods of conceptual analysis, yet whilst they might share a similar scholarly view, they may not be directly applicable to other fields without suitable modification. Additionally, Risjord (2009), provides a comprehensive critique of the epistemological foundations of concept analysis and deems that it can be seen as an arbitrary and futile exercise when it is performed in an unsupported and unjustified fashion. Thus there is a need to adopt a framework that is appropriate to analyse the concept in question; this is essential in order to provide the operational definition for a solid foundation to the study.

Many approaches to completing a concept analysis exist within nursing with two being particularly dominant, specifically those of Walker and Avant (2005) and Rodgers (1989). The original method used within nursing was Wilson's (1963) (see Table 2-1) and many authors have since modified Wilson's process to produce their own frameworks. Within this method, context was deemed to determine word meaning, and this was popular with philosophers of language who used exemplar cases to highlight the difference particular words make to the use and understanding of a sentence. In essence, this approach adopts a dictionary style explanation, whereby different uses of the same word can be modelled and explored in order to articulate a definition. Walker and Avant (2005) further developed Wilson's (1963) model (see Table 2-1) by the inclusion of a comprehensive review of the attendant literature, thereby suggesting that the cases within Wilson's (1963) method rather than being evidence, were nothing more than illustrations. These essentially provided insufficient evidence for how attributes are justified. For Walker and Avant (2005) the purpose of a concept analysis lies in the ability to determine between the relevant and irrelevant attributes of a concept.

**Table 2-1 Comparing the steps in the prevalent models of concept analysis within nursing**

| Wilson's 11 Step Model | Walker and Avant's Model | Rodger's Evolutionary Model |
|---|---|---|
| 1. Isolating questions of concept<br>2. Finding right answers<br>3. Identify model cases<br>4. Identify contrary cases<br>5. Identify related cases<br>6. Identify borderline cases<br>7. Identify invented cases<br>8. Social context<br>9. Underlying anxiety<br>10. Practical results<br>11. Results in Language | 1. Select a concept<br>2. Determine the aims/purposes of the analysis<br>3. Identify all uses of the concept<br>4. Determine the defining attributes<br>5. Identify a model case<br>6. Identify borderline, relational, contrary, invented or illegitimate cases<br>7. Identify antecedents and consequences<br>8. Define empirical referents | 1. Identify the concept of interest<br>2. Identify surrogate terms<br>3. Choose the setting and the sample<br>4. Identify the attributes<br>5. Identify the references, antecedents and consequences<br>6. Identify related concepts<br>7. Identify a model case<br>8. Identify implications for further research and development of the concept |

However the important issue of contextualisation, which is considered to be missing from Walker and Avants' (2005) model, is seen as a central factor in Rodgers' (2000) evolutionary method. Drawing from Toulmin's (1972) argument regarding the relationship between concepts and scientific progress and development, Rodgers' rigorous inductive approach emphasises the evolutionary way concepts and theories change over time (see point 8 in her model on Table 2-1) - or indeed when different contexts are reviewed at the same point in time. Rodgers (2000) highlights that when the context of use changes, the meaning must also change, focussing on the current application of the concept and its interconnectedness or, in other words, its relationship with other factors. With consideration that the T-P gap might not be an issue only found in nursing (and that it might exist in other professions such as medicine or teaching) the contextual features of Rodgers' model, together with its emphasis on temporal and heuristic elements, was reasoned to provide the correct fit for this conceptual analysis. The presentation of this concept analysis will follow the steps as described below in Rodgers' model.

## 2.3 Steps in Rodgers' (2000) model

Rodgers (2000) advocates that no preconceived descriptions of a concept should be allowed; instead defining that a concept must come from searching the literature using a systematic technique. Although Rodgers' model also draws on elements of Wilson's

(1963) original 11-step model, it has been refined into a simpler 8-step process as shown in the comparison Table 2-1.

## 2.4 Concept of interest

As previously identified, in nursing there is a perceived T-P gap (see Rolfe, 2002, Maben, Latter and Macleod Clark 2006, Monaghan, 2015). Yet it is important to consider what is implied by the words 'theory' and 'practice' in this context. Butt (2015) explains that theory is used to provide analytical, structuring or interpretative frameworks and to enable a deeper analysis of findings. Yet the word 'theory' has several meanings and connotations and Robson (1997) defines it as 'a general statement that summarises and organises knowledge by proposing a general relationship between events' (p.18). Thomas (2012) recognises that within educational research there has been a drive to use scientific principles describing this as a 'conscious linking of research with theory and the need to replicate and to generalize across studies' (p.27) whilst identifying that this is not easily undertaken within an educational context. However for the purposes of the conceptual analysis of this phenomenon (the T-P gap in nursing), the word 'theory' means something similar to Thomas' (2012) explanation as it is the nursing knowledge, the 'evidence', usually but not exclusively, provided by empirical studies.

Nursing practice is also a complex phenomenon to separate out within the literature. For the purposes of this concept analysis, the International Council of Nurses definition of 'nursing' was seen to be an appropriate explanation of what nursing 'practice' is:

> Nursing encompasses autonomous and collaborative care of individuals of all ages, families, groups and communities, sick or well and in all settings. Nursing includes the promotion of health, prevention of illness, and the care of ill, disabled and dying people. Advocacy, promotion of a safe environment, research, participation in shaping health policy and in patient and health systems management, and education are also key nursing roles. (ICN, 2002)

During the process of completing of this concept analysis it was possible, in the absence of any other given definition, to create an emergent definition of the T-P gap as:

> The gap between the theoretical knowledge and the practical application of nursing, most often expressed as a negative entity, with adverse consequences.

This definition is especially important, as the T-P gap is not tangible in essence; it represents a metaphorical void and thus appears to have a virtual connotation. Whilst there is the awareness that it can be felt or experienced, it is not easily measurable or quantifiable. Accordingly, the ability to analyse the components of the T-P gap will help increase the reliability and validity of the study by producing a classification, which may assist future standardisations of the concept and its relevance to the discipline of nursing, and particularly to student nurse education.

The T-P gap in nursing is perceived to be persistent and mostly has negative connotations, although the counter argument suggests that it needs to exist in order to facilitate dynamic change within the profession. The T-P gap can seem difficult to 'close', representing a separation between the theoretical or evidence-based knowledge and the practical element of nursing. Scully (2011) identifies this as a major and persuasive issue in nursing in a reflective paper, which recalls her own experiences as a student nurse. This gap between what theory, supported by evidence, states should happen and what in reality occurs in the clinical environment is not new, yet it has been subject to recent debate where the discursive dialogues of Bradshaw and Merriman (2008) and Glen (2009) raised questions about the ability of pre-registration courses to prepare students with the necessary skills to become competent qualified nurses. It is not only the practical skills of new graduate nurses that are questioned, as Voldbjerg et al (2016) suggest in their meta-ethnography, it is their lack of confidence and support in using their knowledge sources that leaves them in a poor position to utilise critical thinking skills and to apply their theoretical knowledge. This occurs primarily due to short staffing issues in clinical environments, leading to problems for the new graduates such as taking time to feel assimilated into the team, to feel confident with their own ability and daring to make their own decisions (Voldjberg et al 2016). With this identified potential lack of proficiency among nurses in both their clinical skills and critical thinking abilities, the T-P gap remains a continued problem not only for all nurses but also, as Scully (2011) suggests, for students and recently graduated nurses, given their novice and rule-governed practices. Despite the more frequently articulated negative associations with the metaphor of the T-P gap, the concept is not always negative. As Ousey has coherently argued in her debate with Gallagher (Ousey and Gallagher 2007) the gap encourages students to question and staff to avoid complacency in their practice.

In search of a description of the T-P gap in nursing, Scully (2011) indicates that despite the differing interpretations of its nature, there is a widespread agreement that it essentially represents the separation between the practical dimension of nursing from

theoretical knowledge. Those who adopt this interpretation, including authors such as Rolfe (1998, 2002), make the persuasive argument that since nursing - due to the nature of the data in question being predominantly qualitative -does not often perform laboratory experiments with the resultant generalisable findings, hence there must be a wider interpretation regarding research outcomes. As a consequence Rolfe (1998) suggests that nursing requires a new paradigm of clinical research whereby individualised nursing care, which is central to effective practice, can be investigated. Compelling as Rolfe's (1998) debate is, the principal issue under scrutiny in this thesis is the interpretation of the T-P gap, whereby there is a lack of integration of current research evidence into the clinical practice setting. Therefore the conceptual analysis of its attributes, foundations and examples, is essential in order to determine a common operational definition, classification and terminology.

## 2.5 Surrogate terms

The Rodgerian process aims to ensure thoroughness in the searching process by identifying what Rodgers (2000) called the surrogate terms. A surrogate term indicates that similar or related terms should be identified which could be provided as a synonym for the T-P gap. However this proved to be difficult as the only other synonym found was the 'education-practice gap'. Additional succinct terms to encompass the void or gulf between theory and practice were not found. However substitute words such as 'schism' 'gulf' or 'dichotomy' instead of gap, were occasionally used; yet they did not offer a complete surrogate term. Therefore the only surrogate term identified was the 'education-practice' gap.

## 2.6 Choosing the setting and sample

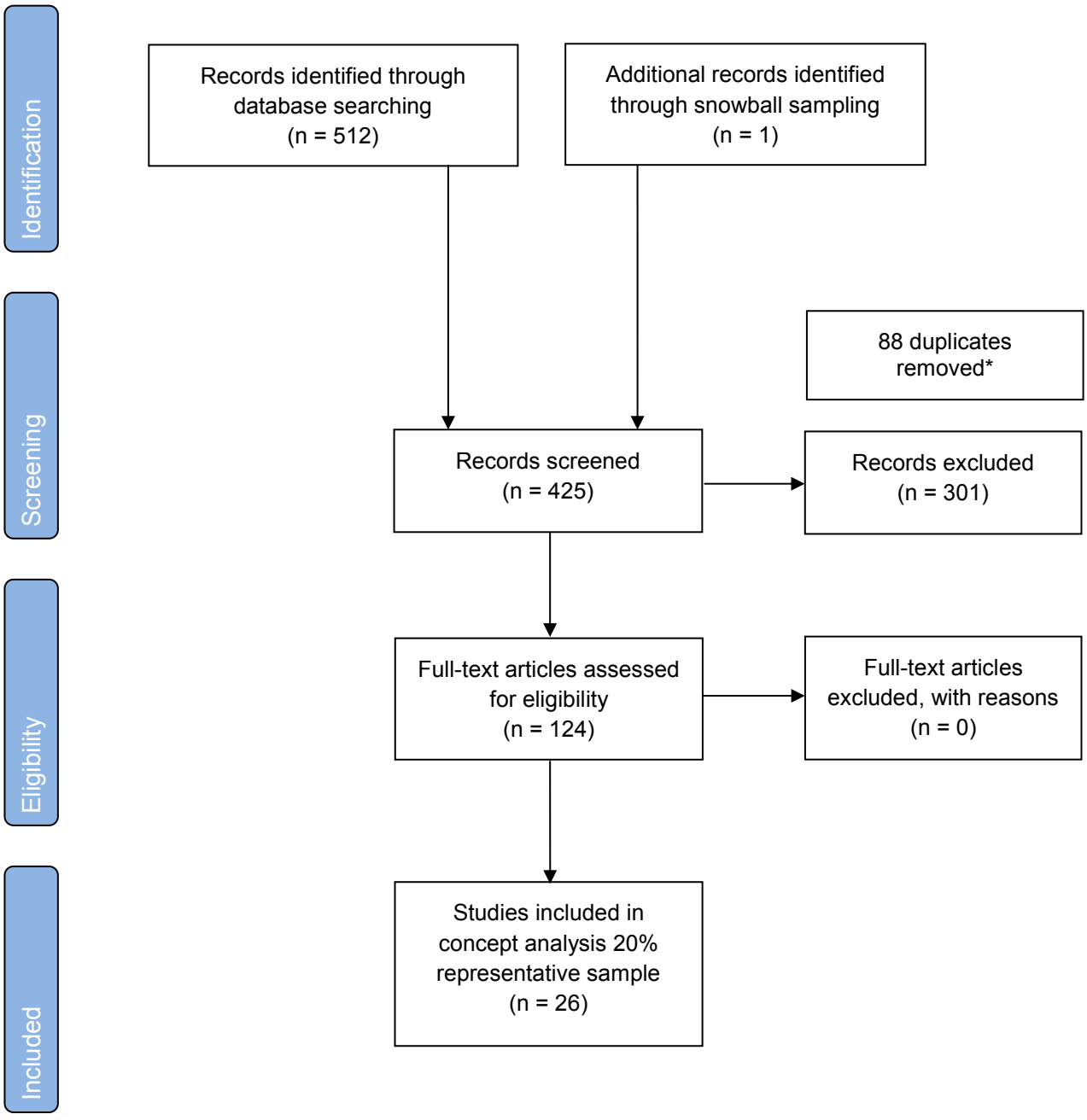
The keywords for the literature search were derived from the theory-practice gap and its surrogate term education-practice gap, and several databases were searched to incorporate literature from the nursing, medical and teaching professions. The databases searched were:

- CINAHL (Cumulative Index for Nursing and Allied Health)
- MEDLINE (National Library of Medicine, and includes PUBMED)
- BNI (British Nursing Index)
- BEI (British Educational Index).

These databases were searched using limits for English language, for peer-reviewed journals and with a publication date ranging from 2005 to 2016 in order to focus on more contemporary literature. The results were as indicated in Table 2-2 below and Figure 2-1:

**Table 2-2 - Keyword database search results**

| Databases | Results of keyword search 1: Theory-practice gap OR education-practice gap AND nurs* |
|---|---|
| CINAHL | 74 |
| BNI | 114 |
| MEDLINE/PUBMED | 243 |
| BEI | 81 |
| Total = **512** | |




*Eighty eight papers were identified as being duplicates on multiple databases and an excel spreadsheet was created to list and compare the occurrences of each paper within the databases searched. This can be found in appendix 1.

**Figure 2-1 – PRISMA style diagram representing the audit trail of the search strategy using the Rodgerian process**

This search reflected the inclusion criteria, of contemporary, peer reviewed papers published in English. After removal of the duplicates, and the preliminary screening of the abstracts, a total of 124 papers remained for detailed screening with regard to the

next inclusion criterion of how they used the term T-P gap. The papers that were excluded mostly referred to 'bridging' or 'overcoming' the T-P gap, without recourse to defining the term or providing any insight into the nature of the concept. Tofthagen and Fagerstrøm (2010) discuss the contention that researchers tend to define their own inclusion and exclusion criteria in order to achieve what they consider to be a credible sample. Hence this accepted practice was applied as previously described, and papers were assessed for eligibility, in that only papers which were able to outline, express or demarcate any or some aspect of the T-P gap were kept for further inclusion in the process.

In accordance with Rodgers' process, 20% of the total results (n=26) were retrieved and used as the representative sample to complete the concept analysis that follows. Whilst the majority of the papers retrieved were research studies, it is also accepted practice to include any other relevant use of the concept under scrutiny. For example, Doyle (2008) included four auto-biographical works that portrayed patient expressions of their experiences which were included alongside 43 literature reviews, in the analysis of the concept of cancer survivorship. As concepts may have a wide variety of uses and applications, Tofthagen and Fagerstrøm (2010) concur that data sources can include professional literature, interviews, or other forms of verbalised language; indeed several papers which included debates, expressions of personal experiences or editorial opinions were therefore included in this concept analysis, though these represent the minority.

In the absence of any clear instructions from Rodgers regarding how to select a sample of 20% - except for a suggestion of using standard probability techniques (Rodgers 2000) - the papers chosen included fuller or thoughtful description of the T-P gap, seminal work, or discursive papers. Additionally papers that included other practice – based occupations and professions were also deliberately chosen with the remainder being randomly sampled from the remaining 124 papers (see Appendix 1). Whilst the exemplars given in the analysis of the results mostly reflected nursing practice, parallels with medicine and teaching as discrete professions could thus be drawn.

## 2.7 Attributes of the T-P gap

Rodgers (2000) refers to attributes as those aspects that constitute the core or real definition of any concept, which may be totally at odds with a straightforward dictionary definition, given that the meaning may alter as a consequence of the context of the

situation. Attempting to reduce the T-P gap into attributes is complex given that the gap is a virtual void, yet one that can be felt and is responsive to manipulation when classroom based or practice based activities can be controlled. The seminal paper by Allmark (1995) was included as the additional paper sourced in the search strategy, despite it being outside the search timeframe criteria, (see figure 2-1), as it was repeatedly cited within the retrieved papers. Thus its value as a foundational paper was duly noted and it provided an outline for how the T-P gap presented in different ways which, after reviewing the literature, could be seen as the 'attributes' (with minimal revisions from Allmark's original paper).

Thus the attributes of the T-P gap are:

- Relational problems between university and clinical practice
- Practice fails to reflect theory
- Theory perceived as irrelevant to practice

### 2.7.1 Relational problems between university and clinical practice

Gallagher in his debate with his co-author Ousey (Ousey and Gallagher 2007) identifies that nursing in the UK, Australia, New Zealand, USA and Canada has over a short space of time, created a physical separation between theory and practice. This is due to the move from providing nurse education as an apprenticeship model based in hospitals, into university and colleges in order to acquire graduate status. In Monaghan's (2015) critical literature review there is a discussion regarding the gaps of several months between two segregated units of theory and clinical practice, its effects on students' learning and how the challenge lies in seamlessly incorporating the two. Whilst the separation between theory and practice was undertaken for the reasons of elevating the status of the profession, the shortcoming has been a lack of integration between university and clinical staff in planning the students' clinical education. The role of the Lecturer-Practitioner (LP) was created in the 1990s in the UK, amongst other changes to the delivery of nurse education, with the specific aim of bridging the T-P gap. Hancock et al (2007), in their stakeholder evaluation study, explored the experiences of LPs and found that as well as supporting students in practice and providing academic teaching, their role included the development of clinical skills for newly qualified nurses. Their joint appointment promoted their clinical credibility and encouraged stronger links between practice and education. However Barrett (2007), in his critical review, suggests that there are limitations of the scope of the LP role which results in split loyalties, a heavy workload, unclear career structures and limited

effectiveness of the post holder. From this perspective it would appear that the role is challenging and achieves only limited success, yet it remains a popular appointment for institutions to consider.

The introduction of joint clinical chairs in nursing, whereby a professorial position is created as a collaborative appointment between a university and the healthcare provider, has also been heralded as another means of bridging the T-P gap. Such strategic and operational posts, specifically designed to straddle the realms of academia and clinical practice, appear ideally placed to cultivate research and develop clinical practice, as they can perform mutually beneficial research which aids both organisations. Nonetheless, Derbyshire (2010), in his critical editorial, laments how constant capricious change within the organisations regarding their focus and priorities has made it difficult to fill these positions, a problem which is also compounded by a lack of suitable applicants. This is particularly unfortunate given that Evans (2009), in his review of mental health nurse training, argues that mutual collaboration requires a 'top down' leadership approach supporting the two institutions to develop a strategy and a joint plan for student learning.

Hence the roles of LPs and joint chairs were created with the aim of increasing collaboration between the parties, as well as being able to target, influence and cascade issues for research or practice. Yet it is conceivable that this aim may have failed to reach the potential that was envisaged; as such the T-P gap may not, from this perspective, have narrowed.

### 2.7.2 Practice failing to reflect theory

The ability of nurses to apply professional knowledge and skills in their clinical practice has decreased due to differing organisational structures. Haigh's (2008) editorial, in the Journal of Clinical Nursing, suggests that academics often imply that clinical areas are unwilling or unable to change practice or adopt new ideas. However, as Haigh (2008) asserts, if nursing is to mature and gain credibility as a profession we need to respond to change as a direct result of theoretical or exploratory research in the clinical area. This is a position supported by Glenn (2006) who contends that the solution may lie in translational research, whereby findings from significant research projects are identified and applied at the patient/service user level. Since nursing as a discipline often struggles to make outcomes of research applicable in practice we should, as a profession, develop a strategy and language to link theoretical or exploratory research to practice.

However, what is not fully considered is that clinicians may be aware of the new research in their area of specialty, yet interpret it in a different manner to academics. Haigh (2008) suggests that practitioners may actively choose to adjust or adapt research findings to serve their needs, or those of their patients. Whilst this is a constructive way of considering why research is not effectively incorporated, a lag of time often exists when applying evidence to practice. Hanberg and Brown (2006) report several examples of excessive time lag in incorporating or ending practices, such as using pH testing (instead of air auscultation) to verify Naso-gastric (NG) tube placement - it took over 10 years to change practice, resulting in misplaced NG tubes and possible aspiration.

Positive motivation to promote change and reduce the T-P gap is achieved via professional socialisation and effective role modelling, however when this is lacking, such motivation is lost. This notion was researched by Maben, Latter and Macleod Clark (2006) whose findings from a longitudinal study noted that newly qualified nurses arrive on the wards with a consistently high set of ideals and values that are largely thwarted in practice. This happens via what they labelled as ‘organisational sabotage’, whereby factors such as staff shortages, poor skill mix, high workload, time pressures, high patient turnover and role constraints led to an inability for nurses to care for patients as they wished to, and as they had been taught. Sabotage is a strong word often indicating a deliberate intention and it is questionable that many of these factors are intentional actions that the organisation or staff in the CLE enforces upon students or newly qualified staff, given how the Institute of Economic Affairs describes the current context of the NHS as being poorly funded and experiencing austerity cuts (Bourne 2016).

Student participants also reported feeling unsupported and often having poor role models among the ward staff, who were the messengers of covert rules or expectations such as ‘no shirking’ or ’don’t get involved with patients’ (Maben, Latter and Macleod Clark 2006). The issue of poor socialisation into the profession is not only a problem in nursing - Cheng, Cheng and Tang (2010) noted that teaching context influences have a stronger impact on student teachers than their educational programme. Here the student teachers learnt to ‘adapt to the culture’ and face ‘reality’ (p 99). Korthagen, Loughran and Russell (2006) also acknowledge that although there has been extensive educational research to increase the knowledge base for teaching, new teachers often fail to change practice in schools.

Therefore the problems and issues noted with regard to the inability of nursing practice reflecting theory could be due to a multitude of reasons. These include reluctance to adopt change, which can result in a poor role modelling, and therefore a lack of socialisation into the professional community for the student or newly qualified nurse. The lack of application of theory to practice is additionally compounded by professional and organisational 'sabotage', which can leave students and newly qualified nurses unable to make sense of the gaps they encounter.

### 2.7.3 Theory perceived as irrelevant to practice

Rolfe (2002) argues the relationship of theory to practice is affected by misconceptions in addition to the use of out-dated theories. However other authors (Maben, Latter and Macleod Cark 2006; Ousey and Gallagher 2007) feel it is more a result of the lack of socialisation of the theories into the clinical setting and the lack of integration of research at the clinical practice environment level, which is at fault. Remarkably Haigh (2008) suggests that this aspect of the T-P gap should be embraced, not despised. The dynamic evolving nature of nursing implies old theories will become irrelevant whilst new theories and skills are being developed, which will require testing and evaluating. When new skills or theories are accepted, or are positively evaluated, they need to be cascaded into the global nursing network and thus it is inevitable that a gap is created until such time as the transfer of knowledge or skills is complete.

Additionally, as nurse education is split between the clinical practice area and the university, there is a need to prioritise applying theory in context specific and workable ways. The use of human patient simulators (HPS) within a simulated based education (SBE) - to provide a more realistic yet controlled classroom environment - has been advocated as a way of making skills learning more representative of the contextual realities of everyday clinical practice and will be discussed in section 2.9.3. The claim that university lecturers are out of touch with reality, not clinically credible and consequently the theories they espouse do not reflect practice is refuted by Ousey and Gallagher (2010), in their debate regarding the clinical credibility of nurse educators. They argue such credibility does not have paramount importance, stating that it is an unrealistic expectation given the pressures of working as a lecturer, who instead only need to maintain competence to remain on the professional register. Ousey and Gallagher (2010) find this debate to be an unnecessary distraction and argue that the emphasis should be on partnership between academia and clinical practice, whilst the issue of clinical credibility should instead be focused on the mentor in the practice setting. Myall, Levett-Jones and Lathlean (2008) have declared effective mentorship to

be pivotal to students' clinical learning experiences and is of particular importance as mentors provide the summative assessment of a student's clinical practice, rather than the university lecturer. Therefore the need for a competent, clinically credible, research aware, and reflective mentor is extremely desirable and increasingly essential for effective professional socialisation of nursing students.

## 2.8 References

Rodgers (2000) describes references as the contexts or situations in which the concept might occur, rather than as we currently use the term in academia. Whilst the T-P gap is found to be more pronounced in students and newly qualified staff when practising in the clinical environment (Scully 2011, Monaghan 2015), it does remain a concern for all staff. Maben, Latter and Macleod Clark (2006) therefore describe it as having a persuasive and enduring nature in professional practice. The phenomena is not unique to nursing and is correspondingly described in the literature for other professions worldwide, including medical students (Smeby and Vagan 2008, Sanfilippo 2015) and for student teachers (Cheng, Cheng, and Tang 2010, Korthagen, Loughran and Russell 2006, Allen 2009). The premise of how the T-P gap presents for these professions is similar, and the experiences of it, for students, mentors and educationalists, appears to be comparable.

## 2.9 Antecedents

Rodgers (2000) defined an antecedent as a situation that must occur prior to the concept happening and cannot be a defining attribute. In essence these are the causes of the phenomenon occurring. Antecedents for the T-P gap were found to include: evidence based–practice, ritualistic practice, and the teaching and acquisition of nursing skills.

### 2.9.1 Evidence-Based Practice

Traditionally the term theory – as applied to nurse education - was synonymous with theoretical education (Lutjens and Horan 1992) and academic discourse and publications (Eraut 2003) yet now the use of both 'theory' and 'evidence' is needed to underpin nursing decisions and nursing care. These terms, whilst separate, should form part of the same connotation when discussing the T-P gap, and evidence should be assumed to be part of 'theory'.

The use of Evidence-Based Practice (EBP) within nursing, is an approach to providing care that integrates nursing experience and decision-making alongside valid, credible and current research. Whilst one of the earliest and most widely quoted definitions of evidence-based practice was proffered by Sackett et al (1996), their definition ignored the holistic nature of nursing, which is more apparent in the definition given by Dawes, Summerskill and Glasziou (2005 p.7):

> … decisions (about treatment or care options) should be made by those receiving the care, informed by the tacit and explicit knowledge of those providing care, within the context of available resources.

Here is an acknowledgment that using research evidence alone is not the sole answer or response when selecting treatment or care options. Rather there is an expectation that the individual expertise of the practitioner is required in order to apply evidence in an appropriate way, using their own clinical and professional judgement (Aveyard and Sharp 2013).

Evidence-based practice is founded upon the premise that standards are developed according to patient outcomes rather than procedures. The onus of the decision making has moved from the practitioner to the patient in a partnership arrangement with tacit intuitive knowledge being recognised, but it does not drive the entire decision making process. Registered nurses are also bound by their Code of Professional Conduct (NMC 2015a), which states that nurses always practise in line with the best available evidence. The interpretation of this clause is that nurses must always be seeking the best available evidence to review, applying it to their practice whilst keeping their patient fully informed. The clause also implies fostering respect for the patients' input into the decisions made.

Thus EBP can be seen as an element of nursing knowledge which has the capacity to form foundations of theory, or to alter established theories by its changing and contextual nature, and as such forms an antecedent to the T-P gap. Consequently nurses need to revisit their practice constantly in light of the latest evidence and to make action plans of how change can be managed, directed and supported within and by individuals, organisations and teams.

### 2.9.2 Ritualistic practice

Ritualistic practice is a routinised behaviour, which does not require knowledge or understanding, and is often performed without consideration of clinical need. It is the

continuation of ritualised practices, rather than applying and embracing EBP, that leads to a lack of change such that practice remains in a static state. However rituals are not always negative actions, as some nursing rituals are necessary or have positive outcomes - such as the nursing shift handover (Scovell 2010).

Ousey and Gallagher (2007) have recognised and described how student nurses contend with ritualistic practice, in that it does not replicate what they have been taught in university. They suggest that whilst students are encouraged to question, they should also be aware that resource implications (such as skill mix issues or staff shortages) may mean they cannot practise exactly as they have been taught. Students therefore face a conundrum: of accepting that the reality of practice does not reflect an ideal theoretical basis, or of questioning the clinical practice they see. Although students know that they could and should question practices, they are also aware that their mentor will be assessing their clinical practice. Nursing operates in a hierarchical structure, and as such students may feel powerless or question whether they should contest decisions that are made.

### 2.9.3 The teaching and acquisition of nursing skills

A nursing curriculum requires consolidation of knowledge and its grounding in professional practice. The NMC in the standards of proficiency for pre-registration education (NMC 2010 p 36), states that 'safe and effective practice requires a sound underpinning of the theoretical knowledge, which informs practice, and in turn is informed by practice'. Consequently much of the theoretical knowledge for the pre-registration curriculum is defined and stipulated in the UK by these standards (NMC 2010) and nursing degree curricula are validated against them. Nursing theory is taught within these curricula, in addition to critical thinking skills, EBP, reflective practice and clinical skills.

With regard to recent changes in the provision of skills education, the introduction of simulation based education (SBE), within a clinical skills laboratory (CSL), was seen as a potential means of reducing the T-P gap. The use of simulation was actively promoted following the NMC's Simulation and Practice Learning project (NMC 2007) whereby as previously discussed (see section 1.1.1), the findings confirmed that the use of simulation within the pre-registration nursing curriculum should be actively encouraged.

There have been many perceptions about the value and purpose of simulation learning. Cant and Cooper (2010), quoting from their systematic review, state that:

> Simulation enables nurses to develop, synthesize and apply their knowledge in a replica of real experience (p.13)

The value of a CSL as a safe environment in which to learn is two-fold. Firstly, Linder and Pulsipher (2008) assert that it allows students the opportunity to engage in skills learning in a controlled and supervised environment, which closely represents reality. Robinson and Dearmon (2013) suggest that, secondly, it aids students with understanding and reacting to patient care needs without exposing real patients to harm or risk. Identifying both of these factors as essential for the skilled, up-to-date nursing workforce, Hope, Garside and Prescott (2011) declare that the provision of the CSL as a learning environment for students, has been positively evaluated within the literature. Learning in a CSL, students can test their critical thinking skills, rehearse decision-making and react to unpredictable health events in any given scenario using human patient simulators (HPS), in a 'safe' situation supported by lecturing staff. In order for the SBE to be effective it must reflect reality, which is referred to as fidelity - with 'high fidelity' indicating that the electronic and engineering employed in the equipment has enabled the simulation to reflect reality to an optimal, realistic level. In this way the 'reality shock' of applying nursing skills in the clinical placement environment is minimised.

Researchers such as McCaughey and Traynor (2010) and Brown and Chronister (2009) recommend that caution is applied and that the assumption that learning has occurred when simulation has featured within the curriculum is erroneous. Indeed questions have been raised regarding the transferability of simulation learning to practice (Gordon et al 2013, Murray et al 2008). The issue of collaboration and integration between the university and clinical practice to ensure transferability of applicable clinically current skills will be discussed in section 2.10.2.

## 2.10 Consequences

Rodgers (2000) describes the consequences as the outcomes of the concept, portraying what happens after an incidence of the concept occurs. These were found to be: influence on students and other nursing staff, and the need to promote collaboration between clinical staff and academics.

### 2.10.1 Influence on nurses and nursing students

In a qualitative study Sharif and Masoumi (2005) found that professional socialisation of students increased clinical anxiety, as such demonstrating a consequence of the T-P gap. Highlighted factors included barriers to skill acquisition, the need for increased practice time in a CSL and the issue of socialisation to the environment. Students do exhibit a need to 'fit in' and Ousey and Gallagher (2007) discuss how, in order to become an accepted member of the team and the culture, students will often emulate their peers. Effective role models are needed to facilitate positive professional socialisation, which Aled (2007) has dubbed as the 'hidden curriculum' in nursing, whereas a new term of the 'para-curriculum' is suggested by Allan, Smith and O'Driscoll (2011). Both Scully (2011) and Allan, Hall and O'Driscoll (2011) have argued that clinically competent mentors who provide support and guided time to reflect and debrief with students, are instrumental in successful student socialisation. It is acknowledged by Scully (2011) and Maben, Latter and Macleod Clark (2006) that mentors who have a good relationship with their students are highly valued, as they are able to integrate technical proficiency whilst challenging the student on theoretical and contextual knowledge. Therefore the issue of professional socialisation is particularly important, as the student who is supernumerary when on placement quickly needs to feel accepted and valued by a mentor who has positive motivations towards teaching and supporting students, without feeling that the assessment role of the mentor will interfere in any way.

Yet in attempting to conform with a mentor's practice or with the provision of care in a clinical area, students may experience feelings aligned to moral distress or cognitive dissonance. Such feelings may occur when nurses are faced with new or existing knowledge that conflicts with their own beliefs or values. For students this can be a particular problem as they find themselves in a situation where the skills teaching at university advocates a certain way of performing a skill, yet mentors feel unable or unwilling to assess them using these methods. The dissonance or distress felt may cause stress, anxiety or feelings of incompetence. The theory of cognitive dissonance will be further discussed in section 3.3.1.

### 2.10.2 Disparity in collaboration between clinical staff and academics

Debate continues regarding whether the collaboration of academic staff and clinical staff is as effective as it could or should be and Scully (2011) suggests that a relationship between the two parties is of the utmost importance when developing

education strategies. Haigh (2008) concurs, proposing that academics should work with and support clinically credible colleagues to produce a curriculum that spans both the theoretical and practice domains, whilst also engaging in jointly managed research projects to enhance the professional profiles of both sides of the gap.

The division of power is not always seen to be equal between nursing academics and practitioners (Ousey and Gallagher 2007) and traditionally academics held the power, as 'knowing' was seen as more valuable than 'doing'. To some extent this is still true as the academics, whilst not assessing the student in practice, do retain responsibility and influence via the curriculum design, educational audits and management of the assessment portfolios or documents. This relationship needs to become more balanced for a successful collaborative affiliation to succeed. Such collaboration will ultimately lead to coherence in nurse education, where students will perceive a connection between studying theory and practical nursing. Hatlevik (2011) suggests that this balanced collaboration will result in the ability to build practice upon theoretical knowledge in addition to practical experience, providing better understanding of the theoretical underpinning of nurses' educational knowledge.

## 2.11 Model case

Rodgers' Evolutionary Concept Analysis Method (2000) includes a description of a real-life case as an exemplar of the concept. The model case that follows is a study evaluating moving and handling training in pre-registration student nurses and its application into practice, where the result included a description of the T- P gap experienced by the students.

An example of the concept of the T-P gap is found in Cornish and Jones' (2006) mixed method study of 106 student nurses. This study used a survey, unstructured follow-up interviews, and subsequently focus groups from a different cohort of students for co-creation purposes. In this study the students' responses were categorised into two key areas: poor practice and constraints on practice. The poor practice ranged from inappropriate techniques and poor posture through to using incorrect equipment or not using the correct equipment at all even when it was available. Seventy one percent of the students reported being asked to participate in a manoeuvre that they knew to be wrong, while 74% had been asked to lift the body weight of a patient, which directly contravenes the Trust's 'no lift' policy. The constraints on practice were noted as a lack of appropriate equipment, lack of staff or time, or incorrectly perceiving the situation as an emergency (Cornish and Jones 2008 p 132). The reasons for the students engaging

with unsafe manual handling ranged from the practical – such as a lack of available equipment or adequate space, through to socialisation issues - such as poor role models in the ward staff and feeling powerless to question practices for fear of being ridiculed. Similar findings were noted in Kneafsey and Haigh's (2006) questionnaire study examining students' experiences of moving and handling practices within academic and clinical settings; whereby student safety was deemed to be at risk due to inadequate patient handling practices. These cases both identify and describe a T-P gap, due to the way evidence regarding handling techniques is being ignored and how the activities students are engaging in, or being asked to observe, are directly contravening the techniques taught in university.

## 2.12 Summary

The metaphor of a theory-practice gap is habitually used, yet its definition remains unclear and has, as Gallagher (2004) asserts, become a 'useful and convenient shorthand' (p 44) for a complex educational problem. This concept analysis has sought to provide clarity to a virtual gap; one that is felt, frequently discussed, yet had no consensus regarding its foundations, characteristics or consequences. There is still worldwide unease and discomfort at the existence of a T-P gap and the consequential effects such as potential cognitive dissonance and its ramifications. Hence how and if students recognise the T-P gap and their strategies to negotiate and manage their response to it, and with what consequences, are the central focus of this research study.

