University of Strathclyde, School of Education

# Confident to Seek Help: Developing Skill with the use of Feedback

A thesis presented in part fulfilment of the requirements for the degree of Doctor of Education

by
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‘This thesis is the result of the author’s original research. It has been composed by the author and has not been previously submitted for examination that has led to the award of a degree.’



Signed:

Date:

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## Abstract

Healthcare within the UK is undergoing a transformation in terms of traditional role and skill assignations of staff, with an attendant blurring of boundaries seen in terms of the practice of skill in many clinical settings. This has implications for the development and future learning of the staff involved and the aim of this study is to explore how feedback from a supervisor is used to develop and sustain skill in a group of nurses and, in this way, examine the interaction between the learner, the supervisor and the context in which the learning is set.

This thesis uses a social constructivist stance and a mixed method approach to answer research questions set. 85 nurses were invited to undertake a web-based questionnaire and semi-structured interviews were conducted on ten of the respondents. The themes which emerged were: developing identity and fitting in; mining tacit knowledge and managing ambiguity; support versus dependency; and, finally, the development of judgement.

The study reveals a group who learn in a context that they find enjoyable and is often conducive to learning. The participants are well motivated to learn and they have access to the skills and knowledge of experts. However, learning is also seen to be dominated by the context in which it is set and as the participants learn motor skills, they also learn to fit in and manage a brittle working environment. This thesis illustrates an aspirational professional group for whom the governance of learning leads the participants to be confident to seek help.

The thesis concludes by suggesting changes to the pedagogical model employed and avenues for further research.

# Chapter 1: Introduction

*This thesis explores how feedback from a supervisor is used to develop and sustain skill in a group of nurses. This introductory chapter looks at why this topic has been chosen for exploration and briefly outlines the learning strategy that was utilised to develop their skill.*

*My personal position and stance, both as a nurse, as a teacher and as a researcher is discussed in relation to how this may affect the nature and outcome of the research.*

## 1.1 Personal and professional background to the topic of study

I have worked as a general adult nurse since 1981 and have been involved in the education of nurses, in various capacities, since 1991. From the late 1990s until recently I have been involved in the development of educational delivery for nurses who are undertaking courses in order to expand their role into areas that are not traditionally considered to be "nursing" but, rather, seen as traditionally medical tasks. This has been an interesting journey and has involved the use of the skills of invention, diplomacy, team effort and new ways of supporting students. However, it must be noted that a challenge involved in this educational provision can be gaining the acquiescence of the doctors involved and although this cooperation is often freely offered, this has taken years of developing interprofessional relationships and the professional tensions are sometimes palpable, issues that will be fully explored in Chapter 2.

These courses are broadly aimed at "nurse practitioners", although other healthcare professionals are also students in my classes. The safety of these courses is vital: developing nurses in whom the public have confidence and who can, demonstrably, be seen to be a safe and acceptable alternative to doctors is essential. In order to ensure this, it is necessary to educate and assess the nurses in both theory and practice within a variety of relevant clinical situations. Added to this, the issue of responsibility and accountability for the actions of the nurses taking on the new roles is acutely felt, not least by the nurses themselves and confusion around this

accountability continues to persist (Dowling, et al., 1996). It is apparent to me that the means by which the development of skill is both undertaken and assessed is not just important for public safety but also for the development of a health service and, more importantly, the development of each practitioner as someone who can embrace a lifetime of learning, and can continue to develop and embrace change in the future.

The courses in question utilise various means of developing and assessing skill in the student in a very wide variety of clinical situations within both primary and secondary care, and within both rural and urban settings. The students in question are all experienced, registered healthcare professionals, mostly nurses and paramedics. The specific module to which this study relates is a foundation module that teaches the skills of history taking and clinical assessment, for example the correct way in which to question a patient about an abdominal complaint and examine the abdomen. At the time when the participants of this study were students on this module, it was assessed by three summative means; firstly, case studies of patients that the students had managed and which aimed to assess a student's theoretical knowledge of the topic.

Secondly, the development of "clinical competence" whereby a set list of skills is outlined and the standard to which they should be achieved is described and set against a scoring rubric. A common feature of all such modules and courses is the use of an expert in the field as someone who both guides the development of the student during this aspect of their learning and eventually plays a part in the assessment of the skill of the student. This expert is often a doctor, although it may be an experienced nurse or other paramedical professional: in this latter situation, the cooperation of doctors will always be both explicit and implicit. The paradox often posed for the medical staff involved is that they are relied upon to supervise and assess the nurses as they are trained and prepared to replace them – a situation that has been described to me as "the turkeys voting for Christmas". In some situations, the doctors are specifically responsible for setting up the role, most common in primary care environments, where, typically, a GP will prepare her practice nurse to make diagnostic decisions regarding a specific range of patient presentations and in

other situations, the doctors are consulted on the role, but are not specifically involved in its development.

Further, there is a tacit assumption made that expertise in medical practice leads, *ipso facto,* to expertise in teaching. Expertise is being used as an educational medium, however what is not clear is whether this strategy is sound. It may be that the expert has little or no experience of, or interest in, teaching (with the exception of the preparatory session they undertake as supervisors on the courses in question), although their role in the development of the student in both the short and the long term could have an enormous impact. Informal and formal feedback from my students suggests that this relationship can prove to be an enormous advantage to their learning but may also prove to be its undoing. In other words, the context in which the participants of this study learn is very specific.

It should be stressed that the process of development of skill and assessment of skill are part and parcel of the same process for these participants: assessment techniques employed are intimately intertwined with the process of development and the final assessment is the culmination of this process. The twin aspects of development and assessment cannot be disconnected and, therefore, the assessment strategies employed may have far-reaching consequences for the development of the student, an issue that will be fully developed in Chapter 5.

Thirdly, the students' clinical skills were assessed independently by Faculty under controlled conditions, necessary to ensure objectivity in assessment.

It should be acknowledged that, as an occupational group, doctors are educated to a higher standard than nurses and are generally better at articulating their professional direction. I am not idealistic about nurses or professional nursing and where doctors are seen to be a cohesive and articulate group with a clear professional aim, the nursing voice is diffuse and relatively inarticulate. I neither see this expansion of practice as a professional battle nor as a means to replace doctors with "one of my own": the issue is not one of a professional battle, but that of shaping a health service in which the skills of all groups are used appropriately. Finding this balance has been the ongoing educational challenge.

The question at the point of completion of this module is not the competence of the student in the skills in question but rather the sustainability of this skill. Learning invariably occurs in the context of extremely busy and sometimes capricious clinical areas and contact with supervisors is sometimes *ad hoc* in nature. Learning may be interrupted if a supervisor either leaves their current position or if service demands lead to a situation where the outcomes of the module can no longer be met. In other situations, skills are taught, learned and lost quickly – most commonly in isolated situations – and, therefore, maximising the learning experience is extremely important. In yet other situations, learning often appears to relate to the specific clinical context in which the learning occurs.

As I started to look at these issues, the notions of sustainability in assessment and, specifically, judgement emerged as the issues that were actually important to this study and, of equal importance, to me and the educational context in which students learn. Bringing both of these perspectives together – that is, how the participants of this study have used the feedback of their supervisor to develop and sustain skill within a specific learning context – is crystallised in this thesis, and it aims to explore the dynamic between the student, their development and the context in which the learning takes place.

The study was undertaken by means of a mixed methods approach, utilising and analysing both quantitative and qualitative data. My background in research has been mainly quantitative and my first experience as a researcher was in pure science during my undergraduate degree in genetics. Subsequently, as part of a team of researchers, I undertook some professionally relevant quantitative research and this is certainly where I have felt most "comfortable". However, the questions posed by this research, some of the concepts examined and most importantly the epistemological stance taken is not completely accessible by purely quantitative methods and a mixed methods approach was taken. My personal stance is acknowledged and it is also acknowledged that this could and may affect both the choices I have made in terms of subject, epistemological stance, methodology, method and analysis.

## 1.2 Aims of thesis, statement of research questions and summary outline of conclusions

The exploitation of an expert in the field in order to develop and assess a student is common to many forms of professional education, including every paramedical profession and student teachers. The aim of this study is to examine how feedback from a supervisor is used to develop and sustain skill in a group of nurses and in this way, explore the dynamic between the student, their development and the context in which their learning takes place.

The following research questions were posed:

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|---|---|
| *Question 1* | *How do participants use expert judgement to develop skill?* |
| *Question 2* | *How is expert judgement conveyed to participants?* |
| *Question 3* | *What factors are related to the perceived usefulness of feedback?* |
| *Question 4* | *How is expert judgement utilised to help inform participants' own judgement?* |
| *Question 5* | *How context specific is the judgement that the participant has developed of their level of skill?* |

The study reveals an occupational group who, in the process of learning skill in a specific context, learn to fit in and are confident to seek help.

## 1.3 Outline of thesis, terminology applied and terms of reference

The health service within the UK is undergoing rapid and seismic changes and staff of all categories who populate this sector require to be prepared for a lifetime of learning. Chapter 2 outlines the professional context for this study and discusses the professional struggle that nursing has faced historically and continues to face in light of this rapidly changing learning environment. Chapters 3, 4 and 5 explore literature relevant to this thesis. The importance of the context of learning and the concept and interpretation of the zone of proximal development, particularly as it relates to adult

education, are discussed in Chapter 3. Skill development and eventual development of expertise are discussed in Chapter 4. The sustainability of learning via appropriate development and assessment strategies are explored in Chapter 5, and this is related to the formation of judgement. This chapter continues by examining the value of and challenges posed by the judgement of the supervisor in the form of feedback, along with discussion on the issues raised by self-judgement. Limited discussion is presented on peer assessment. Chapter 6 reinforces the ontological, epistemological and methodological standpoint of this thesis and Chapter 7 develops this to outline the method adopted for the study and the conduct of the research. Chapters 8 and 9 present the findings of the quantitative and qualitative strands respectively and discussion and analysis of these findings are offered in Chapter 10 with final conclusions drawn in Chapter 11.

A great deal has been written in the nursing literature on the role and responsibilities of clinical supervisors in professional nursing, with some studies examining and defining the role of the supervisor (for example, Nursing and Midwifery Council, 2008a) and others examining models of supervision (for example, Spouse, 2001). This literature reveals a plethora of titles and roles used for the role of supervisor and it is acknowledged that this person typically performs several roles on behalf of the student: teacher, mentor, supervisor and assessor, all of which add to the complexity of the relationship. The clinical supervisor involved is referred to as "the supervisor" throughout this thesis and is taken to mean the fellow professional who is offering the guidance and educational facilitation and is, ultimately, part of the assessment of the student. Where "assessor" is referred to, this is taken to mean assessors in general. The individuals who have been students on my courses and who are now participating in this study are referred to throughout as "the participants". Where "students" are referred to, this is taken to mean individuals who have undertaken my courses but who have not participated in this study or students in general.

In order to simplify gender assignations, all supervisors, nurses and doctors are referred to as "she" unless the correct gender of an individual is known. Participants are referred to by their correct gender if this is known, otherwise, participants are also referred to as "she".

Each of the concepts on which the framework for this thesis is set, outlined in the chapter sketch above, attracts a large and diffuse literature base. Parameters for inclusion within search criteria and inclusion in the thesis were set according to their professional and theoretical relevance. Literature examined relating to expertise, feedback and skill development is mainly drawn from professional nursing and medical literature and not from other disciplines that are concerned with this topic, for example, sports coaching, although literature has been drawn from a wider theoretical base where appropriate.

*This chapter has outlined my background and personal stance, as well as the aim, outline and terms of reference of this thesis. The course of education that the participants of this study have undertaken relies upon their development and eventual assessment, in part, by an expert. The following chapter outlines the professional context of this study and the learning environment in which the participants learn.*

# Chapter 2: Professional context of the study

*The development of the participants of this study occurred in a specific context and in order to acknowledge this professional context, this chapter outlines the changes that have been made in healthcare in the UK over the preceding 25 years, the principle drivers for these changes and the effects that they have had on the nature of nursing and, consequently, the education and development of nurses. The well-recorded professional interaction and socio-professional context of nursing is discussed and the nature of professionalism in this context is examined.*

## 2.1 The changing face of healthcare delivery in the UK

Over the past 25 years, successive Governments in the UK, in Scotland and in Europe have implemented health service and employment policies that have led to changes in the way that medical, nursing and allied health services are organised in the UK. These policy changes have been aimed at very many aspects of health service delivery and have instigated changes in not only the roles that healthcare professionals adopt but also in the available skill mix of these professionals, often involving the enactment of laws in order that these changes can be brought into effect.

Amongst the first, and one of the most important of these changes, was the post-1993 response to the European directive on working times that curtailed the number of hours that employees within the European Union (EU) were permitted to work and which triggered a shortfall in the availability of junior doctors in secondary care, particularly at night (Council of the European Union, 1993). In response to this, health services within the UK followed the example set by US health systems and trained nurses to fill this shortfall (Dunn, 1997): the medical profession made the pragmatic decision to shed what may be considered to be the “routine” or “low end” of medical activity, for example tending to common and minor injuries in Accident and Emergency Departments or renewing intravenous access for patients. Nurses who were trained to fill this breach were, typically, trained to undertake routine skills

and make decisions based mostly on predefined protocols or other decision-making tools. It should be emphasised that this shift in the role of nurses and the training of nurses in this capacity was part of a shift in health care generally and not the only strategy adopted by health services – in some situations new healthcare practitioners were created, leading to the role of Physicians Assistant (NHS Careers, 2011) and in other situations, different healthcare professionals (such as paramedics) have been similarly up-skilled (Dixon, et al., 2009). This thesis, however, is primarily concerned with the nature of nursing development and the context in which it is set.

Later changes in policy have, similarly, had a considerable impact on the nature of nursing work and the skill mix within healthcare environments. The changes to medical careers outlined in the key Modernising Medical Careers documents served to further reduce the availability of medical staff (House of Commons Health Committee, 2008); however, these changes have instigated a shortfall in medical expertise with an attendant rise in the expected skill of some nurses and the development of yet more specialised roles (Royal College of Anaesthetists, 2009). The changes that occurred in secondary care have been correspondingly matched with changes in primary care, with successive policy decisions emphasising the move of health care to a local and faster access to health care (Scottish Government, 2007). This has led to the shift of hitherto secondary services into community services and the concomitant requirement for the re-skilling of nurses outwith hospitals. Crucially, the changes negotiated by the National Health Service (NHS) confederation in 2004 on the General Medical Services contract shifted the responsibility for out of hours care from GPs to Health Boards and witnessed the haemorrhage of primary medical skill out of hours (House of Commons, 2004). This has been an important national development, felt most acutely in remote and rural areas, where access to secondary care is more limited and the dependence on primary care services is heightened (Scottish Government, 2008).

In order to allow these changes to take place, legislation has been enacted, most notably those related to the governance of the prescription of medicines and the initiation of non-medical prescribing of medicines (Scottish Government, 2006). This established the conceptual and practical reality that doctors were no longer the only

diagnosticians and prescribers of treatment: other healthcare professionals, most notably nurses, could now take on board this role.

## 2.2 Nursing professionalisation

The healthcare landscape onto which these changes have been grafted has been well recorded by nursing historians and sociologists alike. Florence Nightingale described nurses in the mid-nineteenth century as:

> …like the old man who embraced the office of schoolmaster because he was not fit for anything else, the women who embraced the office of nurse, especially of midwife for the poor, or of hospital nurse, were generally those who were too old, too weak, too drunken, too dirty, too stolid or too bad to do anything else. They were in fact, as nearly as possible, of the class from which now comes the "pauper nurse"

(as cited by McDonald, 2004, p. 368). Although this vision of nursing has changed since that time, there is certainly a legacy of the nurse as female, working class and poorly educated, with the doctors with whom they work seen as their superiors in terms of gender, social standing and educational standing. Importantly, this legacy is reflected in the status bestowed upon these professional groups by the general public: nurses are seen as angels, doctors are revered (Fagin & Garelick, 2004). Melia (1987) describes nurses as now a heterogeneous group, particularly in terms of educational status and aspiration and this trend has continued since this observation was made almost 25 years ago, with an increasing number of nurses seeking higher degrees and higher occupational status.

The previously stable historical relationship of hierarchy and paternalism where doctors were seen to be the autocratic leaders of the "team" and nurses secure in the understanding that their role was to carry out the instructions of the doctor was observed and described by Stein (1967). This relationship comfortably absolves the nurse of the responsibility for decision-making regarding patient treatment and was referred to by Stein as the "Doctor-Nurse" game. The most important rule of this game was that there should be no open disagreements, or even discussion, between

the groups: the decision-making capacity was firmly in the hands of the doctors. Any influence that the nurse may have brought to bear on patient management was done through guile and passive manipulation, thus allowing all responsibility to be held by the doctor – a comfortable position for both parties. Within this routine, nurses expected the "support" of doctors, which was very often taken to mean the agreement of the doctor to their ideas and "unsupportive" if there was lack of agreement. In this company, doctors were the custodians of knowledge, with tacit understanding that they would up-skill both doctors and nurses as need and personal inclination dictated (Fagin & Garelick, 2004). Thus, the delicate professional balance between the occupational and social groups was maintained, to the apparent advantage of all.

However, the social and political changes outlined above necessitated change and, in common with other countries across the world, Scottish nurses developed their practice in accordance with this need and a plethora of nursing roles and titles have been devised in response, the most common of which is "Nurse Practitioner" or "Advanced Nurse Practitioner" (Bryant-Lukosius, DiCenso, Browne, & Pinelli, 2004). These are, typically, nurses who are educated and trained to undertake a specific role that has not, hitherto, been seen as part of a traditional nursing role and that involves, to a lesser or greater extent, the assessment, diagnosis, treatment, discharge and often follow-up care of patients who fall within specific parameters. This change in role has necessitated an attendant change in separate educational provision, almost all of which has occurred at post-registration level: nurses are educated in a traditional context to the point of registration and then the skills of diagnosis, treatment and management specific to particular patient groups is superimposed after a period of post-registration experience. Nurse practitioners can now be found in almost all areas of health care, particularly within secondary care in, for example, ophthalmology, emergency departments and dermatology and this has been extensively documented and researched, particularly with regard to the development and efficacy of the role. Laurant, et al. (2005) and Sakr, et al. (1999) in their influential reports, for example, detail a nursing service that is a least as efficacious as that which it is replacing.

The development of this role is, of course, underscored by nursing's long-standing struggle for professional recognition and although it is outwith the scope of this thesis to make a full analysis of this issue, some pertinent issues must be raised from the wide literature on professionalism and the nature of professional practice. In his study into the socio-professional life of medicine and its allied professional groups, Friedson (1970) suggested that all professions that fall within the sphere of medicine are subordinate to it but that paramedical occupations (of which nursing is one) adopt the claim of professionalism in order to sweeten the taste of this subordinate position and do so by virtue of the fact that they work in close association with medicine.

In doing this, these occupational groups adopt the trappings of the professional group, for example higher education, a code of practice and restriction into the group, without actually gaining the status that the profession offers. Melia (1987, p. 178) outlines in her seminal work the distinction made by student nurses between "real nursing" and "dirty work", the former being that work that is associated with medical practice and allows the reflected glory that this brings, the latter being defined as routine and unskilled work. Wilensky (1964) noted that, in the quest of professional status, those occupational groups at the lower rungs of the professional hierarchy are willing to take on tasks and skills that have been sloughed off by that occupational group immediate above it, with a view to gaining the status afforded by that skill or role.

Thus, those in the medical profession have been happy to relinquish a role, if it is in their professional interest so to do, and nurses have been happy to take these skills on board: these tasks offer the nurse the professional kudos and reward of having skills that were formally the sole domain of medics. In turn, nursing has shed tasks and skills that may be thought of as having been part of the traditional nursing role and these have been adopted by healthcare assistants, and boundaries between traditional occupational roles have thus become increasingly blurred in a changing healthcare landscape. This may go some way to explain why a section of nursing has been willing (and eager) to take these skills on board: the role has rarely been met with an associated rise in remuneration and, in fact, in some situations nurses have taken on the roles that doctors have shed as part of their day-to-day activities and the added

duties *de rigueur* in many clinical environments, are now being seen as standard practice (Fotheringham, Dickie, & Cooper, 2011). Therefore, the incentive of higher wages is unlikely to be their motivation.

Melia (1987, p. 158) does discuss another group, which she refers to as the "professionalisers", who have the aim of occupational and intellectual autonomy from the dominant group and are not happy merely to bask in reflected glory. In a revisit to the "Doctor-Nurse Game", Stein, Watts and Howell (1990) reinforce this desire for nursing to achieve a degree of autonomy and move to a more interdependent relationship and, thus, shift the balance within the workplace. This is further accentuated by the expressed desire of this new group of nurses to be registered as a separate professional group, a view supported by the UK Government and one that has yet to be resolved (Prime Minister's Commission on the Future of Nursing and Midwifery in England, 2010).

## 2.3 Professional responses to change

These changes have come about with some well-recorded resistance on the behalf of some doctors and, perhaps a little more surprisingly, resistance from some sections of nursing, resulting in the "who does she think she is?" syndrome (Walsh, 1999, p. 354; Farrell, 2001). Hostility from the medical profession may be reasonably easy to rationalise: the perception that this new role would create a "mini-doctor" at a cheaper rate was first discussed in the UK by Castledine in 1995 and remains palpable. Anecdotally, this is most acute within the field of psychiatry where it is considered that the only perceivable difference between the nurse and the doctor is the prescription of medicines and although nurses can now legally prescribe medicines to patients, resistance from psychiatrists to this has been enormous.

However, hostility from within nursing may be a little more difficult to explain, with many anecdotal reports of nurses feeling that the nurse practitioners are "getting above their station". Farrell (2001, p. 27) outlines possible reasons for what she refers to as "this self-flagellation": both the misogyny that is bred from paternalism and the deep-rooted hierarchical and cliquish culture that exists within nursing play their part in undermining the professional confidence of nursing as a group and

nurses as individuals, leading to a group that turns on itself in a bid to retrieve its comfort zone. Bradbury-Jones, Sambrook and Irvine (2008) reinforce and expand on the effects of being an oppressed group, with bullying, horizontal violence, tightly hierarchical structure imposed and failure to support each other during conflict being highlighted. These authors go further and discuss the relationship between the intertwined issues of knowledge and power – if you hold one, you hold the other and this may, in part explain medical reluctance to relinquish the knowledge base.

Farrell (2001) concludes that the socio-professional situation that nurses find themselves part of cannot totally explain the hostility between nursing groups – nursing itself may have to take some responsibility for finding a solution to a difficult problem and many nursing commentators have raised the issue of nursing empowerment as a means of moving forward. This may be construed as redistribution of power within the healthcare groups, although whether this would involve a move of power away from medicine towards nursing is a moot point. Kuokkanen and Leino-Kilpi (2000) discuss the difficulties in defining this concept and suggest that power is not necessarily a "top-down" phenomenon but can be exerted in more subtle means, although it is arguable whether this kind of manipulative behaviour (as described by Stein (1967)) is a sign of strength or a lack of it.

Thomas and Velthouse (1990, p. 667) consider empowerment to be a "non-traditional paradigm of motivation" that can be thought of as being composed of such concepts as authority (or authorisation), capacity (ability), energy, commitment, risk taking, innovation and self-efficacy. Clearly, highly empowered individuals or groups will therefore intrinsically care about the task at hand and go the extra mile to do the job and overcome obstacles to achieve it, will work hard even without supervision, and will engage with new tasks. According to this model, empowerment can be facilitated by participation in decision-making and is an interrelationship between person, organisation and those around.

However, on a wide literature base around the theory of empowerment in nursing, there is a dearth of practical examples of how this concept may be put into practice

and if, indeed, there is a ground swell of opinion to suggest that this is desirable. Against the tradition of dominance and paternalism, the task of rebuilding the culture in which this study is set would be challenging. As the age of some of the sources testifies, this is not a new or unrecognised phenomenon and, contrarily, this state of affairs appears to have become the new *status quo* within healthcare environments. Nurses adopt new practices in response to, mainly, political and professional drivers and are met with hostility and resistance from both medical and nursing colleagues and, seemingly against the odds, develop a good, safe service.

*This chapter has described the professional context in which this study is set. Driven by social and political change within the healthcare environment, nurses (and other healthcare professionals) are changing the way in which they practise and in so doing, are redefining not only the nature of their practice but also the professional standing of their occupation. This comes at the cost of upsetting an established socio-professional setting and the nurses in question often meet hostility both from fellow nurses and the doctors who they often rely upon for training for the new role.*

*The following chapter looks at how the context of learning is considered to influence learning, and the concept of social constructivism is discussed. The zone of proximal development is discussed and interpreted and the importance of judgement in development introduced.*

# Chapter 3: The context of learning and zone of proximal development

*This chapter outlines the importance of the context of learning to both learning and development, along with some criticisms of this stance. This theoretical standpoint is related to the principles of adult education and the concept and interpretation of the zone of proximal development is examined, especially as it relates to adult learning.*

## 3.1 The context of learning and social constructivism

Social constructivism has become a general banner term to denote a set of ideas that consider that knowledge is constructed as a dynamic interaction between the individual learner and the environment, with the context of the learning placed at the centre. Social constructivism in education is principally attributed to three educational theorists, working separately and in different fields of enquiry, namely Dewey, Piaget and Vygotsky. Prior to these ideas, educational concepts were dominated by theory that placed the learner at the centre of the process, for example those of behaviourists such as Thorndike (1914), where the strengthening relationship between stimulus and response was seen as the key mechanism for learning, or the realist philosophical stance.

Living and working in Russia in the period immediately following the Russian Revolution and influenced by Marx's theory of historical materialism, Vygotsky understood that "what human activity can achieve in a particular historical period depends upon the prevailing material and social conditions" (Callinicos, 1983, p.81). Vygotsky utilised this ontological and philosophical stance in order to interpret these ideas within an educational and psychological context and it was this interaction and dynamic between the capacity to develop and the situation in which it occurs that underpinned Vygotsky's ideas, that "learning and development are interrelated from the child's first day of life" (1978, p. 84). This link between social interaction and cognition was expounded by Piaget (1972) independently of Vygotsky and John-Steiner and Souberman (1978) state that the difference between Paiget and Vygotsky is essentially that Piaget postulated universal developmental stages whereas

Vygotsky's emphasis was on the interaction between the learning and the situation in which it is found.

Dewey, in 1916 (p. 118) wrote that "education is not an affair of 'telling' and being told, but an active and constructive process", with learners making interpretations of information based on the context in which it is placed. This interpretation of knowledge was seen as important since the point of knowledge is for it to have utility and this has been considered as fundamental to both the motivation for learning and the process of learning within this epistemological stance. Von Glaserfeld (1989, p137) states that it is the "success and pleasure" in finding that learning in one situation can be used in another that is the motivation, an exploratory view of education that the same author claims to be "startlingly successful", claims that will be further discussed below.