On completion of the concept analysis, a diagram representing the findings from the literature that exemplify the T-P gap was created and is shown in Figure 2-2:

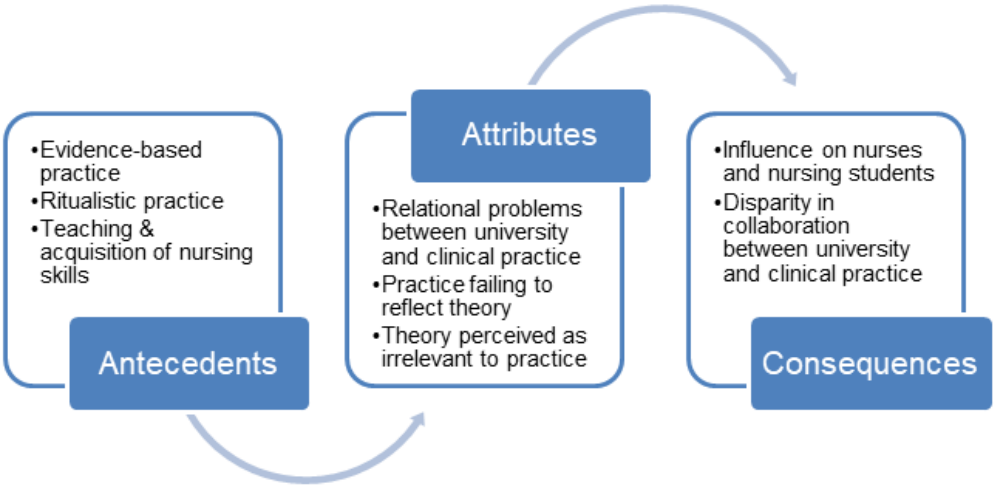



**Figure 2-2 – Diagrammatic representation of the concept analysis of the T-P gap**

Key:
Antecedents: a situation that occurs prior to the concept happening
Attributes: aspects representing the core or real definition of the concept
Consequences: outcomes of the concept

Whilst recognising that all of the issues raised were important aspects of clarifying the concept of the T-P gap, three main areas identified appear to be further explored within the literature review (chapter 3). They were:

- Antecedent - The teaching and acquisition of nursing skills
- Attribute - Practice failing to reflect theory
- Consequence - Influence on nurses and nursing students

They were chosen as they either directly assisted in answering the research question or because they may have a direct impact on future teaching. The potential to identify, investigate and illuminate their relevance and application to this research study was therefore recognised.

## Chapter 3 Literature review

### 3.0 Chapter overview

This chapter provides a synopsis and critical exploration of the literature regarding the pertinent issues highlighted within the concept analysis of the T-P gap, which have direct relevance to the research question. Intramuscular injections (IMI) will be used as an exemplar where possible, to depict the issues raised and additionally this chapter will provide the required reference points and context for the subsequent case study.

There are three areas of literature which will be reviewed:

- Teaching and acquisition of nursing skills
- Practice failing to reflect theory
- How the existence of a T-P gap may influence nurses and nursing students

Much of the literature for this chapter was retrieved initially as a result of following Rodgers' concept analysis process, which includes a search of the relevant literature. It was purposive in nature, as the intention was to search for a selection of literature that met the needs of the review (Aveyard and Preston 2016). However as the chapter develops, literature relating to IMIs that was not part of the concept analysis is used. As an educator with a particular interest in this area, this specific literature was already known to me, and therefore informed my thinking and writing within this literature review. Additionally as an academic other ways of acquiring contemporary literature were used[2], in addition to the 'berry picking' approach advocated by Finfgeld-Connett and Johnson (2013). Using this approach a literature review can be enhanced by following up on various leads and searching around where good a source of 'berries' can be found, leading to clusters of useful papers. Citation tracking and snowball sampling (Greenhalgh and Peacock 2005) were also useful strategies used to acquire literature that was not found by electronic database searching.

### 3.1 Teaching and acquisition of nursing skills

[2] As an academic there are serendipitous ways in which literature can be found, such as by journal alerts, social media - particularly Twitter, being asked to peer review papers, and attending and networking at conferences.

In this section, the literature relating to the teaching and acquisition of nursing skills was selected to focus on, as it was one of the key issues arising from the concept analysis and forms an essential aspect in the education of nursing students. It begins with reviewing simulation based education (SBE), its theoretical position, the role of debriefing in SBE, and concludes with considering the role of the mentor both within nursing and across other professions.

### 3.1.1 Simulation based Education (SBE)

The emergence of simulation within the pre-registration nursing curriculum was discussed in the concept analysis (chapter 2), where it was suggested it is a mechanism by which significant learning and development of clinical skills for novice student nurses can take place. The objective of simulated learning is to replicate, as far as possible, the real clinical situation. Arundell and Cioffi (2005) advocate that rather than replacing learning in the clinical setting, it complements it. Simulation as a teaching and learning approach was reported by Mole and McLaffery (2004), following a simulated exercise undertaken with 123 third year student nurses. The results showed students valued simulation as they felt their learning needs were met whilst simultaneously increasing their confidence and competence. However this exercise fell short of being a robust research approach, given that there was no clear methodology specified, no ethical approval sought and had an unusually high response rate to the questionnaire used – at 100% which may cause doubt regarding whether coercion was used to complete it.

Not all assumptions about simulated education are positive and the main disadvantage identified in the literature is the application to the 'real world' after the SBE has taken place (Haigh 2007, Gordon et al 2013). Murray et al (2008), in a discursive paper argue that if decision-making and psychomotor skills are not evident through replication in clinical practice then perceived abilities and confidence are of little value. Therefore, within their small review of the literature, Murray, et al (2008) concluded that there was an urgency for empirical studies to address the perceived theory-practice gap, as the findings from many of the studies reviewed indicated a lack of certainty that the simulated exercises used would translate competently into the clinical field.

More recently, a randomised control trial using clinical simulation to improve the clinical performance of student nurses in recognising a deteriorating patient, compared to traditional didactic classroom teaching, demonstrated an improvement in Observed Structural Clinical Examination (OSCE) scores (Stayt et al 2015). Stayt et al's (2015)

phase two randomised controlled trial involved 98 first year student nurses from two geographically disparate universities. Although there were improvements in OSCE scores, the results did not demonstrate any statistically significant results of improvement in the self-efficacy and self-confidence scores of the respondents. This could be due to the fact that the study was 'underpowered', as they failed to recruit the optimum number of participants by four, and the researchers acknowledged this. Additionally the researchers recognised that they could not make any comment on the retention of the skill due to the short pre and post-test time of 24 hours. However, they did suggest that SBE is a worthwhile investment as it may be more effective in meeting the learning outcomes of the nursing curriculum in response to recognising a deteriorating patient.

Mohanna, Chambers and Wall (2007) note that although the desired outcomes of SBE include a skills transfer into clinical practice with a resultant impact on patient care, it is challenging to be confident about what influences students' learning. They maintain teachers of healthcare need to be adaptable in order to be effective; flexibility is a desired attribute and teachers should aim to match their manipulation of the teaching and learning environment to the learner's needs. This approach of adaptability sounds ideal; particularly when the concept of simulation is to deliberately place the students' needs at the centre of the learning experience. Berragan (2011) discusses the benefit of this adaptability in her discursive paper, whereby creating a safe environment in which to make mistakes and learn from them by using human patient simulators (HPS) is achieved in a way that would be unthinkable in real health care settings.

Bland and Tobell (2016) conducted a study involving 46 student nurse participants to identify the attributes of SBE which enable students to learn, using a grounded theory approach. Despite the limitations of only including students from one UK University, two of the themes had particular relevance; those of 'making connections' and 'social collaboration'. Making connections, was demonstrated by how the students were able to relate theory to practice via engagement in SBE and were able to draw on prior learning. It also indicated that students valued the 'hands on' experience. The element of social collaboration enabled students to value working in small groups, sharing ideas and reflective stories as well as instilling confidence, which would otherwise be precluded by a larger group or didactic teaching. These factors were also acknowledged within the concept analysis of the T-P gap in chapter 2 and thus the learning theory associated with them needs to be clearer and have a more foundational basis. Indeed, this was the conclusion reached by Bland, Topping and Wood (2011) when they performed a concept analysis of simulation as a learning strategy for

undergraduate nursing students. Their findings suggest that any learning strategy should be measured by its ability to develop knowledge, understanding and to enhance practice. They acknowledge that the transferability of these factors acquired through simulation should be a focus for future research, linked with interrogation of how authentic the simulation needs to be for effective learning to take place.

### 3.1.2 Theoretical positioning of SBE

Undeniably whilst much of the wealth of literature supporting the topic of simulation has debated practical issues, its origin and management, less consideration has been given to the theoretical positioning of simulation - though authors have suggested that its relevance requires appraising (Bligh and Bleakely 2006, Kneebone 2005). In their systematic review of simulation in the nursing literature, Kaakinen and Arwood (2009) suggest that a fundamental shift from a teaching paradigm to a learning paradigm is required, using foundational learning theory to underpin the design of simulated teaching and learning. Berragan (2011) considers the theories of Lave and Wenger (1991) and Vygotsky (1978) to be influential as a basis to consider the pedagogical approach of simulation as part of the nursing curriculum. Lave and Wenger's (1991) theory considers communities of practice (CoP) in which social participation and social learning replace individual learning in contrast to traditional models of learning such as Benner's (1984) 'novice to expert' model. Despite Lave and Wenger's theory not being directly related to healthcare, similarities and comparisons can be drawn as a more contemporary view of apprenticeship is recognised, one based less on internalization of the individual experience and more on engagement between peers in practice. Lave and Wenger (1991) are also clear that a CoP is one of experts, and therefore the nursing student in a clinical ward setting would be the newcomer, learning and developing their skills and craft within that CoP. However the underpinning principle is that we learn best when engaged and reflecting with others. Mastery therefore lies not with one particular individual ('the master'), but with the organisation within which that individual operates as a CoP. Simulation learning can thus provide students with this collaborative CoP environment in which to develop and acquire skills alongside one's peers, with an expert (e.g. lecturer or mentor) in attendance.

Vygotsky's (1978) emphasis is different, focusing on social transaction whereby the student moves through the zone of proximal development (ZPD) identifying what they can learn independently, or where they require assistance. Vygotsky described the ZPD as the rarefied area between a learner's present performance level and that which exists just beyond the learner's grasp. Therefore assisted learning takes place in the

proximal zone, and teaching is said to be effective only when it 'awakens and rouses to life those functions which are in a stage of maturing, which lie in the zone of proximal development' (Vygotsky 1965 p. 278). A student's ZPD is therefore the range of ability with assistance from an instructor, or a more capable peer. On the opposite ends of the continuum are the student's present level of comfortable mastery and the area totally beyond the student's level at the current time. Berragan (2011 p. 662) acknowledges that:

> …simulation provides opportunity for gradual expansion and development of concepts and skills towards mastery through assistance from others (as in the initial stages of the ZPD). However the simulation must reflect the contextual realities of everyday practice if it is to provide an effective addition to the clinical experience.

Thus cognitive issues govern the theory of skills acquisition perhaps at the expense of the emotional content of learning. The protected skills learning environment of a simulation can provide the ability to explore the consequences of clinical actions without creating harm or concern and in doing so can provide the ideal conditions for teaching, whilst still acknowledging that without a real patient the emotional aspects of clinical practice are missing.

### 3.1.3 The role of debriefing in SBE

Lavoie, Pepin and Cossette (2015) performed an interventional study to devise a model of post-simulation educational intervention which they called REsPoND (Reflective dEbriefing after a PatieNt Deterioration simulation). They define debriefing as the opportunity for learners to identify, by themselves or with a lecturer, the strengths and weaknesses of their actions and those of their peers, in order to seek improvement. In this way debriefing extols the ideals of Knowles (1984) adult learning theory by being active, participatory and experiential as well as reflecting on the experience, which is also seen as an essential element in experiential learning. Schoening, Sittner and Todd (2006) in their convenience sample of 60 student nurses at an American university, found that students reported that debriefing can take between a few minutes to an hour depending on the need of the participants and the exercise in question. However more than just researching the expression, feelings or participating in reflection activities, Lavoie, Pepin and Cossette (2015) reviewed the literature with regard to debriefing for different types of simulation exercises, such as crisis management or rehearsing decisions. They found that most educational interventions for preparing nurses and nursing students in situations such as the deteriorating patient do not explain how expected learning outcomes are reached.

Therefore they suggest further research is required to understand how debriefing contributes to SBE. Additionally, they espouse the importance of using high fidelity human patient simulators (HPS) and scenarios that fluctuate and change as they are used in the clinical skills laboratory (CSL), as well as using written case studies or virtual family portfolios. These help in providing the contextual information to assist in delivering realistic care.

Yet, debriefing does need to be formalised. Some studies, such as Schubert (2012) and Unsworth (2012), present debriefing as little more than a performance exercise, where strengths and weaknesses are identified, together with feedback from trainers and peers. Yet appropriately performed debriefing results in facilitation of reflection–on–action, which is a highly valued transferable skill for a practitioner to possess. This leads to the learner being able to clarify and interpret the meaning of a situation, which as Dewey (1920) and Kolb (1984) suggest results in learning from experience.

In a critical review of organisational socialisation literature, Houghton et al (2013) drew the conclusion that a supportive ethos was needed within a clinical learning environment (CLE), together with a good team spirit and care philosophy, in order that students were provided with adequate learning opportunities. High quality learning occurs if the environment fosters staff development and encourages initiative and independent thinking and the reverse is also true. Lofmark and Wikblad (2001) suggest that feedback on performance is crucial for students, as it helps them to adapt into the CLE and to avoid feeling ignored or 'in the way'. Learning via reflecting with the mentor can be achieved through a model of reflection, as suggested by Landmark et al (2003), whereby the student integrates knowledge and consequently becomes more competent by reflecting on and debriefing about their clinical practice. The mentor is the key protagonist in this process, guiding the student and acting as a positive role model.

The next sections examine the role of the mentor across professions, and their function in assisting nursing students to attain competence in clinical nursing skills.

### 3.1.4 Mentor

The word mentor - which has its origins in Greek mythology in the classical story 'The Odyssey' (Gopee 2011) - is an umbrella term describing the role a registered healthcare professional has with a student on placement. This relationship is often longitudinal in nature and is used in many professions to provide career and

professional development (Gray 2014). Mentorship in nursing also emerged and evolved in the UK alongside Knowles' (1984) theory of adult learning, and whilst there is no international consensus on the definition of the term 'mentor', Chandan and Watts (2012) recognise that the term is used interchangeably with 'supervisor', 'preceptor' or 'facilitator'. Indeed Burnard (1990 p.352) notes that the term mentor 'slipped into the folk-lore of nurse education almost unnoticed and quickly became part of the educational language of the Eighties and Nineties'. What is expected of the nurse performing the role of a mentor, and what the characteristics of 'good' mentorship are, have hitherto been debated - with Colley (2003 p.1) suggesting that most models of mentoring are based on a crude and simplistic concept of empowerment.

#### 3.1.4.1 Mentoring within and across other professions

Mentors exist in many professions outside of nursing, including business, industry and teaching. Gibson's (2004) literature review of mentoring in the business and industry sector found an absence of a consistent definition or description of mentoring and its roles. However Parsloe and Wray (2000) cite the existence of 'corporate mentors' acting as advisors on another's career or 'qualification mentors' guiding a novice professional through a programme of study as commonplace in these industries. Within the business and industry environment, the focus tends to be more on organisational outcomes, with a desire to get an employee effectively functioning in the shortest timeframe; however Eby and Lockwood (2005) reported benefits such as protégé learning, career planning and psychosocial support. The triad model of protégé, mentor and organisation has seen a shift from the traditional dyad model, but in doing so is seen not to bind the experience of the protégé to just one single perspective or source of information.

Within the teaching profession, a three-way partnership between the student teacher, the mentor and the university exists, and the popular models in use are the apprenticeship model, the competency model, and the reflective practitioner model (Geen 2002). However, there are criticisms of each respective model, such as not desiring to produce clones of the mentor, not being able to break teaching down into a set of tasks, and the student not wanting to answer self-reflective questions (Drever and Cope 1999, Jones, Harris and Miles 2009).

Hobson et al's (2009) critical review of the international research literature on mentoring 'beginning teachers' identified several key points about the mentor's role. These included providing emotional and psychological support for the mentee, allowing

the mentee autonomy to make decisions and develop their own teaching style, and engaging in lesson observation and subsequent analysis of teaching. This review, despite its comprehensive discussion of the literature and the resultant themes, failed to use a systematic approach to conduct the study, or to identify a time frame for the literature included in the review, which is a significant limitation. The literature identified within the review seemed to draw parallels with how mentorship functions within the nursing profession, as demonstrated by Bullough and Draper (2004), identifying that mentors play a key role in the socialisation of 'beginning teachers', helping them to adapt to the norms, standards and expectations of the profession.

#### 3.1.4.2 Mentorship in nursing

The results of Jones, Harris and Miles' (2009) literature review of interdisciplinary mentorship found a crossing of the boundaries between education and nursing. The studies they reviewed consistently accepted Yoder's (1990) seminal conceptual definition of a (nursing) mentor as having three critical attributes (p 270):

1. a structural role
2. an organisational role
3. a career development relationship.

These three areas are clearly delineated within the Royal College of Nursing (RCN)'s Mentorship Project (2015), responding to the recommendations from the Willis commission (2012), the National Nursing Research Unit (Robinson et al 2012) and the 'Shape of Caring' review (Willis 2015). These concluded that the NMC needed to amend their current mentorship model and standards.

The RCN project involved pre-workshop questionnaires, interviews and a "rapid review" of mentorship models in use in the UK within pre-registration nursing performed by Chandon and Watts (2012). The conclusions of the RCN project indicate amongst other findings that the NMC (2008) 'Standards to support learning and assessment in practice' (SLAiP) require a revision for an action plan to be established to ensure a robust quality assurance framework and that the value of the mentorship role requires further development.

The RCN recognises that mentorship needs to be mapped against a career progression framework (which is currently under development by the RCN) and, additionally, considers how nurse directors can better support and adopt strategic

approaches to mentorship. This is a similar finding to the systematic review of Jokelainen et al (2011), which reported that a clear and systematic strategy for student mentoring in nursing organisations was vital. Their review of the literature using inductive content analysis over two decades (1986-2006) suggested the need for mentoring to be regularly reviewed to reflect the changes in nursing practice, education and within healthcare. They state that given the current shortage of registered nurses within the EU, a clear strategy is needed for mentoring students, including resources for preparing and educating mentors, yet they recognise how challenging this will be for organisations. Nonetheless, only by this systematic structure and provision will the quality of placement opportunities for students increase.

#### 3.1.4.3 The role of the nursing mentor

Billay and Yonge (2004) performed a concept analysis of the mentor's role defining the attributes as:

> being a role model, facilitator, having good communication skills, being knowledgeable about the field of expertise and understanding the principles of adult education. (p.573)

Whilst these are all essential elements, Billay and Yonge (2004) fail to include a vital part of the role of the mentor, which is to assess competence in the student. Indeed as a response to research that showed mentors' assessments were not consistently robust (Duffy 2003, Philips, Schostak and Tyler 2000), from 2007 onwards student nurses have required a sign-off mentor to make a final assessment of their practice and competence. A sign off mentor is an experienced mentor with additional training, who confirms that the required proficiencies for entry to the register have been achieved (NMC 2008 p 3). Stronach et al (2002) suggest the concepts of competence and competencies within nursing are open to interpretation and appear to be challenging to define or measure. Although observation is one tool that mentors can use, this lacks validity and Dunn et al (2000) argue that competency is a construct that cannot be observed - rather it is based on a cluster of abilities and attributes. Accordingly competence might be better seen as inferred from performance identifying any gaps in the students' knowledge, skill or attitude and intervening appropriately. Nonetheless, discrepancy can occur when there are differing positions or opinions as to what constitutes the knowledge or execution of the skill. Murray et al (2008 p7) take the point further by adding that 'there remains the problem of mentors to supervise the application and transfer of knowledge and skills into practice'.

The issue of accepting a mentor, or senior nurse's practical knowledge and skills without recourse to questioning is not one that only affects students, as Voldbjerg et al's (2016) meta-ethnography of newly graduated nurses discovered. Their meta synthesis found that newly qualified nurses brought with them substantial knowledge sources but found themselves in positions which were unfavourable for critical thinking, often the direct result of lack of confidence and support. They also lacked other aspects of critical thinking such as intuition, the ability to predict, or to analyse complex patient situations, which made them dependent on the guidance from experienced nurses. Consequently the newly qualified nurses followed their seniors without further reflection, drawing 'uncritically on the experienced co-worker as a primary knowledge source' (Voldbjerg et al 2016 p.12). New graduates enter the nursing profession with the expectation that their recent theoretical knowledge from university will be reflected in the practice they see. However when they discover that this is sometimes not the case, they report confusion, resulting in a feeling of having inadequate knowledge while reinforcing their lack of confidence (Seright 2011). Forsman et al (2010) and Wallin et al (2010) suggest that arriving as competent newly registered nurses with the two pre-requisites for evidence based practice (EBP) - these being the ability to think critically and question practice – new graduates soon discovered that being taught the skills of EBP does not mean that they would be working in an EBP framework. Lien (2010) reported that the new graduates' potential contributions to EBP, such as their competence in searching, retrieving and appraising evidence, were quickly subdued in favour of deferring to their co-workers opinions and feeling so rushed and busy that there was no time for personal reflections about clinical issues.

This discrepancy of opinions and practices can mean that the reality of mentorship (and preceptorship) is at odds with the perceived benefits of the role. The RCN's Mentorship project (RCN 2015) suggested, perhaps somewhat idealistically, that by working to the standards of the NMC students are exposed to good practice which inspires them to work to those standards in the future. Mentorship was therefore seen to include 'passing on the craft of nursing' (RCN 2015 p 16). However, variable standards of mentorship were recognised by Lord Willis in the 'Quality with Compassion' report (Willis 2012) commissioned and published by the RCN. This report identified a need to improve the provision for practice–based education in pre-registration education, which was similar to the findings of the National Nursing Research Unit (NNRU) (Robinson et al 2012) report which highlighted the complexities that surround mentorship. These included issues such as resourcing and maintaining mentoring partnerships. In his summary Willis (2012) recommended that the RCN should review its current mentorship model and standards, and together with the NMC

and Health Education England, the RCN are now by their own admission 'well placed to take this forward' (RCN 2015 p 23). The RCN mentorship project (RCN 2015) has reviewed many differing models of mentorship and favour the real life learning wards (Amsterdam model), which is now being piloted in the UK as the Collaborative Learning in Practice (CLIP) model. The RCN await the publication of the CLIP model report, to further inform their discussions and future guidance to the nursing profession.

As the mentor is seen as the cornerstone for learning which takes place in the clinical environment, attention should be paid to whether the mentor's professional practice is exacerbating the T-P gap. Mentors might profess they are practising according to the latest research, however in reality their practice may be based on intuition, assumption and tradition - what Hicks (1996) referred to as the dilemma of 'ritual versus research'. This is perhaps where the importance of peer collaboration, as advocated by Corlett et al (2003), should be emphasised and the benefit of close partnership between the clinical mentors and the university educators would go some way in closing the T-P gap and thus easing potential student anxiety.

The next section of the literature review will consider how issues regarding a T-P gap may be generated by practice failing to reflect theory, in particular this focus will be aligned with IMI practice, with specific reference to the evidence that surrounds the administration of IMIs.

### 3.2 Practice failing to reflect theory

The inclusion of simulated practice learning within the nursing curriculum was seen to provide the opportunity for students to identify their prior knowledge from previous university or work experience (Levett-Jones 2012), thereby identifying the T-P gap between clinical practice and university and offering the opportunity as described by Schon (1995) for reflective transfer. In essence, students would be able to explore contradictions (Engeström 2001) - such as when practice fails to reflect theory – as well as developing the skills of contextualisation and interpretation. These descriptions of the CSL being able to integrate with healthcare practice settings in a meaningful and coherent way are perhaps too idealistic given the responses from researchers such as Scully (2011) and Houghton (2012). Scully (2001) recounted her own experience as a student nurse, reporting that the T-P gap was clearly apparent and challenging, while Houghton et al's case study research (2012) similarly found a T-P dislocation.

Houghton et al's (2012) case design study used multiple case studies of five separate HEIs to examine students' experiences of implementing clinical skills in the 'real world' of practice. They concluded that a T-P gap existed, as the students expressed that they had been taught differently in the clinical skills laboratory (CSL) compared to the clinical learning environment (CLE). A definition and discussion of the T-P gap has been given in chapter 2 – the concept analysis – and in Houghton et al's (2012) study negotiation of this gap led the students more often to replicate what they saw in clinical practice, regardless of whether this was evidence based. Mackintosh (2006) indicates that other factors have an effect on the behaviour of the student such as socialisation issues, whereby they feel obliged to try and fit in with the norms of the particular CLE by continuing poor or ritualised practice. Additionally the value and effect of a good mentor relationship and the concept of peer support for the students from their student nursing colleagues, were also identified as important factors in their learning. Good mentoring assisted with the adaption of the knowledge gained in university and its application in clinical practice (Houghton et al 2012). This study also reported that students experienced anxiety or 'reality shock' potentially leading to stress, which may have a negative effect on professional socialisation and learning. These feelings can also be considered to arise as a direct result of the theory of cognitive dissonance which will shortly be discussed in detail in section 3.3.1.

Several nursing skills have been identified by students as not reflecting in practice what has been taught in university; probably the most consistently documented being moving and handling practice (Cornish and Jones 2007, Kneafsey and Haigh 2007). However the T-P gap extends to encompass other nursing activities such as assessment and documentation (Scully 2011), as well as practical skills such as the administration of intramuscular injections (IMI) (Floyd and Meyer 2007, Cocoman and Murray 2010, Greenway 2014). Thus, as an example of how practice fails to reflect theory, it is appropriate to consider the issue of changes within IMI practice administration - particularly as it forms an essential foundation to the research question.

### 3.2.1 How IMI practice has failed to reflect theory

Wynaden et al (2015) argue that since 2000 there has been a debate about the best practices for IMIs, including discussion of the avoidance of using the dorsogluteal (DG) site. The most persuasive, and possibly best documented reason, concerns the potential damage to the sciatic nerve. The thickness of the subcutaneous (SC) fat and muscle is debated by researchers alongside the statement that the ventrogluteal (VG)

is proposed to be furthest away from nerves and vessels and therefore a safer alternative site for the injection (Coskun, Kilic and Senture 2016, Chan et al 2006). Indeed, the dangers of using the DG site was further established by Bramhall and Deveraj's (2011) concerns within their descriptive report regarding sciatic nerve palsy after gluteal injections, which focused on Central and East African cases. They recounted that injection sites were 'poorly chosen' (p.137) - the cases they encountered often had injury to the peroneal branch of the sciatic nerve, with up to 70% of cases showing no improvement after a year. They also attribute the amount of cases to the regular use of quinine dihydrochloride for the treatment of malaria, which is a commonly presented illness in this geographical location.

In support of a change to IMI practice, Mishra and Stringer (2010) suggest that sciatic nerve injury from DG injections is an 'avoidable but persistent global problem' (p.1573) and one which affects poorer and wealthier healthcare systems alike. They conclude by suggesting that safer alternatives exist and promote the use of the ventrogluteal site over the DG, yet this is not being transferred into practice and nurses appear to be failing to incorporate these recommendations into their nursing care (Walsh and Brophy 2011, Wynaden et al 2012). Therefore a dispute exists regarding which site is optimal for the administration of IMIs, and requires clarification so that the evidence base supporting the curriculum for student nurses is specific and definitive.

### 3.2.2 Evidence to support selection of appropriate IMI site

In order to encourage the transition from theory to practice, the evidence to support a change in IMI practice needs to be clear and well communicated to practising nurses. As IMIs are used as the case example to explore a potential T-P gap, it is useful to review the timeline and evidence presented for modifications of IMI skills before considering whether their integration into contemporary nursing practice could reasonably be expected.

With regard to site selection, the suggestion of the VG being a 'new' site for IMIs is not a recent phenomenon; rather it is one that has not been fully explored worldwide. The VG site was first described by Hochstetter (1954) as an appropriate alternative to the DG site over sixty years ago, yet this alternative has failed to surpass the DG as the site of choice. This could be because instructional textbooks contain inconsistencies regarding IMI techniques (Carter-Templeton and McCoy 2008) and because sections in publications regarding injection technique remain vague (Cocoman and Murray 2008). However the most recent edition of the Royal Marsden Manual of Clinical

Nursing Procedures (Dougherty, Lister and West-Oram 2015) suggests the VG site is a preferable choice to the DG, whilst also recognising its current lack of use in the UK.

When considering the advantages that the VG site offers, it is important to appreciate that one of the main criticisms of using the DG site is that a standard 3.7cm green hub 21G needle will not reach the muscle and instead an unintentional subcutaneous injection will be the result. This can result in negative uptake of the drug, and cause necrosis or fatty deposits to occur in the subcutaneous tissue. Conversely when using the VG site, the fat has a mean depth of 3.5 cm (Michaels and Poole 1970) and therefore in the majority of cases using a 21G 'green' needle will result in an IMI, but a 3 cm 'blue' 23G will not.

The other important advantage presented is that the VG site is free of nerves and blood vessels, which the DG site is not, and as such is a safer option for the practitioner to use. A recent study by Coskun, Kilic and Senture (2016) supports the use of the VG and recommends the DG site should no longer be routinely used, which concurs with the opinions of previous authors such as Chan (2004), Greenway (2004) and Small (2004). Coskun, Kilic and Senture's (2016) descriptive study measured the distance between injection sites and neurovascular structures using a digital vernier calliper on 29 cadavers using a 1.5"/3.7 cm needle. The cadavers were mostly male (n=21), as opposed to female (n=8) and their mean age was 52.7 years. The results using a confidence interval of 95% and power at 80%, revealed that although the muscle thickness at the DG site was thicker at 28.35 (+/- 7mm) compared to the VG at 22.22 (+/- 5mm) the DG site was considerably closer to the neurovascular structures and therefore 'at risk' of injury at the point of injection administration. Additionally, the DG site was 6.83 (+/- 9mm) away from the superior gluteal artery compared to 13.87 (+/-16mm) at the VG site and similarly the DG site was closer to the superior gluteal nerve at 5.67 (+/- 9mm) compared to 11.82 (+/- 14mm) for the VG. The results from this study support the opinion that the VG region should be the first choice for gluteal injections. However the limitations from Coskun, Kilic and Senture's (2016) study included that they were unable to measure the subcutaneous layer due to formalin fixation of the skin, nor did they know the body weights of the cadavers. Whilst this study is a welcome addition to the small amount of evidence on the measurements surrounding sites of administration, these limitations do reduce the value of its findings, and do not provide any further understanding about subcutaneous tissue depth, leaving practitioners to make subjective judgements about this aspect of practice. A recent study by Larkin et al (2017) has been able to provide greater insight into this issue of subcutaneous fat depth and the resultant potential success of administering an

IMI correctly into the muscle with their cross sectional study of 145 participants focussing on demographic and anthropometric measurements. Whilst acknowledging that this is based on one sample of volunteers from an Australian university, which was 57% female, they have been able to develop an algorithm for both males and females based on Body Mass Index (BMI), weight and anatomical points on the body compared with ultrasounds. This gives potential outcomes of either DG or VG according to IMI success rates. This algorithm will require application in larger multicentre studies before any definitive conclusions regarding its use can be made, however it remains a valuable addition in providing a method to assist practitioners in discriminating between site choice and injection outcomes.

To counteract the issue of landmarking (locating the correct area for needle insertion using anatomical points), which is often seen to be a reason amongst nurses for reluctance to use or adopt the VG site (Zimmerman 2010), Kaya et al (2015) tested the less publicised geometric or 'G' method of locating the VG site. This method was devised by Meneses (2007), who claimed it had a 100% reliability rate. The study used 120 randomly selected health care personnel as the participants at a university hospital in Turkey whereby Kaya et al (2015) sought to compare the accuracy of the two methods, when locating the VG site. A cross sectional study was used over the course of 14 months comparing (as they call them) the 'V' and 'G' methods of landmarking. Ultrasonography was used by a research 'blinded' sonographer to determine the structures beneath the 'V' and 'G' marks made with a dermatograph on each of the participants. The results showed the target muscle of the gluteus medius and minimus lay underneath both samples, however the subcutaneous fat margin was larger using the 'V' method. Consequently Kaya et al (2015) recommend using the 'G' method, as they assert that an inadvertent subcutaneous injection is less likely to occur. This small study provides a useful alternative for consideration and future potential investigation, particularly to counter one of the criticisms of the use of the 'V" method - that of hand size of the practitioner - as this can affect the ability to correctly landmark the site to be injected.

Given the anatomical evidence available, it is easy to agree with Zimmerman (2010) who acknowledges that the evidence for the superiority of the VG site is compelling, even though it remains the most infrequently used site (Zimmerman 2010, Malkin 2008, Cocoman and Murray 2008). In Wynaden et al's (2012) Australian study, the majority (86.1%) of nurses had a preference for using the DG site compared to 9.8% for the VG. Similarly, Walsh and Brophy (2011) report that the DG was preferred in their sample of Canadian nurses by 71%, compared to 14% for the VG. The nurses

stated reasons for their choices, which included ease of landmarking, familiarity and tradition. Of greater concern is the fact that 60% stated that their choice was due to recommendations from their nursing programme. Despite the authors' acknowledgement that this was a small convenience sample from one province, with a 42% response rate to a postal questionnaire, their results seem to concur with the situation found in the UK - although no UK studies have been undertaken to confirm this.

The results from these studies therefore uphold the view that traditional practice supports 'routine and ritual' rather than clinical judgement, based on evidence-based practice in determining the site selection of IMI administration. Additionally, statistics for the use of the DG outweigh those of the VG. This has the potential to highlight and emphasize the challenges facing students in placement, as they may start at a disadvantage if their mentor cannot support the teaching they have received in University. The challenge therefore remains to translate research evidence into definitive best practice when it is acknowledged that practice change at a clinical level is a notoriously slow process (Glasgow and Emmons 2007) and also acknowledging that nurses are often reluctant to change their practice, particularly when they feel unsupported by their management.

Students are therefore placed in the unfortunate position of having to decide if they should comply with an unfamiliar or ritualised practice or not. Cornish and Jones (2007) cited the reasons given by the students as to why they engaged in a practice that differed from how they were taught; these ranged from – 'the nurse was in a rush' and 'it was my first placement' through to 'I did not to want to appear un-cooperative', or 'we could not wait for the equipment' (p132). Such complicities resulted in feelings of humiliation or psychological stress, as 71% of Cornish and Jones' (2007) sample of students thought the procedure they had been asked to perform was wrong. This highlights the issue of students needing to be able to draw on strategies to assist them in challenging poor practice, to reduce the injury to themselves (and their patients) whether this be physical or psychological.

### 3.3 How the existence of a T-P gap may influence nurses and nursing students

The final section of the literature review will consider the affect a T-P gap may have on nurses and nursing students with respect to Festinger's (1957) theory of cognitive dissonance. Using some examples of nursing practice, this section will illustrate and

outline the responses and actions nurses may take when exposed to, or when feeling the effects of, cognitive dissonance.

### 3.3.1 Cognitive Dissonance

The concept analysis in chapter 2, indicated that one of the consequences of the T-P gap is the influences and impact on students and mentors, and amongst these, how feelings of cognitive dissonance can occur. In chapter 2 the theory of cognitive dissonance was outlined noting that it can be described as the unpleasant tension arising from holding two or more inconsistent cognitions simultaneously (Festinger 1957). The consequences of an action taken as a result of these cognitions can be positive, neutral or aversive, and when individuals notice unwanted or negative behaviours, dissonance occurs. Personal feelings of cognitive dissonance are seen as a measure of stress, whereby people report feeling tense, bothered and uncomfortable (Elliot and Devine 1994). However, Cooper (2010) takes issue with Festinger's original theory in that it was not clear how or why a drive for consistency existed. Cooper (2010 p 88) suggests that an unwanted event can signal unpleasantness, but only if you are the one responsible for its occurrence. Subsequently, Cooper and Fazio (1984) separated the two aspects of dissonance theory into two discrete parts: one that generates the dissonance arousal, and the other that motivates people to change.

### 3.3.2 Cognitive dissonance in nursing practice

Cognitive dissonance has had several applications within health care and nursing - including the analysis of nursing mistakes (Crigger and Meek 2007), the treatment of eating disorders (Mitchell et al 2007) and consideration of the conflict values and job tasks of mental health workers (Taylor and Bentley 2005). Cognitive dissonance theory gives insight into the reasons why people, in this case student nurses, change their opinions, ideas or behaviours to reach a state of consonance. Hypocrisy is one such example, where the individual does not comply with their own advice; this can be simply exhibited in the question of why some nurses are smokers, and Chapman, Wong and Smith (1993) recognised this as a commonly encountered state of dissonance. Such dissonance is illustrated in statements such as "I know that smoking is bad for my health but it helps me to relax"; the dissonance will produce an unpleasant cognitive experience for the nurse so they will seek a motivation to decrease it. This might result in failing to accept the credibility of the health promotion advice that smoking has adverse effects on your health, or blaming the (stressful working) environment. The resistance to change felt by the nurse is dependent on the

discomfort they feel, thus they must be able to see the benefit of change. In essence they must believe that the advantages of quitting smoking outweigh the benefits of continuing. Clark et al (2004) undertook a study to investigate a non-probability sample of 366 undergraduate Australian nursing students' knowledge and attitudes towards smoking. Their results, obtained by using a self-administered questionnaire, disclosed that the cognitive dissonance experienced had the potential to increase as the students became more conscious of their health. Clark et al (2004) noted that this in turn caused them to change their beliefs to achieve a favourable consonant outcome towards smoking and health promotion.

De Vries' (2008) found dissonance when using slow code resuscitation approaches; described as resuscitation attempts which are performed slowly or with the omission of essential features of the procedures with the healthcare professional's (HCP) clear knowledge that the resuscitation attempt will be unsuccessful. Gazelle (1998) described it as diminished efforts and 'going through the motions' in her critique of the slow code, whilst Segal and Halamish-Shani (1998) see it as a ritualistic, comforting hand on the shoulder of a grieving family member, rather than an aggressive, deceitful show. Slow codes can be described as occurring when health care professionals (HCP) are uncertain or in conflict with a patient's DNAR (Do Not Attempt Resuscitation) status. In this situation the HCP is prone to 'do something' to reduce their dissonance, or to be seen by the family as actively attempting to resuscitate. This ineffective attempt at resuscitation will also reduce the family members' own dissonance, as they want everything to be tried to save their loved one, even if they know the actions taken will be futile. Additionally, De Vries (2007) found that HCPs who have performed slow codes in the past find it an effective way to justify their perspectives, and any change is likely to be met with resistance, entrenched by the motivation to avoid dissonance.