Within this social constructivist framework, later developments in cognitive psychology progressed the idea that mental mechanisms are used in order to represent knowledge: if cognition is about "meaning making" then this can only occur in relation to how an individual interprets their surroundings. According to Palincsar (2005, p. 286), all "cognitive science theories entail some form of constructivism to the extent that cognitive structures are typically viewed as individually constructed in the process of interpreting experiences in particular contexts".

However, it should be emphasised that social construction is not an individualistic matter without reference to external forces. On the contrary, knowledge construction is influenced by experience and dialogue with others (Beck & Kosnick, 2006) and learning is, thus, an essentially social activity and can be considered to be the intersection between the person and the social world. The social and interactional nature of learning has been further developed by more contemporary educational theorists for whom the situation in which learning occurs is the focus of research and theory development and who draw on varying degrees of behavioural, cognitive, and situational aspects of theory. Important amongst these theories is that of "situated cognition", described by Wilson and Myers (2000, p.58) as a "web of social and

activity systems within which authentic practice takes shape"; in other words learning is guided and shaped by a network of social, behavioural, cognitive and psychological processes in a dynamic situation that extends forwards and backwards in time. These theories remove educational theory from the "within the head" models (Daniels, 2008, p.92) and Hodkinson, Biesta, and James (2007, p.419) extend this notion of the social nature of learning to the idea of "learning cultures" that are "constituted by actions, dispositions and interpretations and exist in and through interaction", a theory that is not completely flexible and that is dependent upon the culturally imposed expectations on and by all actors.

This theory that knowledge is constructed as part of a dynamic between the individual and the context in which they are placed has given root to educational strategies, for example experiential learning, which may be categorised under the general umbrella term of student-centred or active learning strategies. Dewey (1998) was the first critic of these approaches to teaching and learning and lamented the excesses of some exponents of his philosophical stance, stating that a marriage of traditional and progressive education was the preferred stance. The tension between social constructivism and realism in education is palpable today, both in philosophical and practical terms (Jonassen, 1991; Mayer, 2004).

### 3.1.1 Social constructivism and adult learning

Both Vygotsky and Piaget's theories of learning are based on how children learn and are, essentially, pedagogical theories although there can be little doubt that the notion of social constructivism has had a great impact on subsequent theories of andragogy, with Lindeman in 1926 describing adult education as being about "situations and not subjects" (as cited in Hansman , 2001, p.44).

Later principles of andragogy were predominantly postulated by Knowles, Holton and Swanson in 1998, where the relevance of the education, the ability of the adult to take control of the learning process, the relevance of prior experience of the learning process, the real-life context of the learning and, lastly, the readiness of the learner to learn were considered to be key to adult learning. More recently, Loyens, Rikers and Schmidt, (2006, p. 446) considered the key elements of social constructivism in

education as "(1) knowledge construction *[from the learners' experiences]*, (2) cooperative learning *[between learners and their environment]*, (3) self-regulated learning *[control of learning and willingness to learn]*, and (4) the use of meaningful, authentic problems in education *[of relevance to the students and their surroundings]"*, all of which bears notable similarity to the basic precepts of andragogy – it would appear to be the case that social constructivism is equally relevant for the learning of both adults and children. Once again, according to this philosophical stance, the context of the educational process is crucial to the nature of the learning and the uniqueness of each individual learner also creates an individual learning situation: learning is an interaction between the individual learner and her environment.

## 3.2 The zone of proximal development

Key to Vygotsky's educational theory is the development of the concept of the zone of proximal development (ZPD) (Vygotsky, 1978, p. 86). Underpinned by the idea that development is reliant upon "the socially provided resources of that development" (Valsiner, 1987, p 64), ZPD was defined by Vygotsky as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers". In other words the difference between what the learner can do without help and what she can do with help and the point at which the teacher has the opportunity to grasp the buds of development and use the teaching process to help the child develop, with the emphasis firmly placed upon development and problem solving. According to this theory, teaching and learning must be in advance of development in order to encourage progression by, for example, problem-solving tasks, setting new challenges or introducing new skills and concepts and the assimilation of a task can be seen as the start of learning and not the end point (Vygotsky, 1978, p. 89).

Kinginger (2002) has summarised this construct as one in which learning takes place by virtue of social interaction with peers and more competent others on the basis that function is not fully established – this is the point of learning. The onus is, therefore,

on the instructor to act as a facilitator and not necessarily an instructor, which implies a teaching, development and assessment strategy that encourages the application of judgement as a means of assisting the student's learning. Mangena and Chabeli (2005) state that we need to encourage approaches to both teaching and assessment within adult education that encourage students to think critically by discussing, guiding, questioning, problem solving (for example) and not be teacher-centred and obsessed with rote or the transference of knowledge from instructor to student. According to Ceccato (as cited by von Glaserfeld, ibid, p. 138) "the important thing is to show the child (and nothing changes if we substitute 'the student') the direction in which to go, to teach him to find his own path, to retrace it, and to continue it."

### 3.2.1 Interpretations of the ZPD

Although there are many critiques of social constructivist epistemology, there are few refutations of the concept of the ZPD. Bruner (1985, p. 32) states quite emphatically that "there is no way, none, in which a human being could possibly master [the] world without the aid and assistance of others for, in fact, that world *is* others".

However, in his description of the nature and value of the ZPD, Vygotsky gives little indication as to how wide or narrow the gap is likely to be, and says little about how the child learns or exactly how teaching or facilitation can be used to close the gap that has led to the concept being utilised as a basis of many interpretations (Wood & Wood, 1996).

Wood, Bruner and Ross developed, in 1976, their seminal concept of scaffolding in tutoring that, according to Wood and Wood in 1996, was developed in response to the question of what nature of guidance or help was required within the ZPD. It is worth noting, however, that Wood, Bruner and Ross (1976) make no reference to either Vygotsky or the ZPD, although their ideas have become synonymous with it. These authors (1976, p. 90) describe the process of scaffolding, where the role of the teacher is placed in control of the learning, and even undertaking part of the task for the student:

> Discussions of problem solving or skill acquisition are usually premised on the assumption that the learner is alone and unassisted. If the social context is taken into account, it is usually treated as an instance of modelling and imitation. But the intervention of a tutor may involve much more than this. More often than not, it involves a kind of "scaffolding" process that enables a child or novice to solve a problem, carry out a task or achieve a goal which would be beyond his unassisted efforts. This scaffolding consists essentially of the adult "controlling" those elements of the task that are initially beyond the learner's capacity, thus permitting him to concentrate upon and complete only those elements that are within his range of competence. The task thus proceeds to a successful conclusion.

Gallimore and Tharpe (1990) utilised this concept of scaffolding to reconsider teaching within the ZPD as a process of teaching as assisted performance and they see this as a process that consists of four distinct stages that can be created for any task:

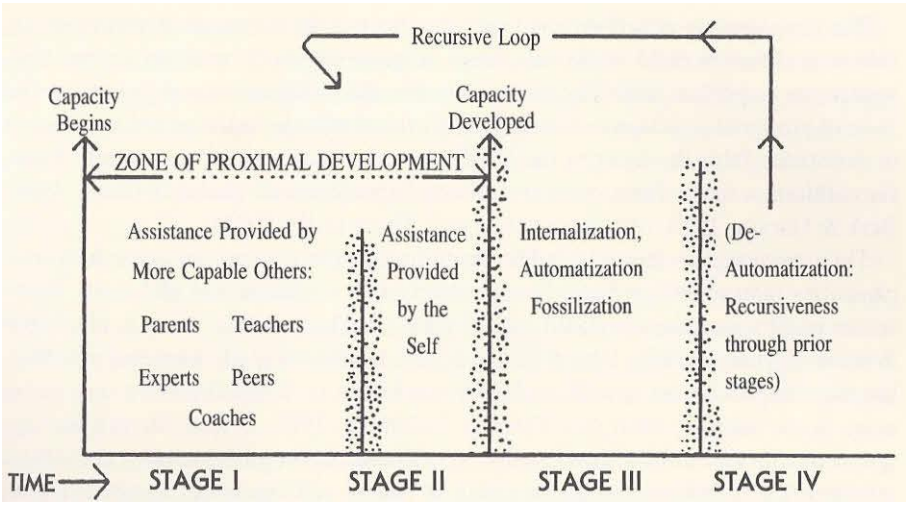


**Figure 1 Stages of the ZPD, from Gallimore and Tharpe (1990, p. 186)**

Stage one consists of development of the skill or task under the guidance and assistance of one or more competent others. Stage two is where performance of the skill or task is assisted by the self, particularly through self-directed speech (“talking it through”). Stage Three is the “fixing” of skills. They have been learned and

developed and are now "automized" and "fossilized" and skill is no longer developing. Assistance either by self or others is worthless or irritating and the notion of fixation implies that skills at this stage are beyond the reach of social or cognitive interference. The final stage, Stage Four, occurs in parallel with the previous three stages, only with a separate skill or set of skills that may be an extension of the skill already learned or related to it. In this way, the ZPD is intimately related to lifelong learning and this cycle of help-by-others, help-by-self and independence is a dynamic and continual and lifelong process, an idea that bears strong resonance with sustainable assessment, discussed in Chapter 5. This concept of a staged approach to skill development where agreed objectives are to be met also resonates with theories of skill development, further discussed in the following chapter.

However, this mechanical, skills-based interpretation of the ZPD has been criticised by Newman and Holzman (1993) on the basis that learning and development within the ZPD is concerned with absorbing knowledge and information dictated by the teacher and the social context has been interpreted as the environment in which learning is taking place. According to these authors, it fails to grasp the ability of the interactive relationship between development and learning in order to transform both the individual and the society in which the learning takes place, a position that they claim belongs to the Vygotskyian position.

Lave and Wenger (2005) have distinguished between three separate traditions for interpretation of the ZPD. First, the traditional "scaffolding" interpretation where distinction is made between initial performance and subsequent performance without supervision. Secondly, a "cultural" interpretation, where a consolidated understanding of the task in hand can only be reached when the student has merged the theoretical interpretation and the everyday interpretation of the task, which are often not the same thing. The manner in which textbook theory suggests a skill is performed is often not how a specific group interpret these rules and this cultural interpretation may suggest that it is not only about learning the rules, but also how they are applied that is important in development.

A third "societal" interpretation suggests that the way in which knowledge is internalised is related to participation of the individual in the society in which it is learned and, thus, is involved as much with the process of the development of the person as with the development of knowledge – the person and the society develop in tandem. Therefore, the dynamic process of learning is the key and, according to this view, the process involves cycles of social reproduction involving newcomers and old-timers, causing tension in the formation of identities and the implicit replacement of the old-timers, which certainly echoes the educational society in which the participants of this study are placed (Lave & Wenger, 1991). This development occurs in "communities of practice", a term coined by these authors to denote a group that share a common interest in a field of practice and share a common interest in gaining knowledge in the field and through initial peripheral activity, or legitimate peripheral participation (LPP), newcomers become absorbed into the learning and culture of the community; this resonates in turn with Hodkinson and colleagues' (2007) notion of learning cultures. Archee & Duin (1995, p. 354) made a useful connection between communities of practice and social constructivism;:

> The basic idea of social constructivist theory is that groups of people or communities, bound by shared experiences or interests, build meaning through an ongoing process of communication, interpretation and negotiation. These communities shape and determine the discourse norms of their members; facts, beliefs and truth itself result from ongoing conversation and consensus building.

Thus, shared understanding of the purpose of the community is a collective act, dependent upon consensus.

Alternatively, it may be argued that this model of learning is merely transferring knowledge from one "generation" to the next with no impetus to challenge the *status quo*, particularly from the old-timers who could act to hold back development, even in the face of drivers that act to encourage a learning society to progress. Van der Veer and Valsiner (1994, p 5) have emphasised the potential for a negative, unhelpful or even punitive view of social learning:

> The role of the 'social other' ... is presented as always helpful, concerned about the future advancement of the child etc. The (very real) possibility that under some circumstances educational interference ahead of the present developmental possibilities (i.e. within the ZPD) might be purposefully harmful, promote ignorance and be potentially detrimental in other ways, is not considered.

Further, le May (2009) has pointed out that it may be possible for members within communities of practice to become possessive of knowledge and resist transfer of the knowledge.

It is worth re-emphasising here that key to Vygotskyian theory is the concept that these ideas are essentially interactional and that this is a dynamic process. Therefore, learning, teaching, development and assessment have to be dynamic, flexible and fit the context of the learning. The other side of this dynamic is, of course, that the learner can also influence the environment, which acts to reinforce this later interpretation and which is also central to Vygotskyian tenets: "men make their own history, but they do not make it as they please; they do not make it under circumstances of their own choosing, but under circumstances existing already, given and transmitted from the past" (Marx, 1914, p. 9). To apply this to a contemporary learning culture or context, Hodkinson, Biesta and James (2007) suggest that the individual has a part to play in the overall culture, again emphasising the dynamic and social nature of learning. What this may imply is that some learning strategies may work in some situations and not in others; however, how the individual influences the culture and society is not a specific area to be explored in this thesis.

The evidence regarding how the concept of the ZPD relates to adult development and learning is limited although Gallimore and Tharpe (1990) state emphatically that this is exactly the same in adults. Tinsley and Lebak (2009) report their notion of a Zone of Reflective Capacity in adults – a developmental stage in adult learning where the collaboration of peers who share a common goal helps develop learning, a theory that is based on one limited, inductive study. Although there is a dearth of comment, evidence or debate on the role and/or the existence of the ZPD in adults, there is

much comment and theory on step-wise development of skill in adults that is further discussed in the following chapter, theory that connects the usefulness of the facilitation of learning by an expert in adults.

*In conclusion, according to a social constructivist perspective, the learning of an individual is constructed from the social context in which learning is set, and this principle is relevant to the learning and development of both children and adults. The ZPD is a zone of development in the learner in which the potential to develop can be enhanced by self and others and this development has been thought to be individual, cultural and societal in nature. Literature on the nature of the ZPD in adults is scant.*

*The specific development that this study seeks to discuss is that of skill development. The following chapter examines how skill is considered to develop with the aid of an expert, the development of expertise, and some challenges posed by this concept.*

# Chapter 4: Skill, apprenticeship and expertise

*The previous chapter outlined the central importance of the context of learning to the development of the learner. The participants of this study are learning skill, alongside experts within a particular and specific context, outlined in Chapter 2, and it is the aim of the study to examine how feedback from these experts influences participants' skill development.*

*This chapter places skill development in the context of this study and outlines the importance of skill for professional practice against a background of increasing professional accountability. An attempt to define the concept of skill is made against a background of conflicting views and expectations from commentators on the topic. The learning of skill alongside an expert is typical of apprenticeship training and features and characteristics of this are discussed and related to development in the ZPD. This is extended to discuss the nature of expertise, the use of tacit knowledge and heuristics and the challenges posed by the concept of expertise.*

## 4.1 Skill and professional practice

There exists an uneasy relationship between skill development and nursing education. The 1990s witnessed a paradigm shift within nursing curricula internationally from a traditional Nightingale apprenticeship model of training to one that concentrated on the development of the cognitive and caring skills of the student (Committee on Nursing, 1972; Benner, 1984). This shift in focus in nursing curricula corresponded with the escalation in professional self-worth in nursing, discussed in Chapter 2, and there was an apparent rejection of the idea of the nurse as a "doer" in favour of assessment of knowledge, with high stakes examinations being used to judge a student's suitability, seemingly influenced by curricula for the high-end professions. Although this period did not see the wholesale rejection of skill development, there was a perceived dismissal of the notion of "competence" in nursing (Watson, Stimpson, Topping, & Porock 2002; Runciman, 1990) and the new model relegated the development and assessment of skills to second place with a

consequent devaluing of the importance of skills to professional practice, often seen as an additional extra (Rosenbaum, Carlson, & Gilmore, 2001; Wilkinson, 2007).

The philosophical origin of this association of low-order activity and manual labour originates with the ancient Greeks and Aristotle. Aristotle distinguished between episteme – the concept of knowing (that is, knowing theory) and that of techné – the concept of craftsmanship or craft. The former was seen as the province of the liberal, upper ranking and free thinking part of society, whereas the latter was seen as that which was done out of necessity by the lower ranks. It was only later that philosophers began to question the relationship between the "knowing" and the "doing" and another, related, concept, that of phronesis or practical or moral wisdom that requires experience was discussed (Parry 2008).

Thus, the disengagement of nursing from what may be considered to be "tasks" that, seemingly, require little knowledge or understanding during a period where this occupational group strove for professional status can be understood. This association of "doing" with lower order activity is reflected as recently as 2009 by Brooks who, in a polemic exaggeration against the concept of competence in medicine, states that medicine is a "moral pursuit" and refutes the notion of the physician as a technician. It would appear that these notions are ingrained in the psyche of the professions related to medicine.

However, notions of skill and the assessment of this skill are ideas that can no longer be set aside in the hope that they will, by means of osmosis, develop outside of the formal curriculum. The esoteric notions of professionalisation, discussed in Chapter 2, have been set aside in favour of the practical and widespread public concern over standards for professional practice, and recent years have seen an increase in the accountability of healthcare professionals (Wright, 2005). In the UK, several high profile errors in professional practice within the NHS have precipitated an increased involvement of the general public and central Government in the operation of the NHS and in the regulation of healthcare professionals (Council for Healthcare Regulatory Excellence, 2008; Bristol Royal Infirmary, 2001). A consequence of this is that curricula for healthcare professionals have become

acutely aware of the importance of skill development and although this thesis is primarily concerned with issues concerning the development of nursing, the issues are reflected in the literature of many healthcare professionals and have resonance across a huge geographical area, demonstrating a current imperative in the development and assessment of skill internationally and across professional boundaries (Hubbard, Beck, Stutz-Tanenbaum, & Battaglia, 2007; Cowan, Wilson-Barnett, Norman, & Murrells, 2008; Liu, Kunaiktikul, Senaratana, Tonmukayakul, & Eriksen, 2007; Cook, Cox & Henning, 2008; Govaerts, Van der Vleuten & Schuwirth, 2002; Resnick, Galik, Pretzer-Aboff, Rogers, & Gruber-Baldini, 2008; Nelson and Purkis, 2004; Allerup, et al., 2007).

### 4.1.1 Towards a definition of skill

The terminology surrounding what may loosely described as "doing" is often confused and confusing, with several terms being used interchangeably. One of the more widely used terms within medical and nursing literature concerned with "doing" is that of "competence", which has at its core the notion of "outcome orientation": the achievement of performance criteria to a minimum predefined level irrespective of any associated cognitive development (Andrews & American Association of Colleges for Teacher Education, 1972). According to Wolf (1995), this notion separated knowing and doing with an attendant assumption that to be skilful, knowledge is not necessary. According to this definition, skill and competence are often, apparently, synonymous. Frank et al. (2010, p. 636), in the context of medical education, describe competency-based education as an "approach to preparing physicians for practice that is fundamentally oriented to graduate outcome abilities and organized around competencies derived from an analysis of societal and patient needs. It deemphasizes time-based training and promises greater accountability, flexibility, and learner centredness". This reinforces and underlines the separation of skill and knowledge and refocuses the educational process to accountability. It also demonstrates a 180 degree shift in emphasis on the importance of skill to medical practice from that espoused by Brooks (2009), above.

Jessup (1991) extends these definitions further and defines competence as that which "refers to the standard required successfully to perform an activity or function…" Being competent equates to performing to professional or occupational standards and, indeed, some authors refer solely to clinical performance (Wilkinson, 2007). Elsewhere, however, this author makes a distinction between competence – "what someone can do in controlled high stakes situations, like examinations" – and performance – "what someone actually does in practice", which may actually be seen to directly contradict other, more accepted, notions of competence (Wilkinson & Frampton, 2004, p. 1111).

Leigh et al. (2007, p. 463) describe skill as a "complex construct" – the notion of skill is poorly defined and can, in fact, be considered to be a quality of the practitioner, not only embracing the ability to perform tasks but also the practitioner's ability to problem solve, work according to professional standards and perform soft skills such as communication techniques and ethical practice. It appears that the terminologies of competence, performance, ability, skill, expertise and even professionalism are often used interchangeably within literature on professional skill and can be considered to extend to include the entire gamut of human activity.

Therefore, for the participants in this study, it is necessary to elucidate what, exactly, is being developed. It may be the case that it is psychomotor skills that are being developed, although the wider definition of skill opens up the possibility that in the process of learning these skills, professionalisation and socialisation are also being developed.

## 4.2 Apprenticeship learning and the development of judgement

As discussed in Chapter 1, the participants of this study are learning in clinical environments with the aid of an expert in the field of practice, a method which is common to very many forms of professional education. This notion of learning alongside an expert who coaches the learner in the skills required for an occupational role is not new and, in fact, follows a centuries-old tradition of apprenticeship training. Fourteenth century European Craft Guilds were acknowledged economic alliances, comprised of specialised artisans who held positions of power and

influence and who were invariably backed by higher authority. The Guilds and their Masters set the criteria for entry and standards for the craft, and members of the Guild were expected to not only achieve but maintain these standards throughout their lives. Those who were apprenticed to the Guild would learn the craft from the Master without any classroom instruction, the purpose being to eventually become a member of the Guild. Apprentices were drawn from a generally uneducated population and a variety of broad transferable skills (as well as the skill of the craft) were honed in order that they could gain admittance to the occupational, economic and social grouping, but during their training period they lacked the rights or privileges of membership (Epstein, 1998). Clearly, for the participants of this study, some limited analogy can be drawn between their learning situation and this portrait of apprenticeship learning: an unskilled and relatively uneducated learner taught the craft by an expert who has already been acknowledged as such, who does not teach the theory of the task at hand, although the purpose of the learning is, possibly, a moot point.

Billett (1994, p. 11) considers apprenticeship learning to be a prime example of situational learning and defines it as a "learning methodology … to assist learners acquire and integrate the knowledge and attributes for skilled vocational practice". This author has outlined a five stage developmental process for apprenticeship learning which is predicated upon two basic premises: that "learning through apprenticeship requires the presence of experts" (Dreyfus 2006, p. 209) and that the learner has the opportunity to practise the skill through the stages of development.

The first of these stages, the process of modelling, where the learner watches and listens to the expert in order to build a conceptual model of the processes required to accomplish tasks successfully, often requires the expert to "talk it through". In the second stage, coaching involves the learner trying out the new task, observed by the expert, and given situationally relevant feedback and cues in order to shape the learner's performance to that of the expert. Next, the stages of scaffolding and fading, where support given by the expert is gradually withdrawn and becomes more distant as the learners, themselves, become able to act autonomously of the expert.

This process may involve problem-solving activities, offering help with the task and/or offering opportunities to try out the skill in novel environments.

The similarity between this definition of scaffolding and that offered in the previous chapter in connection with the ZPD should be noted. Both definitions assume a defined, skills-based end point of development and emphasise problem solving, with both definitions accepting that the expert will undertake those parts of the task that the learner is unable to complete unaided. This theoretical perspective, however, adds the gradual removal of this relationship to the point of learner autonomy and the notion of the ZPD is tangible within this theory – a step-wise progression in development that relies upon an expert facilitating, leading, guiding and giving the opportunity to develop onwards and towards the next point of development.

The above three-stage model of development should be compared to Fitts and Posner's seminal theory of skills development and close similarity will be seen. This first, and still most influential theory, was proposed by Fitts in 1964 and later clarified and formalised by Fitts and Posner in 1967. The first, cognitive, stage is where the learner engages with instructions, feedback on performance, cues and "thinking it through" to try the skill, a stage which is characterised by many errors. Although beginners may know that they are doing something wrong, they are generally not aware of exactly what should be done differently the next time to improve. As a result, they need specific information that will assist them in correcting what they have done wrong, thus the dependence upon feedback and cues.

The second, associative, stage is reached when the what, how and when of the skill has been learned and the learners, at this point in their development, characteristically demonstrate fewer errors and less variability in performance and are now concentrating on refining the skill. They have developed an ability to detect some of their own errors in performing the task, which provides the learners with some specific guidelines about how to continue practice.

The third, autonomous, stage demonstrates automatic or habitual action and students will undertake the skill without the use of conscious thought and has become "second nature", an idea which will be elaborated upon below. In this autonomous phase

skilled performers are now able to not only detect their own errors but also make the proper adjustments to correct them and in this stage the variability of the day-to-day performance has become very small and it is important to note that both this model and that outlined above lead the learner to the point of being able to judge their skill level and act independently on this judgement.

In this step-wise theory of motor learning skills, development depends upon not just doing but also knowledge of the basic elements of the task, development of memory and association of the skills with external factors, repetition and, eventually the development of new ways of thinking and, thus, carrying out the skill remains important in contemporary literature on the topic (Magill, 2007). This inextricable link between skill development and cognitive development can be applied to any skill from throwing a ball to performing open-heart surgery: as one develops, so does the other (Seidel, Perencevich, & Kett, 2005, Glaser, 1984).

Thus, the development of skill is inextricably linked to the development of thinking and judgement although, as has been discussed above, the question of what skill set is being honed is open to question in this study.

## 4.3 Expertise, intuition, tacit knowledge and heuristics

All of the step-wise developmental stages have as their end point a state of practice which is described as either autonomous or independent and the learner can apply judgement to their practice. In terms of the ZPD, when this happens, the teacher has reached a point of success but this does not imply that development in the skill or skill set is complete, and superior development onwards and beyond that of the practice of even the skilled may be achievable. This state of expertise is one which has to be developed intentionally through deliberate practise and coaching – expertise is not innate and experience in itself is insufficient (Ericsson, Krampe & Tesch-Romer, 1993). Amongst key features of this state are an extensive specialist knowledge, creative problem solving and creative ways of finding knowledge (Mylopoulos & Regehr, 2011; Jasper, 1994).

Dreyfus and Dreyfus (1980) published their paper on the mental activities involved in skill acquisition and posited a different stance on expertise. This paper was based on empirical evidence derived from three decision-making studies from the 1960s and on "observation and interviews" of, mainly, trainee airline pilots. No method or data are offered and it is interesting to note that, although they conclude that skill learning occurs in a step-wise fashion, they make no reference to earlier workers in the field of skill development theory. Nonetheless, this paper has become extremely influential in the development of nursing curricula, advocated particularly by Benner, who has adapted and adopted Dreyfus and Dreyfus's model of skill acquisition in its entirety for nursing practice (Benner, 1984; Benner 2004).

Dreyfus and Dreyfus offer an alternative view of skill acquisition leading to expertise – one which relates five stages of skill acquisition to the relationship of the learner to rules. First, the novice, who is given rules in order to master a deconstructed task and requires monitoring and feedback in order to bring their activity in line with these rules. Secondly, the competent stage which occurs after substantial practice: context-free pattern recognition is possible and the learner is less dependent upon monitoring, when she can act with some independence of both rules and imitation of an expert and begins, by planning and organising, to see the bigger picture and not just the task in hand. The next, proficient, stage occurs when the learner can place her actions in the context of a long-term goal and this is followed by expertise, which is characterised by the lack of rules, guidelines and maxims, and instead operates on intuition borne out of a vast experience in the skill and learned responses to these experiences. This definition of expert practice as intuitive act has become a common and accepted use and application of the terminology in nursing (Jasper, 1994).