The theory of cognitive dissonance has been developed over time. Researchers such as Aronson (1992) have taken Festinger's original theory and developed it; whereby cognitive dissonance is seen to be linked with self–concept. Stone and Cooper (2000) concur with Aronson, suggesting that the self and self-esteem were essential factors of the concept, in that dissonance occurs when individuals identify an inconsistency between their behaviours and their personal expectations of themselves. Tedeschi, Schlenker and Bonoma (1971) proposed that the individual's attempt to maintain consonance was to protect their self-image, and that it presented a 'theory of human motivation' (p.689). Fontenot, Hawkins and Weiss (2012) endeavoured to understand and explore this aspect of the theory by studying the cognitive dissonance experienced by nurse practitioner (NP) faculty members (the UK equivalent would be a lecturer-

practitioner). This study sought to investigate the high attrition rate, as well as the stress and burnout, previously noted by Shirley (2006). They suspected that the dissonance experienced by the NPs trying to manage the roles of excelling as a scholar, being an expert clinician and achieving faculty tenure would be clearly visible. The frustrations of these demands were borne out in the study's results: showing that they worked excessively long hours, with less remuneration than tenured faculty staff, with dissonance between their personal expectations of their desire to teach and practice clinically. Words like 'frustration', 'anger', 'being owned' and 'unhappiness' featured frequently and Fontenot, Hawkins and Weiss concluded that NPs:

> do appear to experience cognitive dissonance when considering what they are required to do and what they are rewarded for (2012 p.512)

Thus the finding that cognitive dissonance is occurring inside nursing faculties is of concern and a challenge. Consequently nursing faculties should aim to be proactive rather than reactive, towards feelings of cognitive dissonance with nursing leaders positioning themselves at the forefront of this transition.

A more disturbing example of nurses experiencing cognitive dissonance is found in the Mid Staffordshire NHS Foundation Enquiry (Francis 2013) which indicated that a completely unacceptable standard of nursing care was prevalent at the Trust. This had resulted in a decline in the professionalism of the nurses whereby they were willing to tolerate sub-optimal care in order to reach 'targets' (Price et al 2015). According to witness statements, nurses were unable to (and often told not to) provide aspects of nursing care because of a shortage of staff and the desire to achieve set targets. This tolerance of suboptimal care led nurses 'to adapt their values and subsequent behaviours to reduce their cognitive dissonance' (Price et al 2015 p 943). Price et al (2015) recommend that in order to produce a more caring, evidence based culture across the NHS, the collaboration between HEIs and nurse managers to the benefit of improvement of care and to the rejection of sub-optimal care is essential. Consequently, as a profession, nursing needs to be actively seeking either to reduce the dissonance felt by all nurses - by recognising it and supporting helpful strategies and actions to deal with it - or to reduce its triggers.

### 3.4 Summary

In summary, using IMIs as the case example, the justification has been made for studying student nurses' application of previously taught evidence-based practice within a SBE curriculum to ascertain any potential T-P gap in a clinical placement

setting. Using key areas identified in the concept analysis the teaching and acquisition of nursing skills, alongside an examination of how theory and practice can fail to connect, has been discussed. The potential existence of cognitive dissonance in nursing was demonstrated using a variety of nursing examples. The next chapter will outline the methodology and the application of the case study design used in this research, in addition to introducing the methods used for data collection.

## Chapter 4 Research Methods and Methodology

### 4.1 Introduction

Rolfe (2004) remarks that a retrospective account of decisions and actions taken presented in a methodology often give the impression that the research followed a straightforward, pre-determined strategy. However, Silverman (2014) recognises that 'it often makes sense to begin without a clearly defined problem and gradually work towards a topic by confronting data with a simple question: what is going on here?' (p xxii). Consequently, in this chapter, the theoretical perspective underpinning this study will be considered together with describing the empirical project and subsequently the methodology and the methods employed, alongside the justifications for their use.

### 4.2 Research aims

From the concept analysis and literature review, it was apparent that a theory-practice (T-P) gap exists in relation to the acquisition of nursing skills, and that student nurses may experience cognitive dissonance as a consequence of negotiating their way around or through this gap. In consideration of how best to conduct this study the proposed methods needed to be able to address the aims and objectives of the research. Hence the research aims and objectives are presented below to act as a reference point and to aid clarification on all subsequent decisions made on the methods and methodology employed.

**Aims:**

1. To explore the existence of a theory-practice gap
2. To explore student nurses' experiences of administering intramuscular injections (IMI) within their clinical practice placements.

**Objective 1:** To complete a concept analysis of the term 'theory-practice gap'

**Objective 2:** To investigate current IMI skills education provision for student nurses by reviewing the ways in which IMI techniques are taught at university level, by considering the foundations of and influences on current educational practice and their relationship to evidence-based practice.

**Objective 3:** To identify the knowledge, learning, and other influences[3] that affect the techniques by which nurses administer IMIs.

**Objective 4:** To explore student views on the influence of nursing mentors with regard to IMI practice when they are in clinical placement.

**Objective 5:** To pursue the question: If a theory-practice gap exists; what strategies do student nurses use to negotiate this gap?

4.3 Theoretical perspective

Qualitative and quantitative methodologies are the two main - and generally considered to be opposing – means of generating research data, as identified in the appropriate literature (Creswell 2014, Parahoo 2006). Quantitative research emphasises measurement and the possible analysis of causal relationships between variables in terms of quantity, amount, intensity or frequency (Denzin and Lincoln 2013). However, increasingly within nursing and certainly within this study, the nature and generation of multiple representations of a concept preclude such an empirical approach. With the exception of, for example, intervention studies, nursing research infrequently plans to test a hypothesis; rather it intends to understand and interpret human experiences - which Robson (2011) considers to be 'hypothesis generating' and typically therefore uses qualitative research. Such research aims to describe and interpret the human phenomena (Parahoo 2006), in so doing qualitative research contributes to practice and policy development (Green and Thorogood 2014). It achieves this by accessing information which is not always accessible via quantitative research, such as the 'what', 'how' or 'why' of a phenomenon. This is the type of information that nurse researchers are generally seeking when exploring human or life experiences - beliefs, actions, motivations and perceptions of patients, their families or of staff. Thus qualitative research scrutinises the socially constructed nature of 'reality', seeking to answer how social experience is created and given meaning (Denzin and Lincoln

[3] Initially within these objectives IMI policy was to be explored and reviewed. However policies were not found, although a standard operational procedure (Feetham & White 2016), and IMI clinical procedures from clinicalskills.net exist (Merriman & Greenway 2016). These provide contemporary guidance and instruction for administering IMIs.

2013) using the denotations, representations and perceptions of humans as its primary data source (Mason 2002).

### 4.3.1 The interpretivist paradigm

Crotty (2003 p.6) states that the theoretical perspective is the 'philosophical stance that lies behind a methodology', and in order to plan and conduct a research study, Creswell (2014) asserts that the methodological choice should be based upon the research aims and questions. Hence researching the students' experience of the T-P gap within the identified naturalistic settings (those of the SBE and CLE), fits with Crotty's description of the interpretivist paradigm. This 'looks for culturally derived and historically situated interpretations of the social life-world' (2003 p 67) in addition to acknowledging that the truth is seen as socially constructed and mobile, as opposed to external, fixed and awaiting discovery (Butt 2015). Crotty (2003) describes three strands of interpretivism: symbolic interactionism, phenomenology and hermeneutics. This study draws on symbolic interactionism as it relates to interpreting interpersonal events and actions, whilst also maintaining a hermeneutic focus. It does so in that the students' reflective interactions of the hermeneutic circle are revealed within the analysis.

### 4.3.2 Ontology and epistemology

In this study, focussing on student nurses' experiences of the effects of a potential T-P gap, careful consideration has been given as to how knowledge and meaning is generated for and by the students. Creswell (2014) suggests that ontology outlines the nature of reality and is predominantly based on two positions: realist and relativist. The realist position proposes that truth exists and can be quantifiably measured, whereas the relativist position attests that truth cannot be measured as reality cannot be judged (Ross 2012). Epistemology is the term given to the beliefs regarding the theory, or nature, of knowledge, and Butt (2015) describes this as what knowledge is, and how it can be acquired and communicated. Wellington (1996) asserts that ontology and epistemology are closely linked - for if ontology is the nature of reality, then epistemology is how we gain knowledge of reality.

Initially when planning this research study a phenomenological approach was considered, as the experiences of student nurses was a central tenet to the question. However with reading and following discussions with a phenomenological researcher it soon became clear that this approach would provide insight into the lived experience of

each individual student nurse, asserting how their personal understanding, character, personality and experience impacted on their learning and clinical practice, and not student nurses as a cohort group. Therefore in this study, from an ontological perspective, there would be multiple realities within the group. However, as it was the experiences of the overall cohort of nurses that was of interest, thereby utilising a single case study methodology with embedded units was deemed appropriate (see section 4.4.1). This endeavour to understand the groups' experiences suggests a relativist position whereby there is no concrete reality; rather varying accounts of each individual's subjective experience.

This relativist ontological position aligns with a constructivist epistemology where reality is articulated via thought and language using interpretivist research. Crotty (2003) attests that meaning is produced by the culturally situated subject (in this case the student nurses) and the object (the T-P gap when learning and practising IMIs). In this way each separate student can construct different meanings, yet some of the meanings or emphases will be mutually shared, whilst accepting the relativist view that all constructions are equally valid.

## 4.4 Case Study

There are differing opinions as to whether case study is a research strategy (Yin 2003), or a research design (Rosenberg and Yates 2007). Thomas (2016) does not engage with this debate, instead proposing that case studies constitute a design frame and a scaffold for the research, in that they are not in themselves a 'method'. Rather more simply and clearly Thomas (2016) asserts that 'a case study is about a set of circumstances in its completeness and the case is described -marked out- by those circumstances' (p 13). Miles and Huberman (1994) describe a case as 'in effect, your unit of analysis' (p 25), as the case is occurring in a bounded context. Hence for this research project a case study was found to be a suitable approach as it 'explores a phenomenon in its context using a variety of data sources…not through one lens, but rather a variety of lenses' (Baxter and Jack 2008 p 544). This facilitates the understanding of the phenomenon in question via deconstruction and reconstruction, which is valuable for health care as it enables theory development, evaluation or intervention research (Baxter and Jack 2008). Hammersley, Gomm and Foster (2000) suggest a case study differs from other research approaches due to the number of cases investigated (usually smaller), yet there is a point of distinction in the amount of detailed information that can be collected from each case.

There are two main approaches to case study methodology within nursing, those of Stake's (1995) intrinsic and Yin's (2003) descriptive approach, both of which have the foundations of their case study approach based on a constructivist epistemology. Each author suggests a different approach to the case study, and Stake (1995) argues for a more philosophical approach that aims to optimise understanding of the case. Stake is less prescriptive and Appleton (2002 p. 89) describes his position as 'somewhat vague in its approach' . Greater affinity towards Yin's case study approach was felt, not only in its more prescriptive approach but also as Yin (2003) suggests a case study can be considered when:

- The focus of the study is to answer 'how' or 'why' questions
- The researcher cannot manipulate the behaviour of those involved in the study
- Contextual conditions are relevant to the phenomenon
- Boundaries are unclear between the phenomenon and the context

The research fits these properties of Yin's descriptions of a case study because the contexts were relevant yet disparate (SBE and CLE) – understanding if and why a T-P gap may occur, and how a student nurse deals with this potential gap, is the main aim of the study. The students were retrospectively reporting on their experiences, so their behaviour in university or clinical placement was not being manipulated. Finally, how the T-P gap, if identified, straddles or breaches both contexts would hopefully become clearer as a result of the study.

A disadvantage of case study research is perceived to be the lack of generalisation possible, as it is difficult - indeed dangerous - to generalise from only one case. This critique of case studies is defended by Yin (2003) who contends that generalisations can only be made if a case is repeated in different circumstances at least three or four times, and this (he argues) is analytical generalisation as opposed to statistical generalisations. Social sciences, unlike the natural sciences, are not usually seen as generalisable, and indeed qualitative research is by nature only intended to be transferable, and hence this was not viewed as a restriction or limitation in pursuing a case study design. Furthermore Bassey (1998), proposes the term of 'fuzzy generalisation' within educational research whereby in cases similar to the case study under scrutiny, it *may* be found that x leads to y, although unmeasured uncertainty remains. In this way, supported by a clear context and justification of the evidence, fuzzy generalisation invites replication such that it can contribute to the edifice of educational theory.

Despite Yin's (2003) broadly positivist perspective, he sees statistical generalisation as inappropriate for a case study; similarly Stake (1995) believes that generalisation should focus on the complexities of each case as opposed to what they have in common. Thomas (2016) agrees with this position, arguing against generalisation and instead contending that abduction- making a judgement regarding the best explanation for the facts collated by a case study- is a preferred concept. Thomas (2016) also proposes that greater use should be made of the term 'phronesis', as the antithesis of theory – defined as a practical 'craft' knowledge, based on personal experience - as the primary intended outcome. This means a validation of a case study no longer comes from generalised knowledge, instead it is generated from 'the connections and insights it offers between another's experience and your own' (Thomas 2016 p. 215). Therefore, this case study used abduction to provide provisional practical knowledge based on a rich picture of the case, gaining analytical insights from it, to create a phronesis - the understanding of, and behaviour in, a particular situation.

### 4.4.1 Selecting the case

The purposive sample of second-year student nurses used in this research study could be described, using Yin's taxonomy, as a 'representative or typical case' which reflects the experiences of the average person, or organisation/institution; Thomas (2016 p. 115) disagrees with this descriptor, arguing that typicality is not a reason to study a case. Instead Thomas proposes the terms of a 'key case', a 'special or outlier case', or a 'local knowledge case' - the research reported here would fit under the categorisation of a 'key case'. Thomas (2016) also demarcates the purpose of the case, of which this study fits into the category of explanatory and exploratory, as the phenomenon of student nurses negotiating the T-P gap requires both exploring and explaining. The approach used was essentially interpretative, using what Yin (2003) calls a single case with embedded units, giving the ability to perform within case, between case and cross-case analysis. This results in a rich and insightful analysis to elucidate the case. Again Thomas (2011), whilst agreeing with the process, prefers to call such a case study a nested unit, as he feels it 'gives more of a sense of a subunit fitting in with a larger unit' (p.152). The connections between the subunits are thus made clearer, whilst gaining its wholeness from the case.

### 4.4.2 Bounding the case

Both Yin (2003) and Stake (1995) suggest that applying boundaries to a case avoids attempting to answer a question that is too broad, or has too many objectives. Applying

boundaries to the case assists in establishing what will and will not be studied, which operates in a similar fashion to inclusion and exclusion criteria for quantitative studies. Baxter and Jack (2008) indicate that bounding the case differs as the boundaries applied can also indicate the breadth and depth of the study, not merely the sample selected and included. The boundaries in respect of my case were the cohort of second-year student nurses; this was further bounded by their shared mutual experience of a SBE teaching session given within a CSL, and its practical application within the CLE.

## 4.5 Context of the study

The university used for the setting of this research study provided a SBE session held in the CSL as the mechanism to teach intramuscular injections to 1st year students. The students were in the final semester of their first year and had completed one clinical placement before attending the session. The specific lesson plan, including links to associated pre-reading, is contained in appendix 2. Briefly described, the session consists of using video instruction and human patient simulators (HPS), together with demonstration from faculty staff and observation both from staff and peers. This practical 3-hour session, which is only taught once in the nursing programme, aims to deliver to the student the theory and evidence supporting the use of the IM injection sites, whilst also providing them with supervised practice opportunities, such that they feel confident and competent in administering an IM injection by the conclusion of the session.

Following the review of the literature presented in chapter 3, a scoping activity was undertaken (see section 4.10). Subsequently, the first research phase was planned and executed. It consisted of four focus groups held in October and November 2014. Next, the second research phase of semi structured, one-to-one interviews were planned and conducted in March 2015. The justification for these methods of data collection, and their benefits and limitations, will be discussed alongside the sampling and recruitment strategy for the study (section 4.11).

## 4.6 Reflexivity

The researcher's positionality, which requires acknowledgement, is an important feature within any research study. It has been described by Koch (1998 p1184) as the 'critical gaze turned toward the self'. Waterman (1998) suggests that this should not be a narcissistic, self-indulgent introspection, but rather one that delivers transparency

and rationale to the study. Having insight into one's own ontological and epistemological beliefs is integral to understanding what has influenced the decision making process of the study; as we cannot conceivably eradicate them from the very human activity of research. The reflexive approach will thus enable the researcher to explain the ways they perceive, interpret and understand the knowledge that has influenced their approach and the decision-making within their study (Parahoo 2006).

For qualitative researchers, Creswell (2013) presents the view that reflexivity should take two parts: firstly, the researcher should talk about their experiences with the phenomenon being explored, and secondly how these past experiences shape the researcher's interpretation of it. Whilst accepting that nurse education and its foundations can be underpinned by both positivistic and interpretivist positions, I feel my own frame of reference to be that of a qualitative interpretivist researcher. This is influenced by Scott and Usher's (1999) rationalisation that whilst educational knowledge is rooted in tradition, it is updated and renegotiated by research founded on evidence-based knowledge, social interaction and social practices. This description is particularly influential for me, as my professional interests include what constitutes ritualistic practice and how nurses can incorporate evidence-based knowledge into their practice. Therefore, I have a clear understanding of the evidence surrounding IMI practice, and have written discursive papers and guidelines regarding IMI administration – Greenway (2004, 2014), Greenway et al (2006), Merriman and Greenway (2016) and Feetham and White (2016). I am also aware through my experience of providing training to registered nurses that this evidence is not commonly transferred into the practice situation.

This knowledge base was sometimes challenging to supress when in the role of researcher, as often students would seek clarification over points or issues of confusion and expect me to correct them or help them with their understanding. A tension was created for me between the roles of researcher and educator and on rare occasions I chose to correct their assumptions or answer their questions after the recorded research activity had been completed. Consequently, my self-awareness was heightened as evidenced in my reflective log written after each research interaction with the students; providing an explanation of my beliefs, values and assumptions in relation to the answers and information disclosed by the students and my reactions to their questions and the clarifications they sought.

## 4.7 Scoping Study

As part of the preparation and planning for the research study, a scoping study was undertaken, consisting of key conversations with potentially significant participants. This required approval from the Faculty Ethics Officer, not full University research ethical approval.

The scoping study was undertaken one afternoon in the autumn semester of 2013, whereby the students in a research methods' module seminar group were invited to attend for the hour before the seminar commenced. The purpose was to complete a preliminary assessment of the research topic by engaging in everyday conversations with typical second year students who were involved in administering IMIs; as well as to trial the focus group questions and the recording equipment. With only three students attending it was a very low response rate, yet the focus group itself was still a useful preparatory exercise. The results of the scoping study are discussed in section 5.2.

## 4.8 Recruitment strategy and sampling

Following the scoping study, and in order to obtain University ethical clearance, the recruitment strategy included thinking critically about the selection process and how it would be successfully accomplished. It was evident that the case study required a purposive sampling strategy, whereby the participants are selected on the basis of their possession of certain characteristics, their knowledge base and by virtue of their professional role. In this instance a purposive sample of second year student nurses, studying at another campus within the university, was identified as suitable. Purposive sampling has also been described as judgemental sampling, which involves the conscious selection by the researcher of certain subjects, or elements, to include in the study (Crookes and Davies 1998). Teddlie and Yu (2007) assert that purposive sampling is used to achieve representativeness, to make comparisons and to enable unique specific cases to be considered, though they accept that in so doing purposive sampling provides less breadth to the study than if the researcher was to use probability sampling. Teddlie and Tashakkori (2009 p.174) further provide a typology of six types of purposive sampling in order to demonstrate representativeness or comparability, of which this study's sampling strategy could be aligned with two types. One position could consider it to be 'intensity sampling', as all students have the potential to experience the same issue under scrutiny, however on reflection it is more relevant that the sample could be aligned with 'homogeneous sampling' whereby the

sample is selected for its similarity. This is more plausible, as no certainty can be assured that all of the student nurses will have experienced administering an IMI and it is this comparison between their experiences that was sought. Homogenous sampling also reduces variation, simplifies analysis, facilitates group interviewing and is commonly used in focus group recruitment. Thus a purposive sample was selected comprising of student nurses who have similar skills learning and educational experiences, but who may have had diverse practical (ward based) placement experiences.

4.9 Methods

The methods used in this case study design comprised of documentary analysis, focus groups and semi-structured interviews; each with a separate role pertaining to data collection. The documentary analysis was undertaken, both as an invaluable part of the process of co-creation of data sources and methods, and also as it enabled the researcher to give voice and meaning to a topic (Bowen 2009). In this instance this was to corroborate findings across the data sets. In effect this served to confirm the teaching materials used, the lesson plan delivered, and the exact topics covered in the SBE. The information gathered was then analysed to see whether it corresponded to the students' recollections (as verbalised in the focus groups and interviews) of this teaching session and the supporting teaching and learning activities.

The focus groups were used as a method to obtain and draw upon the students' attitudes, beliefs and feelings in a group setting. As such they were able to share experiences and reactions in a way that was not possible in the subsequent interviews. The focus groups also provided clear lines of enquiry to pursue within the subsequent interviews, and in this way the focus groups aided the development and refining of the interview schedule. The subsequent semi–structured interviews were used to allow a focussed, yet flexible framework of questions and this enabled the students to be more precisely questioned about their own personal experiences and to seek clarification about issues and experiences in a one to one interview situation.

These data collection methods will now be outlined in greater detail and the advantages and limitations will be discussed in relation to the participants involved and the subject under scrutiny.

### 4.9.1 Focus Groups

Phase 1 of this study involved four focus groups with a total of 19 participants (see section 4.12). Focus groups have become a popular method of data collection within the context of nursing research (Jayasekara 2012) as they generate opinions, suggestions and feedback (McLafferty 2004). Focus groups are used within health care and nursing for several reasons including: to develop or improve research instruments (such as questionnaires (Arnetz et al 2008)), to explore issues and generate data (Kevern and Webb 2004), or to evaluate and validate findings from other methods (co-creation) (Lansbury 2000, Milne and Moore 2006). Focus groups are also a firmly established method in education research, with researchers such as Ranse and Grealish (2007) and Matthew-Maich et al (2007) detailing their use in exploring nursing students' perspective, as well as obtaining key stakeholders' views and opinions when undertaking curriculum development. The focus group method of data collection is thus used because 'participants' views and understandings are shared, debated, challenged and changed during the focus group discussion' (Jayasekara 2012 p 413). These processes can occur because focus groups are more informal in comparison to an interview; therefore a group discussion can more naturally occur and very productive results may be obtained. However competent facilitation of focus groups is required to counteract dominance from one or more participants. Kevern and Webb (2004) used focus groups to research mature women's experiences of pre-registration nurse education, though interestingly they justify using this method to offer the participants 'collective security and help redress the balance of power between researcher and research participant, and give greater control over the agenda to the participants' (Kevern & Webb 2004 p. 299). One of their researchers was an academic staff member and thus had 'institutional power' - an interesting point that required ethical consideration within the realm of this research study (as discussed in section 4.10).

The attendance of a second non–participant observer within the focus group is recommended by numerous authors (Kreuger and Casey 2000, Vissandjee, Abdool and Dupere 2002, Willgerodt 2003), to take on the role of note taker and to log the non-verbal communications, such as cues and actions, that would be missed via a voice-recording device. The importance of this suggestion cannot be denied, yet as the sole researcher this was neither possible, nor practicable. Therefore, the crucial role of field notes and reflections to capture the essence of the group and its dynamics is heightened. In this way reflections of the events are kept as relevant as possible and as representative of the process as is feasible in this situation. These reflections can

then enhance the audio transcriptions, or give meaning to events or silences as appropriate.

Halcomb et al (2007 p.1001) propose that 'focus groups offer a means of listening to the perspective of key stakeholders and learning from their experiences of the phenomenon'. However, despite this pragmatic approach being an advantage in obtaining a range of ideas and information in a time-prudent fashion, there remains a need for rigour in the application of the method (Webb and Kevern 2001). The issue of structuring the questions to guide the data collection process is discussed by Beyea and Nicholl (2000) who advocate a 'funnel' approach to the questions, whereby broad issues related to the topic are discussed at the outset, followed by 'honing in' on more specific questioning which directly answers the research questions. Developing a template of questions enhances the consistency of the data between the groups (Krueger 1998) and promotes high quality data analysis. Halcomb et al (2007 p.1005) provide a question route template (see appendix 3) which was used in this study as a scaffold for the focus group questions. It begins with introductory questions, to stimulate the group discussion and for the facilitator to gauge the knowledge and opinions of the participants. Transition questions follow, which focus on the topic of concern leading to the key questions, which represent the core of the research aims (Krueger 1998). Ending and final questions have the function of summarising the discussion, possibly leading to action planning in respect of 'what else should be considered?' or 'what can we do to help?' type of questioning. Napolitano et al (2002) advise that statements followed by shorter questions, such as 'what do you think?,' are more beneficial than open questioning, which often fails to produce detailed meaningful answers.

The data obtained from focus groups is considered not only with reference to the answers to the questions posed, but also as a result of the group's elaboration and consolidation of each other's opinions and queries. Kreuger and Casey (2000) assert that this results in the focus group being more than simply the sum of separate individual interviews. This is reflected in how the dialogue can devolve into a group discussion, where the problem or questions are solved as a unit rather than individually. However a disadvantage of focus groups is that some participants may be reluctant to speak up if they feel they have a minority viewpoint, or when an opposing opinion has been strongly expressed. This is a justification for the need to progress to interviews following the focus groups.

### 4.9.2 Interviews

There are three main types of interviews, ranging from ‘structured’ whereby a formalised interview schedule is adhered to, through to ‘unstructured’ where there is no schedule and participants are invited to talk freely about the topic under scrutiny (Thomas 2009). This study employed semi-structured interviews, which are located in the middle of these two extremes. This technique allowed for a structure, using an interview schedule, set around the topic under investigation, yet with the freedom to follow up any unforeseen points that occurred. Phase two of the project conducted one-to-one, semi-structured interviews with nine participants in order to focus more intently on the individual student’s opinions, influences and experiences (see section 4.13).

As interviews are both resource intensive and time consuming, suitable preparation ensured that the researcher collated an effective return of information. Mears (2012 p.170) is clear that interviewing is ‘very different from common conversation and requires a well-envisioned design, a great deal of preparation, purposeful conduct and attentive listening’. The semi-structured interviews used in this study allowed for detailed contextual information to be produced, whilst also permitting the opportunity for the participants to elaborate on questions, and for both parties to seek any necessary clarification of information. In this way a semi-structured interview allows for spontaneity, whilst still maintaining control of the interview for the researcher. The demonstration and application of reflexivity in the research approach is essential to ensure bias is prevented – as personal opinions and expectations must not diminish the validity and reliability of the interviewing process. Walford (2001 p.90) observes that ‘interviewers and interviewees co-construct the interview’, thus despite the best efforts of the researchers, often everyday life will form part of the interactions that take place and so the interviewer has to play by the ‘rules of the game’. Such rules may include ensuring that participants do not feel inconvenienced, or that interviews are not hampered by interview fatigue (Cohen et al 2011).

Mears (2012) proposes that when using semi-structured questions one cannot be sure which direction the answer will go, instead an ability to notice the signs and markers that point to other areas to explore is essential. The interviewer’s skill lies in being able to express any confusion, by asking for explanations, rephrasing questions and monitoring assumptions. Morrissey (1987) suggests that it is sensible to start by setting the context for the interview in a tightly scripted way. Examples could be, ‘I’m interested in knowing about your experience of…please tell me about…’. Spradley

(1980) distinguishes between the grand tour and mini-tour questions in an interview schedule. A grand tour question might be 'describe your role as a student nurse', whereas the more suitable mini-tour questions might be 'tell me about your thoughts regarding IM injections?' Hence a schedule of mini-tour questions can be created which incorporate the aims of the study, such that appropriate information is elucidated from the students' answers. An alternative approach to a semi-structured interview schedule is suggested by Thomas (2009), whereby issues or topics are identified, and possible questions are decided upon, which lead to more possible follow up questions and probes. Using Thomas' (2009) template (see table 4-1) one aspect of questioning was:

**Table 4-1 – Semi-structured interview schedule – (after Thomas 2009)**

| Issue/construct | Possible questions | Follow up questions | Probes |
|---|---|---|---|
| Familiarity with IM sites | Can you tell me what you know about the IM injection sites? | Can you name them?<br>Can you describe where they are?<br>Can you describe how to landmark them? | What else can you recall about the sites? |

Guest, Bunce and Johnson (2006) propose that between six and 12 interviews is sufficient to answer a focussed research question. Green and Thorogood (2014 p.122) assert that with a tightly focussed research question little 'new' information comes out of transcripts after 15 or so interviews of a homogenous population have been undertaken. Guest et al (2006) concur, stating that in their study of women at high risk of HIV in Ghana and Nigeria, they found that 80% of their final codes were identified after 12 interviews, with the most commonly used codes being identified following six interviews.

Much emphasis is given in qualitative research to the issue of 'data saturation', or 'sampling to saturation', as attributed to Strauss and Corbin's (1990) grounded theory approach. This has also been referred to as 'theoretical sampling', but in essence implies that sampling and analysing continues until nothing new is being generated. Though the argument to support this is sound in its justification and rigorous approach, often a more pragmatic approach is required in health care research as the question may only affect a certain population, patient or practitioner.

Mears (2012) proposes that ideally each interview should be transcribed before the next one takes place, as this gives the researcher the opportunity to highlight incomplete areas of discussion, or to identify new lines of enquiry to pursue. Additionally, before analysis can take place, the researcher should conduct a 'member

check' to confirm accuracy and comprehensiveness (Lincoln and Guba 1985). In this way the researcher can also ask the participant to say what might have been overlooked, or to clarify if assumptions have been made. This process also has the effect of ensuring the reliability and trustworthiness of the data, which in turn has an effect on the transparency of the research. Furthermore, there must also be a clear audit trail detailing how the participants were selected, interviewing procedures and questions, data confirmation, analysis and a field log or journal whereby entries can help to provide clarity about this decision trail.

### 4.9.3 Transcription

Following each interview, the audio recording was transcribed into a Word document, which was later uploaded into NVivo 10 for coding purposes. The 'thick description', as advocated by Geertz (1973), was utilised as much as was practically possible within the context of audio recorded data, together with field notes made after the interviews. Denzin (1989) rejected the use of 'thin description' as superficial and factual, unable to explore the nuances of meanings. Hence to overcome this limitation, transcribing the audio data occurred as soon as possible after the event, so that the intention of the speech, pauses or para-lingual speech was not lost.

## 4.10 Ethics

The consideration of ethical issues needs to be entrenched into the entire research process (Newby 2014 p 51) in addition to the moral stance taken by the researcher, who needs to constantly evaluate their decisions and judgements in an ethical manner (Sikes 2004). The British Educational Research Association (BERA) devised guidelines (BERA 2011) to assist the researcher in ensuring their decisions and actions are ethically sound. These relate to four areas of responsibility: to the community of educational researchers, to the participants, to the sponsors of research, and to educational professionals, policy makers and the general public. Using the BERA guidelines (BERA 2011), in addition to the NMC code of Conduct (NMC 2015a), ethical considerations were central to all decisions about the aim, objectives and methodology, and also when conducting the study. The informed consent of the participants was essential to the study, such that the students could voluntarily take part as well as understanding that their involvement had no impact on their future studies. Therefore, they were given a participant information sheet pertaining to each phase of the study (see appendix 4) and if they volunteered to join the study, they were also given a consent form for both the focus group and, if appropriate, the interview (see appendix

5). The students' consent was given in writing and they were also informed that they could withdraw from the study at any time without explanation. Students were advised that their names would be changed to provide anonymity, however confidentiality for those attending the focus groups would not be possible due to the other participants also being present in the room.

Those who were approached and recruited to the study were students of the University where I both study and work. However, as these students attend a separate campus 30 miles from the main University they were unknown to me, moreover I would not be involved in any aspect of their education or assessment. The University Ethics Committee was therefore satisfied that no coercion would affect their decision to participate in the study and ethical approval was granted for the two stages of the research project, specifically:

**Stage 1:** up to five focus groups (assuming six participants per group) totalling a maximum of 30 participants with each focus group lasting no more than 45 minutes
**Stage 2:** 10-15 participants progressing with their consent, to a semi-structured interview, which would last no more than 45 minutes.

4.11 Documentary analysis

Prior to the scoping study (see section 4.10) taking place, a documentary analysis was performed which will be reported in greater depth in section 5.1. Bowen (2009 p 27) defines documentary analysis as 'a systematic procedure for reviewing or evaluating documents- both printed and electronic material'. Both Stake (1995) and Yin (2003) suggest that in qualitative research, documentary analysis can assist in providing descriptions of an event, programme, or phenomenon whilst Merriam (1988) advocates that it 'can help the researcher uncover meaning, develop understanding, and discover insights relevant to the research problem (p118). Bowen (2009) presents documentary analysis as having value in case study research, as well as for reasons of co-creation, and suggests five particular functions of documentary material, namely (p 29):

1. To provide context, including any historical insight or background information.
2. To assist in the generation of questions that need to be asked e.g. in the subsequent methods such as interviews or focus groups.
3. To provide supplementary research data- which may form a part of the knowledge base.
4. To provide a means of tracking change and development.
5. To verify findings or corroborate evidence from other sources.

Additionally documents are useful for collecting data when the participants are unable to recall specific details.

The process involves a superficial reading – a 'skimming' or 'first pass' (Bowen 2009) – to identify meaningful or relevant data. This is followed by a more in depth thorough examination and interpretation, where codes can be applied assisting in a thematic analysis as patterns are recognised and observed within the data. Bowen suggests that is acceptable to use predefined codes, particularly when the documentary analysis is supplementary to the other research methods used in the study. Documentary analysis is therefore a low cost, unobtrusive method, often combined with other methods to examine a specified problem. Its value in a case study approach is recognised, however Yin (2003 p 80) cautions against 'biased selectivity', where incomplete documents may be presented and analysed, as well as insufficient detail or difficulty in retrieving documents due to blocked access. Nonetheless as a supplementary method, its value in this particular case study was acknowledged in order to provide an understanding of the curriculum, particularly when the students' recall might be an issue.

### 4.12 The focus groups

In October 2014, a presentation regarding the study was given to the September cohort of second year adult nursing students, numbering approximately 80 individuals, with the aim of recruiting them as participants. First years were discounted as they had not had any clinical placement experiences to date, and third years were excluded as it was over two years since their IMI SBE session had taken place and recall bias may have occurred. Of the 34 students who signed up as being interested in participating, 19 continued to contribute in the focus groups.

The four focus groups took place alternately in the morning and afternoon of two separate days, one week apart in October and November 2014 with a mean of five participants, lasting on average around 30 minutes. The smallest group had three participants and lasted only 20 minutes; the largest had six participants and lasted for 45 minutes of recorded group discussion. In total 19 students attended a focus group and 15 students who initially expressed interest either did not attend or sent apologies on the day. Five groups were planned, but one was abandoned due to the students' prior teaching session being cancelled and the participants were re-allocated to the remaining groups. Thus the focus groups coincided with the students' attendance at

the campus for taught skills sessions, so as not to inconvenience them and to fulfil the conditions of the Ethics Committee's approval. Before the recording began, the students were offered light refreshments, and were given time to review the study participants' information sheet again (previously provided to all participants), to read the statement regarding witnessing unprofessional practice, and to sign a written consent form. The focus groups were recorded using a freestanding omnidirectional microphone on a centrally placed coffee style table with the seating arranged in an informal, circular fashion around it.

The questions, as indicated in appendix 6, were used to structure the content and direction of the questioning - the discussion was therefore mostly relevant to this line of questioning. The analysis of the focus group data was used to inform the interview questions and consequently the interview question schedule was not devised until all the focus group data had been analysed. This approach ensured that maximum reflexivity could be accommodated in the interviews.

### 4.13 The Semi-Structured Interviews

Phase two of the research study consisted of nine, one-to-one semi-structured interviews. All 19 students who attended the focus groups were asked for their voluntary participation in an interview; initially eight agreed and after a second reminder email was sent, one further student agreed, thus totalling nine. The interviews were scheduled by mutual consent for times when the students would be attending campus. An hour was allowed, to include the offer of refreshments, reading the participant information sheet (previously provided), reading and signing the consent form, reviewing the statement regarding unsafe practice, as well as conducting the interview itself. The recorded interviews lasted between 18 and 33 minutes, with a mean time of 26 minutes. Interviews took place in a small meeting room with the microphone placed on a coffee table.

An interview schedule was produced after analysing the outcomes of the focus groups and identifying areas to focus on for the interview questions. This was influenced by Thomas' (2009 p.164) belief that it should act as an aide-mémoire, as opposed to a formal procedure to go through: 'a reminder of what you intended to cover'. As such, it is acceptable to move on to a point not listed if it has already been addressed, or to probe and encourage interviewees to elaborate on issues. It is important therefore to have possible follow-up questions ready should they be needed to assist in

encouraging and promoting discussion. The interview schedule can be found in appendix 7.