The fifth stage, mastery, occurs when the expert is capable "of experiencing moments of intense absorption in his work, during which his performance transcends even its usual high level" (Dreyfus & Dreyfus, 1980, p. 14).

This theory of skill acquisition emphasises the relationship between following rules and skill acquisition: skill can only be developed if there are rules to be applied and expertise is the point at which rules are no longer required in the formation of

judgement and the formation of intuition. Cioffi (1997) describes this as past experiences and pattern recognition, along with cognitive knowledge, combining to develop mental patterns of identification in situations. These mental patterns create "rules of thumb" which create probability judgements, in other words heuristics are used in expert pactice because the rules are no longer followed. Heuristics are informal strategies which allow complicated, and often complex, judgements to be made quickly (Simmons, 2010), but Tversky and Kahneman (1974) have cautioned that use of heuristics can lead to wrong judgements being made. This adds to and reinforces the view of expertise developed above – an accumulation of domain-specific and context-related knowledge and skill that relies on experience and practice.

This notion of intuitive action can be juxtaposed with that of tacit knowledge, or know-how (Polanyi, 1967, Smith, 2003) as opposed to explicit knowledge, or know-what/ know-why. Tacit knowledge, like intuition, is personal and involves experience, discovery and judgement, but cannot easily be codified and transmitted, a definition which exemplifies the notion of a qualitative tradition of knowledge acquisition. Sadler (2010, p. 456) describes this as "the very essence of a great deal of professional expertise" and in relationship to connoisseurship Eisner (1998, p. 68) has referred to this as "epistemic seeing". Thornton (2006) specifically equates tacit knowledge with expertise and usefully utilises the analogy of the tacit knowledge of great chefs. Clearly, slavishly following a recipe does not lead to the same product and this suggests that such expert individuals set standards as much as answering to them, echoing the ancient view that experts are at liberty to set the boundaries of acceptability.

For those lacking in experience, however, this lack of know-how leads to a lack of judgement. In terms of the interface between student development and tacit knowledge, Hounsell (2007) closes this loop by considering that tacit knowledge can be passed on by a mix of demonstration, dialogue and peer review with the use of both "intrinsic feedback" which is woven into day-to-day encounters and "extrinsic feedback" which happens *ex post facto*. Clearly, the use of tacit knowledge in order to learn may be a useful strategy.

What is not clear, however, is how the participants of this study utilise the expertise of the supervisors in order to develop skill and, in the process, develop judgement.

### 4.3.1 Expertise as a subjective phenomenon

Eisner (1993, p. 228) has stated that "one of the marks of expertise is the possession of highly differentiated schemata in some domain". Elsewhere, this same author has defined a connoisseur as "being able to identify something's [or someone's] qualities and discriminate subtleties" (Eisner, 1976, p. 140). In other words, expertise and connoisseurship are not the same qualities and are not necessarily to be found in the same person: having both the ability to demonstrate a specific skill and recognise these qualities in another person would classify an individual as both an expert and connoisseur although it is possible for an individual to demonstrate the skill in question to a high level but not necessarily recognise it in others. However, the contrary situation whereby an individual is unskilled but recognises the skill in others is a more probable situation, for example a sports coach may not be able to make a world-class high jump but can recognise the qualities in an individual athlete who may be able to do so. In the context of this study, it would appear to be the case that the learners are being placed in the hands of experts who may not necessarily be connoisseurs although the assumption is made that the domain-specific qualities required are recognisable to the experts in question, although both assumptions are problematic.

Sternberg et al. (2000) add to the discussion on the nature of expertise by stating that it is not merely the acquisition and consolidation of a series of skills that mark an expert, but also how you are perceived by others: it may be the case that there are individuals who are perceived as experts but do not possess a high level of schema specific skills and knowledge and who either fake or sham expertise, or this quality is inferred because of their position or status in the hierarchy. Kahan, Jenkins-Smith and Braman (2011), in a two-part investigation into the perception of expertise by the public, have shown that the perception of expertise is reliant upon the world view, or personal stance of the individual: in other words, expert opinion which challenges one's deeply held beliefs is either ignored, dismissed or re-interpreted. Further,

Collins and Evans (2007, p. 91) note the ease with which hoaxers throughout history have gained the confidence of individuals and communities simply by "walking the talk", often gaining trust because they appear to know what they are talking about or because those that are fooled by this sham expertise have something to gain by accepting it. Further, Ericsson, Whyte and Ward (2007) state that, for professional domains, expert status is often conferred by peer nomination or other social criteria with little heed paid to more objective criteria.

This use of language in order to convey expertise is outlined by Collins and Evans (2007, p. 33), who propose the notion of "interactional expertise", which depends upon complete fluency of the language within a community or within a domain. Not only is the terminology understood and used appropriately but the expert can assimilate this into conversation and there is no "sudden aha moment". This use of language depends to some extent on tacit knowledge (Polanyi, 1967), but raises the possibility of a person appearing to be expert without actually having undertaken the task in question.

This latter point has important implications for a system which relies upon expertise for development and eventual assessment. If a student is being judged by an expert, who is to judge whether or not the expert is indeed expert, connoisseur, both or, indeed, neither? The difficulties novices or laypeople have in distinguishing expertise is outlined by Goldman (2006), with novices, and sometimes other experts in the field, often feeling that they cannot make this judgement. The lay use of language around the topic of expertise and the subjective nature of expertise has been demonstrated in high profile miscarriages of justice, where conviction has relied on the inaccurate judgement of a supposed expert (Young, 2004).

For the participants of this study, it is not clear how they perceive their supervisors and, as the above discussion demonstrates, how this may impact on their use of the expertise of the supervisors for skill development.

This chapter has illuminated several points of enquiry for this thesis and has led to the generation of research questions. Specifically, are the participants learning only motor skills or is a wider skill set being developed? In the process of learning these

skills, how is the expertise of the supervisor perceived by the participants and how is this expertise used as a learning tool?

*Question 1* *How do participants use expert judgement to develop skill?*

*Question 2* *How is expert judgement conveyed to participants?*

*In summary, skill development and assessment is of current interest with a policy imperative to assess and judge the skills of healthcare professionals in the context of public service accountability. "Skill" is a poorly defined concept and can be used to encompass an array of technical, personal and professional qualities of the practitioner. The development of skill by a learner alongside an expert resonates with classical apprenticeship training and the perceived stages of apprenticeship development have been applied to development in the ZPD.*

*The more ethereal notions of tacit knowledge and intuition in expertise are intimately related to expert practice, although the concept of expertise is subjective in nature and this may have implications for how skill is developed with the facilitation by an expert.*

*Chapter 3 discussed the concept that development within and beyond the ZPD relies upon teaching, learning and assessment strategies that allow the learner to develop judgement, and the following chapter discusses how experts can transmit their judgement to learners and facilitate student development through feedback. The chapter critically analyses the concept of self-assessment and makes a brief review of peer assessment*

# Chapter 5: Sustainability and judgement by expert, self and peers

*The previous chapter examined the nature of skill development and expertise. This study aims to examine how feedback from an expert can influence both the development and sustainability of skill.*

*This chapter commences by exploring the aims of judgement assessment and benefits for lifelong learning for a curriculum which incorporates this. This judgement is delivered in a tripartite manner, namely the judgement of the expert (feedback), the judgement of self and the judgement of peers. The process of judgement as feedback is defined and the challenges posed by feedback, including interpersonal issues and implications for working relationships examined. Principles for good feedback are formulated from the literature.*

*The challenges posed for assessment by self-assessment are outlined and, in order to complete the picture of sustainable assessment, there is a brief discussion on the nature of and evidence about peer assessment, although it is outwith the scope of this thesis to engage in extended discussion of this topic.*

## 5.1 Sustainable assessment and judgement

The preceding chapter discussed the fact that there has been an upsurge in interest within the professional healthcare education arena in the development and assessment of skill, driven by the increased requirement for public accountability for practice. Subsequently, the direct measurement of how skilfully a task is performed has become central to the notion of professionalism, with the ability to measure this skill being essential: if there is no means of measuring how skilfully a task is performed then a fundamental line of accountability is missing. This, in turn, has had the consequence of exerting a profound effect on how curricula for healthcare professionals at all levels are ordered, with a much greater emphasis on clinical skills development and assessment (Miller & Archer, 2010; Reeves, Fox & Hodges, 2009). Further, as has been noted in Chapter 2, this has come at a time when the boundaries of professional practice have become increasingly blurred and the ability to educate

and train individuals to undertake specific tasks to a specified level is compelling to a health service in the UK that has developed a strategy around these notions (Scottish Government, 2007). As professional boundaries become less obvious and healthcare professionals of various denominations undertake the same tasks, they will, increasingly, be judged against the same set of criteria. Thus, the necessity to not only assess clinical skill but also to attempt to prove that the outcome of the assessment can actually be considered to measure, in every situation, what it purports to measure, is tangible.

Therefore, there exists much justification for an assessment strategy that measures ability and certifies the student as having met the aims and outcomes of the course, particularly within professional education where the general public require the reassurance that the student is fit to practise. This quantification can be identified in relevant literature in relationship to skill assessment (Shaneyfelt, et al., 2006), theoretical assessment (Kear & Bear, 2007) and even in reflection (Lasater & Nielsen, 2009), where rigour in terms of reliability, validity and outcome measurements prevail – a process referred to by Hager and Butler in 1996 as scientific assessment.

However, traditional curricula within higher education (including nursing curricula) have been criticised for allowing this primacy of certification to dominate the learning, teaching, development and assessment process, rather than using assessment as a future learning-orientated tool (Knight, 2007): the process of compelling the student to learn in order to pass high stakes examinations and assessments neglects the necessity to learn for a lifetime of development. For professional nursing practice and that of other healthcare professionals, the onus is on the practitioner to not only develop practice but also to maintain it – a process which Campbell, Silver, Sherbino, ten Cate and Holmboe (2010, p. 657) describe as a "career-long pursuit". In the context of this study, it has been noted in Chapters 1 and 2 that the participants are learning and working in a changing environment, which lends added importance to this requirement to adapt and develop. An assessment strategy that not only quality assures and quantifies student achievement but also inculcates in the student the ability to learn and prepare for a lifetime of

development has obvious advantages and in response to this, the concept and role of sustainability in assessment has been expressed and defined by Boud (2000, p. 151) as "assessment ... that meets the needs of the present and prepares students to meet their own future learning needs". Thus, it is apparent that there appear to be two possible complementary goals for assessment – the first is to quality assure practice and the second is to set the foundations for lifelong development. Cross (1988, p. 5) refers to these counter-aims as "assessment for accountability ... *(and)* ... assessment for improvement".

This definition of sustainable assessment implies that what we do today has an impact on tomorrow and, in the process of assessing students who are certifiable and fit to practise, we develop in them the ability to analyse, manage and act upon their own learning needs. Devising a curriculum philosophy based upon a learning and assessment strategy that not only ensures safe professionals but also emphasises the importance of providing students with the skills for a lifetime of enquiry is key to sustainability. Central to this process of "future-led assessment" (Tan, 2007, p. 115) is the ability to harness and utilise judgement in both the development and the assessment process: the ability to utilise one's own judgement and that of others in order to gauge one's strengths and weaknesses in performance and, in so doing, diagnose learning needs is a fundamental principle for sustainable assessment (Boud, 2007). Further, this is a learning strategy which encourages development within and beyond the ZPD and is wholly allied to a constructivist framework (Shepard, 2005).

In 1993 (p. 223), Eisner discussed the necessity for assessment to be more closely aligned to life, a process he termed "authentic assessment" where the process of learning, and not only the product of learning, is deemed important. One of the purposes of authentic assessment is the precept that assessment should reflect situational learning; that is, that students will meet learning needs outwith the formal curriculum and assessment, if it is to be authentic, should fit with the domain in question. For Eisner, learning is contextual and it is possible, for example, for a student to find more than one solution to a problem and to learn from and in a group. In order for assessment to be authentic it is necessary to assess the student activities by many and various means and across many and various activities, a process which

will rely upon the judgement of an expert, a process which Hager and Butler (1996, p. 369), in the context of professional education, defined as the "judgement model" of assessment, as opposed to the "scientific model". This depends upon a collection of evidence from various sources to come to a conclusion about a student, a process that may be encouraged with the use of both summative or formative assessment and with the use of self-assessment, peer assessment and/or the assessment of an expert who, with the judicious use of feedback and other strategies, facilitates the student into becoming actively engaged with their learning. A curriculum that utilises judgement in development and assessment will be a means of developing lifelong learning and the development of confidence in the student to adequately set goals and master new learning tasks (Shepard, 2000).

## 5.2 Expert judgement and feedback

The awareness of the intricacies and nuances of a person (or act or article) forms the basis of judgement: the act of transmitting this ability to judge and discriminate is identified by Eisner (1976, p. 141) as criticism "... to articulate or render those ineffable qualities constituting art in a language that makes them vivid". Connoisseurship is the personal act of appreciation and observation of relevant events and connections, and criticism is the public act which seeks disclosure and which makes these observations available to others. It should be observed, however, that the distinction should be made between criticism, a terminology used in the judgement of art forms although uncommonly used in student assessment, and in the diametrically opposed context of negative appraisal or classification (St John, 1985).