## 4.14 Data Analysis

In section 4.4, the justification for using an interpretivist case study approach was made with the aim to create or understand information or knowledge arising from shared action, beliefs or opinions. The emphasis is on the conversation within the group (either compared singularly in the interviews, or as a cluster in the focus group) with the 'aim to expose the local and sequential construction of meaning' as opposed to inferring meaning from the participants' words' (Silverman 2014 p. 218). In order to make sense of the data, Thomas' (2016) constant-comparative analysis was utilised and a qualitative thematic analysis resulted, which aims to provide contextual, interpretive accounts of social phenomena or practices by providing quotations for the data set that illustrate the themes. The aim is to interpret a particular situation from the perspective of the participant, and Wilkinson (2016) argues that if caution is not employed, thematic analysis can have too much in common with quantitative content analysis. Hence the challenge is to remain fully engaged with the interpretative aspect whilst analysing and coding the data set.

Consequently, in this study, the ability to be able to interpret content and to construct meaning from the data, required a framework to assist and provide guidance to the approach that was employed. Thus the adapted constant comparative analysis method, previously mentioned and as described by Thomas (2009, 2016), (see appendix 8) seemed appropriate for the data set.

Thomas (2009 p.202) suggests that when researchers indicate they are using a grounded theory approach, they are actually using the constant comparative method. Hence, in essence, it is possible to use this method of analysis whilst not actually observing or following a grounded theory approach. This is maybe not surprising in that the grounded theory approach has been critiqued (Thomas and James 2006); indeed Lincoln and Guba (1985 p.339) suggest that 'constant comparison is the kernel of grounded theory worth preserving' and Thomas (2009 p.202) deliberately and contentiously suggests that 'the nuts and bolts of grounded theory are unnecessarily complex and I advise you to avoid them'. In addition to stating that interpretative inquiry and case study are natural complementing partners given that they demand a 'deep understanding of the multifaceted nature of social situations' (2016 p148), Thomas also feels that constant comparative analysis is the basic method of interpretative enquiry.

The principle of constant comparative analysis is that the researcher reviews the data repetitively (the constant element), and compares it with other words, sentences and phrases of the respondent, other respondents, or other sources of data. Codes are a descriptive label given to a part of the data, which has been broken down, and the researcher determines the codes. When coding is complete, similar codes will be linked together to form more abstract categories or themes. Roper and Shapira (2000) suggest researchers go beyond the results, uncovering the meanings of patterns and themes to answer the research question, and revealing any cultural phenomena - thus requiring the researcher to make inferences about the data as well as interpreting it. Using this critical analytical and interpretative approach, the researcher is able to break down a phenomenon into elements and then to reassemble it 'in terms of definitions or explanations that make the phenomenon understandable to outsiders' (LeCompte and Schensul 1999 p.5). Such explanations might be the formation of typologies demonstrating the variations along a continuum derived from the themes such as 'the worried student' or the 'confident, assertive student'.

The focus group and semi-structured interview recordings were, in each instance, listened to numerous times in order to immerse the researcher into the data set. The recordings were subsequently transcribed into Word and checked against the original digital files to ensure accuracy before being uploaded to NVivo 10 in preparation for coding. Reflexive field notes were added into NVivo by way of annotating the transcripts in the memo facility, from the original notes made.

After each group or individual interview was uploaded, the task of coding began. Strauss (1987) discusses NVivo codes that derive from the language used by the participants during the course of the focus group, or interview. Such codes can be used to develop an inductive approach to produce categories, which in turn helps the researcher to identify patterns, actions and themes. For co-creation purposes one interview transcript was provided for the supervisors of this study to independently code, and subsequently favourable comparisons were made of the individual coding. By creating the codes it was possible to identify what Thomas (2009 p.199) calls the 'temporary constructs', which he defines as the impression of important ideas or subjects that are recurring. For example, this began with focus group 1 then proceeded through the four groups labelling, highlighting and assigning sections to constructs. Some quotations were felt to 'fit' several constructs and these cases would be multiply coded.

The next step was to create second-order constructs by grouping together any temporary constructs that appeared to be linked, or to have familiarity with each other. At this juncture, the opportunity was taken to re-name these constructs, if appropriate, with a title that suitably encompassed the content and context of the constructs amalgamated therein. Thomas (2009 p.199) suggests that this is the point when it is possible to eliminate any temporary constructs that are 'stand-alone', although it is possible to justify why they warrant being kept if appropriate. The second-order constructs were then refined such that they captured the essence of the data, and they emerged as the 'themes'. Thomas (2009) suggests that the way that the themes interconnect should be mapped using construct mapping or network analysis, however it is at the point of generating the constructs that Ziebland and McPherson (2006) propose the 'One Sheet of Paper' analysis (OSOP) as an alternative. In this analysis the data is read through and on a large sheet of paper all of the different issues raised by coded extracts alongside the respondents' ID are noted. When complete, there is a 'summary of all the relevant issues within the code and a note of the respondents' ID next to them' (Ziebland and McPherson 2006 p 409). Groups of codes are then brought together in broader themes; for example, certain respondents may share similar characteristics, which can provide an explanation for 'what is going on in the data' (p 409). For the analysis in this case study, a combination of the two methods was used. Firstly, for the focus group data, Thomas' (2009) adapted constant comparative analysis was used up to the point of generating themes. A construct map of the second order constructs and themes was developed (see results chapter 5 figure 5-1). However, for the interview data this process was repeated and the themes were then applied to each respondent through reviewing their transcript and using the OSOP analysis. This allowed the element of constant comparison to continue whilst building up a picture of each respondent and of which codes and qualitative examples could be attributed to them.

This chapter has reported on how the study was conducted with reference to the methodology and case study design, and the methods used for data collection. The various merits and limitations of case study design have been presented and discussed alongside the justification for the data collection methods, the reflexivity of the researcher and ethical considerations. In so doing, the research process for this study has been described, outlining the progression from recruitment and sampling through to data transcription. It also described data analysis using Thomas' (2009) constant comparison approach and the OSOP method to explain how the codes, constructs and themes emerged from the data.

## Chapter 5 Results

This chapter begins by presenting the results from the documentary analysis of the didactic content of the course relating to the subject of IMIs and then continues with the scoping study, focus groups and interviews. The results are presented with some analytical comments, however the data will be further analytically examined in the discussion and conclusion chapters. Within this results chapter some initial analysis is performed to present the interpretations of relationships to, and between, the themes (see figure 5-3).

### 5.1 Documentary analysis

Documentary analysis of the course handbook, lesson plan and clinical skills workbook, was performed in order to examine the role these documents play in relation to the research questions. Following the previous description of the method offered in section 4.9, Bowen (2009) suggests that in addition to providing co-creation of sources and data, documentary analysis provides:

> …background and context, additional questions to be asked, supplementary data, a means of tracking change and development and verification of findings from other data sources. (p.30)

Using pre-defined codes from the other research methods employed in the study is deemed acceptable and this enables the thematic analysis to be applied in a consistent way. Although the codes for the focus groups and interviews were not yet available, some areas for discussion had been highlighted within the scoping study (see section 5.2) and helped in determining the development of the codes which were (in alphabetical order):

- Clinical Skills Laboratory (CSL) learning
- Equipment
- Landmarking
- Naming IM sites
- Peer learning and support
- Pre-session preparation

**Table 5-1 - Mapping the scoping study codes against course documentation**

| Codes applied | BSc course Handbook | Lesson Plan | Clinical skills workbook |
|---|---|---|---|
| CSL learning | | ✓ | ✓ |
| Equipment | | ✓ | ✓ |
| Landmarking | | ✓ | ✓ |
| Naming IM sites | | ✓ | ✓ |
| Peer learning and support | ✓ | ✓ | ✓ |
| Pre-session preparation | | ✓ | ✓ |

Initially, the description of the curriculum in the BSc Hons Adult Nursing programme handbook was examined, and whilst the whole document did not form part of the analysis, the principles of learning to which the University aspires were examined. These include:

- Large and small group learning with opportunities to develop a range of skills that support learning now and in the future.
- To encourage a shared responsibility between students and staff, and to take responsibility for their own learning and to actively engage in feedback and assessment.

These principles were followed within the 'Administration of Medicines Management Subcutaneous (SC) and Intramuscular Injections (IMI)' session, which was taught to this cohort on their second semester of their first year. The curriculum content was drawn and mapped against the Standards for pre-registration nursing education (NMC 2010) and the NMC essential skills clusters (NMC 2010).

The lesson plan and the full description of the simulation based education (SBE) session from the clinical skills' workbook (taken from the facilitator's guide, with the answers supplied), which each student is given when commencing this module, can be found in appendices 2 and 9. This SBE session occurs once in the students' undergraduate programme, in the second semester of their first year. The sessions' learning outcomes incorporate the three branches of nursing students who typically access this module - adult, mental health and children's nurses - using age or condition appropriate scenarios. The session takes place in the CSL, and lasts for three hours; there is also a pre-session activity, which would take 1.5 to 2 hours to complete. This pre-session included reading two papers relating to injections; one a general paper about IMIs (Cocoman and Murray 2008), and one about SC injections (Hunter 2008) (which does not form part of this research study's remit). The students then continue with an activity to encourage them to seek out answers using the British National

Formulary (BNF); the questions relate to drug knowledge, including dosage and side effects.

The format of the three-hour session saw students rotate around different skills 'stations' where each activity is overseen by a member of staff. In order to provide suitable and successful supervision of students, the staff student ratio is set at 1:16 in the CSL. However, before they breakout into these groups, the students all watched a DVD which demonstrates, describes and explains the different injection sites, using 3D anatomy models and a skeleton, and conducts a 'real time' administration on a 'patient'. The sites taught on the DVD include the dorsogluteal, which has been previously described (see section 3.2.1) as now being less favoured because of its limitations; however it is included, the rationale being because there is recognition that this site will be encountered within the students' clinical practice. The limitations of the site are made very clear on the DVD, and preference for using the ventrogluteal site with associated rationale is advised and recommended to the students. The limited use and application of the deltoid, vastus lateralis and the rectus femoris are also considered within the DVD.

The three skill stations in the SBE session are:

- Landmarking the IM sites
- Administration of medicines using the IM route- including needle safety
- Administration of medicines using the SC route

The skill stations involve peer assessment. As such, a proforma is included within the clinical skills workbook so that the students can identify the criteria needed to assess each other - these include professional behaviour, communication skills and competency in undertaking the procedure itself. Finally, the session concludes, time permitting, with a short quiz which poses pertinent questions as about definitions, and needle size choices.

The documentary analysis shows that the context for learning is quite clear yet limited, due to being in a clinical skills laboratory. The teaching did not take into account how to provide any deviations, or nuances of care, which did not represent the administration of a straightforward IMI. In essence, it is very task focussed. There is no discussion about how students should act in situations where the 'normal' is deviated from, nor how to challenge decisions or the practice that they see. There is no discussion about the possibility of a T-P gap, yet the opportunity of this is presented; yet missed, when discussing the limited use of the DG site. The ability of students to feel prepared for all practice situations following this SBE session will be discussed in chapter 6.

## 5.2 Scoping study

The scoping study, as described in section 4.10, was held in the autumn semester of 2013, with three students who voluntarily attended for one hour prior to an unrelated seminar. The purpose of the scoping activity was a preparatory exercise, to check the recording equipment as well as to test the line of questioning for the forthcoming focus groups.

The conversation with the students identified that student nurses do not perform many IMIs in the clinical learning environment (CLE) for a variety of reasons. These include a reduction in the opportunity to administer IMIs, mainly due to the widespread use of patient-controlled analgesia and epidurals as methods of providing pain relief. More significantly, the students recounted that mentors were either unwilling, or unsure, about supervising student nurses – often using approaches which had not been taught at university and which were unfamiliar to the students. Often students felt they had to conform with their mentor's wishes, as they did not want to compromise achieving their clinical competencies. Some did feel, however, that they could challenge their mentors, albeit often at a later time and after checking their facts. Those who did subsequently challenge their mentors felt that they were frequently open to engaging in such conversations. In summary, the student feedback gained from this scoping study, together with the documentary analysis, was drawn upon when planning and designing the questions for the subsequent focus groups. The areas to focus on for the development of appropriate questions included:

- Clarifying what students understand by an IMI and their recall of what they had learnt (both theory and practice) in the CSL.
- Students' description and explanation of what they have seen or experienced in practice, with their mentor or other nurses in a supervisory role.
- Students' feelings about the practice of IMI administration in relation to their experiences.
- Any feedback they wanted to give about prospective learning or ideas for improvement of the session for future cohorts of students.

## 5.3 Focus groups

The questions used for the focus groups based on the findings of the concept analysis, literature review and the scoping study as indicated in section 5.2, can be found in appendix 6. After transcription and coding to NVivo10, 16 initial temporary constructs

were created from the four focus groups' data. The coding performed, as described using Thomas' (2013) constant comparison method described in section 4.14, created the ability to apply codes to each focus group with regard to general thematic content. These themes related strongly to the topics, and the answers generated, from the respondents. These results are demonstrated on the table mapping the 16 initial constructs across the four focus groups (table 5-2) where it is easy to see that (for example) scrutinising the construct 'sites used' was only mentioned in two focus groups, whereas 'students worries and concerns' was mentioned in all the focus groups. Any quotations used within this study are cited with reference to the participants of the focus groups; these are referred to through use of the focus group number eg: FG1.

**Table 5-2 – Mapping the initial constructs from the four focus groups**

| | Focus group 1 | Focus Group 2 | Focus Group 3 | Focus Group 4 |
|---|---|---|---|---|
| **Students' Worries and Concerns** | ✓ | ✓ | ✓ | ✓ |
| **Students' Feelings** | ✓ | ✓ | ✓ | ✓ |
| **Sites Used** | ✓ | ✓ | | |
| **Ritualistic Practice** | ✓ | ✓ | | |
| **Rationale for IM Administration** | ✓ | ✓ | ✓ | ✓ |
| **Process Learning** | | ✓ | ✓ | |
| **Pre-session Preparation** | ✓ | ✓ | | |
| **Naming and locating of the IM Sites** | ✓ | ✓ | ✓ | ✓ |
| **Mentors and Nurses** | ✓ | ✓ | ✓ | |
| **Learning in the Skills Laboratory** | ✓ | ✓ | ✓ | ✓ |
| **IMIs Observed by Students** | ✓ | ✓ | ✓ | ✓ |
| **IMIs Administered by Students** | ✓ | ✓ | ✓ | |
| **Future Training Plans** | | | ✓ | ✓ |
| **Discrepancies Seen** | ✓ | ✓ | ✓ | |
| **Challenging the Mentors** | ✓ | ✓ | ✓ | |
| **Administering the Injection** | ✓ | ✓ | ✓ | |

Within the data there were some areas and topics for discussion that were coded but later discarded as they did not add to, or meet, the aims of the research questions. On

occasions the students did go ‘off focus’ and discussed issues which were not part of the enquiry; these diversions included discussion of:

- subcutaneous injections
- personal experience of receiving an injection

An example of such a situation was in the final, and smallest, group (three participants). None of the students had participated in the administration of an IMI and instead answered my questions by placing themselves into the role of the patient - by telling me about their recent influenza vaccinations, or by predicting how they might feel if they were to give an IMI. Consequently these answers had little relevance to the research question or the remit of this study; nonetheless it may be pertinent both to recognise and to accept that personal experience may have some bearing on the way a nurse may subsequently perform an injection procedure. Similarly, SC injections are not part of the exemplar skills of this study, and although similarities between SC and IMI exist, they are separate procedures with different outcomes. Thus they have not formed part of this research question and as such these answers were not considered relevant for inclusion in the analysis.

The next step taken with the focus group data, following the mapping exercise, was to create second order constructs by grouping together any temporary constructs that appear to be linked, or which seem to have familiarity with each other. At this juncture, the opportunity was taken to re-name these constructs, if appropriate, with a title that suitably encompassed their amalgamated content and context. Thomas (2013 p.236) suggests that this is the point when it is possible to eliminate any temporary constructs that are ‘stand-alone’, and although one such case existed - ‘locating the sites’ - it was felt this was an important issue and could be easily amalgamated into one of the larger second order constructs. Ultimately none were excluded. The figure (5-1) depicts where and how the initial constructs were linked to form five second order constructs, duly named:

- IM sites
- Students’ Learning
- Challenges
- Students’ Experiences
- Student Emotions

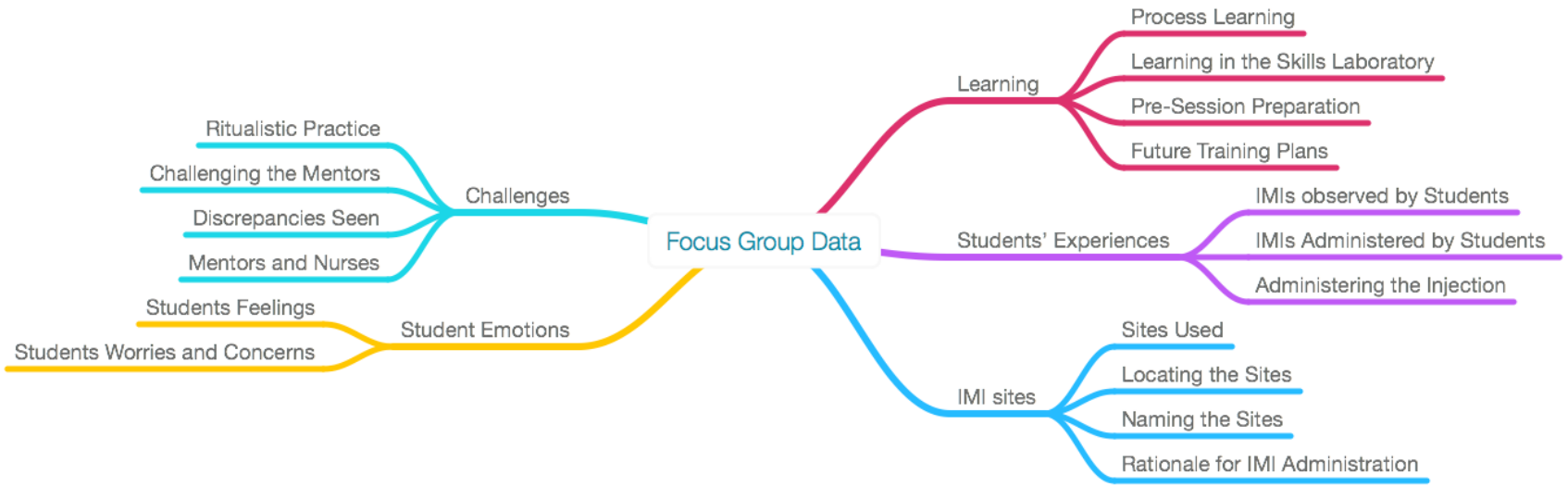



**Figure 5-1 – Initial constructs being linked to form 5 second order constructs after the Focus Group Stage**

From these five second order constructs it was possible to be clear about the way forward to identify key areas to focus on, to formulate the questions for phase 2 of the study, and to conduct the one-to-one interviews.

## 5.4 Interviews

Nine one-to-one interviews were performed with the students who volunteered to take part in phase 2 of the study. The interview schedule can be found in appendix 7.

The interviews were subsequently coded using NVivo10. Participants' names have been replaced with pseudonyms to provide anonymity. Thomas' (2011) constant comparison method was again employed and 30 initial constructs were created, most but not all of which, were used in the focus groups; and the remainder emerged from the interview data only. These 30 initial constructs were amalgamated, using the same procedure as with the focus group data, to create the five second order constructs; this process is illustrated in Figure 5-2.

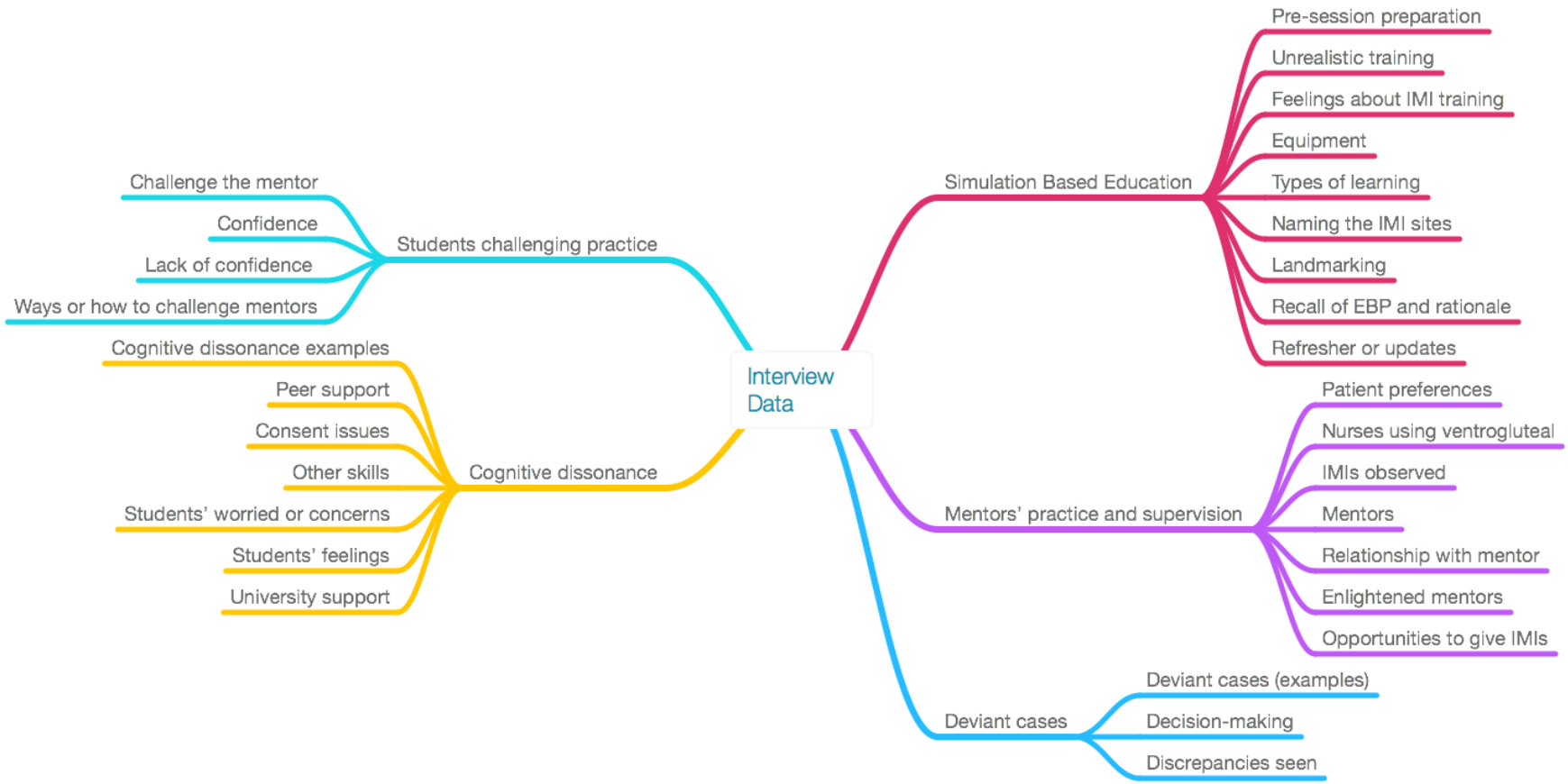



**Figure 5-2 - Initial constructs being linked to form 5 second order constructs after Interview Stage**

Subsequently these second order constructs were revisited and two were combined, and thus four final themes emerged. These four final themes (see figure 5-3) represented the essence of the bold statements that students were making in response to the interview questions and the focus group data. Finally the 'one sheet of paper' (OSOP) (Ziebland and McPherson 2006) method was used to assist in creating a visual map of each theme using the participants' quotations, which supported each theme.

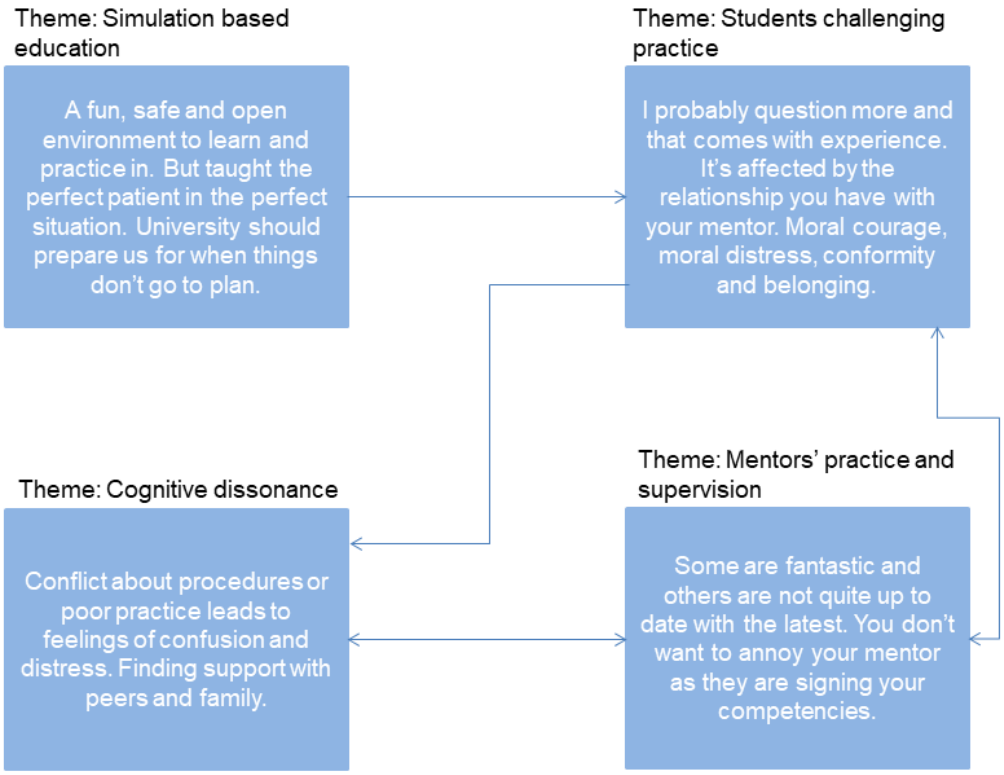



**Figure 5-3 - Representation of the interrelationship of the four final themes (after Thomas 2013)**

*Solid lines indicate how one theme may directly account for, or explain, a connection between themes, shown by the use of directional arrows.

Quotations from participants cited within the results are in italic type for reasons of clarity, additionally:

- Three dots '…' without spaces represent a pause, or discontinuity, in the participant's account
- Dots with spaces ' . . . ' represent editing of irrelevant material

For each theme a table is presented which provides a visual explanation of how many instances each construct was stated (represented by 'data sources') and the frequency it was stated (e.g. in how many interviews).

## 5.5 Theme 1 Simulation Based Education

**Table 5-3 - Theme - Simulation Based Education**

| Theme -Simulation Based Education | | | | |
|---|---|---|---|---|
| Secondary Constructs | Frequency (focus groups) | No. of data occurrences in Focus Groups | Frequency (Interviews) | No. of data occurrences in interviews |
| Pre-session preparation | 2 | 9 | 8 | 9 |
| Skills laboratory learning | 4 | 65 | 9 | 23 |
| Unrealistic training | * | * | 2 | 5 |
| Feelings about IM training | * | * | 3 | 3 |
| Discrepancies seen | 3 | 27 | 8 | 25 |
| Deviant cases | * | * | 5 | 12 |

*not used as a NVivo code for focus groups

### 5.5.1 Appraisal of SBE session

As discussed in section 5.1, the students attended a 3-hour SBE session which had associated pre-session reading. The session took place in a CSL, with some students reporting their enjoyment of the practicality of the session:

> *We had some pads that we could inject and strapped them to our bodies, which was great fun, and then inject them. So it was useful and we talked about the different types of needles and the volume of medication that can go in each site.* (Julie)

They also valued the time to practise these skills in a safe environment,

> *We learnt like the technique of how to administer one and the sites. You really got a lot of time to sort of practise on the mannequins,* (FG1)

and

> *I thought, it was quite comprehensive. I mean short of actually sticking the needle in someone.* (FG4)

This realisation that the teaching was as close to reality as possible was acknowledged,

*I think we were all itching to have a go with needles, which we did into the fake muscles. But, obviously, it's not a substitute for the real thing, that would be quite cruel to go sticking needles into somebody.* (Laura)

However, not every student agreed that the session was easy to assimilate,

*We had videos as well, didn't we? There was quite a lot, a lot to take in…we had to watch films on the nurse doing it you know, and showing us how to, they were teaching rather than the tutor actually doing.* (FG2)

5.5.2 Timing of SBE session related to recall issues

When questioned, the students often had difficulty in recalling exactly what they had learnt,

*because we did three hours last year, you know, that seems like an age ago, especially when you've had your summer break in the middle of it.* (FG 3)

and

*Yeah, we were given some pre-reading, I can't remember what it was though.* (FG2)

The time delay between the SBE session in the previous academic year and taking part in this study led to these second year students often being unable to verbalise either the name of sites, or exactly where to find them. As a consequence, comments such as:

*I can't think what the technical names are.* (FG4)

and

*Yes, I can probably show it, find it for you, but I can't remember the name of it,* (FG1)

were common reactions. Some students' recall was slightly better, with aytipcal comments such as:

*Ventrogluteal that one, that's at the side.* (FG1)

Yet most students only had a partial recollection:

*It's an injection that goes into the muscle and it can be put in the arm, in the leg, in the buttock and in that other muscle that I can never remember,* (FG2)

or

*I can't remember what that one was called, the greater trochanter or something, you see I'd totally forgotten that.* (FG3)

5.5.3 Timing of SBE session related to practice experience

The students did recognise that the time between learning in the CSL and application of the skill into the CLE was an issue; this led to discussions about the timing of the session in relation to the exposure of nursing skills:

*We were told we had to kind of measure with our hands you know with the heel of our hands on our bone and things like that and then two fingers and then it goes in there type thing but unless you're doing it straight away you know you leave that session you go straight on the ward and you start giving it, you forget those things,* (FG2)

and

*The trouble is, is what we learn, some of it could be months before we do it, and that I find the biggest thing, (FG4)*

*It's like everything seems to be either far too soon or far too late. I'm finding it quite, it's like nothing's in the middle. It's all too soon or too late.* (FG4)

The curriculum placement of IMI skills learning was also brought into question:

*We just get to sit and watch, we don't really do, as a first year student. And I think that something like that would be better as a second year teaching. . . . I was able to do a lot more on my first placement in my second year than I was when we were in our first or second placement of our first year. So for me, . . . because you de-skill very quickly, all nurses do, qualified and students, de-skill very quickly. So from my personal point of view, I'd have much rather to learn some of the skills, swapping round the skill sessions a bit.* (FG4)

Students discussed how they could keep the skill of IMI fresh in their repertoire,

*…a top up or even if they say, you can book the lab and we'll have the IM stuff out for you. And then three or four of you go in and kind of do it quietly, you know, yourselves. So just more time to do it again and again and again and again.* (FG3)

5.5.4 Dissatisfaction with SBE session

Discontent about the nature and content of the skills was verbalised together with the lack of complexity of the scenarios used:

> *When they teach us skills, we're taught on a perfect patient. But in my experience, there's no such thing as a perfect patient. So I think the course should provide information on, for patients who are very thin or … in circumstances where it might not be ideal.* (Lucy)

Similarly, the application of how the skill actually translates from practice and demonstration in the CSL into clinical practice was seen to be at fault:

> *We did the procedure on like a foam leg. So it was nothing like real life, just because it was a lot stiffer. And I think that's probably what shocked me when I was in the nursing home; doing it on this gentleman … it seemed a lot softer, the muscle. So I wasn't really prepared for that. But it's always, they kind of do it in the ideal situation in skills, whereas in the nursing home it was different.* (Cathy)

Several students who felt this affected their ability to easily continue with the process of IMI administration also mentioned needle phobia:

> *I think maybe first asking why do people have a fear of injections. What is it about? . . . because there's lots of things that hurt more. I mean everyone moans about going to the dentist, so I think it's about exploring, why do people have a fear of needles? Is it because it's something we don't see very often?* (Laura)

The simulated practice learning (SPL) sheets that students are given after each SBE session assist in the consolidation of learning both outside the classroom through engaging with the literature as well as in practice as the sheets are shared with and signed by the mentor. Nicola summed up this collaborative learning approach well when she espoused personal obligation:

> *Even though there's a responsibility for the Uni, there's also a responsibility for yourself to take on your own learning from what you've learnt and put into practice.*

Overall, despite the advantages (acknowledged and discussed within the literature review section 3.1.1) of practising in a slow-paced, supportive, safe environment, one student summed up their feelings about skills based learning:

> *University teaches you the perfect patient, the perfect situation. And it's not until you get out into practice that you realise that, obviously, you don't have a perfect patient.* (FG3)

5.5.5 Unusual or unplanned events

The need to cater for unplanned events (such as situations of restraint), or patients with high or low BMIs, was previously discussed in section 5.5.4. Lucy, who had the added issue not only of the patient being restrained but also the fact that she was emaciated, experienced a difficult situation:

> *I was a bit hesitant and I said to my mentor, she's got no real fat on her. . .do I need to be more careful where I'm putting this needle? And she said, no, don't worry about that, just get it in.* (Lucy)

The issue of aspirating on the needle after insertion ('pulling back', or checking for a 'flush', in colloquial terms) seemed to cause some confusion:

> *Also there seems to be a bit of conflict about whether you do the flush back or not,* (FG3)

and

> *…some people pull back and others don't, you know, to see if there's any blood.* (FG1)

However, in the next example, the student seems more concerned with what might be perceived as this relatively minor issue and less with discussing and reflecting upon the issue of chemically restraining the patient - a practice which does not form part of good practice (unless the patient is at risk and has been deemed to lack capacity, according to the Mental Capacity Act (DoH 2005)).

> *A patient had severe dementia and she'd come into hospital because she'd been having such a lot of neglect. Because none of her carers could get near her at home because she was so . . . agitated. And she was very scratchy she was quite violent, scratching predominantly. So they gave her a drug to calm her down and I gave her that one . . . and they said don't bother, don't pull back, just get it in her. So that was the message, it was just get it in her. (FG3)*

5.5.6 Discrepancies in practice

Some students were able to give examples of discrepancies in practice that were not IMI related and which connected to both the theme of student challenges to practice (5.7) and to cognitive dissonance (5.8).

*One of the nurses was taking out some staples from a knee replacement. And she wasn't doing it aseptically . . . she just kind of, I mean I might be wrong, but she just had just disposable gloves and apron. And the patient had a little bit of an infection, so we were only taking out half of the staples. And in my head I was thinking, are you supposed to be using aseptic gloves and technique to take those out? And it was funny because she said to me, you would be using, you would be doing this aseptically, just so you know. And I was like, so why aren't you doing it? But I was just well, I felt really uncomfortable because, I think it was because, it's always in front of the patient when you think, I don't know if this is right. And then you don't know whether to bring it up in front of the patient. And then by the time you kind of walk away from the patient, it's kind of that awkward moment of, should I bring that up or….'*
*Q: Or has it gone, too late?*
*A: Has it gone, yes. Yes and I remembered saying like, oh should we be doing that then? And she was like, oh no, no, it's fine. And then I was kind of like, oh OK. But in my head I was thinking, maybe I should have just…So yes, and I remember having a day out with the infection control nurse and she was like, just have confidence and say something. And I always remember that I wish that I had said something a little bit further or just asked her why. Like why didn't you just get the better gloves to do the thing with?* (Cathy)

Arguably, the next example is of greater concern. The patient had not had deprivation of liberty safeguards (DoLS) applied, and following the interview I felt the need to check with the student if she had reported the incident (she had) and to speak with the practice lead in case the student needed further support. The student was very tearful, but able to continue with the interview.

*A: A number of incidents had happened leading up to this particular point. And then the end of it was, they were holding him in a chair, the patient in a chair. And one of the trained nurses turned to me and said, could you go and get some yellow lines so I can tie him in the chair so he can't get up? And I went, that's against the law.*
*Q: Yes and how did that go down?*
*A: Not very well. So I got the nurse in charge and anyway, it all sort of didn't go well after that and I ended up leaving early from my shift. So yes.*
*Q: Because you were upset about the way they handled it or what went on in general?*
*A: Well I was upset with the way they handled it. Yes, I was upset the way they handled it. And they said that I had misread the situation and that I had misunderstood what was going on, and I hadn't.*
*Q: No, it doesn't sound like you had, no, not at all.*
*A: So yes and then it all got a bit nasty after that. But I only had like eight shifts left, so I finished my eight shifts and then that's the placement end. I've told the University and also the nurse in charge of the students on the ward.* (Julie)

This shocking example is of great concern, but outside of the formal interview schedule, in my field notes, I remark that Julie indicated her concern for students who are not mature, like herself, with life experience, who may have been less able to

reflect upon and challenge the practice as she felt able to. Overall, one student's opinion illustrates the cohorts' thoughts and position:

> *Sometimes I think University should maybe prepare us a bit more for when things don't go to plan.* (FG3)

## 5.6 Theme 2 - Mentors' practice and supervision

**Table 5-4 - Theme – Mentors' practice and supervision**

| Theme - Mentors practice and supervision | | | | |
|---|---|---|---|---|
| Secondary Constructs | Frequency (focus groups) | No. of data occurrences in Focus Groups | Frequency (Interviews) | No. of data occurrences in interviews |
| Mentors | 3 | 21 | 6 | 17 |
| Enlightened mentors | * | * | 5 | 9 |
| Relationship with mentor | * | * | 1 | 3 |

* not used as a NVivo code for focus groups

### 5.6.1 Relationship with the mentor

The students' experience of working under the direct supervision of a mentor was shown to be an inconsistent one. The complex and nuanced nature of the relationship with their mentor was not lost on students, who were aware that 'getting on well' with one's mentor was key in the assessment process:

> *because as a student, you'd never want to annoy your mentor because you've got to work with them and you've got to learn with them…they're signing your competencies at the end aren't they?* (Cathy)

> *because you're just working under the instruction of your mentors, you just sort of do what you're told I suppose.* (FG3)

This type of student-mentor relationship was often coupled with comments indicating a lack of enlightenment and an unwillingness to embrace alternative ways of working, or to incorporate new evidence into their practice, such as:

> *I think they're just like, oh, I'm going to do it here, so this is how I'm going to do it. . . . so he said he's always done it like that, and I wondered what kind of evidence there was to suggest if that was the right place or not . . . because I want to do it right.* (Cathy)

Subsequently this can evoke a lack of self-belief within the students' practice. When discussing how the mentor had made her feel, Katie described how she reacted to

being asked if she wished to administer the injection, later berating herself for not seizing the opportunity:

> *the practice nurse was anxious herself, so she put me on edge. I declined, I said actually no, that was daft, I feel that was daft.* (Katie)

5.6.2 Students' assessment of their mentors' practice

The age of the mentor was sometimes seen as proportionate to their level of experience, with older nurses being excused from what might be considered poor or ritualised practice on the basis that they were experienced. Jess noted the lack of landmarking prior to needle insertion and suggested that:

> *I suppose they like use their judgement and they know exactly where it is after such experience, but they just do it…well nothing's ever gone wrong from what I've seen. So I'm guessing that they've done so many IMIs that they know where to put the needle.* (Jess)

Jess was bargaining with herself that this deviation from practice was acceptable and this is an example of cognitive dissonance which will be returned to in the discussion.

The reverse was often true with regard to age and experience, as newly qualified staff were found to be very encouraging and using evidence-based practice. Katie described her experience of working with a practice nurse as:

> *She was quite young herself, she was a lot more cool about it [injections],*

In contrast, Toni felt that when, chronologically, the nurse had been trained might be a reason to justify why they practice in different ways:

> *In the community. . .with the district nurses, one nurse didn't do the Z Track but she was an older nurse. So I don't whether that was just because, the way she'd been trained. Another [younger] nurse did do it when I was out with her, and that's how I was doing it as well. . . and she explained the Z Track to me, because she said, it sort of stops anything coming out afterwards. (Toni)*

Certain teams were also highlighted as demonstrating exemplary practice, Julie described the community team she was placed with:

> *I was with an amazing community team… their skills levels were really incredible, you could see and in fact I told them because I was so impressed. It was almost a sort of direct lift from the classroom or skills room into the community. It was amazing, I don't know how they did it.* (Julie)

What is remarkable is that Julie felt the need to describe good practice as 'incredible', when it should be the norm, as well as in her own words that she would have expected their skills:

> *…either to have declined a bit or they've developed their own sort of methods,*

the implication being that community nursing would not be as perfect as acute hospital nursing.

Many verbalised comments indicated that the mentors' practice was, in their opinion, somewhat out of date or ritualised:

> *When they [inject] the bottom, they don't, it doesn't look like they're working out exactly where to do it. They just stick it in the top of the bum . . . but they don't feel for the bone, they just pick somewhere out . . . some [mentors] are quite set in their ways,* (FG3)

and

> *You can't rely on your mentors…sometimes they're fantastic and sometimes they're not quite up to date with the latest.* (FG1)

Some students evoked an image that demonstrated elements of different [personality] types of mentor:

> *I think it depends on your mentor because some mentors, they really thrive on students. And they're, like, oh can you tell me all the new stuff that's going on?* (FG3)

Thus there appeared to be demarcation between those mentors keen to know more and those who were not:

> *They just ask me, like why we were taught in a different way and what's the findings behind it? Some are just very blasé about it, well that's how you were taught, I was taught like this, this is how we do it. But most of the time they're really interested to learn about how we're trained to do things and learning how things have progressed and why.* (Tanya)

Other students explained how they might take on the role of investigator to problem solve, or to approach the discrepancy or question in practice,

*well he said that's just how he was taught. And I was like, oh OK, I'll see if there's any research on it. And then I showed it to him and I said, yes, I think it's fine. Because he was one of those mentors that wanted to be up to date with information.* (Cathy)

Cathy took this role further by ensuring she had her skills information to hand and offering to share this with her mentors:

*I take my workbooks to placement with me … so just in case I get one of the mentors that like to be up to date. Then I can say, oh you can photocopy this, you can have this if you want.* (Cathy)

Thus, in summary, the relationship of student and mentor, both in a professional manner as well as at a personal level with their personal character and disposition, was seen to be of paramount importance – not only for assessment reasons, but also for clinical learning and decision making skills:

*[I] think it's about the relationship you have with your mentor as well. If you don't really get on well with her (sic), then you wouldn't feel confident questioning what she was doing. Whereas my mentor I've just had was very happy for me to be giving her all the knowledge I'd just learnt and new ways of doing things, which I found really sort of confidence building.* (FG3)

## 5.7 Theme 3 – Students challenging practice

**Table 5-5 - Theme - Students challenging practice**

| Theme – Students challenging practice | | | | |
|---|---|---|---|---|
| Secondary Constructs | Frequency (Focus groups) | No. of data occurrences in Focus Groups | Frequency (interviews) | No. of data occurrences in interviews |
| Challenge the mentor | 3 | 13 | 28 | 9 |
| Confidence | * | * | 17 | 9 |
| Lack of confidence | * | * | 16 | 6 |

* not used as a NVivo code for focus groups

### 5.7.1 Students' confidence related to experience

Throughout the interviews students revealed the different ways in which they challenged what they saw in practice, or whether they chose not to say anything or to question. They also revealed what the decision towards action or inaction was based upon. Many recognised that the confidence to challenge came with experience of being a student nurse:

> *I wasn't [challenging] in the first year. I just kind of went with whatever. But as my placements have gone, I've got more confidence in what I'm doing. If I know something then I'm more confident to say something.* (Tanya)

Nicola also recognised her ability to challenge came after her second year:

> *I probably questioned more and that comes with experience. But it was my first placement in my first year. So I was a bit like, you are learning, so you tend, what you see is what you think is right. And it's only later on that you think, OK things can be done differently.* (Nicola)

5.7.2 Students' self-awareness

There was also the recognition that students feel sustained by virtue of their recent university educational experience:

> *What's nice about being a student nurse is that you go into placement with the most up to date information. I like that.* (FG1)

The students were able to verbalise considerable self-awareness in how they should frame their questioning if they decided to challenge aspects of practice. Toni said she would:

> *try not to be confrontational...rather than saying, oh you don't do it like that . . . do it a bit more subtle, but try to get my point across as well.* (Toni)

One focus group participant recognised when her intervention had not gone well and caused her to subsequently maintain silence:

> *I had one . . . in my first year when they did one [IMI] in the bum. But I said, oh we don't get taught that way anymore, we do it like here. And I showed them and they're like, oh no, we always do it this way. And I was like, oh, I wouldn't say anymore sort of thing.* (FG3)

Lucy was unsure of her ability to be challenging and said that her student status, and the situation where the event occurred, would make her reticent about challenging her mentor:

> *Q: And would you feel able to challenge them over it or say, why did you choose that one?*
> *A: I don't know, I don't know, maybe. I don't know, it depends on the situation.*
> *Q: What would hold you back from questioning?*
> *A: Just being a student really*
> *Q: OK, that's alright*
> *A: Yes. I don't know, it depends on the situation*

*Q: Yes, absolutely*
*A: And also, I wouldn't want to do it in front of the patient.*

Similarly, Katie also showed understanding and self-awareness regarding when and where it is less than ideal to question another nurse's practice:

> *It's at the bedside, because they'll say, oh, you know, we haven't got much time or we'll just do this quickly. And there's, I can't, I wouldn't say, oh can we have a chat at the side? Because sometimes you're in a bay of six people, so everyone's watching aren't they?* (Katie)

This point, about making patients feel uncomfortable, was recognised in a focus group:

> *I think it's easier not to do in front of the patients because then it takes, you know, you don't want to let them feel unconfident if you're challenging practice as well. It's a bit insensitive to do it in front of a patient.* (FG1)

Nicola voiced her hypothetical approach of 'testing the waters', before deciding if she should take a challenging approach, because:

> *I don't want to end up offending anyone . . . I'd probably do it more from a query . . . oh I've seen it done this way . . . and then get their feedback on it. And sometimes you can gauge that, you know . . . but you do find sometimes, people can be set in their own ways.* (Nicola)

Similarly, Julie showed insight into how staff might feel as a result of her approach:

> *They do feel a bit on the spot, and they do feel, I think they're a bit intimidated, because, I do ask a few questions until I've got enough information.* (Julie)

Several students voiced their need to check their understanding was correct before they would be willing to challenge:

> *I could, yes, but I'd have to make sure I was right as well, at the same time, before I could go and challenge them on it . . . I'd like to make sure I have got my facts right . . . I would maybe look up the evidence and find out first of all,* (Toni)

and

> *I'll go and research it myself but I do ask why they are doing things and why they have reached that decision.* (Julie)

### 5.7.3 Examples of students challenging practice

Several students were not able to answer the interview questions using the IMI skills as an example, yet were able to relate to other challenges of practice - particularly to moving and handling techniques. Katie recognised that the staff may continue with, what she felt was, unsafe practice whilst she left the bedside to seek out equipment:

> *I have twice said, can we use slide sheets please? We haven't got any . . . we're just going to do this quickly, we'll just move them up the bed. And I've actually said, I'm not happy to do that, I'll go and find some slide sheets. And either I've gone away and then they've done it, but I've always gone to find where the slides sheets are.*

Katie further expressed that she was able to be firm:

> *I will actively say, "I'm not, sorry, I'm not doing it"*

and her distress at the attitude of the staff

> *I don't know if disappointed is the right word. . .I sometimes feel [they] can't be bothered to go and find the correct [equipment], I'm just like, for heaven's sake, you're just being a bit lazy.* (Katie).

Cathy felt that her ability to question was defined by the mood of the mentor:

> *…so if they're stressed, then I think it's not a good time to challenge their practice,*

instead opting for relaxed times such as

> *…maybe on a lunch break. . .they've got their guard down a little bit and they're feeling a little bit more relaxed. . .because then it's more like a friend, rather than once you're on the floor you're a professional.* (Cathy)

### 5.7.4 Confidence related to ability to challenge

Issues of confidence seemed to be inextricably linked to challenging practice, whether that be personal confidence, or perceived confidence of the mentor in the student. Katie accepted the need to build up her confidence and recognised that as a second year student:

> *I do feel a lot more confident in some of my nursing skills, so I'm more likely to say, can I do that? Am I doing this right?. . . I think maybe because she'd already worked with me for some time, she felt, had confidence in me, which then gave me confidence.* (Katie)

Yet she showed awareness of avoiding injections skills and the need to correct this before qualification:

> *I kind of feel I have hot potatoed injections because of not feeling confident within myself. So I'm like, well, you know, I'm going to qualify in a year and a bit, so I need to get my head around this and get it done. And probably not worry so much about what other people think, like fellow nursing staff.* (Katie)

The issue of lack of opportunity leading to a lack of confidence was also noted:

> *lack of opportunity… I don't feel confident because I've had very little chance to do it out in practice.* (Jess)

Again, the issue of returning to revisit practice skills at regular intervals was seen as a possible solution:

> *It would have been nice to have a little refresher, just to refresh my skills and build up my confidence again.* (Tanya)

A student in a focus group was concerned about how she would be perceived by her mentor if she questioned the discrepancy of theory to practice:

> *I kind of question my own confidence, really, because I thought I understood it. And then when I don't see it in practice I'm thinking, oh no have I understood it incorrectly or if I don't feel confident to say it, then I kind of feel a bit little, and just a follower. I don't feel confident enough to say, oh we got taught this, because I don't want her to think I'm a know-it-all when I'm a second year student.* (FG3)

Similarly concerns about undermining the integrity of your mentor was paramount for this student, who following training in the 'Z track' technique in the skills' laboratory (which she refers to as the 'zig–zag' technique, which is part of the process of administering an IMI). She describes how she felt unable to confront her mentor and why:

> *But I don't feel confident enough to say, oh, what about the zig-zag technique, because I think, am I undermining them? And they've obviously done loads and that works. So I've just kind of sort of just stood there and kept quiet.* (FG3)

Lack of confidence was seen as a limitation in many ways and not simply or exclusively towards challenging practice, yet only by participating in the care or skill, could the students' confidence increase:

*I thought I've seen a few now, I just have to do it now.* (Tanya)

Lucy reported a problem with her own confidence following an experience the day before, when she had given an injection that the patient subsequently told the nurses was very painful. The next day she was called upon to give another injection to a different patient:

> *I was feeling under confident anyway because of what had happened previously with the other person. . .I didn't feel confident doing it and I did it anyway and that's my issue. . I shouldn't have done it. I should have said to my mentor, I don't feel comfortable doing this, I think, you should do it. He [the patient] yelped and swore at me, said it was the worst pain he's ever had. . .And I thought, oh my god, what have I done?* (Lucy)

However, the encapsulation of the cohort's answers regarding challenging practice was given in this student's statement:

> *You want to be a good nurse and you want to feel you can speak up. But when you're a student you kind of, you're lacking your confidence. I think it's going to be like that as newly qualified as well because you're building your confidence up. But at the moment it's, questioning your mentor, you're a bit worried to do that. So you don't know how they're going to react or are they going to take it positively or, because at the end, you just want to do what's right.* (FG3)

## 5.8 Theme 4: Cognitive dissonance

**Table 5-6 - Theme - Cognitive Dissonance**

| Theme – Cognitive Dissonance | | | | |
|---|---|---|---|---|
| Secondary Constructs | Frequency (Focus groups) | No. of data occurrences in Focus Groups | Frequency (interviews) | No. of data occurrences in interviews |
| Students' feelings | 4 | 24 | 8 | 25 |
| Students' worries and concerns | 4 | 51 | ** | ** |
| Cognitive dissonance examples | * | * | 7 | 23 |

* not used as a NVivo code for focus groups

** Not used as a NVivo code for interviews

### 5.8.1 Students' feelings

Most students were able to come up with examples of how discrepancies in practice made them feel. Often this was described as awkwardness, confusion, disappointment,

or indignation. Yet there were other students who did not appear to have any negative feelings, who instead just accepted this was how things were:

> *OK, well because you're just working under the instruction of your mentors, you sort of do what you're told I suppose. (FG3)*

Comments like this were in the minority, with more students expressing feelings that can be attributed to cognitive dissonance:

> *So it makes you feel a bit more, not nervous, but cautious about the whole procedure. Because you want to get it right, you don't want to go there and go to the patient, because they're trusting you. So you want to come across confident and competent. So I think having different things in practice and what we're told, it confuses you.* (FG1)

5.8.2 Strategies used by students

Students were able to engage other strategies. Julie mentions her ability to accept some minor feelings of cognitive dissonance arising out of discrepancies in practice as insignificant, and describes her tactics in overcoming this:

> *Oh if its minor things like moving and handling and stuff, I tend to brush it off, or I've just worked with a different nurses, or if I need something doing I'll go and find somebody else that I know can do it properly. So you seek them out as a student, you get quite resourceful.* (Julie)

More negative strategies are shown in the action taken by Lucy when she felt she had engaged in an injection practice that she believed to be wrong. In section 5.7.4 Lucy had previously described how she had a negative experience injecting a man she describes as 'living the life of a hermit in the woods', when she gave him an injection that he claimed was painful, so she felt she had made a mistake. Despite reassurances from her mentor, which Lucy doubted, she proceeded:

> *She [the mentor] said just push it in and then cover him up and she said we'll give him his cup of tea. And I did that I will admit, I zipped up my, I had a fleece on, because it…was quite cold, so that he couldn't see my student [I.D]. And I shouldn't have done that, I know I shouldn't.* (Lucy)

Katie used the analogy of learning to drive when discussing how students may practice, comparing it with how practice can change as nurses move from a position of learning as a student – whereby everything needs to be perfectly executed – to one of adapting or being tolerant of sub optimal care after registration:

*Am I being a stick in the mud, you know, following how it's supposed to be done ?. . . oh well, she's a student, so of course she's going to do it like that. So you learn how to pass your driving test and then they say, once you pass then you actually learn how to drive. And you end up crossing your hands over. . .not doing the whole mirror, signal, manoeuvre thing.*

In this example Katie appears to be adjusting her beliefs about what she thinks is right, accepting that as a student optimal care is always the goal, which may come at a cost to how you are perceived as a student (i.e. a nuisance), yet after registration, the situation of the 'real world' of practice is very different. She is struggling to accept that things may be very different for her then, but realising that this is the reality.

### 5.8.3 Peer and family support

Peer and family support also featured as an effective mechanism to counteract any feelings of cognitive dissonance. Katie expressed the need to talk to fellow students to provide mutual support. The camaraderie of being placed on the same clinical area meant that this support may not be provided by their normal 'circle' of friends:

*Q: I just want to pick up on the fact you said you go and, you talk to fellow students. Do you find that a very therapeutic way to work through it then?*
*A: Yes, massively. What I find brilliant is when you're with other students on placement. And what's quite interesting I've noticed, is that you have your kind of students you mainly sit with at University, you know, in the canteen there's a sort of group of people you go to sit with. And then if you're on placement with somebody from another group, during that placement you're like, oh you're talking to each other more than you ever have done before. And then quite often, when we come back to University, you kind of say hello and things but there's not, you know, you're in your separate groups again. But I find sounding it out with another student brilliant, especially from the same ward because quite often they'll have the same opinions as you, from what they've seen.*

Additionally, Julie spoke of a distressing deprivation of liberty incident concerning the care of a patient (which has also been discussed in section 5.5.6) and of how Julie's family were also a vital part of her support mechanism:

*With that particular incident I was very, very upset. And I took myself home and I talked to my husband, and my son who was at home at the time. And I talked to them but I was very upset. And, in fact, it's a year ago, and a fellow student as well, I phoned her. And I still get upset about it now and I get upset because I feel for the patient. And I think that's perhaps why I stayed to the end of the placement because he was still a patient there. And I felt quite protective over him actually and I'd always volunteer to go and work with him. And he was quite difficult; he wasn't an easy patient, to be fair. But there was no need for that heavy handedness, so yes.*
*Q: Well it sounds like you acted perfectly.*
*A: I acted within the code.*

In this instance Julie not only tearfully described the incident in the interview, but also her disappointment in the care provision for this gentleman was evident. Her decision to volunteer to nurse him every day was her way of ensuring optimal care was given to him and would thus reduce her cognitive dissonance by exercising some control over his care.

## 5.9 Summary

In summary the results presented show the many and varied ways in which students react and behave when encountered with practice that differs from what they have been taught. The responses of the students indicate that there is a T-P gap, however not all students recognise it as such, choosing instead to defer and adapt to their mentor's practice. Consequently, whilst some students appear troubled by the feelings that they experience, others have positive or negative strategies to deal with it, and the remainder do not appear to experience any issues that affect them. Some students are able to question and challenge the practice that they see, although occasionally there are negative consequences in doing so. These points will be further explored in the discussion chapter (see chapter 6).

## Chapter 6 Discussion

This discussion chapter will draw upon the research findings, as presented in the four themes within the results (see figure 5-3). This will provide a critical discussion of the issues arising from the data sources of the documentary analysis, focus groups and interviews which together formed the case study.

The four themes derived from the results of the study, namely: simulation based education, student challenges to practice, mentors' supervision and practice, and cognitive dissonance all have a role to play in furthering an understanding of how students may react to a T-P gap. It is essential for nurse educators to understand and reflect upon how students might seek consonance for any cognitive dissonance by either questioning, challenging or adopting conforming behaviours. The results chapter provided a detailed account of the students' views and experiences regarding IMIs and other nursing skills in relation to the existence of a T-P gap. Consequently interpretation or insight gained into the behaviours displayed, or the actions taken, by the students are duly considered. This chapter will begin with a nested analysis of each students' responses highlighting where the four themes or the associated theories occurred within their interview narratives.

### 6.1 Nested analysis of cases

**Toni:**

Toni readily recalled information about the IMI sites such that she exhibited insight into the rationale and evidence base regarding site selection. Whilst not able to specifically name the sites, she could demonstrate their location and she discussed how the practical SBE session had increased her confidence in IMI administration. Toni verbalised how she is a kinaesthetic learner and therefore it was evident that the practicality of the session was pivotal in her learning the skill.

Toni did recall seeing discrepancies in practice and gave an example of the differing practices between an older and a younger nurse. Toni appeared to justify this by assuming that the practice of the older nurse was a direct result of her training, she did not offer any insight as to why the older nurse had not updated her skills.

Toni was able to give examples of when she had challenged practices regarding other fundamental nursing skills and explored how adopting a non-confrontational approach

was essential. Her confidence to challenge was increased when she had made the conscious effort to check the evidence before she questioned her mentors, though she felt this would not prevent her from speaking out if she felt that sub-optimal care was being given to patients.

**Jess:**

Jess' knowledge and recall of the IMI sites was very good, being able to name most of them, as well as having the ability to landmark the basic anatomical structures. Whilst appreciating the 'hands on' practice that SBE provides, Jess questioned the application to real life experience. Jess had not administered many IMIs and felt each student should fulfil a 'quota' before registration. Hence she lacked confidence in this skill, but had witnessed discrepancies in her mentor's practices and attributed this to their clinical judgement. Jess showed cognitive dissonance when explaining these discrepancies, by stating that as 'nothing had ever gone wrong', that therefore in her opinion the nurses' decision regarding administering the IMIs was correct.

Jess had been able to challenge when engaged in other fundamental nursing skills (moving and handling), by retrieving the appropriate equipment herself and knowing that she was right to do this, emphasised her own self confidence. This in turn produced a sense of achievement for Jess that might promote her to continue and develop her questioning and challenging outlook.

**Lucy:**

Lucy was quite vague in her recall of IMI sites, and reported how she felt the SBE session was not very realistic in its transferability to real life clinical practice. She expressed concern about deviant cases such as patients who are thin, obese or who present other challenges. Lucy verbalised how she was taught to administer an IMI to a 'perfect patient, but in my experience, there's no such thing as a perfect patient'. Lucy's reflection on the T-P gap gives weight to the argument that a spiral curriculum revisiting skills each year with increasing complexity will make students feel better equipped to care for all patients as well as providing more opportunities to rehearse the skill.

Lucy showed characteristics of conforming behaviours when she recounted how she had administered an IMI to a patient to chemically sedate her. The patient was held down and Lucy was told to 'get on and do it (the IMI), so I did' she did not express any way in which she had challenged the situation; instead she colluded with the staff, in

order that the task was completed. However she did express that consent had not been obtained and this appeared to be causing Lucy some moral distress.

**Tanya:**

Tanya mentioned how she felt the SBE session did not reflect real life practice, yet she felt confident and able to challenge her mentors about the discrepancy in IMI practice that she saw. Sometimes she felt she was dismissed by their comments of 'that's how we do it', but other mentors had been more inquisitive and interested to learn how she has been taught. Tanya had made the connection that often it was how the challenge was presented, and therefore why a tactful well-timed inquiry was likely to achieve a more positive response from her mentor.

However it was concerning that Tanya sometimes did not appear to be worried that incorrect practices, resulting in a T-P gap, might cause harm; instead she believed it was not detrimental to the patient's' health and that it would not harm the individual.

**Julie:**

Julie had a reasonable recall of the sites for IMIs but said she had not administered any on her placements. She implied that as a mature student, she often found it harder to absorb new information, but that she had applied herself well, and completed the pre and post session reading such that together with the practical SBE session she felt well equipped to administer IMIs in future. Julie had a placement in the community and found her mentors to be exhibiting skills she noted as a 'direct lift from the classroom', which surprised her, as she made the assumption that the practice in the community would not be as up to date as that seen in a hospital setting.

Julie felt able to challenge any discrepancies in care that she saw and came under intense pressure when she refused to conform with restraining a patient. Her recollection of the incident showed signs of moral distress as she realised that what she was being asked to do is illegal. She found the moral courage to refuse to take part, to walk away from the situation and later report the incident. However in so doing she found her remaining shifts on the ward to be unpleasant, as the ward staff suggest she misread the situation, a fact she refutes. Exhibiting the moral courage to challenge the incident, has for Julie been a painful and unpleasant experience, but one that she does not regret.

**Laura:**

Laura had limited exposure to IMI administration, though she had talked through the mechanisms of how an injection would be given with her mentor. She also observed nurses giving injections without landmarking the site first, which she felt was due to the fact that they 'had been doing it for a while', and she aspired to be able to do this as well in due course; which shows she did not acknowledge the need to landmark each individual patient on every occasion. Laura recognised that she was unclear about the rationale for site selection, such that she would need to revisit the literature before feeling confident to take part in IMI administration herself.

She had seen some differing practices- mainly surrounding sub-cutaneous injections, and blood glucose monitoring, the latter she recognised after practising on herself. Here she recounted that the method she was taught in her SBE gave more accurate readings compared to the method used on the ward and therefore was a very relevant issue for practice. Laura felt that she could challenge this in future, but was already thinking of how she might do so in order to achieve a positive reaction from the staff.

**Nicola:**

Nicola had seen discrepancies in IMI practice but said she was not quite sure if she should mention them or not- so she had not challenged her mentors about this, though she debates with herself that 'there must have been a reason why they [the nurses] did it differently'. In an example of cognitive dissonance, Nicola attributes this to the different ways that people are taught, and how this can resemble a set pattern or process. She recognises that they are using ritualised practice, yet she feels that her status as a junior student has in the past made her ineligible to challenge. In another example of cognitive dissonance, Nicola states that as IMIs are infrequently used within adult nursing, that might be the reason why the nurses appear not to have updated to a more contemporary evidence based mode of practice.

Nicola appears to appreciate the aspect of life long learning as she concludes that is a personal obligation to keep up to date, it is not solely that of the university, and that students need to take responsibility for their own learning and apply it to their future practice.

**Katie:**

Katie expressed that how she feels about IMIs varies according to whom she is working with. She found that experienced mentors set her more at ease whereas younger mentors appeared to be more anxious which in turn made Katie lack confidence. Consequently this has resulted in what Katie calls 'missed opportunities', with elements of confusion and misunderstanding occurring between herself and her mentor. This led Katie to assume that patients did not want her to administer their injections,['there's an assumption students will only bodge it up'] and this created an element of anxiety for her. This can be associated to a lack of exposure to the skill, thereby creating a lack of opportunity to practice [which itself is surrounded by anxiety] and a subsequent decrease in confidence.

Katie also noted that when using moving and handling techniques, some nurses were displaying beliefs or values that could be aligned with cognitive dissonance. These included using the incorrect techniques saying 'as we are only going to do this quickly', or 'just for this time'. Katie felt confident to actively remove herself from these situations and verbalise that she was not going to take part. She was reproachful of nurses whom she called 'lazy', she found it disappointing that they could not be 'bothered to go and find the correct [equipment]'. Katie wonders if she is being too pedantic and becoming a 'nuisance' about adhering to the guidelines, but she does have an understanding of professional implications and patient safety. Here Katie is displaying signs of wanting to be involved such that she can belong to the nursing team, yet her moral distress is paramount, making her adamant that she must not to get involved with unsafe practices. Katie also admits to falsely verbally evaluating the placement in a positive light with the ward manager at the completion of the placement, because she does not want to give negative feedback, to offend anyone or to be typecast as being awkward.

**Cathy:**

Cathy was quite confused about the landmarking and the names of IMI sites, which appeared to have arisen out of observing differing practice from her mentor compared to her SBE session. She was able to challenge her mentor and showed him the literature supporting the point she was making and she reports he was interested and intrigued to read it. Cathy was also able to challenge another mentor who was removing staple closures from a wound, without using sterile gloves. Cathy shows moral distress that she does not feel able to challenge even when the nurse admits that normally sterile gloves would be worn. As this happened in front of the patient

Cathy deemed it too awkward and inappropriate to challenge her mentor at that point but later returned to the dilemma when she spent time with an infection control nurse who supported her to have the confidence to speak out in future and to recognise that this mentor was not a good role model.

Cathy continued to consider how she might speak out in future, accepting that often conformity is required when 'you've got to work with them and learn from them- they're signing your competencies at the end'. She appreciated that building a relationship with your assessor is important if not essential to a successful placement experience.

## 6.2 Students challenging practice

The reasons why students challenge the practice they see, or not, was analysed and interpretations were drawn (see section 5.7). Initial perceptions included potential issues such as confidence, or the lack of it, in their ability to speak up and self-awareness relating to how to frame such questioning. From the subsequent interpretation of the students' responses it was apparent that these issues can be linked not only to cognitive dissonance but also to the theories of conformity, belonging, moral courage and moral distress. These theories are therefore explored and compared to the findings from this research study and are represented in the conceptual diagram (see figure 6-1).

## 6.3 Conformity and Belonging

The traditional and historical approach of nurse education, until the late 1980s, was an apprenticeship model which required students to be obedient, to conform, and to demonstrate respect for authority and loyalty to the team (Levett-Jones and Lathlean 2009). Indeed, Florence Nightingale (cited in Baly 1991) described the qualities of a 'good nurse' as one who showed restraint, discipline and obedience and who would 'carry out the orders…obeying to the letter, the requirements of the matron and the sister' (p.11) These characteristics are not observed within present-day student nurses and nurse education; as instead of passively observing or engaging with practices they are exposed to, student nurses are now expected to apply critical thought, assessment and challenge to the implementation of nursing care. This idealistic notion will be debated given the pressures and consequences of modern day nursing, with its commitment to teamwork and targets juxtaposed with students endeavouring to 'find their place' on the nursing team - mindful that their mentor is responsible for their summative practice assessment.

The students within this study saw practices that did not align with how they had been taught in university, and this placed them in a dilemma about how they should react. Duffy et al (2012) describe how students are immersed into the practice environment with a 'fresh pair of eyes' (p.178) and as such may notice practices, or deficits of care, that have become entrenched or ritualised and are not challenged by the ward staff. Most of the students who were interviewed (Katie, Tanya, Toni, Julie, Jess, Laura, and Cathy) either challenged practice issues or thought that they could do so if the situation arose. However there were two students (Lucy, Nicola) who showed deference to their mentors, or felt that they should simply follow what the mentor did without challenging. Both cited the excuse, when questioned, that this was because they were 'a student'. Milgram (1974) defines obedience as the action of a person who complies with authority, and this differs from compliance - which Hollins-Martin and Bull (2008) explain, within the context of their study of midwives receiving directions from senior staff, as voluntarily changing one's viewpoint to agree with the one offered by a senior person. Within their study Hollins-Martin and Bull (2008) found that midwives, when displaying obedient behaviour, would use the terms 'instructions' or 'acquiesce'. These are words which indicate that they did not agree with the decision made but nevertheless performed or completed what was asked of them. They explained how obeying - when it contradicted their personal opinion or viewpoint - caused them stress, particularly when their ability to act in an autonomous way was hindered. Hollins-Martin and Bull (2008) separated these responses from other midwives who came to adopt the perspective of 'the other', i.e. to conform, most often because the midwives felt the need to be of the same opinion as the rest of their social group. The interpretation is that for these individuals the desire to belong prevailed over their need for personal autonomy.

Maslow's (1943) seminal work on human needs, explores how individuals strive to be part of a group, yet the behavioural consequences of this may include acquiescence - engaging in negative behaviours or unquestioning agreement. These behaviours were lauded as the foundation for success within a clinical placement by the participants of Sedgwick and Yonge's (2008) ethnographic study, as they endeavoured to 'fit in' and expressed having no desire to challenge or contradict their mentors. This behaviour was also seen with the nursing students in Levett-Jones and Lathlean's (2007) mixed methods study, where a sense of 'belongingness', or by contrast feeling alienated, was seen to have a direct effect on the students' self-concept, efficacy, and their willingness to conform to poor practice. Levett-Jones and Lathlean's subsequent study, in 2009, which explored student nurses experiences of conformity and compliance, investigated

the consequences of the concept of ‘belonging’ particularly in relation to the ‘extent to which students were willing to question or conform to poor practice’ (p 346). Similar to the findings in the study reported here, they discovered a small group of students who were willing to be directed by their mentor, to engage in poor practice in order to ‘fit in’ with the clinical nursing team. The students in Levett-Jones and Lathlean’s (2009) study who demonstrated the need to belong were identified as those who felt insecure, isolated or ostracised and who were consequently less likely to challenge any poor practices seen.

However, this was not the case with all the students interviewed as part of this study, as students such as Cathy and Nicola did not demonstrate such characteristics or feelings. Instead they were pragmatic about the need to establish a good rapport with their mentor and how the issue of forming relationships directly affected their ability to elect what and how to challenge in respect of discrepancies they saw in practice. Nicola reasoned that she did not want to cause offence; likewise Cathy understood that she needed to build a relationship with her mentors ‘in order to get the best out of your practice to learn’. As such she was implying that one needs to have a functioning working relationship with those around you, and that to challenge your mentors’ practice would not endear you to them.

Examples of different types of conformity displayed by new staff and students are seen in the studies of Champion, Ambler and Keatinge (1998), who described students as taking a calculated decision to fit in and be accepted by the nursing team. To do so they adopted the team’s values and norms and modified their behaviours accordingly, earning them the label of ‘chameleons’ by the authors. An example of ingratiational conformity (Mann 1969) was shown by the participant Cathy (see section 5.6.1) who acknowledged that mentors were assessing the competencies of the student, so it was best not to ‘annoy’ them. This type of conformity can also be explained when considering Foucault’s (1995) theory of ‘docility-utility’ - meaning that a person has power over others such that they operate in a certain desired way. Foucault’s contention was that behaviour is standardized through disciplinary power and also that power and knowledge are entwined. Nursing, as a discipline, exercises power through hierarchical observation, normalising judgements and examinations. It is this final point, in particular, which has the potential to induce conformity. Mentors are the gatekeepers to the clinical practice element of a student’s summative assessment in order to achieve registration; the student knows this and may choose to conform in order to achieve a pass grade.

Claims in the nursing literature (Levett-Jones and Bourgeois 2007, Kelly 1998) that some students will conform to clinical practices - irrespective of whether they are 'best practice' - so as to be accepted and to 'belong', are of concern. This is not only because the nursing profession strives to be innovative and forward thinking, but also because it is sensitive to media attention – such as the Mid Staffordshire NHS Foundation Trust Public Inquiry (Francis 2013) and the Department of Health Review into the failings at Winterbourne View Hospital (DoH 2012b). Bagnasco et al (2017) reviewed the implications for nursing students regarding episodes of 'missed' care, which they define as 'subtle deficits in care' (p.1). They found that once rationing, or omitting, certain aspects of care becomes the norm in the clinical environment 'principles of conformity will ensure that even nurses who do not agree with this are likely to feel pressurised to behave similarly' (p.2). In such circumstances nursing students are considered to act in a similar way. The 'missed' care, which Bagnasco et al (2017) indicate, refers to comfort and communication as common illustrations, for example not providing sufficient patient or family education, or assisting patients to change their position - or even more concerning, patient surveillance. Examples such as these can be considered to amount to poor practice and thus parallels can be drawn from Bagnasco et al's (2017) findings to this research study, whereby students are observing deviations of practice - such as poor site selection for IMIs, using out-dated administration practices and conforming with contestable practices such as administering IMIs to provide chemical restraint. In performing these actions or engaging in such practices the findings of this research study can draw parallels to the conclusions of Levett-Jones and Lachlean (2009), who found that feelings of guilt and regret were expressed. Nonetheless, they conclude that 'the need to fit in and be accepted weighed more heavily on (the students') minds than quality patient care' (p.348).

As competency-based 'fitness to practise' and person-centered care are key drivers in quality nursing care, the issue of conformity and behaviours in relation to belongingness need to be understood by the nurse educators as well as the students themselves. In this way they can be empowered to speak out against poor practice, becoming assertive and confident nurses. The role of the nurse educator in the development of students' assertiveness and communication skills, in order to prepare them to confront issue of poor practice, will be discussed in section 6.4.

## 6.4 Moral distress and moral courage

The findings of this study suggest that students do experience moral distress and that for some students these feelings were acted upon, and they were able to summon the moral courage to speak out and challenge what they saw. To act with moral courage implies that the individual is experiencing moral distress as a precursor to taking action. It is, of course, possible to experience moral distress without having the moral courage to act, question or challenge, which as a consequence may result in unalleviated cognitive dissonance (see section 6.6). Moral distress has been described by McCarthy and Deady (2008) as:

> an umbrella concept that captures the range of experiences of individuals who are morally constrained....when individuals make moral judgements about the right course of action to take in a situation, and they are unable to carry it out, they may experience moral distress (p.244).

In this situation the individual either knows what is the right thing to do, but they are unable to do it; or they do what they believe is the wrong thing. The constraint may be internal or external to them because of a personal failing (e.g. a fear or lack of resolve), or a situational constraint (e.g. hierarchical decision making or lack of resources).

Lachman (2007) describes moral courage as taking action based on one's ethical beliefs and having the 'capacity to overcome fear and ... the willingness to speak out and do that which is right in the face of forces that would lead a person to act in some other way' (p. 131). Aultman (2008) contends that moral courage forms the bridge between personal values and professional obligations, while Murray (2010) considers it to be fundamental to professional nursing practice that nurses can act when confronted with ethical misconduct.