The benefits of the use and incorporation of connoisseurship in assessment have been outlined by some commentators, for example Donmoyer (1993, p. 259), who claims that this method of assessment offers "a richer understanding of what students can do, the problems that need to be worked on, what might have caused these problems, and consequently how to go about correcting them and building on students' strengths". Later, Goldenberg and Dietrich (2002) stated that feedback given to students by a connoisseur assessor will help student development, involvement and trust, although they present no evidence to substantiate this claim, and Kelehear

(2008) adds to this by emphasising that these methods may be seen as focusing on the qualities of the student that may be ignored by more traditional methods. These views fit well with the general principles of student development outlined in the previous chapters, and would contribute to sustainability in assessment, but it is not clear how students can be helped to do this within a framework of assessment where expert judgement is enforced and, in the context of this enquiry, students learning and assessment takes place compulsorily at the side of an expert in the field of practice with the student having little control over the choice of judge.

The effect of this judgement on the actions, interactions and future practice of the student and on the motivation of the student may be either positive or negative, and the delivery of this judgement is clearly vital to the process that may be key to the process of development of the student. It may be the case that the judicious use of feedback could increase the student's ability to perform a task and increase their ability to best judge their own performance although from the current evidence it would appear that issues surrounding the delivery and reception of feedback by an expert are not straightforward.

Kluger and DeNisi (1996) have noted that the role and importance of feedback in education has been commented upon by educational researchers and commentators for decades, leading to often contradictory and confusing conclusions. Van de Ridder, Stokking, McGaghie and ten Cate (2008), in their systematic review of literature on feedback used in medical education, found that few authors have even attempted to define the term, thus implying that there is an ambiguous understanding of the intent behind the delivery of feedback. This lack of a common definition may suggest that the purpose of feedback is open to interpretation by the assessor, for example punitive, to deliver negative appraisal or, conversely praiseworthy, to enhance self-esteem, which would refute a premise that assessors have a clear understanding of their objective as assessors. Evidently, the definition constructed by the assessor betrays intent and Hounsell (2007) points out that many problems associated with the delivery of feedback stem from a mismatch between student and teacher expectations. In the context of the situation where an expert is delivering feedback, Knight (2007) states that connoisseurs are at liberty to not just make a

judgement but also to apply their own rules of judgement and the rules of definition and application to the definition can be, and indeed are, invented by the connoisseur. Van de Ridder, Stokking, McGaghie and ten Cate (2008, p. 189) provide a useful definition of feedback as "specific information about the comparison between a trainee's observed performance and a standard, given with the intent to improve the trainee's performance". Archer (2010, p. 101) reinforces this notion of improvement with his definition of feedback as "… information about previous performance ... used to promote positive and desirable development" – definitions which bear remarkable resemblance to skill-based interpretations given of the ZPD in Chapter 3. He does, however, bemoan the fact that within healthcare education, there is little theoretical basis for how feedback is given or delivered.

## 5.3 Feedback and development

The usefulness of feedback to the student, particularly with regard to skill development, was examined in an experimental study by Porte, Xeroulis, Reznick and Dubrowski (2007). This study compared the improvement in skill performance after expert feedback or computer generated feedback and showed that the expert feedback increases technical performance. This confirmed the view of Veloski, Boex, Grasberger, Evans and Wolfson (2006) who, in a systematic review of assessment feedback and physicians' clinical performance in over 30 years of literature on feedback and performance, concluded that feedback does have a positive effect on clinicians' performance. Colthart et al. (2008) add to this and argue that feedback can help with self-assessment and the development of these transferable skills for lifelong learning.

In direct contradiction to these conclusions, Brydges, Carnahan and Dubrowski (2009) experimental study suggests that if the student has objective measures for self-assessment of suturing skills, the presence of an expert is not really necessary. In other words, if the student has clear guidance on what is required of them to achieve, then their judgement may be just as valuable as that of the assessor. It may be the case that a marriage of both judgements is the strongest evidence.

Archer (2010) considers the most effective feedback to be specific and directive, and describes the process of "scaffolding" the task: deconstructing the task, providing the direction, identifying differences between achievement and expectation, reduction of risk and definition of goals, although it should be noted that this is a different definition of scaffolding from either that offered in relation to development within the ZPD (Chapter 3) or that offered regarding skill development in apprenticeship learning (Chapter 4). Archer utilises literature from a variety of disciplines (education, psychology and particularly business management) to reach this "top-down" approach to feedback – a conclusion which he laments. He is, however, dismissive of student self-assessment (a key skill for sustainable assessment) and the student is, according to his own conclusions, given little scope for generalisation and transferability of learning. Similarly ambivalent about the usefulness of feedback are Dunning, Heath and Suls (2004) who suggest that there is evidence to suggest that feedback does not work and the student continues to perceive their practice according to their own assessment and perception of the situation. Possible explanations are posited as to why this may be the case; firstly, it is often the case that assessors are reluctant to give bad news and thus avoid possible confrontation and, secondly, the incompetent would require sufficient insight into their own practice in order to rectify any shortcomings, a skill that the incompetent are least able to exercise, as will be fully discussed below. It would appear to be the case that incompetent people are less likely to notice competence when they see it and feedback that does not correspond with their view is attributed to some other factor. This all serves to paint a rather bleak picture of development and, according to this view, it has to be hoped that self-limiting behaviours prevail.

In addition, self-verification theory suggests that individuals only like to hear and take on board that feedback which verifies their own self-concept (Swann, Rentfrow, & Guinn, 2002). In their experimental study into the effect of performance feedback on the performance of family physicians, Cantillon and Sargeant (2008) found that negative feelings to the feedback are greater if self-assessment does not link with their perceptions of expert judgement, that is, the physicians had to recognise the expert as such. In this study, some of the physicians eventually reached an

acceptance of the nature of feedback given, others did not and continued to question the process. This reinforces the key conclusion of Cusella (1982) that feedback is taken better from an expert.

No discussion on feedback would be complete without reference to Black and Wiliam's (1998) seminal review on formative assessment. This extensive paper concludes that there are substantial educational gains to be made from formative feedback. Although this conclusion refers to classroom instruction, the review incorporated research from both classroom and college environments (but not that of professional education).

It is important to emphasise and reiterate that feedback in sustainable assessment is not a one-off event, for example the assessment of a specific skill at a specific time, but rather a means by which the learner is facilitated in the development of their judgement for the longer term as part of the learning continuum, a dynamic process of development and assessment which corresponds with Vygotskyian theory. Hounsell (2007) reinforces this notion of the iterative process of feedback and feedforward with, perhaps, the use of exemplars of performance, peer assessment and dialogue, and this pooling of ideas and expertise is woven into the fabric of day-to-day activity, all of which enhances the student's ability to self-regulate, particularly through feedback from formative assessment. This engagement with feedback is a prerequisite for sustainability, described by Nicol and Macfarlane-Dick (2006) as a proactive relationship with feedback. They describe a model whereby the student utilises feedback along with, for example, their personal goals, motivation and knowledge in order to develop self-regulated learning. Specifically in the context of connoisseurship and criticism and in support of this view, Eisner (as cited in Kelehear, 2008) points out that the dual acts of connoisseurship and criticism may aid in the development of personal judgement.

### 5.3.1 Personal and interpersonal effects of feedback

Gray (1981, p. 356) questioned whether there are any "negative professional or psychological outcomes associated with evaluation through connoisseurship and criticism", although since that date the research evidence on how feedback is

received has become more sophisticated and there is convincing evidence to suggest that the personal qualities of the student can have profound effects on how feedback is received. Ideas, events and portrayals could yield a distorted picture and the idiosyncratic nature of a connoisseur critic could be both a strength and a weakness the effect of which, if it were written into someone's record, could be far-reaching and may cause a serious breach of trust. Clearly, the student is not a passive spectator in this process and the individual student's interaction with both the assessor and the assessor's judgement and criticism are germane to this discussion. For Archer (2010), feedback within clinical healthcare education forms several important functions, namely "the protection of professional standards, the self-esteem of the student and, in healthcare education, the rights and safety of the patient", that is assessment for accountability, assessment for improvement and qualitative aspects – acknowledgement of the effect of feedback on the student and the interaction of the individual with feedback is complex and depends upon many psychosocial factors.

In the execution of judgement, the assessor will invariably be in a position of both social and authoritative advantage to the student. The assessor is someone who will be, customarily, known to the student, perhaps in the capacity of colleague or fellow professional, and will, by definition, be more experienced in the skill than the student and is likely to be at a hierarchical advantage. Therefore, it may be suggested that the effect and influence of this assessor's judgement could have far-reaching effects in the short term (for example the student could fail the course) and could have longer term consequences (loss of self-esteem, confidence, or status in the workplace). Throughout the literature, the relationship between assessor and student is seen as important, in particular the imbalance in the power relationship between the parties. As has been discussed above, fear of breakdown in relationships is seen as a factor in withholding negative comments to students, with Overeem et al. (2009) stating that supervisors describe over familiarity as a problem and this itself leads to a breakdown in relationships. Cantillon and Sargeant (2008), Kilminster and Jolly (2000) and Clynes and Raftery (2008) agree that the nature of the relationship is vital to the success of the supervision and suggest that instruction is needed in order to give feedback in such a way that relationships can remain intact. In addition to this,

and in the context of this study, the expert is often a doctor, who is in a social and professional position of dominance over the nurse who is being assessed.

Straub (1997), in the context of written feedback to students, noted that students are aware of the style and tone of comments and the use of language which makes use of power relationships in feedback giving, and in the context of feedback for clinical skills, Clynes and Raftery (2008) state that feedback on skills performance is often too late, not forthcoming, destructive and sometimes personal, with praise being rare. Harsh judgemental tones are not found to be helpful. Given that the context for the assessment in this study is set within a professional context, it is important to note that Kluger and DeNisi (1996) found that fear of punishment is an important consideration for students. Clynes and Raftery (2008) note that students rely on supervisors to arrange meetings, indicating that students are often fearful of supervisors and are reliant upon them to organise and pace their learning, which may be unhelpful if feedback is to be useful for sustainable assessment. Also in the context of the work setting Baron (1988), in an experimental study which examined the effects of feedback, showed that destructive criticism contributes to organisational conflict and decreased self-efficacy in learners, and can cause the learner to avoid and adopt a confrontational posture towards the criticiser. This is, clearly, an unhelpful work-based environment. Wulf, Shea and Lewthwaite (2010) agree that negative feedback can be demoralising, although suggest that it can, if delivered timeously and in a positive manner, aid in skills development.

Nicol and Macfarlane-Dick (2006) summarise the complexities of using feedback effectively and reinforce the view that there are many interacting factors such as decoding the messages, motivation of the students and feelings of self. Clearly, the nature of feedback as well as its usefulness is not straightforward, although there are clear pointers as to how good feedback can be described.

### 5.3.2 Describing good feedback

Although there may be conflicting evidence regarding how we define feedback and how useful that feedback may be, there is good evidence to suggest how feedback can best be delivered and, conversely, how feedback can be used to poor or

destructive effect. There are some key themes that can be drawn from systematic reviews, comment and meta-analyses on the topic by Clynes and Raftery (2008), Nicol and Macfarlane-Dick (2006), Kluger and DeNisi (1996), Cantillon and Sargeant (2008), Veloski, Boex, Grasberger, Evans and Wolfson (2006) and van de Ridder, Stokking, McGaghie and ten Cate (2008), which reinforce Cross's (1988) summation and which are echoed by Juwah et al. (2004) in their review and summary of best practice for delivery of formative feedback. This latter work is set in the context of classroom instruction and written assessment although the similarities in conclusion must be noted. Clearly, the themes of good, useful and productive feedback are universal and conclusions may be drawn regarding the usefulness of feedback for sustainable assessment.

***Feedback is best delivered by a credible source or an expert from personal observation.*** This key conclusion, that expertise is valued by students, is important to the concept of the value of judgement in sustainable assessment, and supports the above conclusions regarding the importance of perception of expertise judgement. For feedback to be useful for skill development, it would seem that a necessary quality of the assessor is to be seen both to practise the skill to a high standard and articulate their views to the student – our definition of both expertise and connoisseurship.

***Clear, observable goals are set to an explicit standard: comments are concerned with description and improvement, are specific (not general or global) and are clear and unambiguous.*** The direct relevance of the feedback to the learner and to their learning is apparent both in terms of the subject and on their improvement. For sustainable assessment for skill development, it is important that both the learner and the assessor are clear as to what, exactly, is to be achieved and to what standard. This may be aided by use of a scoring rubric although, as we have discussed, the value of this in expert judgement is unclear.

***The relationship should be voluntary and confidential***. In the case of clinical skill development and assessment, as we have seen, this may not always be possible. Skill is, invariably, developed within a work setting and students (and specifically those

who are the participants in this study) and assessors are very often placed together, with little choice offered by either party. This certainly poses a difficulty for sustainable assessment and is further complicated by the next key conclusion, *viz*:

***Comments should be non-judgemental, not based on the person or on fault correction but on the performance of the task: comments should be constructive, constructive criticism is welcomed by students.*** This general conclusion regarding "good feedback" is wholly commensurate with the above discussion regarding "self" and feedback. It is apparent that it is important that the student considers that the assessor feels positive towards their practice and the development of the student. It may be the case that for staff who find themselves in a position of supervising someone about whom they cannot feel positive (for whatever reason), then the task of supervision and assessment for skill development may well be handed over to someone else.