Moral courage is not only an issue within nursing. It has been characterised in business literature as a state rather than a trait (May, Luth and Schwoerer 2014; Sekerka & Bagozzi, 2007; Sekerka, Bagozzi, & Charnigo, 2009), suggesting the ability to stand up for what is believed to be right can be learned. Sekerka & Bagozzi (2007) believe that educators have some influence over conscious choices, these being the desire to speak up, the decision to speak up, and the act of speaking up - all of which are influenced by context and pre-conscious responses. Exploring the role of the educator within social work, Oliver et al (2017) discuss how preparation for 'difficult conversations' can help foster moral courage. Using real or hypothetical stories of difficult conversations can be an educational strategy, supported by explicitly linking each 'difficult conversation story' to reasons why speaking up to protect values and

boundaries is important in the profession. Moral courage is therefore strengthened by giving students the knowledge and skills needed to engage effectively in difficult conversations (May, Luth and Schwoerer 2014), and by enabling students to experience their moral courage efforts as successful.

Bellefontaine (2009) suggests that nursing students often lack the moral courage to intervene or speak up when it is required; instead opting to remove themselves physically from the situation which, by default, implies that they disapprove of the practice (Rees, Monrouxe and McDonald 2015). Katie described this exact situation (see section 5.7.3) whereby she was asked to engage in a practice she knew fell short of the correct procedures. She informed the staff that she would not take part in unsafe moving and handling practice and managed to disengage herself by moving away from the environment where it was taking place. Levett-Jones and Lathlean (2009) are able in part to explain Katie's account by reporting that students who felt secure in themselves and accepted into the clinical learning environment (CLE) were able to question more freely and would not engage in practices they felt were putting patients at risk. This was also partially the case for Julie (see section 5.5.6) who felt very secure in the knowledge that she was correct in her assessment of the impending action the staff were taking, and was abiding by the Nursing and Midwifery Council (NMC) code of practice (NMC 2015a). She also knew that restraining a patient without an appropriate deprivation of liberty safeguard (DoLS) in force was against the law. However Julie did not feel accepted by the team, in fact her actions and questioning made her feel unpopular and disliked, yet this was a repercussion she felt able to bear for the sake of her patient's wellbeing. Julie subsequently found herself in what she describes as a 'nasty' situation similar to Levett-Jones and Lathlean's (2009) findings, whereby students believed that registered nurses made their clinical placements extremely difficult. This type of negative behaviour displayed by the qualified nurses was seen as retribution for challenging or reporting poor practice. Lachman (2010) would describe Julie as being morally courageous in the way in which she was willing to uphold her core values, whilst understanding that she would expose herself to possible harm or vulnerability. In this way Julie was experiencing moral distress and acting with moral courage - Miller (2005) suggests that when nurses evoke their moral courage they will need to endure the consequences and act according to their professional values. This may require overcoming fears, but will be rewarded with knowing that they are maintaining their integrity as well as providing dignified and respectful care to their patients. Julie knew this was the case for herself, when she volunteered to be assigned to care for the patient in her critical incident. She acknowledges being over protective of him, but is content in the knowledge that for the

last few shifts she had remaining on that placement he would receive exemplary care from her. However she was still experiencing on-going moral distress from this incident, as demonstrated by her crying when recounting the story at interview. This is not an uncommon occurrence according to O'Mara et al (2014), as students in their study continued to experience moral distress after an incident, particularly when they were not able to invoke the moral courage to challenge poor practice.

Of concern for the future are the findings not only from students like Julie, but those in Bellefontaine (2009), O'Mara et al (2014) and Bickhoff, Levett-Jones and Sinclair's (2016) studies. Each suggest how students would in future 'choose their battles', deciding when poor practice was deemed significant enough to challenge and what they will choose to ignore, or conform with, in order to successfully complete their placement.

6.5 Raising concerns

The recent serious failings in health care provision in the UK have tarnished the public image of nursing and, regrettably, students are increasingly becoming sensitised to the notion that they will see poor practice, not only on placements but also through media reports regarding failure in healthcare (for example the Mid Staffordshire National Health Service (NHS) Foundation Trust Inquiry (Francis 2013)). Similarly to the previous discussion regarding electing to conform or to evoke moral courage to challenge what they see, Elcock (2013 p1140) contends that there are three options that a student can take:

1. Say nothing
2. Write about their concerns in their evaluation of their practice experience – possibly anonymously.
3. Raise the concern locally or with their university

The third option is the preferred approach of the NMC (2015b) who updated their guidance on 'Raising concerns' in 2015 to incorporate the new code of professional conduct (NMC 2015a), as well as to include advice to students regarding how they should discuss their concerns with others. In the critical incident described by Julie in section 5.5.6, she was asked if and how she reported the incident to the University or to the clinical practice area. She explained that she had indeed reported it to her link lecturer; this action would then have absolved her of needing to do anything further, if she so chose, as the link lecturer could act as Julie's advocate in reporting the poor

practice and subsequently feeding back the result of the discussion to Julie. Elcock (2013) also suggests that such action requires courage and confidence, with the most common fear for students being how raising concerns will impact on their ability to complete their programme with regard to future placements and their practice assessments.

The NMC (2015b) advocate that 'saying nothing' is not an option and that instead universities need to enable students to share their concerns, as do practice providers. It is this connection between discussing and challenging a T-P gap which may not be poor practice, it may only be a discrepancy of care provision, but it is important for students to recognise and take ownership of their knowledge. With reference to IMI administration there were many examples given within the results where students could have questioned or challenged practice. For example the injection site selection, or actions such as injecting up to the hub of the needle, might have been chosen - yet only a few elected to question these discrepancies with their mentors. Students need to be able to rehearse the process of raising what might be considered minor concerns of practice by querying the T-P gap, with perhaps using a simple questioning approach. In so doing, students will be learning about how to discuss difficult or sensitive areas of concern knowing that they are able to take risks without fear of judgement or failure. Universities in turn need to provide opportunities for students to rehearse in safe environments to enable them to see if their concerns are indeed valid (Elcock 2013). This point will be further developed in the recommendations arising from this study.

## 6.6 Simulation-Based Education (SBE) Curriculum

A description of the pedagogy of SBE was provided in section 3.1.1, additionally a documentary analysis of the SBE IMI lesson plan and supporting documentation was offered in section 5.1.

As nursing is complex, varied and often unpredictable, nurse education requires a curriculum that ensures nurses are autonomous, responsive, critically aware and reflective, with the capability to provide holistic care. Jeppesen, Christiansen and Frederiksen's (2017) systematic review of the education of student nurses proposes that 'there is a need to transform teaching strategies so that student nurses do not experience classroom and clinical practice as separate parts during their education' (p.112). Consequently, early links between theory and practice are essential to the development of nurse education (Hoyles et al 2000) as students do not learn practical skills in isolation. They are required to rationalise their actions, thereby reflecting on

their nursing practice after they know ‘how to do it’ (Hallett et al 1996, Banning 2005). Therefore, the main outcome of skills philosophy should be to encourage the students to ‘learn through doing’ (Biggs 2003), applying the ‘evidence’ in addition to the execution of the skill. The skills environment needs to provide the student with the overall impression of the skill to be acquired, with simulation and role play being used extensively. This is important because the success of such a teaching approach is dependent on there being a positive transfer between initial exposure to the skill and performance in the caring context (Quinn 2000, Turner 2005).

These aspects were clearly applied in the SBE session and the students appeared to highly value the session (see section 5.5.1); their responses suggested that they were eager to learn and to gain ‘hands on‘ experience using the injection pads and human patient simulators (HPS). However the problems they highlighted when recollecting applying this SBE learning to practice included poor recall of the nuances of the session’s learning outcomes (see section 5.5.2). The session had occurred approximately a year prior to the focus groups and interviews and yet not one student could both name and correctly landmark the sites for IMIs (although most could do one or the other). Indeed this may not be unique to the recall of IMI sites; this may also be a problem with other aspects of their learning or with other nursing skills. Yet this is of concern when students progress into the CLE, as they do not appear to be fully prepared - this may affect their decision to conform with the prevailing practice, or to choose not to challenge it, as they may doubt their own knowledge and ability. In 5.5.3 several students mentioned that they felt the time lag between learning in the CSL and the application of the skill in the CLE was at fault. For the students in this study, IMIs are taught only once in the curriculum, and suggestions of how this could be remedied using a spiral curriculum approach will be proposed in chapter 7.

Benner et al (2010) suggest that just as the healthcare system has transformed, so too must nurse education. They propose changes to the organisation of teaching in combination with structural changes, demonstrated by four essential shifts to a new approach to facilitate students’ learning:

1. Shift from a focus on covering decontextualised knowledge to and emphasis on teaching for a sense of salience, situated cognition and action in particular situations.
2. Shift from a sharp separation of clinical and classroom teaching to their integration.
3. Shift from an emphasis on critical thinking to clinical reasoning

4. Shift from an emphasis on socialisation and role taking to an emphasis on formation (Benner et al 2010 p 82).

The first, second, and third points made by Benner et al (2010), are particularly pertinent to this research study. In the documentary analysis performed in section 5.1, the curriculum could be described as espousing situated cognition, which relates to the notion that people's knowledge is embedded in the activity, context and culture in which it was learned. Its similarity to 'situated learning' is noted, yet it is Benner et al's (2010) introduction of the element of salience - being connected to, or with, what is happening- that moves it to 'situated cognition', which is achieved through closer integration of the classroom and clinical experiences. Within the findings, some students mentioned how they felt only prepared to administer an IMI to a 'perfect patient in a perfect situation' (see section 5.5.4). Whilst this might be suitable for what Benner (1984) describes as the novice nurse, nurse education needs to move to an approach whereby new levels of complexity are introduced as the student progresses from novice to expert - applying what Benner et al (2010) call 'theory-in-action' to 'real' (simulated) clinical experiences.

The students' host university was, at the time of the study, following a linear programme where there was some collaborative learning with other programmes. Nonetheless, it could not be described as being multiprofessional. The nursing programme had recently (in 2016) been revalidated to include multiprofessional learning and had adopted the model of a 'spiral curriculum' inspired by Bruner's 'landmark' text 'The Process of Education' (Bruner 1966) whereby an iterative revisiting of topics, subjects or themes occurs throughout the course. Using Bruner's spiral model approach in the new nursing curriculum, students can be helped to engage with the increasing complexity of nursing education. This can be achieved by moving through learning about normal structure, function and behaviour to the abnormal and transferring, building on and applying this knowledge in clinical practice.

Mezirow's (2003) theory of transformational learning was also influential in the choice of the revalidated curriculum. This theory relates to a form of adult learning, whereby learners bring their established beliefs and values to an educational course, and describes how via critical reflection, these beliefs and perceptions can be transformed. The new 'spiral' curriculum, involves regular action learning sets where such critical reflective discussions with peers and educators can take place. Action learning sets involve regular, action-focused, peer-discussion groups that address clinical practice issues and enable the group members to resolve diverse or challenging

problems. Action learning sets and the spiral curriculum will be further discussed within chapter 7 as part of the recommendations about how IMIs could be revisited over the span of the three years of pre-registration education, in order to aid the recall which this study indicates is currently an issue, and to engage with increasingly complex scenarios, using reflection as a tool to discuss challenges in practice.

## 6.7 Cognitive dissonance

The theory of cognitive dissonance (Festinger 1957, Cooper 2007) was previously discussed in chapter 3 (see section 3.3), accompanied by examples of nursing related studies that explore this phenomenon. The psychological distress, or 'dissonance', that is generated whenever an individual engages in or with something that is incompatible with their beliefs or values can in part explain why poor, sub-optimal or missed care continues to endure. De Vries and Timmins (2015) suggest that, as expected, any nurse's actions, either engaged or witnessed, which contradict professional values will result in cognitive dissonance. This is a positive outcome in that it acts as an 'alarm bell' warning the nurse, alerting them to deficiencies in care or practice. Yet the desire to restore consonance (or the inner consistency), and to quell the inner alarm bell, is not always possible or can become particularly challenging. Cognitive dissonance differs from moral distress in that there is a need to search for a reason or method to achieve consonance. Hence the nurse is required to consider ways to reduce their dissonance - including justifications, apportioning blame, or adjusting their beliefs and values.

The supposition that every instance of seeing an illustration in the CLE of the existence of a T-P gap, for example by poor or ritualised IMI practice, would result in the students experiencing cognitive dissonance was not found to be so. The findings of this study presented within the sub-themes of 5.6.1 'Relationship with the mentor', and 5.6.2, 'Students' assessment of their mentor's practice', indicate that some students were acutely aware that the practice they were observing, or taking part in, was not as they had been taught in university and consequently their description can be aligned with the existence of a T-P gap (see definition in section 2.4). However, this was not the case for a minority of students whose descriptions and interpretations did not align with a T-P gap. This can be accounted for in two ways. Either their mentors engage in up-to-date evidence based practice, a fact that was recognised by Julie conveying her experience (in section 5.5.6), or more commonly the T-P gap still exists but students fail to recognise it. In this instance students merely conform and 'do what they are told' (FG3 in section 5.6.1), or assume that their mentor is correct (see Jess in section

5.6.2). The reasons why they might take these two latter actions was discussed in the section on conformity and belongingness (section 6.2).

In the concept analysis discussed in Chapter 2, the T-P gap was defined as having for the most part, a negative implication. However the notion that the existence of a T-P gap may serve a purpose with regard to positive rituals (such as the nursing handover) and thus not result in cognitive dissonance, has been identified by Haigh (2008). Recognising the T-P gap as a positive entity has also been suggested by Rafferty, Allcock and Lathlean (1996) as 'not only inevitable and healthy but necessary for change to occur within nursing education' (p.689). They attest that the dynamic tension a T-P gap produces provides the impetus for change, and that it is incorrect to assume that harmonisation, equilibrium or consensus is what must be achieved. Therefore, it is this tension that drives nurse education to seek engagement in further research and to consider how we should include and adapt these findings into the curriculum. They particularly mention how preparation for 'reality shock' is required in order for students to plan for the uncertainties and contradictions of professional life.

Nevertheless some students did show evidence of experiencing cognitive dissonance, although it was not always in relation to IMI practice – sometimes they used examples of other nursing skills. Student nurse Toni gave an example of cognitive dissonance when she described the methods that two district nurses used to give an IMI (see section 5.6.2). She acknowledges that she should have questioned this, but did not do so. Her justification was that as one nurse was older it was a vestige of her training, and could therefore be dismissed as inconsequential. Toni's rationalisation of the issue is quite dismissive and yet she recognises that the method the younger nurse uses whereby she gives an explanation to Toni whilst she is administering the injection, is the correct one and mirrors what she has been taught in university.

Katie described a situation (see section 5.7.3) where she showed cognitive dissonance as well as moral courage in that she verbalised to staff that she would not take part in unsafe moving and handling practice. Whilst she discussed in the interview how she felt the staff were lazy and could not be bothered to source the correct equipment, she tried to justify the nurses' actions (and thereby achieve consonance for her cognitive dissonance) by citing the fact that she was a student and could not appreciate the whole operational picture of the ward. Cathy, in observing a blatant breach of infection control procedures (see section 5.5.6), confessed to feeling 'uncomfortable' with the 'thoughts in her head' reflecting her distress that the procedure was knowingly being performed incorrectly. Her dissonance was assuaged by the nurse acknowledging that

the procedure was incorrect, and was also taking the responsibility for it by the comment…'and she was like, oh no, it's fine' (Cathy). At this time Cathy lacked the moral courage to say anything else, but by subsequently discussing this event with an infection control nurse she was provided with strategies to give her the confidence to speak up in the future. Her dissonance was therefore resolved at the point the event occurred by justifying that it was not her responsibility, and additionally by later seeking the support to reinforce her moral courage. De Vries and Timmins (2016) recognise this mild cognitive dissonance as a 'mental itch', where one is able to 'conjure up justifications such as 'it was somebody else's fault'' (p.6). However stronger feelings of dissonance may be shown as regret, embarrassment, shame or anger with oneself. These emotional displays of dissonance may be harder to separate from, and thus share a similarity to, moral distress.

Lucy, Katie and Julie all mentioned how peer support was a key tool in achieving consonance. They all found that talking to other students was a coping mechanism, enabling them to find solutions or justifications for the situations they encountered. But these were very unstructured and 'ad hoc' discussions as opposed to the support gained by formal means, such as by engaging in action learning sets. Interestingly, Katie also noted (see section 5.8.3) that the peer support altered according to which students she was on placement with, as opposed to her close student friends - implying that having some understanding of the situation faced has additional benefit in providing effective peer counselling.

## 6.8 Mentors' Practice and Supervision

Nursing students embark on clinical placements expecting that they will be accepted into the group of registered nurses surrounding them and from whom they will experience excellent role modelling and mentorship. The theory of mentorship, the qualities of a good mentor and how this relates to the NMC requirements for pre-registration nurse education, have been previously discussed in section 3.1.4.

Student nurses' desire to 'fit in' with the pattern of behaviour they see from the registered nurses is strong (Duffy et al 2012) and may be for a variety of reasons. The student-mentor relationship was a key factor in whether the reporting of poor practice occurred in Bellefontaine's (2009) phenomenological study, as was positive role modelling. Perry (2009) described a good role model to be a nurse who possesses extensive clinical knowledge and excellent interpersonal skills. However Baldwin et al (2014) note that although role modelling has frequent representation in the literature

regarding health care professionals and healthy behaviours, role modelling for students in nurse education has received limited research. In their integrative literature review, Baldwin et al (2014) label role modelling as a 'covert teaching practice' which they feel needs to be more formally recognised within the nursing curriculum. Excellent role modelling would include behaviours such as using evidence-based practice, demonstrating respect, showing desired attitudes and values; these were exhibited by Julie's experience with the community nursing team (see section 5.6.2). Julie described the practice she observed as being a 'direct lift from the classroom' and gave several positive evaluative comments in her interview. Likewise the students in FG3 expressed their delight at working with mentors who enquired about what they were learning at university, and indeed Cathy's mentor wanted to partake and share in the information she had regarding IMIs (see section 5.6.2). These behaviours show the students that their mentors are interested in lifelong learning, are using evidence-based practice, and are not merely engaging in either entrenched or ritualised practice.

Nursing students watch and learn from clinical nurse role models during their time on placement. Baldwin et al (2014) feel this process is covertly perpetuating the T-P gap because of the inability of nurses to isolate what students learn and from whom. Allan, Smith and Lorentzon (2008) identify that students feel they are learning the 'ideal' way to conduct practise in university, and that this may not be borne out in the clinical environment. Nicola used the phrase 'you are learning. . .what you see is what you think is right', (section 5.7.1) showing that there is room for confusion for her, comparing how she had been taught to what she observed in practice. However this quote demonstrates that when doubt is evident, students may assume that what they see in the CLE is the correct method, which as a consequence has the potential to perpetuate the T-P gap. Thus some students do maintain the ability to discern and distance themselves from what they see (see Julie's account of restraining a patient in section 5.5.6) and Grealish and Ranse (2009) note that even a bad role model can have a positive impact on a student, as they recognise the type of nurse they do not wish to be.

Nursing literature often refers unilaterally to nurses being role models in the clinical area, with the emphasis being a positive one. Nevertheless, the NHS report 'Education for Scotland' (NES 2014) indicated and acknowledged in their review, that the quality of mentorship and student experience varies. Burns and Northcutt (2009) recommend that to be effective nurses require academic preparation, formal support from educational providers and on-going professional development, for which suggestions will be made within the next chapter. However, in relation to this study, it is essential

that the educational provider is able to articulate the learning objectives and student outcomes required, so that the T-P gap can be minimised (Baldwin 2014).

## 6.9 The conceptual diagram

Following the data analysis and interpretation presented within this discussion chapter, a conceptual diagram (see figure 6-1) was constructed. This visual representation is helpful in order to appreciate how the components are related and fit the phenomenon of interest – the T-P gap. At the core, is positioned the student nurses' experience of the T-P gap, with the four themes arising from this central point. This is similar to figure 5-3, where each theme was represented with quotes or statements provided by the respondents; however in this diagram, each theme has several key phrases, which illustrate its nature. The inner ring represents the key theories that emanate from the themes, being of either a causative or a consequential nature. Finally the outer ring represents the recommendations for future educational practice which are made with the aspiration of supporting student nurses in their future clinical practice experiences.

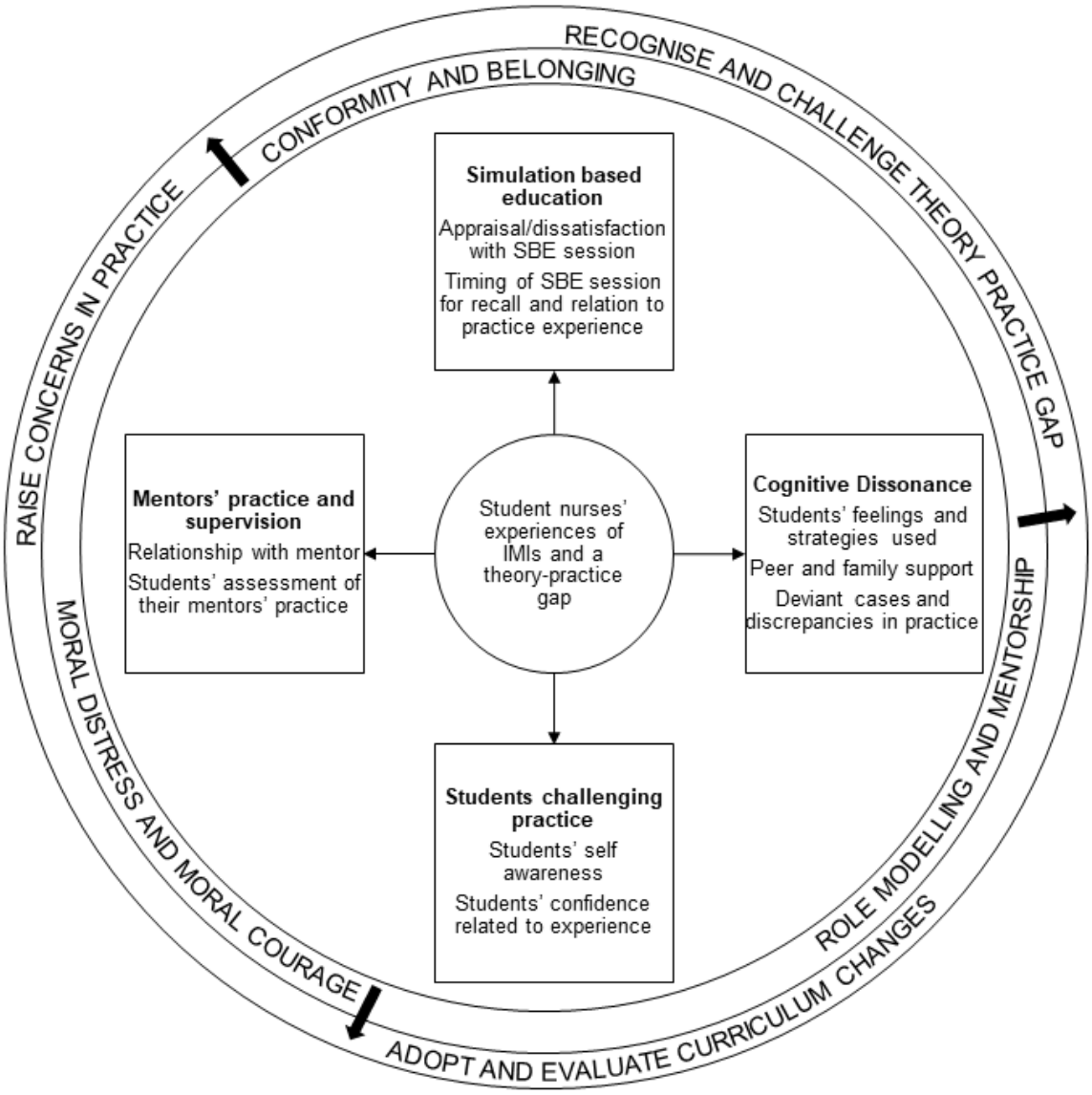



**Figure 6-1 Conceptual diagram to show the effects of a T-P gap upon student nurses' clinical practice**

## 6.10 Summary

This chapter interpreted the four themes found in this study regarding the experiences of students when facing a T-P gap in clinical practice, using the exemplar of the IMI as well as other clinical nursing skills to explore the relevance and import of these findings in relation to the larger nursing and interprofessional literature. This thesis has revealed how student nurses are affected by their clinical placement experiences, and how the need for collaboration between the university and clinical practice communities in paramount. The interpretation of the data shows that the CLE is where students are able to transform their understanding of nursing knowledge into their own nursing practice, yet they are met with complexities when the evidence based theories they are taught are not directly transferred into the practice they see. The theories of cognitive

dissonance, moral distress, moral courage, role modelling, belonging and conformity have helped to explain why some students in this research project – similarly to the nurses in the studies used as illustrations – tend towards conformity when on clinical placement. They frequently seek to minimise their cognitive dissonance by tolerating the prevailing culture, even if this be one of poor, missed or suboptimal care. Yet illuminating some examples of the application of moral courage also gives hope that second year students can challenge the practice they see. However the cost to themselves by doing so can be significant, with regard to feeling ostracised, or being worried or concerned about the outcome of their clinical summative assessments.

This EdD research began by seeking to explore if a T-P gap existed, although before this could be ascertained, it was quickly realised that no previous definition of the term 'theory-practice gap' existed within the nursing literature. Undertaking a concept analysis of the theory practice divide was therefore justified. Using Rodgers' (2000) framework, a literature review was completed (see table 2-1) and subsequently an original definition of the T-P gap was devised:

'The gap between the theoretical knowledge and the practical application of nursing most often expressed as a negative entity, with adverse consequences'.

Following the creation of this definition, it was used to decipher, interpret and add meaning to the literature retrieved for the concept analysis process. Using the Rogerian process of identifying the antecedents, attributes and consequences of applying the term, three key areas of literature arising from the concept analysis were further scrutinised in the literature review chapter. IMIs were used, where possible, as an exemplar to explore and highlight any issues raised.

Using Yin's (2003) case study approach, one cohort of nursing students was approached, however as 19 students overall participated, it is described as a 'single case study with embedded units'. Focus groups and one to one interviews were held, in addition to documentary analysis of the university nursing course handbook and SBE lesson plan. This approach allowed for the phenomenon of interest - the experiences of a cohort of student nurses regarding the T-P gap - to be explored using a variety of data sources. The new definition of the T-P gap arising from the concept analysis was used as the foundation and reference point for the data analysis and the presentation of the results. Finally, a conceptual diagram was constructed as a result of the data analysis and interpretation (see figure 6-1). This diagram assists in the understanding of the T-P gap by providing a diagrammatic representation of the four

themes arising from the interpretation of the results. This diagram also distinguishes, in the inner ring, the key theories which were seen to affect student nurses; and, in the outer ring, proposes three recommendations for future research and practice. Hence the three educational recommendations, represented in the outer ring of the conceptual diagram, relate to nursing students and their experiences of administering IMIs and of the T-P gap. These recommendations are:

1. To recognise and challenge a T-P gap
2. To raise concerns in practice
3. To adopt and evaluate curriculum changes

These will each be discussed in turn in the next chapter and, where possible, potential solutions to these issues are suggested.

## Chapter 7 Conclusions and recommendations

This final chapter concludes the thesis, by reviewing the original aims of the research study and by considering the extent to which these were met. It also highlights original and significant findings from the research. The aims were:

1. To explore the existence of a theory-practice gap
2. To explore student nurses' experiences of administering intramuscular injections (IMI) within their clinical practice placements.

Recommendations arising from this doctoral research are provided, and presented in light of the findings, together with a discussion of potential future research developments. Finally, the limitations of the research are presented and evaluated, together with a commentary about the reflexive approach employed and an evaluation of myself as a researcher with identification of personal learning.

### 7.1 To recognise and challenge a T-P gap

For the majority of the participants in this study the theories of cognitive dissonance, conformity and belonging provide an explanation regarding how there is a tendency for nurses to be complicit and to emulate what they observe. The findings also acknowledged that student nurses often seek consonance by tolerating the prevailing CLE culture, even if it is one of sub optimal care. Therefore it is crucial that nursing students are given a 'safe space' within the nursing curriculum - particularly within the element of SBE- to discuss, debate and decipher their professional dilemmas. In this way they can recognise, and if necessary name and appreciate, what they encounter as the T-P gap, as defined by the original definition presented in section 2.4. This could be achieved by:

- Encouraging students to narrate their professional dilemmas, for example within action learning sets, or via debriefing in a SBE session, or similar styled group discussions.
- Advocating that nurse educators include and clearly identify within the curriculum, opportunities for student nurses to develop their skills of assertiveness. These discussions will ensure that students have the skills such that they can effectively communicate and confront discrepancies in practice, or issues of sub optimal clinical practice.

Within these proposed group discussions, the facilitating lecturer should use a series of prompt questions as a means to assist students, not only in their story telling but also to aid their reflection on the event in order to seek a resolution to 'make sense' of what occurred. This approach may help students to reflect on real-life experiences and, through the use of discussion and case studies, enable students to explore these experiences through the application of decision-making or clinical judgement. In this way students can then practise using action plans to assist them to confront and challenge the situations they find themselves faced with.

This process has been described as 'cognitive rehearsal' (Griffin 2004), a technique to mentally process and practise effective responses to triggers - such as the professional dilemmas identified within the findings of this thesis. Within these cognitive rehearsals students need to be asked 'what will you do next time when faced with a similar dilemma'? Nurse educators also need to teach students strategies to deal with feelings or emotions as well as to help them find and use action plans and apply clinical decision making, as ways of reacting to the dilemmas. Some strategies might involve choosing actions, which are lower risk or subtler, such as physically withdrawing or removing oneself from the situation (where this is possible) without compromising the safety or wellbeing of the patient. Additionally, nurse educators need to discuss any cognitive dissonance or moral distress felt by the students as a consequence of conforming, or being unable to question, the behaviour or practice that is inconsistent with their knowledge of the 'correct' course of action. The importance of sharing these emotions, rather than suppressing them, needs to be made clear to students.

### 7.2 To raise concerns in practice

In section 6.4, in the discussion chapter, the reasons why nursing students should raise any concerns they have were discussed. However, it was recognised that students often find this a very difficult action to take, despite guidance from the NMC (2015b) being available to support them. Therefore, it is recommended that nurse educators carefully consider how they can best support their students in taking what could turn out to be a potentially daunting step. This builds upon cognitive rehearsal, as mentioned in the previous section, whereby the action of raising a concern is practised, not just recognised and reflected upon.

An example of how to teach students the strategies to challenge and raise concerns, which could be transferred to the nursing setting, comes from Oliver et al's (2017) Canadian small scale pilot study with social work students, who describe the technique

as having ‘difficult conversations’ -which is adapted from Rushton’s (2006) moral distress model. This was used not only for the students to reflect upon when they came back into university, but also as a strategy to be implemented in practice. In this regard Oliver et al (2017) created a wallet-sized ‘prompt card’ to help students to remember and use the model beyond the classroom:

- Ask (*oneself*) if a difficult conversation is needed.
- Assess the safety of the conversation.
- Affirm the right to choose whether or not to have the conversation.
- Acknowledge shared goals.
- Arrange space for the conversation.
- Act on the plan to have the conversation.

Students in Oliver et al’s (2017) study used entries in a reflective journal to identify aspects of their practice they might find difficult to discuss with their mentor in their mid-way placement evaluation. The students completed a worksheet prompting them to prepare for the difficult conversation using the model (and prompt card), before rehearsing the conversation in role-plays in a classroom setting. Students were able to decide to boycott a difficult conversation if they were able to provide a rationale for this decision. Feedback from students identified that the support they required included an empathetic classroom environment, a caring facilitator, and access to supportive others. Therefore through the practice and persistence of performing cognitive rehearsals, students are able to learn strategies via direct, incremental skill building. These skills will ultimately increase their ability to apply moral courage and to challenge and question the incorrect practices that they see. It is also postulated that such skill creation enables students to raise concerns via the appropriate organisational channels, if necessary.

- Nurse educators may also support student nurses in the issue of raising concerns in practice by encouraging critical reflective discussions between themselves and healthcare staff. Nurse educators should endeavour to attend clinical practice strategic and divisional meetings, where transparent, candid and open discussions of the challenges facing staff and their reactions to them, could be fostered. Following the discussions regarding cognitive dissonance and compliant behaviour identified within this study, this collaboration may help to create a ‘no–blame’ culture where staff would be willing and enthusiastic to discuss

ways of addressing sub optimal care, and students could feel that they were free to question and raise any concerns without reproach.

7.3 To adopt and evaluate curriculum changes

This recommendation comes directly as a result of the students' feedback of observing the complexity within different patient care episodes. In particular one of the respondents in Focus Group 3 reported,

> *University teaches you the perfect patient, the perfect situation. And it's not until you get out into practice that you realise that, obviously, you don't have a perfect patient.*

The main disadvantage of the approach taken with this study's cohort of students, was that teaching about IMIs occurred at the end of Year 1 and the topic was not revisited at any point in their three-year curriculum. Therefore it is suggested that a spiral curriculum approach (for an example, see figure 7-1) should be adopted and then evaluated, as it has the potential to offer students the opportunity to fulfill their learning with increasing levels of nursing complexity added to the scenarios used. As such, whilst the Year 1 SBE lesson plan could largely remain the same, teaching students the core functional skill of administering the IMI with supporting evidence - subsequently revisiting the topic of IMIs within other complex scenarios - would present fresh learning opportunities. In so doing, the year 1 learning would be the pre-requisite for later, 'new' learning, and as new information, evidence or skills are introduced, the student can link and refer back to their previous learning in the spiral. Throughout the subsequent years 2 and 3 of the nursing course, ever increasing complexity can be introduced to the scenarios – such as situations of restraint, body mass index, mobility or positioning challenges. Consequently, the students can identify that a single approach to IMIs cannot always be applied and that other factors may influence nursing decisions. It is these 'other' contextual or relational factors which might impact on whether a T-P gap truly exists in the situation in question, or whether it is the registered nurses' correct application of the evidence to the practice situation occurring. Using the spiral curriculum (see figure 7-1) students can apply critical thinking, from what they learn in the CSL to simulated or real–life scenarios.

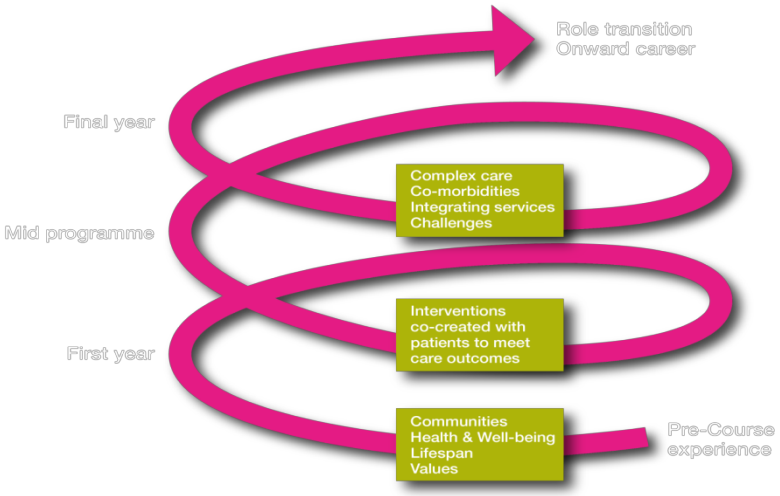



**Figure 7-1 Oxford Brookes University, Pre-registration Spiral Curriculum (after Bruner 1966)**

Ideally students would not observe or partake in discrepancies of care, however this study has shown that this is the reality for students on their clinical practice placements. Proposals to mitigate against this are that, firstly, university educators need to be honest with students and inform them from the outset of the course what care episodes they might witness and be asked to participate in. Secondly, it is important that university educators are able to share their expectations of the curriculum with their practice partners, and to respond to feedback about the 'reality' of the skills and scenarios that are used. A lack of collaboration and partnership between faculty and clinical staff will contribute to an inability to understand the perspective of the other. Managing and understanding the ramifications of a T-P gap cannot be seen in isolation; it involves students, practice partners and the HEIs. Therefore, lecturers need to promote, endorse and engage with clinical practice staff using a collaborative approach. This needs to be grounded with an evidence-based focus to improving practice and encourage the use of critical reflection. These collaborative approaches may include engaging in shared research projects, which invite collaboration between faculty and clinical staff, as well as the sharing of resources - for example, enabling clinically-based staff to use the skills laboratories and HPS for updating and developing their practice skills.

When reviewing or rewriting the curriculum, university educators need to clearly articulate what learning objectives and outcomes are expected and anticipated for nursing students. This can be achieved by encouraging and fostering practice partners' involvement in programme and module curriculum development and review. Practice partners will then have clear opportunities to feed back the 'reality' of such learning

outcomes, and collaborate in the development of accurate and representative scenarios to use within the SBE sessions.

## 7.4 Suggestions for future research

It is apparent that the impact of this case study has been positive, both in providing new knowledge, but also in reviewing the broader impact of the T-P gap within nursing practice. It has more clearly illuminated the student journey and experience between education and practice settings, has highlighted areas of concern, and therefore raised specific development issues for nurse educators. The findings of cognitive dissonance, compliance, belonging, moral distress and moral courage were important behaviour responses identified within this study. Future research to understand student responses to these issues will assist in forthcoming planning and discussions regarding students' values and beliefs and how these can be upheld in their clinical practice. For example, to ignore feelings of dissonance, makes nursing students susceptible to being unable to cope, resulting in taking actions to achieve consonance such as accepting the situation ("I'm a student"), or keeping the problems to themselves and thus failing to raise concerns. Cognitive dissonance may also tempt students to seek any redeeming features active in the situation, such as staff shortages or organisational structures to explain their feelings and attain consonance. This is a concern that Price et al (2014) raise regarding the Mid Staffordshire inquiry, as there is an argument that the staff adapted their values and behaviours, or trivialised inconsistencies, to reduce their own cognitive dissonance.