***Feedback should be delivered over time: a "feedback conversation" should be established and the student re-observed over time.*** For clinical-based skill assessment, this may prove challenging since for student nurses on placements, the judgement of the assessor may be a short-term relationship. However, for nurses within busy and challenging clinical areas where skills are being developed, relationships between staff members and the development of peer support and assessment is crucial and is a key skill for sustainable assessment. Assessment is not a one-off event, certifying a static state, but is rather part of a dynamic process of lifelong development, a skill that can best be achieved through a team approach within a supportive environment.

***The point of view of the learner should be sought.*** Lastly, the central importance of the role of the student's judgement in their own development is evident.

Thus, clear pointers for "good feedback" can be explicated although it is not clear if the feedback given to the participants in this study by the supervisors can be considered to be "good" or what factors related to both the participants and the supervisors may influence the usefulness of this feedback.

In another important and highly influential discourse on feedback, Sadler (1989) outlined three prerequisites for good feedback, namely that the student must be able to understand what good performance is (what is being aimed for?), how their current performance relates to this and what needs to be done to "close the gap", an idea that echoes the ZPD. In order for this to be achieved, the student must be able to see how their performance relates to the desired outcome – that is, they must be able to self-assess. In 2010, the same author stated "no matter how expertly and conscientiously constructed, it is difficult to comprehend how feedback, regardless of its properties, could be expected to carry the burden of being the primary instrument for improvement" and the point of feedback is not to tell the student what they are or are not doing correctly. The point is to facilitate the student's ability to recognise this themselves and set them off on the path to becoming connoisseurs (Sadler, 2010, p. 541), key to which is the judicious application of the tripartite application of expert, peer and self-assessment.

## 5.4 Self-assessment

Central to the intention of sustainable assessment is the role of self-judgement or self-assessment. This involves the student's ability to accurately assess their own performance and respond to this assessment in order to identify their learning needs (Jansen, Grol, Crebolder, Rethans, & van der Vleuten, 1998). Colthart, et al. (2008, p. 125) have suggested that this can be defined as "a personal evaluation of one's professional attributes and abilities against perceived norms". This definition suggests that a student can only compare herself to her peers and is only as good (or bad) as comparison will allow, and says little about the learning inherent in the process. Eva and Regehr (2005, p. S46) extend this definition of self-assessment as the "involvement of learners in judging whether or not learner-identified standards have been met", which suggests that the purpose of self-assessment is one in which the learner is in control of setting the learning agenda, and corresponds to better effect with the precepts of sustainable assessment.

As will be discussed, self-assessment involves the making of evaluative judgements and comparison should be drawn here to the process of reflection. This has been

described by Schön (1983) as the capacity to reflect on action so as to engage with a process of continual learning and is, therefore, reliant upon the student having done something (or of being in the process of doing something) on which to reflect, with a view to finding ways to improve, and not necessarily against predefined norms or in conjunction with other views or opinions. Although it is acknowledged that some skills of evaluation are necessary for reflection, literature reviewed in this thesis is concerned solely with that on self-assessment, particularly as it relates to sustainable assessment (Cowan, 2010).

Although much emphasis is placed upon self-assessment within the literature on sustainable assessment, the evidence on the efficacy of self-assessment is equivocal and there is evidence to suggest that students and practitioners can be poor judges of their own abilities and performance.

There have been several systematic reviews and meta-analyses on the ability of students to self-assess and all conclude that there is only moderate to poor correlation between either student self-assessment or student prediction and faculty mark. Falchikov and Boud (1989) found that students consistently over-estimate their own ability and better correlations could be found within science subjects and with post graduate students. In their rigorous and influential systematic review on self-assessment that utilises an assessment tool (not unstructured reflection or measures of self-efficacy), Colthart et al. (2008) demonstrate a diffuse and unstructured research agenda and conclude that, although there is poor correlation between self and faculty marking, there is some evidence to suggest that skill can be better self-assessed than cognitive ability, although few studies specifically examine this. Bowman (2009), in his study of the self-assessment abilities of first year students, reports that there are poor correlations of both objective and subjective measurements. He suggests that the student may be reporting what the researcher wants to hear (that is, that learning has taken place) and that they are likely to be reporting what they see as specific self-reported gains based on their overall perception of a subject – "the halo effect". In other words, a student who thinks that they have an overall good understanding of a subject will over-assess on the specifics of the subject.

Sitzmann, Ely, Brown and Bauer (2010) have made a thorough meta-analysis of the literature on self-assessment as it relates to affective factors. These authors agree with the above conclusion that correlations within the cognitive domain are only moderate to poor, although their meta-analysis suggests that correlation is moderate to high with factors such as enjoyment of the course, self-efficacy and motivation.

Therefore, based on the evidence of these recent meta-analysis and systematic reviews on the topic, there can be little doubt that the current evidence suggests that self-assessment is an inherently unreliable strategy, certainly for scientific assessment, and it also calls into question its utility for judgement assessment.

### 5.4.1 Criticism of self-assessment

Colthart et al. (2008) emphasise that much of the literature on self-assessment stresses the importance of self-efficacy, motivation and other personal factors, which concurs with the conclusions drawn by Kruger and Dunning (1999) who, in their significant study into self-assessment, noted that poor performers in almost all domains over-estimate their abilities relative to their more competent peers (the "Kruger-Dunning Effect"). Being highly motivated and highly self-efficacious does not necessarily make for accurate self-assessment, and this offers the suggestion that this is because of a lack of the ability to distinguish accuracy from error: a lack of logical reasoning prevents the individual from having a logical view of the situation and their abilities, and by increasing the skills of reasoning, self-awareness and control of knowledge in an area, self-assessment can be increased. These authors perceive this to be a paradox – increasing self-awareness causes an increase in the realisation of incompetence, although notions of "unconscious incompetence" and "conscious incompetence" are well recorded (Chapman, 2010). Lew, Alwis and Schmidt (2010) conclude in their longitudinal study into students' ability to self-assess that students are poor self assessors, although the more academically able students are able to use their meta cognitive skills to better effect to self-assess, thus agreeing with the above conclusions. Therefore, it may be argued that the students who are in the most need of being able to self-assess are those who do not possess the ability so to do.

Further, there is much evidence to suggest that students who express most confidence in their abilities are not necessarily those who feel confident and Jansen, Grol, Crebolder, Rethans, & van der Vleuten (1998) conclude that there are other extra-educational factors that may affect the learner's ability to accurately self-assess, for example gender, personality and ambition. Singh and Terry (2008), although equivocal in their conclusions regarding how the process of self-assessment can help the process of sustainable assessment, agree with the conclusions regarding personality and self-assessment, as do Yeo, Steven, Pearson and Price (2010) in their grounded theory study. These authors concluded that there is a difference between feelings of confidence and stating that you are confident, and suggested that one possible explanation of this lies in the fact that there is evidence that women are academically more self-deprecating than men, a conclusion that resonates with those above regarding self-efficacy and confidence. Duffy and Holmboe (2006, p. 1138) extend this discussion by suggesting that the reason that self-assessment is poor is because students often confuse confidence with competence. They state that "confidence is a quality of self-efficacy that tends to correlate in empirical studies with persistence in the face of obstacles and higher achievement", which would suggest that one's personal beliefs of one's ability and motivation can influence (erroneously) self-assessment both positively and negatively. Therefore, for these authors, professional development relies upon the judgement and feedback of other experts, which, of course, assumes that the person who is making the judgement is an expert, and that, as has also been discussed above, cannot necessarily be assumed.

It is worth noting that Yeo, Steven, Pearson and Price (2010) refute the desirability of self-assessment as an aid to self-limiting behaviour, a process which can act to actually disempower the learner. However, in the context of clinical skill, it may be advantageous to have a self-limiting mechanism in place for over-confident and under-competent practitioners.

### 5.4.2 The value of self-assessment

Ward, Gruppen and Regehr (2002), in their review of literature on student self-assessment, note that most studies carried out on this topic use correlational analysis

and compare the student's assessment of themselves against either peer or expert assessment. It would seem to be apparent that many expert raters rate cognitive abilities and not clinical skill – that is, they are often not clear about what, exactly, they are measuring – therefore the usefulness of correlational studies has to be questioned if the validity of the expert assessment is uncertain. Falchikov and Boud (1989, p. 426) appear to concur with this conclusion and state that the skill of self-assessment is important and "... assessors also should aim to maximize discussion, understanding and explicitness of evaluation criteria": correlation is not the important aspect of this process. These authors also draw attention to the fact that experienced markers very often fail to correlate their marks and the results are, therefore, an unreasonable expectation of self-assessment. Therefore, correlation is not necessarily the point of self-assessment and the process itself is a useful learning tool. Both Redwood, Winning and Townsend (2010) and Dunning, Heath and Suls (2004) acknowledge the limitations of self-assessment, but point out that it is not merely a quantitative activity. As a component part of judgement assessment, it is a qualitative activity, the purpose of which is to work with others in order to evaluate and understand one's practice.

Mann (2010) notes the complexity of the notion of self-assessment and states that it is essential for a self-regulating professional although it remains to be seen how self-judgement can be used for sustainable assessment. This may mean that there is a need to specifically work out what the key components are for self-assessment and how, exactly, students can use the judgement of others to improve and develop their own skills of self-assessment. Sitzmann, Ely, Brown and Bauer (2010) emphasise that, given that there is much evidence to suggest that self-assessment is of great value as part and parcel of a formative strand of assessment, curriculum designers should build this in and link with feedback, which again reinforces the notion of the use of judgement from more than one source.

Lew, Alwis and Schmidt (2010) examined the utility of self-assessment in the process of learning and found that feedback alone was not enough to improve the students' ability to self-assess; they suggest that this may be increased by actually teaching the process of self-assessment and conclude that better self-assessment

skills will lead to better skills of reasoning, which confirms the conclusions of Kruger and Dunning (1999), discussed above. Cowan (2010) is in agreement with these conclusions and states that the ability to make evaluative judgements helps with the development of higher level abilities and should be a core requirement in curricula, the advantage of self-assessment for the learners being that students set their own goals and harness the ability to make mid-way judgements about their progress and can, thus, adjust and control the learning. Sadler (2010, p. 542) states "the overall aim [*of this approach to curriculum design*] is to induct students into sufficient explicit and tacit knowledge of the kind that would enable them to recognise or judge quality when they see it and also explain their judgements." However, the precise key elements of how to induct students into the principles of self-assessment and how this should be integrated into a curriculum remain elusive and remain an unexploited research agenda.

Eva and Regehr (2011, p. 311) make an association between self-assessment and self-monitoring. The authors define this latter concept as "a moment-by-moment awareness of the likelihood that one maintains the skill/knowledge to act in a particular situation". Given the uncertainties with self-assessment, they posit that the usefulness for clinical practice is actually in self-monitoring and in this way, safe self-limiting behaviour can be achieved. In 2005, Eva and Regehr quantitatively examined when students know when to "go and find out" and subsequently adopted a different approach to the examination of the concept of self-assessment. They observed whether students make moment-to moment assessments of their ability and ask "do I know what I need to know in this situation?", as opposed to "what do I know?" They concluded that the assessment of what you need to know is situationally important – in the moment of judgement, a student is likely to seek an answer if it is situationally correct so to do and, thus, display safe, self-limiting behaviour. This may, in part, explain the phenomenon of more accurate skill self-assessment and acts to reinforce Eisner's view of context-specific education and authentic assessment. Therefore, encouraging students to ask "what do I need to know in this situation?" will increase their ability to judge their ability and connects with the previously discussed ideas on constructivist thought in education.

However, what is not clear is how the participants use feedback to develop either skill or to develop their judgement of self and, specifically, judgement of their learning needs. Are the participants using feedback to explore their learning and development (a fundamental skill for sustainable assessment)?

## 5.5 Peer assessment

Social constructivist analysis would suggest that learning is essentially a social activity and Palincsar (2005) states that there is much evidence to demonstrate that learning happens best in groups, and the process of talking about learning with fellow learners in itself aids learning. Along with self-assessment and the judgement of the expert, the judgement of peers is considered to be a further means by which students may be encouraged to learn for the longer term (Falchikov, 2007). Peer assessment has been defined by Strijbos and Sluijsmans (2010, p. 226) as "an educational arrangement where students judge a peer's performance quantitatively, by providing a peer with scores or grades, and/or qualitatively, by providing the peer with written or oral feedback" and by Topping (1998, p 250) as "an arrangement in which individuals consider the amount, level, value, worth, quality, or success of the products or outcomes of learning of peers of similar status" – definitions which resonate with the nature of both expert and self-assessment and which reinforce the use of peer judgements to offer grades or deliver critique.

Meta-analyses and systematic reviews on the reliability and validity of peer assessment, similar to those made on self-assessment, have been made, most notably by Falchikov and Goldfinch (2000) and Topping (1998). Topping's systematic review in 1998 notes the multiplicity of not only types of peer assessment but also of ways in which this assessment strategy can be integrated into a curriculum, leading to a perceived difficulty in establishing a pattern of activity for peer assessment. This conclusion notwithstanding, this analysis found evidence to suggest that peer assessment is both "adequately reliable and valid" and useful for student learning in a wide variety of educational settings. This overarching conclusion is one which, two years later in 2000, Falchikov and Goldfinch echoed in their rigorous meta-analysis. Peer marks were found to correlate well with teacher marks: peer assessment in

academic marking was found to be more reliable than that of professional practice, and global judgement was found to be more reliable than multiple aspects of assessment. These authors make useful recommendations for educationalists for the implementation of peer assessment in practice. Evans, Leeson and Petrie's (2007) quantitative study concluded that the correlation between peer and self-assessment is less accurate, although this would correspond with the general conclusion regarding reliability of self-assessment. With regard to issues of reliability and validity at least, peer assessment would seem to be more clear-cut than that of self-assessment.