A key reason for engaging in educational research is to make a difference to educational practice (Cohen, Morrison and Mannion 2011), thus the findings from this study will be disseminated with the intention of potential further research. Therefore, further research could be:

- To evaluate the pre-registration programme after the introduction of a spiral curriculum; particularly to explore whether students are more confident and competent with regard to skill acquisition and better prepared for the reality of practice.

- To investigate the effectiveness of teaching nursing students cognitive rehearsal strategies, to challenge practice and to engage in 'difficult conversations'.

## 7.5 Reflexivity

Although the students in this study were aware that I would not teach them, nor assess them, and that my involvement was that of a research student, it was sometimes challenging to remain unbiased and to exhibit neutrality. On occasions during the focus groups and interviews students looked to me, or directly asked me questions, to seek clarification, which I did not give. Instead, I had to turn the questions back to them i.e. "what do you think?", or let them continue to make incorrect assumptions - these responses and my reactions to them were all logged within my reflective diary. This helped me to prevent bias by focussing on either what the students' recall of IMI practice was, or what they were presenting as the reality of the clinical areas, as opposed to what answers might be expected or anticipated. Having provided input into the design and content of the lesson plan when it was created for the 1st year module, it would be easy to feel very disappointed that students still felt or exhibited confusion and misunderstandings surrounding IMIs.

Additionally, after each focus group or interview, notes were made regarding my thoughts on the interview. Any nuances that were unlikely to be recorded by the microphone, such as interactions, movements and body language were noted and these were used to assist in the interpretation of the data at the analysis stage.

The only time I stepped out of my role as a research student into that of a lecturer was after the conclusion of our recorded interview, to confirm the actions taken by Julie (see 5.5.6) with regard to reporting her experience to the university and to talk to her about her current feelings and wellbeing. This was in line with the NMC statement I had asked the students to read prior to the interview (see appendix 9), and to ensure that ethical practice was followed.

## 7.6 Limitations

In respect of this academic study, there were several limitations regarding the methodology, analysis and results that should be recognised. Firstly, the sample of students was largely self-selecting and taken from only one geographical location in the south of England. The students in the second-year cohort at this university had responded to my recruitment talk and volunteered to take part in the study, to discuss their experiences either in a group or one to one interview. Consequently, it could be argued that, the study did not attract participants with low levels of confidence about administering IMIs, or those who felt they had nothing to offer – perhaps because they

had not observed many IMIs. Equally it is hard to discern the extent to which those who did volunteer to participate represented the views of their peers. The demographics of the participant group were typical for the study's geographical location and intake profile of students onto a pre-registration adult nursing course and the numbers recruited were sufficient. However, given that ethical approval had been gained for up to 30 participants to be engaged in the study, it would have been preferable to recruit more than the 19 who took part, particularly as only nine were prepared to continue to the one-to-one interview stage.

Although the time between the focus groups and interviews was not prolonged, the time between the analysis and thesis 'write up' has been protracted, due to the researcher's need to take time out for ill health; this negatively affects the contemporary nature of the results and reduced their value and transferability. However, the time period was not excessive (one semester) and thus is a minor limitation of this study.

Respondents all agreed to validate their respective interview transcripts to ensure that the researcher's version of their interviews was correct. These transcripts were all duly confirmed and returned demonstrating reliability in the transcription of the interview recordings. This process enabled the content to be clarified by the participants; no alterations were requested and all participants confirmed that they agreed with the transcripts detail and presentation. The curriculum documents that were provided had already gone through rigorous internal organisational scrutiny assuring the content for the purposes of this research.

With regard to the methodology, the single case study with embedded units, was an appropriate design for this study as it was concerned with gaining an in-depth insight into a complex phenomenon of which there was little known (Yin 2003). The approach of using embedded units is devised to gain multiple perspectives on the concept, and the study involved 19 students who were all able to impart their opinions and knowledge. However, this study remains a single case, in one university, and is primarily concerned with the exemplar of IMIs, however reflecting upon different nursing skills may have revealed different responses.

## 7.7 Evaluation of self and personal learning

Despite being an established nurse educator, conducting this study was a new experience for the researcher. The process of conducting this study has provided an

opportunity for personal and professional reflection, which has enabled consideration of the impact that the experience has had, and to identify the learning that has taken place. My supervision of students undertaking research and completing dissertations has changed; as the awareness of the need to be constructive and informative during feedback is more profound, in order to enhance students' ability to be critical.

With regard to practice as a nurse link lecturer, I adopt a more considered, supportive and reflective approach when collaborating with clinical practice partners. I remain acutely aware of the challenges students face within the complex environment and situations they are in, with both practice and university responsible for their summative assessments. Therefore, promoting and sustaining an effective dialogue and working relationship with practice partners is paramount, with each being clearer about the position and viewpoint of each other as well as acknowledging the challenges faced by both partners of this educational and professional provision.

## 7.8 Summary

Overall this research has demonstrated the existence of a T-P gap within nursing and nurse education. The concept analysis, performed as an objective to explore the aim regarding existence of a T-P gap, allowed for the creation of a new and contemporary definition of the term 'T-P gap', which can now be used for further research and educational endeavours within nursing. The second aim of the study was to investigate nursing students' experiences of a T-P gap, and the breadth of the findings has implications not only for nurse education but also for the NHS. The findings, related key theories identified and the recommendations are included within the conceptual diagram (see 6-1). In an era of patient-centred care, fitness to practise and competency-based education; the conceptual diagram assists in enhancing our understanding of the often unquestioning compliance showed by students as a means of enabling their acceptance and inclusion within the nursing team. Within this study, students are reporting that they are sometimes practising in clinical learning environments where they feel their voices are not heard, or where they are reluctant to speak up and raise concerns.

Confident, questioning, and assertive practitioners are essential for a profession that seeks to be innovative and forward thinking; this starts by challenging the small discrepancies in care that might fall within the description of a T-P gap. The personal challenge for students is great and the stakes are high, as they need to develop and demonstrate resilience and courage in order to highlight their concerns without fear of

reprisals. The recommendations from this study suggest that nurse educators need to adapt and evaluate the curriculum, such that when students recognise a T-P gap, they can challenge it accordingly. It is essential that nursing students are given a 'safe space' within the nursing curriculum to discuss and decipher their professional dilemmas. A recommendation is that this could be achieved via the process of 'cognitive rehearsal' and by practising the technique of having 'difficult conversations'.

The 6Cs, (care, compassion, courage, communication, commitment and competence) which underpin the Compassion in Practice strategy, were developed as a means of articulating the values, which need to underpin the culture and practice of nursing (Department of Health, 2012a). The element of 'courage' within the 6Cs empowers all health care staff to stand up for patients and report and poor care they encounter, and as an organisation the NHS needs to become more receptive to honest reporting about standards of care. Therefore educational support for these episodes of reporting is paramount and fundamental to encourage nursing students to raise concerns in the practice setting.

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**Appendices**

**Appendix 1 – Summary of Literature Review**

| Lead Author | Year | Journal | Title | CINAHL | BNI | PUBMED | EDU | MEDLINE | Included in CA |
|---|---|---|---|---|---|---|---|---|---|
| Monaghan | 2015 | Nurse Education Today, 35, e1-e7 | A critical analysis of the literature and theoretical perspectives on T-P gap | Y | Y | Y | Y | Y | Y |
| Walsh | 2005 | Nurse Education in Practice,5,(1), 49-57 | An exploration of tripartite collaboration in developing a strategic approach | Y | | | | | |
| Lambert | 2005 | Journal of Clinical Nursing, 14, (6), 664-673 | Clinical Education facilitators: a literature review | Y | | Y | | | |
| Caine | 2012 | Mental Health Nursing, 31, (6), 9-11 | Clinical supervision and the T-P gap : view from MH student nurse | Y | | | | | |
| Manias | 2005 | Learning in Health and Social Care, 4,(2), 67-77 | Clinical teachers in speciality practice settings: perceptions of their role in PG | Y | | | | | |
| May | 2007 | British Journal of Nursing, 16, (7), 414-418 | Critical care: testing NG tube positioning in the critically ill | Y | | | | | |
| Peck | 2009 | Critical Care Nursing Quarterly, 32,(2), 99-105 | EBP partners: doctoral students and practising clinicians bridging the T-P gap | Y | | Y | | | |
| Moore | 2010 | British Journal of Nursing, 19, (15), S15-S18 | Bridging the T-P gap in pressure ulcer prevention | Y | Y | Y | | Y | |
| Chapman | 2007 | Radiography, 13, (2), 159-163 | Enhancing the Radiation Therapy student clinical experience | Y | | | | | |
| Allan | 2011 | Journal of Clinical Nursing, 20, 847-855 | Experiences of supernumerary status and the hidden curriculum in nursing: a new twist in the T-P gap | Y | Y | Y | | Y | Y |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Lake | 2012 | Nurse Education in Practice, 12,(5), 264-268 | Exploring cognitive skill development in midwifery education | Y | Y | Y | | Y | |
| de Swardt | 2012 | Health SA Gesondheid, 17(1), 1-9 | Guided reflection as a tool to deal with the T-P gap in critical care nursing students | Y | | | | | |
| Mortell | 2012 | British Journal of Nursing, 21, (17), 1011-1014 | Hand hygiene compliance: is there a T-P ethics gap? | Y | Y | | | Y | |
| Page | 2015 | British Journal of Nursing, 24, (8), 447-451 | Holding Children and young people: identifying a T-P gap | Y | Y | Y | | | |
| Preston | 2005 | British Journal of Nursing, 14, (10), 540-546 | Infection control nursing: Aseptic technique: evidence based approach for patient safety | Y | | | | | |
| Reid-Searl | 2009 | Collegian, 16, (2), 71-77 | Internal conflict: undergraduate nursing students' response to inadequate supervision during the administration of medication | Y | | Y | | | Y |
| Casey | 2011 | Nurse Education Today, 31, (3) 304-308 | Interorganisational partnership arrangements: A new model for nursing and midwifery education | Y | | Y | | | |
| Salsali | 2009 | BMC nursing 8, (9). | Iranian nurses' constraint for research utilization | Y | | Y | | | |
| Tickle | 2010 | British Journal of Occuaptional Therapy, 73, (5), 237-239 | Is clinical updating a valuable mechanism for enhancing the student experience | Y | | | | | Y |
| McCready | 2010 | Nursing Philosophy,11,191-203 | Jamesian pragmatism: a framework for working towards unified diversity in nursing knowledge development | Y | | Y | | Y | |
| Daehlen | 2008 | International Journal of Nursing | Job satisfaction and job values among beginning nurses | Y | | Y | | | |

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| | | Studies, 45, (12), 1789-1799 | | | | | | | |
| Newton | 2009 | Learning in Health and Social care, 8, (4), 315-327 | Lost in translation: barriers to learning in health professional clinical education | Y | | | | | Y |
| Gohery | 2013 | Intensive and Critical Care Nursing, 29, (6), 321-328 | Nurses' role transition from the clinical ward environment to the critical care environment | Y | Y | Y | | | |
| Hirst | 2005 | Geriatric Nursing, 26, (1), 37-42 | Nursing management : wanted-committed gerontological nurse preceptors | Y | | Y | | | |
| Musker | 2011 | Advances in Nursing Science, 34, (1), 67-77 | Nursing theory-based independent nursing practice: a personal experience of closing the T-P gap | Y | Y | Y | | | |
| Stevenson | 2005 | Journal of Advanced Nursing, 50, (2), 1365-2648 | Practical inquiry/theory in nursing | Y | | Y | | | |
| Rowe | 2008 | Nurse Education in Practice, 8, (6), 369-372 | Practice educators in the United Kingdom: a national job description | Y | | Y | | | |
| Finn | 2010 | Nurse Education in Practice, 10, (1), 32-37 | Promoting learning transfer in post registration education: a collaborative approach | Y | | Y | | | |
| Evans | 2010 | Nurse Education Today, 30, (3) 245-251 | Putting knowledge to work: a new approach | Y | Y | Y | | | |
| Hope | 2011 | Nurse Education Today, 31, (7) 711-715 | Rethinking theory and practice: Pre-registration student nurses experiences of simulation teaching and learning in the acquisition | Y | | Y | Y | Y | Y |
| Weeks | 2013 | Nurse Education in Practice, 13, (2), | Safety in numbers 3: Authenticity, Building knowledge and skills and | Y | | Y | | | |

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|---|---|---|---|---|---|---|---|---|---|
| | | e33-e42 | competency development and assessment | | | | | | |
| Turnbull | 2013 | Nurse Education in Practice, 13, (5), 454-458 | Service user involvement: Inspiring student nurses to make a difference to patient care | Y | Y | Y | | | |
| Andrew | 2010 | Nurse Education Today, 30, (5) 453-457 | Sessional teachers in a BN program: bridging the divide or widening the gap? | Y | | Y | | Y | |
| Ward | 2011 | Education for Health, 24, (3), 537 | SMILE: Simple, Mental Health, Initiative in Learning and Education | Y | | Y | | | |
| Evans | 2009 | Mental Health Practice, 13, (2), 21-24 | Tacking the T-P gap in mental health nurse training | Y | | | | | Y |
| Barrett | 2007 | Nurse Education Today, 27,367-374 | The clinical role of nurse lecturers: past, present and future | Y | | Y | | | |
| Granero-Molina | 2012 | Acta Paulista de Enfermagem, 25, (3), 441-447 | The clinical seminar as a learning, methodology : an evaluation of nursing students' views | Y | | | | | |
| Wood | 2005 | Nurse Education Today, 25,367-374 | The experiences of a group of pre-registration mental health nurses | Y | Y | Y | | | |
| Segaric | 2005 | Nursing Inquiry, 12, (3), 1440-1800 | The family T-P gap: a matter of clarity? | Y | Y | Y | | | |
| van der Putten | 2008 | British Journal of Midwifery, 16, (6), 348-358 | The lived experience of newly qualified midwives: a qualitative study | Y | Y | | | | |
| Scully | 2011 | Collegian, 18, (2), 93-98 | The T-P gap and skill acquisition: An issue for nursing education | Y | | Y | | Y | Y |
| Cribb | 2010 | Journal of Medical Ethics, 36, (4), 207-210 | Translational ethics? The T-P gap in medical ethics | Y | | | | | |
| Borlase | 2008 | Nurse Education in Practice, 8, (1), 9-19 | User perceptions of the Knowledge Underpinning Practice Orientation Dial ( KUPOD) as a tool to enhance | Y | | Y | | Y | |

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| | | | learning | | | | | | |
| Davis | 2009 | British Journal of Midwifery, 17 (4), 234-237 | Using a childbirth simulator in midwifery education | Y | | | | | |
| Allan | 2011 | Nurse Education Today, 31, (5) 521-524 | Using psychodynamic small group work in nurse education: Closing the T-P gap? | Y | Y | Y | | Y | Y |
| Hackett | 2014 | Nursing Management, 23,(3), 31-37 | Performing dual roles in education and practice | | Y | | | | |
| Beate | 2016 | Nurse Education in Practice, 18, (5), 30-35 | Embedding EBP among nursing UG's : Results from a pilot study | | Y | | | | |
| Bakon | 2016 | Nurse Education Today, 37, (2), 123-127 | Can active learning principles be applied to the bioscicne assessments of nursing students? A review of the literature | | Y | | | | |
| Al Awaisi | 2015 | International Journal of Nursing Studies, 52, (11), 1723-1734 | The experiences of newly graduated nurses during their first year of practice in the Sultanate of Oman- A case study | | Y | y | | | |
| Pijl-Zieber | 2015 | Nurse Education Today, 35, (10) e43-e48 | Disconnects in pedagogy and practice in community health nursing clinical experiences: Qualitative findings | | Y | Y | Y | Y | Y |
| Ullrich | 2015 | British Journal of Nursing, 24, (7), 364-370 | Undernutrition in older people in Australia | | Y | Y | | Y | |
| O'Connor | 2015 | Journal of Nursing Education, 54, (3), 137-144 | Mobile Technology and its use in clinical nursing education: A Literature review | | Y | Y | | | |
| Freeling | 2015 | Nurse Education Today, 35, (2) e42- | Exploring experienced nurses' attitudes, views and expectations of | | Y | Y | | | |

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|---|---|---|---|---|---|---|---|---|---|
| | | e49 | new graduate nurses: A critical review | | | | | | |
| Moore | 2015 | Research and Theory for Nursing Practice, 29, (1), 38-52 | Exploring mHealth as a new route to bridging the nursing T-P gap | | Y | Y | | | |
| Watts | 2015 | Nurse Education Today, 34, (8), 1149-1154 | Tensions and ambiguities: A qualitative study of final year adult field nursing students' experiences of caring for people | | Y | | | | |
| Langlois | 2015 | Journal of interprofessional Care, 28, (3), 226-231 | Scientific rigour and innovations in participatory action research investigating workplace learning in continuing IPE | | Y | Y | | | |
| Chapman | 2015 | Nurse Education Today, 34, (3), 474-479 | Student nurses' views on respect towards service users- An interpretative phenomenological study | | Y | | | | |
| Kikuchi | 2014 | Nursing Philosophy,15, (1), 46-49 | Risjord's philosophy of nursing science: concerns and questions | | Y | | | | |
| Mowry | 2013 | The Journal of Continuing Education in Nursing, 44, (7),319-325 | Immersion scenarios bridge the education-practice gap for new graduate RNs | | Y | Y | Y | Y | Y |
| Licqurish | 2013 | Midwifery, 29, (6), 661-667 | 'Chasing the numbers' Australian Bachelor of Midwifery students' experiences of achieving midwifery practice requirements | | Y | Y | | | |
| Holtslander | 2013 | Journal of Family Nursing, 19,(2), 230-248 | The 15 minute family interview as a learning strategy for senior UG nursing students | | Y | Y | | | |

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|---|---|---|---|---|---|---|---|---|---|
| Peate | 2013 | British Journal of Nursing, 22, (1), 54 | The Willis commission on nurse education: explicit content | | Y | | | | Y |
| Stewart | 2013 | Nursing in Critical Care, 18, (1), 23-31 | Critical care nurses' understanding of the NHS K SF. An IPA | | Y | Y | | Y | |
| Robb | 2012 | Nursing Forum, 47, (3) 166-172 | Self-Efficacy with application to nursing education: A concept analysis | | Y | Y | | | |
| Nairn | 2012 | Nursing Philosophy,13, (3), 189-201 | Reflexivity and habitus: opportunities and constraints on transformative learning | | Y | Y | | | |
| Nematollahi | 2012 | International Nursing Review, 59, (2), 194-199 | Bridging the T-P gap: a review of GNP in Dubai, UAE | | Y | Y | | Y | |
| Kinnair | 2012 | Journal of interprofessional Care, 26, (3), 189-197 | Development of IPE in MH practice: Adapting the Leicester Model | | Y | | | Y | |
| Hatlevik | 2012 | Journal of Advanced Nursing 68(4), 868-877 | The T-P relationship: reflective skills and theoretical knowledge as key factors in bridging the gap between T and P in initial nurse education | | Y | | | | Y |
| Hewitt-Taylor | 2012 | British Journal of Nursing, 21, (6), 356-359 | Applying research to practice: exploring the barriers | | Y | | | | |
| Glynn | 2012 | Journal of Nursing Education, 51, (3), 134-139 | Clinical judgement development using structured classroom reflective practice: a qualitative study | | Y | Y | | | |
| Drozd | 2012 | Nursing Standard, 26, (21), 61 | Best of both worlds | | Y | | | | |
| Woods | 2012 | Nursing Ethics, 19, (1), 5-6 | 'There is only narrative': using case studies in nursing ethics | | Y | | | | |
| Caine | 2011 | Mental Health Nursing, 31, (6), 9- | Clinical supervision and the T-P gap: view from a student mental | | Y | | | | |

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| | | 11 | health nurse | | | | | | |
| Kennedy | 2011 | Journal of Infection Prevention, 12, (6), 246-250 | Hand hygiene and attitudes: comparisons between student nurses | | Y | | | | |
| Shields | 2011 | Nurse Education Today, 31, (4) 314-316 | It's not cricket: the Ashes of nursing education | | Y | | | | |
| Carlson | 2011 | Nurse Education Today, 30, (8), 763-767 | 'This is nursing' : nursing roles as mediated by precepting nurses during clinical practice | | Y | | | | |
| Campbell | 2010 | Journal of Intellectual Disabilities, 14, (3), 185-196 | Workforce development and challenging behaviour: training staff to treat, to manage or to cope? | | Y | | | | |
| Forsman | 2010 | Journal of Advanced Nursing, 66, (4), 878-890 | Use of research by nurses during their first two years after graduating | | Y | | | | |
| Haigh | 2008 | Journal of Clinical Nursing, 18, 1-2 | Embracing the T-P gap | Y | Y | Y | | Y | Y |
| Surtees | 2008 | Nursing Inquiry, 15, (1), 11-20 | "Inductions of labour" : on becoming an experienced midwifery practitioner in Aotearoa/New Zealand | | Y | | | | |
| Martin | 2008 | British Journal of Midwifery, 16, (2), 76-81 | Triumph over the barricades and put the evidence into practice | | Y | | | | |
| Burns | 2008 | The Journal of Continuing Education in Nursing, 39,(2), 67-73 | Competency development in new registered nurse graduates: closing the gap between education and practice | | Y | | | | |
| Carson | 2007 | Learning in Health and Social care, 6, | Working in the T-P gap : the lecturer practitioner's story | | Y | | | | |

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| | | (4), 220-230 | | | | | | | |
| Cohen | 2007 | Journal of Advanced Nursing, 60, (1),96-107 | Development of the role of public health nurses in addressing child and family poverty: a framework for action | | Y | | | | |
| Ousey | 2007 | Nurse Education in Practice, 7, 199-205 | The T-P relationship in nursing: a debate | | Y | | | | Y |
| Vedam | 2007 | Journal of Midwifery and Women's Health, 52, (3), 1542-2011 | Closing the T-P gap: intrapartum midwifery management of planned homebirths | | Y | | | | |
| Cornish | 2007 | Nurse Education in Practice, 7, 128-134 | Evaluation of moving and handling training for pre-registration nurses and its application to practice | | Y | | | | Y |
| Baxter | 2007 | Nurse Education in Practice, 7,(2), 103-111 | The Ccare model of clinical supervision: bridging the T-P gap | | Y | Y | | Y | |
| Cooper | 2006 | Journal of interprofessional Care, 20, (6), 603-617 | Involving service users in IPE narrowing the gap between theory and practice | | Y | | | | |
| Hanberg | 2006 | The Journal of Continuing Education in Nursing, 37,(6) 248-9 | Bridging the T-P gap with EBP | | Y | Y | | | Y |
| Cassisdy | 2006 | Journal of Clinical Nursing, 15, (10), 1365-2702 | Student nurses' experiences of caring for infectious patients in source isolation: a hermeneutic phenomenological study | | Y | | | | |
| Rungapadiachy | 2006 | Journal of Psychiatric and Mental Health | How newly qualified mental health nurses perceive their role | | Y | Y | | Y | |

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| | | Nursing, 13, (5), 533-542 | | | | | | | |
| Maben | 2006 | Journal of Advanced Nursing 55, (4),465-477. | The T-P gap: impact of professional-bureaucratic work conflict on newly-qualified nurses | | Y | Y | | | Y |
| Birch | 2005 | British Journal of Midwifery, 13, (11), 727-731 | Work-based studies: one small step for the individual, a giant leap for the NHS | | Y | | | | |
| Gallagher | 2005 | Nursing Standard, 20, (7), 22-25 | The ethical divide | | Y | | | | |
| Halcomb | 2015 | Nurse Researcher, 23, (1), 5 | Bridging the T-P gap | | | Y | | Y | |
| Ruth-Sahd | 2014 | Dimensions of Critical Care Nursing, 33,(1),28-33 | A call to action: nursing education must embrace change and move forward | | | Y | | | |
| Mager | 2013 | Home Healthcare Now,31, (9), 482-492 | Collaborations between home healthcare agencies and schools of nursing: bridging the T-P gap at home | | | Y | | | |
| Tart | 2011 | Nurse Educator, 36, (5), 219-223 | Bridging the T-P gap: a practice-relevant research course for RN to BSC students | | | Y | | | |
| Cheraghi | 2010 | Iranian Journal of Nursing and Midwifery Research, 15, (4), 155-166 | Ambiguity in knowledge transfer: the role of the T-P gap | | | Y | | | |
| Ferrara | 2010 | Research and Theory for Nursing Practice, 24, (4), 213-216 | Integrating EBP with educational theory in clinical practice for nurse practitioners: bridging the T-P gap | | | Y | | | |
| Swift | 200 | Nursing Children | T-P gap: the truth? | | | Y | | | |

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| | 8 | and Young People 20, (6),8 | | | | | | | |
| Lawson | 2008 | Nursing Children and Young People, 20, (1), 41-45 | The T-P gap: ECMO research example | | | Y | | | |
| Scherer | 2007 | Revista Latino-americana de Enfermagem, 15, (3),498-501 | Reflections on nursing teaching in the post-modernity era and the metaphor of a T-P gap | | | Y | | | |
| Wendelborn | 2007 | Nursing New Zealand, 13, (2), 3-4 | Bridging the T-P gap | | | Y | | | |
| Happell | 2006 | The International Journal of Psychiatric Nursing Research, 11, (3), 1322-1330 | Nursing clinical developments units-A strategy to promote the relationship between practice and academia | | | Y | | | |
| Weir-Hughes | 2006 | Nursing Times, 102, (15), ii | Bridging the T-P gap: developing new approaches to clinically led education in cancer care | | | Y | | | |
| McCallum | 2006 | Nurse Education Today, 27, (8), 825-831 | The debate in favour of using simulation education in pre - registration adult nursing | | | Y | | | Y |
| O'Leary | 2015 | European Physical Education Review, 21, (2), 176-194 | Closing the T-P gap: Physical education students' use of jigsaw learning in a secondary school | | | | Y | | |
| Allen | 2011 | Asia Pacific Education Review, 12, (2), 289-299 | How front-end loading contributes to creating and sustaining the TP gap in HE programs | | | | Y | | |
| Cheng | 2010 | Journal of Education for Teaching, 36, (1), 91-104 | Closing the gap between T and P of teaching: implications for teacher education programmes in Hong Kong | | | | Y | | |

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|---|---|---|---|---|---|---|---|---|---|
| Allen | 2008 | Teaching and Teacher Education, 25, 647-654 | Valuing practice over theory: How beginning teachers re-orient their practice in the transition from the university to the workplace | | | | Y | | Y |
| Laiho | 2013 | Journal of Vocational Education and Training, 65, (3), 333-350 | The relationship between practitioners and academics- anti-academic discourse voiced by Finnish nurses | | | | Y | | Y |
| Smeby | 2008 | Journal of Education and Work, 21, (2) 159-173 | Recontextualising professional knowledge- newly qualified nurses and physicians | | | | Y | | Y |
| Jenkins | 2005 | Advances in Health Sciences Education, 10, (2), 115-123 | Thought for application and application with thought: Issues in theoretical thinking and practical wisdom | | | | Y | | |
| Kellehear | 2014 | Nursing and Health Sciences, 16, 141-142 | The theory-practice gap: well and truly alive in mental health nursing | | | | | Y | Y |
| Pilecki | 2013 | Behaviour Therapy, 44, (4), 541-547 | The T-P gap in CBT | | | | | Y | |
| Gardner | 2006 | Australian Journal of Advanced Nursing, 24 (2), 7-8 | New perspectives on old debates: Re-engineering the T-P gap | | | | | | |
| Darbyshire | 2010 | Journal of Advanced Nursing 66, (11) 2592-2599 | Joint or clinical chairs in nursing from cup of plenty to poisoned chalice? | | | | | Y | Y |
| Mortell | 2009 | Journal of the Saudi Heart Association, 21, (3), 149-152 | A resuscitation dilemma: T-P ethics, is there a T-P -ethics gap? | | | | | Y | |
| Aled | 2007 | Journal of Clinical Nursing, 16, (12), | Putting practice into teaching. An exploratory study of nursing UGs | | | | | Y | |

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|---|---|---|---|---|---|---|---|---|---|
| | | 1365-2702 | interpersonal skills | | | | | | |
| Wilson | 2008 | Australian Nursing Journal, 16, (4), 25 | Bridging the T-P gap | | | | | Y | |
| Hancock | 2007 | Journal of Evaluation in Clinical Practice, 13, 758-764 | Exploring the challenges and successes of the LP role using a stakeholder evaluation approach | | | | | Y | Y |

**Appendix 2 - Lesson Plan and Pre-session activity**

# Medicines Management: Subcutaneous and Intramuscular Injections: Teaching Plan

**Title**: Medicines Management: Subcutaneous and Intramuscular Injections

**Date/Time**:

**Venue: Swindon/Oxford**

**Length of session**: 3 hours in clinical skills lab

**Student group**:

**Facilitators**:

**Module (year of study):** U43707/U43774 Year 1

**Lesson Aims:**
The aim of this clinical skills session is to enable students to develop skill, knowledge and attitude relating to Medicines Management: Subcutaneous and Intramuscular Injections

**Learning Outcomes and Competencies:**
By the end of the session the learner will be able to:

- List indications for administration of medication via injection
- Identify the anatomical landmarks for locating the appropriate injection site
- List and discuss the factors influencing choice of syringes and needles
- Demonstrate the correct technique for preparing and administering both a SC and IM injection
- Demonstrate the correct standard infection control precautions when carrying out the procedures
- Correctly determine simple drug calculations associated with SC and IM injections

**Key Competencies:**

- Core Competency 1a: Professional Attitude

- Core Competency 2a: Communication
- Competency 2c: Professional communication and record keeping
- Core Competency 3a: Person centred care
- Core Competency 3b: Safety and risk management
- Competency 3i: Medicines management

**Associated Competencies:**

- Competency 3d: Assessment of client needs and planning care
- Competency 3e: Evaluation of care
- Competency 3g: Prevention and control of infection
- Core Competency 4b: Teamwork and leadership
- Competency 4c: Time & care management & prioritisation

**Teaching Resources:**
DVD of intramuscular injection technique
Copies of IM and SC scenarios with drug charts
BNF's
Selection of needles
Selection of syringes & Insulin syringes
Syringes with retractable needles
Placebo vials of medications
Sharps Bins
Plastic/ steel preparation trays
Gloves & Aprons
Nursing Manikins
ANTT DVD
Large chlorhexidine wipes
Insurflon subcut catheter

**Lesson Plan**

| Time | Content | Method | Student Activity | Resources | Comments |
|---|---|---|---|---|---|
| **5 mins** | Introduction to session – lesson aims, link to clinical competencies | Discussion<br>Demonstration<br>Guidance<br>Support | Listening | | Pre- reading required – relate to workbook/theory |

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| | | | | | Discussion regarding experiences of giving injections in placement. |
| | | | | | |
| **15 mins** | | Discussion<br>Observation | Disuses the importance of ANTT<br><br>Watching DVD detailing technique for administration of intramuscular injections | DVD | Show only the land marking DVD.<br><br>NO LONGER SHOWING ANTT VIDEO |
| **15 mins** | **WORK STATION ONE** | Demonstrate correct procedure for locating the ventro gluteal, deltoid injection site and dorsogluteal | Follow the activities within the skills workbook. | Skills Work book | Provide formative feedback |
| **20 mins** | **B** | **R** | **E** | **A** | **K** |
| **45 mins** | **WORK STATION TWO** | Facilitator to demonstrate the use of syringes with retractable needles and general discussion about safe use of sharp instruments.<br><br>Demonstrate the correct procedure for administering an intramuscular injection | Observation<br>Discussion<br>Students to consider advantages and disadvantage of syringes with retractable needles.<br><br>Follow the activities within the skills workbook. | Vanish Point and Medicinal Syringes<br><br>Copies of IM scenarios<br>Drug Charts BNF's<br>Selection of needles<br>Selection of syringes | <br><br>Provide formative feedback |

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|---|---|---|---|---|---|
| | | | | Insulin syringes<br>Placebo vials of medications<br>Sharps Bins<br>Preparation trays<br>Gloves Aprons<br>Nursing Manikins | |
| **45 mins** | **WORK STATION THREE** | Demonstrate the correct procedure for administering an subcutaneous injection | Follow the activities within the skills workbook. | Copies of SC scenarios<br>Drug Charts BNF's<br>Insulin syringes<br>Placebo vials of medications<br>Sharps Bins<br>Preparation trays<br>Gloves Aprons<br>Nursing Manikins | Provide formative feedback |
| **10 mins** | Summary of session<br><br>Remind students to complete the Post Session Quiz relating to this session. | | Plenary discussion<br>Set personal learning objectives for SPL | | Facilitator to feedback to students on performance and knowledge base. |

# Medicines Management: Subcutaneous and Intramuscular Injections

## Pre-session Reading

**1. Reading Activity:**

It is important that you read the following articles prior to attending the skills lab session:

Cocoman A, Murray J (2008) Intramuscular injections: a review of best practice for mental health nurses. *Journal of Psychiatric and Mental Health Nursing* 15 (5): 424-434

Hunter J (2008) Subcutaneous injection technique. *Nursing Standard*. 22 (21): 41-44

**2. Drug Information:**
Refer to the British National Formulary (BNF) and complete the information for the following drugs. You may find print copies of the BNF in the library or in placement areas. You may also access BNF online at the following URL:

www.bnf.org

You will need to complete the simple registration procedure detailed on the home page. Once registered use the search box in the top right corner to search for the relevant drugs. Good Luck!

| Name of drug | What is the drug for | Recommended Dose | Side effects and contraindications |
|---|---|---|---|
| Zuclopenthixol decanoate | | | |

| Name of drug | What is the drug for | Recommended Dose | Side effects and contraindications |
|---|---|---|---|
| Ceftriaxone | | | |

| Name of drug | What is the drug for | Recommended Dose | Side effects and contraindications |
|---|---|---|---|
| Heparin | | | |

**Appendix 3 – Question Route Template**

From Halcomb et al (2007 p.1005)

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| Introductory question | Please tell us your first name and a word or image that comes into your mind when you think about recovery from severe injury? |
| Transition question | Can you tell us briefly about your experience with recovery from traumatic injury and significant events that influenced recovery? |
| Transition question | Can you identify help or support services that are available for trauma survivors after they are discharged from hospital? |
| Key question | What were the greatest needs or most important issues that you encountered after being discharged from hospital?<br><br>What were the greatest needs or most important issues that your friend or family member encountered after being discharged from hospital?<br><br>What do you think are the most important issues that trauma survivors might encounter after being discharged from hospital? |
| Key question | Imagine that after you left the hospital a nurse contacted you to see how you were getting on at home and asked if they could provide any assistance. How could the nurse best contact you and what would be the most helpful information they could provide or things they could do?<br><br>Imagine that after your friend or family member left the hospital a nurse contacted them to see how they were getting on at home and asked if they could provide any assistance. What would be the most helpful information that they could provide or things they could do?<br><br>Imagine that trauma survivors were contacted by a nurse after they left hospital to see how they were getting on at home and asked if they could provide any assistance. What would be the most helpful information that they could provide or things they could do? |
| Key question | Some people find it difficult to readjust to life at home following a discharge from hospital. We know that these people could benefit from further assistance from health care providers, such as doctors, nurses and therapists and yet some people find it difficult to obtain this help. Why is this? How could health care providers improve their services to better meet people's needs? |
| Ending question | As you know we are going to be implementing a programme to assist those who have sustained injury, after they leave hospital. Think back on your experiences with recovery from injury. What advice do you have for us in this task? |
| Final question | Is there anything else that anyone feels that we should have talked about but didn't? |

OXFORD BROOKES UNIVERSITY

**Appendix 4 – Participant Information Sheets**

# PARTICIPANT INFORMATION SHEET
# For Focus Group Element of the Study

**Study title**

To understand how the practice of a group of students studying adult nursing, who are learning to administer intramuscular injections (IMI), is affected by their clinical placement experiences.

You are being invited to take part in a research study. Before you decide whether or not to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully.

**What is the purpose of the study?**

The purpose of this study is to analyse students' views about their practice regarding the administration of IMIs. The research will do this by examining and understanding the different IMI sites seen and used by student nurses to administer IMIs. Specifically the study will consider how these IMI sites may differ from what is taught at university and whether any inconsistencies exist- and if they do – it will explore how students deal with this.

The study will run over approximately six months, and each participant would typically attend one focus group and possibly continue to participate in a one to one semi-structured interview.

**Why have I been invited to participate?**

You have been invited to participate, as you are a second or third year student nurse from Oxford Brookes University, Swindon campus. Also you will have been taught IMIs in year 1 of the course and have had several clinical placements since that teaching took place. Overall, the views of approximately 30 Swindon student nurses will be sought.

**Do I have to take part?**

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason. However please note that after the focus group has taken place, it will be impossible to remove your anonymised data from the focus group recording and data.
**Choosing either to take part or not take part in this study will not affect nor have any impact on your marks, assessments, placements or future studies.**

**What will happen to me if I take part?**

If you decide to take part, you will be invited to a focus group to be held at the Swindon OBU campus on a day when you would normally be attending university and it will last for approximately 45 minutes and will be audio recorded.

**What are the possible benefits of taking part?**

The benefits of taking part are that your experiences will potentially have an effect on furthering our understanding of IMI practice and student experiences of this skill in clinical placements. This may have a direct effect on how lecturers teach IMIs to students in the future.

**Will what I say in this study be kept confidential?**

All information collected from your responses will be kept strictly confidential (subject to legal limitations). Your data will be anonymised by applying a code against your name e.g. R1 (respondent 1) and in this way every effort will be made to maintain your confidentiality, privacy and anonymity in the collection, storage and publication of research material. These anonymised codes will be used in the final publications in addition to anonymising the campus. However as this is a relatively small sample it may be difficult to guarantee complete anonymity.

Data generated by the study will be retained in accordance with the University's policy on Academic Integrity and will be kept securely in paper or electronic form for a period of ten years after the completion of the research project.

**What should I do if I want to take part?**

If you wish to take part in this study, then please contact me with your details by emailing me at kgreenway@brookes.ac.uk, or telephone my direct line (ansamachine available) 01865 482625. I will then return your call or email to discuss your participation with you. Alternatively you can leave your details on the sheet circulating today and I will contact you.

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

The results of the study will be published in my EdD (Doctor of Education) thesis. I will also publish the results via clinical journals and conference proceedings. As a participant, you will be offered a summary of the results prior to their publication.

**Who is organising and funding the research?**

I am conducting this research project as an EdD student at Oxford Brookes University, in the School of Education.

**Who has reviewed the study?**

The research has been approved by the University Research Ethics Committee, Oxford Brookes University. UREC number 140822

**Contact for Further Information**

If you require any further information on this study please email Kathleen Greenway on: kgreenway@brookes.ac.uk or telephone 01865 482625 (ansamachine available)

If you have any concerns about the way in which the study has been conducted, you should contact the Chair of the University Research Ethics Committee on ethics@brookes.ac.uk. Alternatively you can contact the supervisors of this study:

Professor Graham Butt gbutt@brookes.ac.uk

Dr Helen Walthall hewalthall@brookes.ac.uk

**Thank you**
Thank you for taking time to read this information sheet.

**Date**
11th October 2014

UREC Number: 140822
Version:2

OXFORD BROOKES UNIVERSITY

# PARTICIPANT INFORMATION SHEET
# For Interview Element of the Study

**Study title**

To understand how the practice of a group of students studying adult nursing, who are learning to administer intramuscular injections (IMI), is affected by their clinical placement experiences.

You are being invited to take part in a research study. Before you decide whether or not to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully.

**What is the purpose of the study?**

The purpose of this study is to analyse students' views about their practice regarding the administration of IMIs. The research will do this by examining and understanding the different IMI sites seen and used by student nurses to administer IMIs. Specifically the study will consider how these IMI sites may differ from what is taught at university and whether any inconsistencies exist- and if they do – it will explore how students deal with this.

The study will run over approximately six months, and each participant would typically attend one focus group and possibly continue to participate in a one to one semi-structured interview.

**Why have I been invited to participate?**

You have been invited to participate, as you are a second or third year student nurse from Oxford Brookes University, Swindon campus. Also you will have been taught IMIs in year 1 of the course and have had several clinical placements since that teaching took place. Overall, the views of approximately 30 Swindon student nurses will be sought.

**Do I have to take part?**

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason. In this instance, your unprocessed data from the interview element will be removed. However please note that after the focus group has taken place in the previous stage of the study, it will be impossible to remove your anonymised data from the focus group recording and data.
**Choosing either to take part or not take part in this study will not affect nor have any impact on your marks, assessments, placements or future studies.**

**What will happen to me if I take part?**

If you decide to take part, you will be invited to an interview to be held at the Swindon OBU campus on a mutually convenient day and it will last for approximately 45 minutes and will be audio recorded. If you opt to be interviewed, a transcript of the interview will be sent to you for accuracy checking.

**What are the possible benefits of taking part?**

The benefits of taking part are that your experiences will potentially have an effect on furthering our understanding of IMI practice and student experiences of this skill in clinical placements. This may have a direct effect on how lecturers teach IMIs to students in the future.

**Will what I say in this study be kept confidential?**

All information collected from your responses will be kept strictly confidential (subject to legal limitations). Your data will be anonymised by applying a code against your name e.g. R1 (respondent 1) and in this way every effort will be made to maintain your confidentiality, privacy and anonymity in the collection, storage and publication of research material. These anonymised codes will be used in the final publications in addition to anonymising the campus. However as this is a relatively small sample it may be difficult to guarantee complete anonymity.

Data generated by the study will be retained in accordance with the University's policy on Academic Integrity and will be kept securely in paper or electronic form for a period of ten years after the completion of the research project.

**What should I do if I want to take part?**

If you wish to take part in this study, then please contact me with your details by emailing me at kgreenway@brookes.ac.uk, or telephone my direct line (ansamachine available) 01865 482625. I will then return your call or email to discuss your participation with you.

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

The results of the study will be published in my EdD (Doctor of Education) thesis. I will also publish the results via clinical journals and conference proceedings. As a participant, you will be offered a summary of the results prior to their publication.

**Who is organising and funding the research?**

I am conducting this research project as an EdD student at Oxford Brookes University, in the School of Education.

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Professor Graham Butt gbutt@brookes.ac.uk

Dr Helen Walthall hewalthall@brookes.ac.uk

**Thank you**
Thank you for taking time to read this information sheet.

**Date**
11th October 2014

OXFORD BROOKES UNIVERSITY

**Appendix 5 – Consent Forms**

## CONSENT FORM - FOCUS GROUP

**Full title of Project**: 'To understand how the practice of a group of students studying adult nursing, who are learning to administer intramuscular injections (IMI) is affected by their clinical placement experiences.'

UREC number 140822

**Name, position and contact address of Researcher**:

Kathleen Greenway, EdD student, Oxford Brookes University.
Email: kgreenway@brookes.ac.uk

Faculty of Health & Life Sciences, Jack Straws Lane, Marston, Oxford, OX3 9DU

**Please initial box**

1. I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason. *However please note that after the focus group has taken place, it will be impossible to remove your anonymised data from the focus group recording and data.* ☐
3. I agree to the focus group being audio recorded. ☐
4. I agree to the use of my anonymised quotes in publications. ☐
5. I do /do not agree (delete as appropriate) to the use of my anonymised quotes in publications. ☐
6. I agree that my data gathered in this study may be stored (after it has been anonymised) in a specialist data centre and may be used for future research. ☐
7. I agree to take part in the focus group for this study. ☐

| Name of Participant | Date | Signature |
|---|---|---|
| Name of Researcher | Date | Signature |

OXFORD BROOKES UNIVERSITY

## CONSENT FORM - INTERVIEW

**Full title of Project**: 'To understand how the practice of a group of students studying adult nursing, who are learning to administer intramuscular injections (IMI) is affected by their clinical placement experiences.'

UREC number 140822

**Name, position and contact address of Researcher**:

Kathleen Greenway, EdD student, Oxford Brookes University.
Email: kgreenway@brookes.ac.uk

Faculty of Health & Life Sciences, Jack Straws Lane, Marston, Oxford, OX3 9DU

**Please initial box**

8. I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions. ☐
9. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason. *However please note that after the focus group element of this study has taken place, it will be impossible to remove your anonymised data from the focus group recording and data. However it will be possible to remove interview data.* ☐
10. I agree to the interview being audio recorded. ☐
11. I agree to the use of my anonymised quotes in publications. ☐
12. I do /do not agree (delete as appropriate) to the use of my anonymised quotes in publications. ☐
13. I agree that my data gathered in this study may be stored (after it has been anonymised) in a specialist data centre and may be used for future research. ☐
14. I agree to take part in an interview for this study. ☐

| Name of Participant | Date | Signature |
|---|---|---|
| Name of Researcher | Date | Signature |

**Appendix 6 – Focus Group Questions**

The focus groups questions were as follows:

***Interviewer:*** **(Start with setting the scene) I am researching intramuscular injection technique and skills learning and practice, what you see, what you do and how it makes you feel. Please read the statement regarding witnessing unprofessional practice.**

1. Can you tell me what you know about intramuscular injection sites in a few sentences?

2. Tell me what you learnt about injections in the skills lab?

3. Tell me about what you see or do in practice with regard to IMIs?

4. Tell me about your mentors, what have you seen them do?

5. What feelings or thoughts do you have when you give an IMI?

6. ***Plenary/Final question:*** Do you have any thoughts on how we teach IM injections to you, what we could improve, or how we could support you better?

**Appendix 7 – Interview Questions**

Interview schedule:

| Issue/construct | Possible questions | Follow up questions | Probes |
|---|---|---|---|
| Familiarity with IM sites | Can you tell me what you know about the IM injection sites? | Can you name them?<br><br>Can you describe where they are?<br><br>Can you describe how to landmark them? | What else can you recall about the sites? |
| Skills learning | Can you tell me what was good or bad about how you learnt to administer IMIs?<br><br>What activities did you experience in the skills lab? | Was that a useful experience?<br><br>How did the lecturers support your learning?<br><br>What did you feel could be improved?<br><br>What practical learning about injections did you feel you achieved? | Did you practice on manikins or use equipment?<br><br>Can you tell me more? |
| Students practice | Can you tell me about a time when you saw an injection being administered?<br><br>Can you tell me about a time when you have given an IM injection? | Did you feel this was performed well or not?<br><br>Was there any discussion about the way it was given?<br><br>Were you happy with the way you did this- or not? | Can you tell me more?<br><br>What happened next?<br><br>Can you tell me more? |
| Rationale | Think about the time(s) you have seen or given an injection that you just told me about….why did you ( or your mentor) do it that way? | Were you content with that decision?<br><br>Did your mentor verbalise this to you? | Can you tell me why/why not? |

| | | | |
|---|---|---|---|
| | What influenced your (or their) decision? | Did you feel the decision was easy to make? | What supported your decision? |
| Challenges | Do you see any differing practices amongst your mentors?<br><br>Are you able to ask or challenge your mentor regarding decisions about injections? | Can you give me some examples?<br><br>Does this challenge you in any way?<br><br>Can you describe how this makes you feel?<br><br>How did they react?<br><br>How did you phrase what you said?<br><br>Were you able to support what you said in nay way? | Can you tell me more? |
| Students' emotions | Can you describe the feelings you have about giving IM injections?<br><br>Do you feel confident and/or competent or unsure?<br><br>Have you had any particular experiences that you can tell me about? | Are they mainly positive or negative?<br><br>Can you explain why?<br><br>Why was this?<br><br>What happened next? | Why is that? |

**Appendix 8– The Constant Comparative Method**

From Thomas (2009 p.199) The Constant Comparative Method

1. Read all of your data: interview transcripts, diaries, notes from unstructured observations etc.
2. Make an electronic copy of all your raw data. Mark it 'RAW'. You now have two copies; your raw data and your working data files. Keep them separate.
3. Read through your working files. As you are reading, underline or highlight parts that you think are important. As you proceed, you will get an impression of important ideas or subjects that are recurring. We can call these your *temporary constructs.* Make a list of these.
4. Read through the data again, using the list of temporary constructs from your first reading to check against. Draw up a grid with the temporary construct on the left and page references to where the construct is evidenced on the right. Make notes and observations on the grid as you do this. You will get quite a long list
5. Eliminate any temporary constructs that do not seem to have been reinforced in the rest of the data. Don't delete the actual data itself though- it may form an important counter-example against the general themes that are emerging. Highlight these counter examples in a different colour on your working data records and keep a separate list of them.,
6. From the second reading, come up with *second-order* constructs that seem to be making good 'fit' with your data. These second-order constructs should make a good job of summarising the important themes in your data.
7. Look through once more, refining these second-order constructs now as marker posts for the organisation of your data. Once you are satisfied that these capture the essence of your data, label these as your *themes*.
8. Think about the themes. How do they seem to be connecting together? What matches with what? Are there any unanimous areas of agreement? Are there any contradictions or paradoxes?
9. Find ways of *mapping* your themes
10. Select good quotations or sections from your work to illustrate the themes.

**Appendix 9 – Clinical Skills Workbook Description of SBE**

# Medicines Management: Subcutaneous and Intramuscular Injections

This skills session focuses on subcutaneous and intramuscular. It will cover locating appropriate subcutaneous (SC) and intramuscular (IM) injection sites and the procedure for administration of SC and IM injections. During this clinical skills session students will have the opportunity to demonstrate as well as discuss these various skills with their peers and facilitators.

## Learning Outcomes and Competencies

**At the end of this session the student will be able to:**

- List indications for administration of medication via injection
- Identify the anatomical landmarks for locating the appropriate injection site
- List and discuss the factors influencing choice of syringes and needles
- Demonstrate the correct technique for preparing and administering both a SC and IM injection
- Demonstrate the correct standard infection control precautions when carrying out the procedures
- Correctly determine simple drug calculations associated with SC and IM injections

**Key Competencies:**

- Core Competency 1a: Professional Attitude
- Core Competency 2a: Communication
- Competency 2c: Professional communication and record keeping
- Core Competency 3a: Person centred care
- Core Competency 3b: Safety and risk management
- Competency 3i: Medicines management

**Associated Competencies:**

- Competency 3d: Assessment of client needs and planning care
- Competency 3e: Evaluation of care
- Competency 3g: Prevention and control of infection
- Core Competency 4b: Teamwork and leadership
- Competency 4c: Time & care management & prioritisation

**Essential Skills Clusters:**

1, 2, 3, 4, 6, 7, 12, 15, 20, 21, 22, 24, 25, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42

## Work Stations

The work stations for this session are:

- Land marking of the Ventrogluteal (VG), deltoid site, Dorsogluteal (DG) site and vastus lateralis (Children's)
- Administration of medicines using the intramuscular (IM) route
- Administration of medicines using the subcutaneous (SC) route

As students are carrying out the activities within the work stations they will be required to discuss the following with their peers and the facilitator:

- Importance of nursing knowledge of SC and IM injections
- Importance of communication and documentation
- Guidelines for the administration of SC and IM medicines

Students are expected to use the resources available at the workstations to help them with the activities and the discussion.

**Before coming to this session you are required to complete the pre-session activity on subcutaneous and intramuscular injections on Moodle and a self-assessment of your current level of practice using the form provided.**

**This session links to the following science content covered in U43702/U43776 and U43703/U43777**

- Immune system – antibodies and antigens, allergies, anaphylaxis, drugs and the immune system.

- Renal system – elimination of drugs, effects of renal failure, drug delivery and the renal system, drug toxicity, diuretics.

- Transportation– absorption, transportation and effects of drugs, diffusion, fluid and electrolyte balance, antiplatelet drugs.

- Cardiovascular System – circulation, drugs and the cardiovascular system.

- Endocrine System – control, regulation and dysfunction of endocrine glands, impact of drugs on endocrine function.

## Self-Assessment

Each clinical activity that you engage in at a competent level will require you to have; relevant up to date theoretical knowledge, the ability to perform a skill safely and demonstrate the appropriate professional attitude.

Some of you will already have some experience of the clinical activities that you will be involved in, whereas others will have no prior experience. In order to assist you in your learning you should complete the following self-assessment prior to each clinical skills session. We will discuss this as part of the session.

KNOWLEDGE
For this section use statements such as:
I can discuss, describe, list, identify etc.
I have accurate answers to the pre-session activity.

SKILL
For this section use statements such as:
I can demonstrate, prepare,
Use value words such as safely, competently, accurately

ATTITUDE
For this part use statements such as:
I can respond appropriately, appreciate, act professionally and recognize the importance of

## Pre-session Reading

**1. Reading Activity:**

It is important that you read the following articles prior to attending the skills lab session:

Cocoman A, Murray J (2008) Intramuscular injections: a review of best practice for mental health nurses. *Journal of Psychiatric and Mental Health Nursing* 15 (5): 424-434

Hunter J (2008) Subcutaneous injection technique. *Nursing Standard*. 22 (21): 41-44

**2. Drug Information:**
Refer to the British National Formulary (BNF) and complete the information for the following drugs. You may find print copies of the BNF in the library or in placement areas. You may also access BNF online at the following URL:

www.bnf.org

You will need to complete the simple registration procedure detailed on the home page. Once registered use the search box in the top right corner to search for the relevant drugs. Good Luck!

| Name of drug | What is the drug for | Recommended Dose | Side effects and contraindications |
|---|---|---|---|
| Zuclopenthixol decanoate | | | |

| Name of drug | What is the drug for | Recommended Dose | Side effects and contraindications |
|---|---|---|---|
| Ceftriaxone | | | |

| Name of drug | What is the drug for | Recommended Dose | Side effects and contraindications |
|---|---|---|---|
| Heparin | | | |

Further information regarding injection skills can be found on the clinical skills.net site.

# IMPORTANT

**It is vital when administering injectable medication that you inject the correct medication into the correct anatomical site, using the correct route (subcutaneous or intramuscular). You must consult the prescription, the manufacture's guidelines and any local policies to ensure that you are injecting medication correctly.**

**You must have a clear understanding of the difference between intramuscular and subcutaneous injections and the different anatomical sites that can be used for each.**

DVD - Administering IM Injections.

## WORK STATION ONE-
## Land marking the ventrogluteal, deltoid site and dorsogluteal site

**Activity 1:**
Work in small groups. Locate the ventrogluteal site of your group members by referring to figure 1 and following the guidelines below:

- Ask the patient to lie on their side (position of choice) and to bend their knee on the leg chosen for the injection. This helps to locate the greater trochanter
- If lying supine, ask them to 'toe in' to internally rotate the femur
- Place the heel of your opposite hand (right hand for left hip and vice versa) on the greater trochanter, that is your left hand on their right leg and vice versa
- Locate and place your index finger on the anterior superior iliac spine. Your thumb should be pointing towards the front of the leg
- With your index finger, palpate up to the top of the iliac crest. Stop when the crest starts to turn posteriorly.
- Spread your middle finger to form a 'V' – the injection site is in the middle of the 'V', which should be level with the knuckles of your index and middle fingers
- If you have small hands and find that with the ball of your hand on the greater trochanter your index finger does not reach the iliac crest, then slide your hand up the leg until it does
- The injection site is situated approximately level with the knuckles

- Remember to remove your fingers before you inject, to prevent a needle stick injury

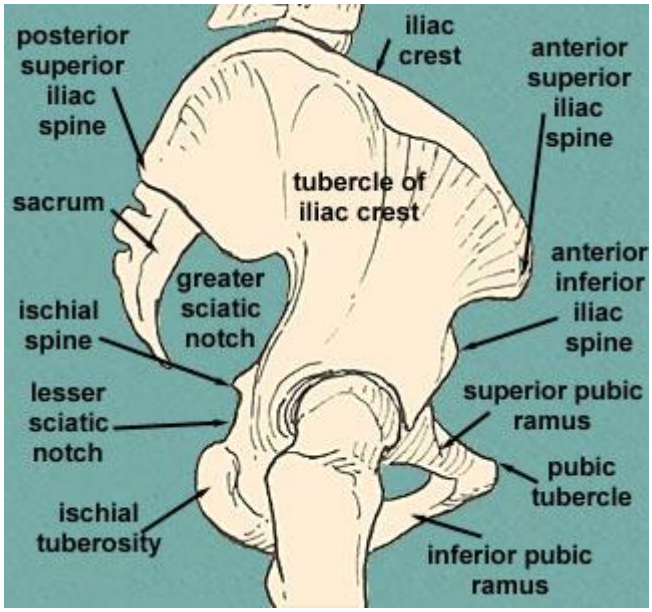


**Figure 1: Lateral View of the Pelvis**

**Activity 2:**
Locate the deltoid injection site of your group members by referring to figure 2 and following the guidelines below:

- Expose the whole shoulder of the patient
- Draw an imaginary horizontal line 2-3 fingers breadth (2.5-5cm) below the lower edge of the acromion process
- Find the acromion process as the upper marker and the deltoid tuberosity (in line with the axilla) and draw an imaginary triangle pointing downward from the acromion.
- The injection site is in the centre of the triangle which should be the densest part of the deltoid muscle.
- The injection should be given at or immediately below the mid point of the muscle

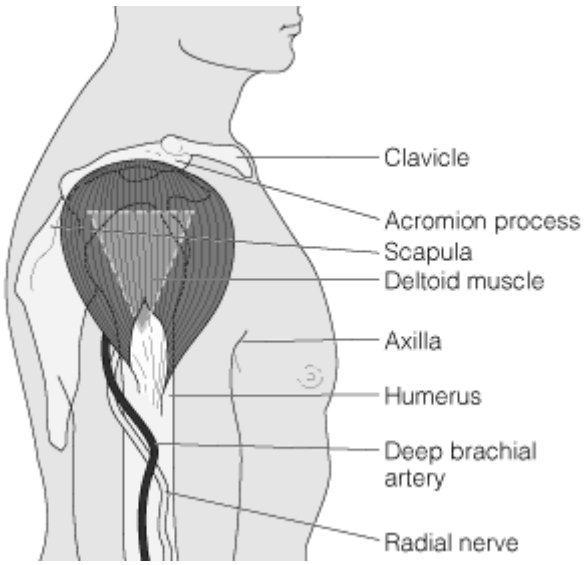


**Figure 2: The Deltoid intramuscular injection site**

## Activity 3:

Work in small groups. Locate the dorsogluteal site of your group members by referring the guidelines below and to figures 3 and 4. There will also be diagrams from the clinicalskills.net guidelines available on this station:

- Position the patient onto his or her side in order to expose the chosen buttock.
- Ask the patient to bend his or her knees to allow you to landmark the four bony prominences:

  Iliac crest

  Anterior superior iliac spine

  Ischial tuberosity

  Ischial spine

- Mark out an imaginary cross, so dividing the area into quarters.
- The upper outer quadrant of the buttock is your landmark for administering the intramuscular injection.

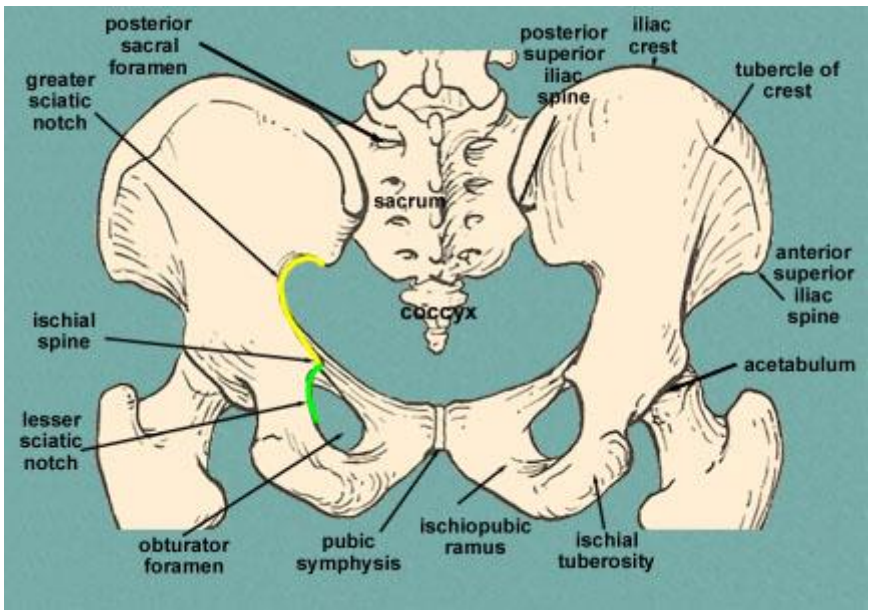


**Figure 3: Anterior veiw of the pelvis.**

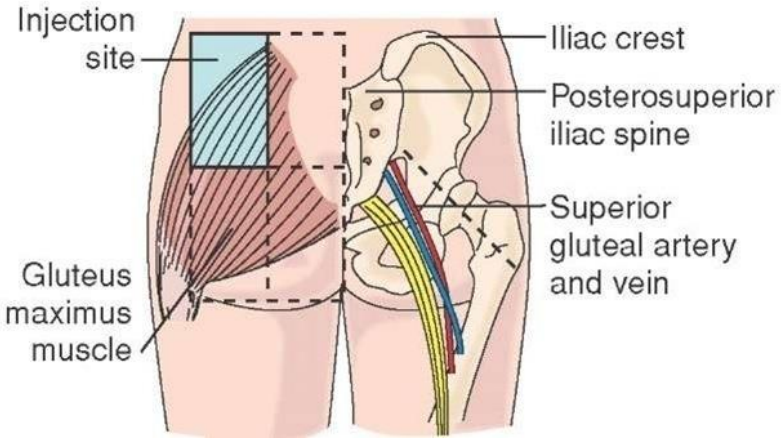


**Figure 4: The Dorsogluteal intramuscualr injection site.**

# WORK STATION TWO- Administration of medicines using the intramuscular (IM) route

## Needle Safety.

**In 2013 the Health and Safety Executive introduced new regulations for clinical staff working with sharp instruments. The regulations are available at:**

http://www.hse.gov.uk/pubns/hsis7.htm

One initiative is to increase the use of syringes with retractable needles.
Your facilitator will demonstrate different types.

Consider the advantages and disadvantages of using such syringes:

Reduced risk of needle stick injury.
Fewer needle stick injuries will reduce expenses associated with ongoing management of staff who sustain such an injuries.

Staff training to use the syringes
Potential cost of syringes – risk/benefit.
Use same needle to draw up mediation and inject.

Choose **one** of following two scenarios:

1. Roger O'Leary is a 45 year old gentleman who has schizophrenia. Roger is established on this treatment and receives a anti-psychotic depot injection every 2 weeks. You are on placement with a community psychiatric nurse and under the direct supervision of your mentor, you are going to prepare and administer fluphenazine decanoate 100mg IM. He has no known allergies

2. Sally Madeley 9 month old girl admitted with presumed sepsis. She is pyrexial and has a petechial rash. The paediatric registrar has not been able to obtain IV access and therefore has prescribed IM Ceftriaxone. Sally weighs 9 Kg and is prescribed 450mg Ceftriaxone. She has no known allergies

**Facilitator note: Although Ceftriaxone is a powder which requires reconstituting with lignocaine (according to hospital policy for OUH children's). For the scenario they will just use water for injection and be reminded that it is the IM technique they are concentrating on not how to reconstitute.**

For your chosen scenario look at the drug chart and carry out the following activities:

1. Check that the medication has been prescribed correctly and safely

2. Ensure that you are aware of the therapeutic uses of the medication to be administered, its normal dosage, side effects, precautions and contra indications

3. When you are happy that the prescription is both accurate and safe, assemble the medication as prescribed **under the direction of the skills facilitator**

4. One of you will be the nurse and one of you will be the mentor

5. You are going to take it in turns to administer the medication to the patient

6. Refer to the peer assessment form below

# Intramuscular Injection Administration:
# Peer Assessment Form

| | Expected performance | |
|---|---|---|
| **Prof behaviour** | Adheres to School dress code | |
| | **Behaves in a professional manner respecting others, adopting non-discriminatory behaviour** | |
| | **Demonstrates professional judgement and accountability in relation to the task** | |
| **Communication skills** | Introduces self giving name | |
| | Asks what patient would like to be called | |
| | Good eye contact, appropriate use of touch and clarity of voice | |
| | Uses open questions | |
| | Offers patient opportunity to ask questions and gives clear answers | |
| | **Checks patient identity: verbally, ID bracelet & prescription chart (include Full name, DoB and Hospital No.)** | |
| | **Gains informed consent for administration of medication** | |
| | Articulates legal and ethical duties in relation to drug administration | |
| **Procedure** | **Consults prescription chart to ascertain drugs, dose, timing, route, method of administration and prescriber's signature (verbalises action)** | |
| | **Assesses patient as necessary (Identifying specific observations/checks that need to be carried out prior to administration)** | |
| | **Informs patient of medication to be administered** | |
| | Checks patient understanding. Offers explanations as needed and answers any questions | |
| | Considers benefits of written information as support | |
| | **Checks for allergies, verbally and on prescription chart** | |
| | **Selects required medication, checks name, strength and expiry date (verbalises action)** | |
| | **Makes a clear, accurate and immediate record of medication administered** | |
| | **Obtains counter signature of examiner** | |
| | Returns environment to previous state | |

## WORK STATION THREE- Administration of medicines using the subcutaneous (SC) route

Consider the following scenario:

1. Natalie Buchanon is 14 year old girl on an adolescent surgical ward. Natalie has Crohn's disease and has just returned from theatre following bowel resection. The consultant has prescribed heparin 4000 units, bd. Under the direct supervision of you mentor you are going to prepare and administer 4000 units of heparin SC. Natalie weighs 40kg. Nataile has no known allergies.

HEPARIN CAN ONLY BE GIVEN SUBCUTANEOUSLY.

YOU MUST **NEVER** ADMINISTER HEPARIN INTRAMUSCULARLY.

YOU **MUST** UNDERSTAND WHICH ANATOMICAL SITES ARE APPROPRIATE FOR SUBCUTANEOUS INJECTIONS.

For your chosen scenario look at the drug chart and carry out the following activities:

1. Check that the medication has been prescribed correctly and safely

2. Ensure that you are aware of the therapeutic uses of the medication to be administered, its normal dosage, side effects, precautions and contra indications

3. When you are happy that the prescription is both accurate and safe, assemble the medication as prescribed **under the direction of the skills facilitator**

4. One of you will be the nurse and one of you will be the mentor

5. You are going to take it in turns to administer the medication to the patient

6. Refer to the peer assessment form below

# Subcutaneous Injection Administration:
# Peer Assessment Form

| | Expected performance | |
|---|---|---|
| Prof behaviour | Adheres to School dress code | |
| | **Behaves in a professional manner respecting others, adopting non-discriminatory behaviour** | |
| | **Demonstrates professional judgement and accountability in relation to the task** | |
| Communication skills | Introduces self giving name | |
| | Asks what patient would like to be called | |
| | Good eye contact, appropriate use of touch and clarity of voice | |
| | Uses open questions | |
| | Offers patient opportunity to ask questions and gives clear answers | |
| | **Checks patient identity: verbally, ID bracelet & prescription chart (include Full name, DoB and Hospital No.)** | |
| | **Gains informed consent for administration of medication** | |
| | Articulates legal and ethical duties in relation to drug administration | |
| Procedure | **Consults prescription chart to ascertain drugs, dose, timing, route, method of administration and prescriber's signature (verbalises action)** | |
| | **Assesses patient as necessary (Identifying specific observations/checks that need to be carried out prior to administration)** | |
| | **Informs patient of medication to be administered** | |
| | Checks patient understanding. Offers explanations as needed and answers any questions | |
| | Considers benefits of written information as support | |
| | **Checks for allergies, verbally and on prescription chart** | |
| | **Selects required medication, checks name, strength and expiry date (verbalises action)** | |
| | **Makes a clear, accurate and immediate record of medication administered** | |
| | **Obtains counter signature of examiner** | |
| | Returns environment to previous state | |
| | | |
| | | |

**Final Activity (Time Permitting)**

**A little quiz:**
**The following questions will be presented to the students during the skills session. These questions DO NOT appear in the student version of the skills workbook.**

1. Define an Intramuscular Injection

   *The deposit of medication which is injected into skeletal muscle, where there is a rich blood supply which will allow the medication to be absorbed quickly and effectively (Cocoman and Murray 2008)*

2. Define a Subcutaneous injection

   *The deposit of medication which is injected beneath the epidermis into the fat and connective tissue underlying the dermis, where there is less blood supply and hence a slower absorption rate (Hunter 2008)*

3. What size needle should you use to administer an IM injection and SC injection

   *For IM in adult should be a 38mm (21 Gauge, usually green needle) for children and infants 16mm is recommended*

   *For SC 25 Gauge is used.*

   *Children 23 gauge or 25 gauge age dependant & 25mm long*

4. Name 5 sites for administration of IM injections for both adults and children

   *Deltoid, Dorsogluteal, Ventrogluteal, Vastus Lateralis and Rectus Femoris (Malkin 2008, Cocoman and Murray 2008)*

5. What are the typical sites of SC injection

   *Lateral aspect of upper arms, umbilical region of abdomen and Thighs (Hunter 2008)*

   *Buttocks for under 2's*

6. When would you clean the skin prior to giving an injection?

   *When the skin is visible dirty clean with soap and water. Best practice does not include a recommendation to prepare the skin with an antiseptic wipe (Huntin et al 2003, Hunter 2008)*

7. What technique should you use when drawing up and administering an injection?

   A*septic Non Touch Technique (Huntin et al 2003, Hunter 2008)*

8. What type of needle should you use to draw up your medication?

   *A filter/drawing up needle or a 23G (often blue) should be used, as both types are designed to prevent particles such as glass or rubber being inadvertently drawn up.*

9. At what angle should you insert the needle when administering an IM or SC injection

   *90 Degrees (Cocoman and Murray 2008, Malkin 2008 and Hunter 2008)*

10. Once you have inserted the needle how long should take to inject each ml of medication?

    *10secs per ML*

11. When administering an IM injection why is it important to use the Z track technique? Describe the Z technique

    *Z track method stretches the skin as it helps ensure the injection is delivered into the muscle, reduces pain and leakage from the injection site (Malkin 2008, Cocoman and Murray 2008)*

    *In order to make use of the Z-track technique the nurse should use their non-dominant practitioner's hand to pull the skin and subcutaneous tissue 1–1.5 inches to one side of the injection site prior to injecting.*

12. When administering an SC injection why do you pinch the skin up?

    *To prevent giving an IM injection (Hunter 2008)*

13. What consideration do you need to take into account when choosing your injection site for both SC and IM

    *Volume of drug to be injected, medication to be given, the age and BMI of the patient, previous injection history (rotating of sites) (Malkin 2008, Hunter 2008, Cocoman and Murray 2008)*

14. What issues should you be aware of when using the Dorsogluteal site when administering an IM injection?

    *Poor absorption of drug due to inadvertently administering an SC injection and sciatic nerve injury (Malkin 2008).*

    *Consider the length of needle used*

15. When administering an IM injection why is it unnecessary to withdraw the plunger (except for DG site)?

    *There is no evidence that supports the need to do this. Previous justification included to ensure the drug does not enter capillaries or to avoid inadvertent IV administration. As none of the recommended sites (DG is no longer recommended for routine use) have major arties near them aspiration is not required (Malkin 2008)*

16. Explain and demonstrate how you would landmarks for a Dorsogluteal Site

    *Use demonstration in Coocman and Murray 2008 article*

17. Explain and demonstrate how you would landmark for VL site

    *Use demonstration in Coocman and Murray (2008) article*

18. Which is the site of choice for children, infants and adults when administering an IM injection?

    *Ventrogluteal (Malkin 2008)*
    *Children - Vastus Lateralis or Deltoid depending on age*

19. What are the 5 potential sources of contamination for injection recipients?

    *Injection Equipment*
    *Injection Substance*
    *Skin of the recipient*
    *Environment*
    *Hands of the administrator (Huntin et al 2003)*

20. What infection control practices are required to prevent infections among injection recipients?

    *Sterile injection equipment*
    *Prevention of contamination of injection equipment and medication*
    *(Huntin et al 2003)*

## Reflection

What went well?

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How could you improve the process next time?

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Identify three learning outcomes for your forthcoming practice placement that build on the knowledge and skills that you have learnt today

1.

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2.

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3.

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# Post Session Quiz

1. Which routes of administration would be described as enteral and which as parental?
   *Enteral: any drug given via the gastro-intestinal tract e.g. all oral drugs*

   *Parental: the administration of medication by a route other than via the gastro-intestinal tract e.g. IM, SC injections. Topical medications*

2. When would it be appropriate to administer medicines using the injection route?

   - *When rapid action is required*
   - *If the drug is altered by intestinal secretions*
   - *If the drug is not absorbed by the alimentary tract*
   - *If the patient cannot take oral drugs*
   - *If the drug is unavailable in an oral form*
   - *When long term release of a drug is required*

3. What is the Z -track technique and why is it used?

   *The Z- track technique is used when giving an IM injection. It is where you stretch the skin either downwards or sidewards before inserting your needle so that when the needle is withdrawn, you leave intact tissue above the injected material in an indirect line, thereby preventing leakage to the surface tissue.*

4. Why should you NEVER re-sheath a needle?

   *Risk of sharps injury*

## Reading List


Barron C, Cocoman A (2008) Administering intramuscular injections to children: what does the evidence say? *Journal of Children's and Young People's Nursing* 2 (3): 138-144

Cocoman A, Barron C (2008) Administering subcutaneous injections to children: what does the evidence say? *Journal of Children's and Young People's* ***Nursing*** **2 (2): 84-89**

Cocoman A, Murray J (2008) Intramuscular injections: a review of best practice for mental health nurses. *Journal of Psychiatric and Mental Health Nursing* 15 (5): 424-434

Hunter J (2008) Subcutaneous injection technique. *Nursing Standard*. 22 (21): 41-44

Fozier B, Erb G, Berman A, Snyder S, Lake R, Harvey S (2012) Administration of Medication, Chapter 21 in *Fundamentals of Nursing Concepts, process and practice.* 2nd Edition. England, Pearson Education

Nursing and Midwifery Council (NMC) (2015) *The Code for nurses and midwives.* Available at: http://www.nmc.org.uk/standards/code/

Nursing and Midwifery Council (2010) *Standards for medicines management*. London, NMC. Available at: http://www.nmc.org.uk/standards/additional-standards/standards-for-medicines-management/

Schilling McCann JA, Moreau D (2008) *Nursing Pharmacology made Incredibly Easy* 2nd Edition. London Lippincott Williams and W

**Appendix 10 – Statement Regarding Unprofessional Practice**

# Statement regarding unprofessional practice, or practice that may be putting someone at risk of harm

Nursing students are obliged always to act under the NMC (2009) *Guidance on professional conduct for nursing and midwifery students* London: NMC. Any practice that is unprofessional or puts someone at risk of harm, witnessed during your placements, should always also be discussed with your link lecturer, your mentor, if possible, or another registered nurse. Guidance for this is given in NMC (2009, 7.1, 7.2, 7.3). It is also given in NMC (2010) *Raising and escalating concerns* London: NMC. There is a policy, which you can access from the Placement Learning Unit Portal, 'Guidance for managing concerns in practice placements'