Goldenberg and Dietrich (2002) reinforce the point that peer assessment is a component part of a humanistic approach to education and is useful for a more participative and integrative curriculum (Falchikov, 2005), a theme which is important for curricula which embrace the notion of sustainable assessment (Boud, 2010). Sadler and Good (2006), in their study on peer assessment undertaken in the classroom with school students, state that one of the benefits of peer assessment is power sharing.

However, there are added dimensions to peer assessment that make the issue more complicated, namely those of the affective and social implications of peer assessment – issues of friendship and enmity, psychological safety and inclusion, all of which bear relevance to the discussion above on critique and feedback. Topping (1998, p. 257) suggests that although peer assessment might yield "added value" it cannot be seen as a panacea, and recommends that peers are trained in the art of assessment, advising that the aim should be made absolutely explicit – for example corrective or didactic feedback. Van Gennip, Segers and Tillema (2010) comment on the paucity of evidence for the educational benefit of peer assessment and the fact that practically none examine the interpersonal context of peer assessment, a view reinforced by Kollar and Fischer (2010, p. 345), who describe the research agenda for peer assessment as being in its "adolescence". Peer assessment faces challenges in all these areas and this, too, remains an interesting and relatively untapped seam of educational research.

This chapter has outlined issues for enquiry for this thesis. Although clear pointers for "good feedback" may be outlined, what is not clear is if the participants of this study perceive the feedback which they receive from the supervisors as "good" and what factors may influence the usefulness of this feedback. In addition, how participants use this feedback to develop skill, and whether the feedback is used to help develop judgement of self and explore learning needs and development, needs to be clarified. Thus, the following questions will be posed:

| | |
|---|---|
| *Question 3* | *What factors are related to the perceived usefulness of feedback?* |
| *Question 4* | *How is expert judgement utilised to help inform participants' own judgement?* |
| *Question 5* | *How context specific is the judgement that the participant has developed of their level of skill?* |

*In summary, the participants in this study have undertaken an educational programme where experts in the field gave feedback on their skill and, eventually assessed this practice. Sustainable assessment implies that strategies utilised in the development and assessment of the student have implications for lifelong learning and this relies on harnessing the judgement of experts, self and peers.*

*Expert judgement is subjective in nature and it is unclear from the literature how experts make judgements on students and how students use this judgement to develop. Important to this process is the perception of expertise in the assessor by the student, although it is not clear how the student judges the expertise of the assessor.*

*In delivery of this judgement – that is, delivering feedback – the expert assessor is at liberty to deliver a similarly subjective view of the student and this view could have positive or detrimental personal or professional implications. The perception of both the students' own self-judgement and their perception of the expert as such are important in the student's acceptance of feedback. Feedback for sustainable assessment is best delivered as an iterative process, which involves the student in*

*discussion with the expert, woven into day-to-day activity along with the use of self-judgement, peer review, exemplars and dialogue, although it is not clear how well this is carried out in practice. Clear pointers for good feedback have been derived from the literature.*

*Self-assessment is an inherently unreliable process if correlation to peer or assessor grading is deemed to be the purpose of the activity. This appears to be the case since many factors such as personality and confusion between confidence and competence act to obfuscate the issue. However, the process of self-assessment is seen as one that can best be used to develop higher level abilities. Curricula which incorporate the elements of self-assessment are thought to develop higher level abilities in the students, although there is little evidence to suggest what these elements are or how they should be incorporated into a curriculum. The context of the assessment has been seen to be important and encouraging the student to ask "what do I need to know?" (rather than "what do I know?") may have more immediate benefit for sustainable assessment. The brief discussion of peer assessment outlined the key themes and issues and demonstrated that although this is a more reliable process than that of self-assessment, the personal and social implications of peer assessment require further investigation.*

*The following chapter restates the research questions for this study and outlines the methodology adopted.*

# Chapter 6: Methodology

*This chapter summarises the identified gaps in knowledge and restates the research questions for this thesis. Discussion is made on the philosophical basis for the principle research paradigms and the epistemological basis of this study is outlined. The nature of mixed methods research is examined and mixed methods research placed in the context of both social constructivism and this study. The chapter outlines the purposes and aspirations for mixed methods research and justifies this choice of methodology for this study. The study design is outlined briefly and the strengths and some potential limitations of this design discussed.*

## 6.1 Development of research questions

In Chapter 2 the context of the learning of the participants of this study was outlined: the participants are learning skills in the context of a new and fragile order, the nature of which is well defined in relevant literature. Chapter 3 summarised the historical and theoretical basis of social constructivism and its connection to adult learning, concluding that the context of learning is crucial, although it is not known how learning is aided for these participants within this context. Chapter 4 outlined the diffuse nature of the concept of skill, theoretical frameworks in which skill is developed and the nature of expertise. However, it is not clear what skill set the participants of the study are learning, how the expertise of the supervisor is perceived by the participants or how this is conveyed. In Chapter 5, the necessity to develop learning and assessment strategies which inculcate within the learner the ability to develop in the longer term and the use of judgement in this process was outlined. Feedback was examined and clear pointers for good feedback were outlined although it is not clear if the participants are receiving "good" feedback or what factors may affect the usefulness of the feedback given. In addition, the manner in which feedback is being used to develop skill, self-judgement and identification of learning needs was identified as important areas for study in this thesis.

*Thus, the following research questions were posed:*

| | |
|---|---|
| *Question 1* | *How do participants use expert judgement to develop skill?* |
| *Question 2* | *How is expert judgement conveyed to participants?* |
| *Question 3* | *What factors are related to the perceived usefulness of feedback?* |
| *Question 4* | *How is expert judgement utilised to help inform participants' own judgement?* |
| *Question 5* | *How context specific is the judgement that the participant has developed of their level of skill?* |

Other gaps in the knowledge base identified through the literature will not form part of this thesis, for example what the specific skills of self-assessment are and how these may be integrated into a curriculum, or how the expert forms and articulates judgement.

## 6.2 Introduction

Research seeks to make sense of the world by adding to the existing knowledge of either an individual or of a subject and by systematically investigating situations, events or objects in order to "find out". Research is a systematic process which seeks to answer questions posed by identified gaps in a knowledge base or explain phenomena, and embraces a wide variety of activity. At its most basic, research is synonymous with enquiry (Robson, 2002).

However, the nature of that which can be "found out" has at its core fundamental philosophical conflicts. Coryn (2007, p. 95) described research as a "truth-seeking activity which contributes to knowledge, aimed at describing, predicting, or explaining the world ..." This definition assumes that there is an objective truth which can be sought: the search for realities and facts which can be used for the purpose of predicting and explaining. This notion, that authentic knowledge is based on objective experience, was first proposed by Auguste Comte and is termed positivism (Thompson, 1976). For Comte and subsequent positivist philosophers, the

world is governed by universal laws: the means by which enquiry is made on the world and on these laws is to observe a phenomenon, propose a theory and from this theory expound an hypothesis which may explain the observed phenomenon. The hypothesis is then tested and is either confirmed or rejected based on the scientific method: the gathering of observable, empirical and measurable evidence through the process of observation and experimentation. Through this process, conclusions are drawn based on deductive reasoning, that is, the truth of the conclusion is a logical consequence of the premise. For positivist thinkers, the purpose of enquiry, or research, is to test an hypothesis (University of Strathclyde, 2009a, Bryman, 2008a).

Since research which adopts a positivist epistemology seeks objective truth, the methodology and method utilised is such that the researcher has no effect on the outcome of the enquiry. This implies that in order for this scientific method to be operational, two test criteria must be established: reliability and validity. Reliability refers to the ability of a means of enquiry to measure the phenomenon in question consistently, utilising objective methods of enquiry, and validity refers to the ability of a means of enquiry to measure what it purports to measure, utilising means of enquiry which allow for control of the research setting (Campbell & Fiske, 1959). Without these twin criteria being established, it is not possible to make a deductive conclusion and the hypothesis can be neither verified nor refuted. This level of rigour of a reliable and valid conclusion is considered by positivist epistemologists to lead to indisputable knowledge – according to Lord Kelvin (as cited in Turnbridge, 1992, p. 17) "when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meagre and unsatisfactory kind; it may be the beginning of knowledge, but you have scarcely in your thoughts advanced to the state of Science, whatever the matter may be".

Kelly (2006) supports the notion that this epistemological stance seeks to delineate science from non-science and thus apply what positivist philosophers consider to be superior rigour to educational research. This implies that there is a deductive basis for educational (and other social science) knowledge and there is no room for metaphysics, the study of all reality. Kelly suggests that the twin concepts of science and metaphysics cannot be so easily disentangled – positivism can only seek to

explain one phenomenon at a time and often raises more questions than it answers. Therefore, the positivist view of universal truths and laws is, for some observers of the social world, inadequate and, some may contend, irrelevant. For them, the point of enquiry is to observe a situation or phenomenon and, from these observations, draw a set of generalisable conclusions. In this case, the theory is the end point of the enquiry and is referred to as inductive reasoning: generalisations are made from specific observations. For adherents to this philosophical stance, the application of the standards and laws of pure (natural) science cannot be applied to social science. The truth is not an objective fact but is, rather, a subjective reality and the role of enquiry into this reality is to interpret and construct theories around these interpretations. This post-positivist philosophical stance is in direct contrast to positivism and has been referred to as interpretivism, and it embraces associated philosophical positions such as verstehen, phenomenology and constructivism which, together, seek to understand the social world as it is constructed and comprehended by its inhabitants (Bryman, 2008a). In 1970, Kuhn used the term paradigm to describe these competing standpoints.

For research that adopts this latter epistemological stance, the researcher is fundamental to the process of the research (Bryman, 2008a) and the twin criteria of reliability and validity may not be applicable in this type of research: interpretivist researchers interpret the social world from the point of view of one individual (the researcher) and another researcher may, or is likely to, draw completely different conclusions and interpretations. Likewise for validity: the nature of the phenomenon in question is open to scrutiny and, since there is no theory as to what it is beforehand, validity cannot be assumed or assured. Lincoln and Guba (1990) have indicated that the "holy trinity" of reliability, validity and objectivity which are prerequisites for rigour in empirical methods of research do not necessarily apply to non-empirical methods. Instead, they have proposed that an alternative "holy trinity" of trustworthiness (credibility), transferability (dependability) and confirmability should be considered. The credibility of a study is fundamental to its acceptability and this can be established by submitting the findings of the study to the "members of the social world" (Bryman, 2008a, p. 378) who were studied, and by triangulation.

Since an interpretivist epistemological stance will typically involve an intensive account of a small group of individuals, transferability will rely on the detail of the report for the ability of the findings to be utilised in other situations. Dependability relies upon precise and contemporaneous records of the research and confirmability on a sense that the research, while not free of the influence of the researcher, gives an impression that the study acknowledges the researcher's stance on the topic.

However, some researchers of the social world consider this "quantification" of interpretivist research to be both unrealistic and unnecessary: there can never be certainty around "truth claims" with subjective interpretations, a proposal that Eisner (1998, p. 39) extends by stating that, ultimately, the success of research which utilises this epistemology lies in its "coherence, insight and instrument utility", in other words, how useful the theorising becomes and how accessible it is. Although statistical tests may not be utilised, judgement is of the essence, a notion which resonates with the central issue in question within this thesis. Nevertheless, methodology which adopts more than one method would help satisfy some of these claims at least.

## 6.3 Ontology, epistemology and methodological approach

For the social science researcher, the identification of the nature of what exists and how this existence can be better known is a necessary and elementary foundation to the identification of the methodology and method to be adopted in order to answer the research questions posed. Thus, the identification of both the ontological and epistemological position of the researcher is required in order to shape the direction of the study and to provide focus for the analysis of the results and, eventually, come to a conclusion. The manner in which one interprets the world will influence what one supposes can be found out which, in turn will influence the methodology employed and, thus, the directionality is that from ontology to epistemology to methodology (Hay, 2002), a view reinforced within an educational context by (Eisner, 1998).

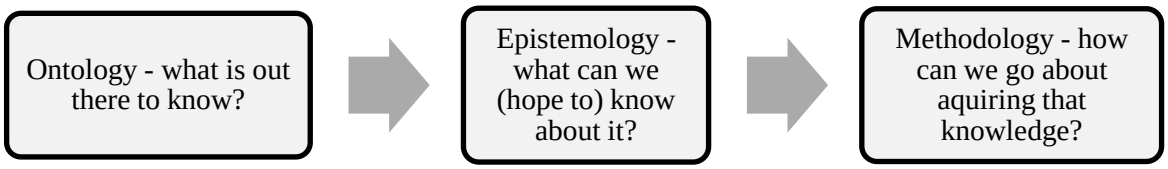


**Figure 2 Relationship between ontology, epistemology and methodology, from Hay (2002, p. 61)**

Valsiner and van der Veer (2005, p. 82) offered a sociogenic view of human cognition, expressed as the ontological postulate "all human cognition is social in its nature", a sentiment which is reinforced by Palincsar (2005, p. 286), as discussed in Chapter 3, that all "cognitive science theories entail some form of constructivism to the extent that cognitive structures are typically viewed as individually constructed in the process of interpreting experiences in particular contexts". In turn, experience is the basis of interaction and thus the construction of reality (Swandt, 2000), and is a clear rejection of the notion that the social world is a reconstitution of the scientific world. This thesis takes the stance of social constructivism and the experience in question is the development of a group of nurses who are learning in a specific context and, in the process, have received feedback.

As discussed above, the specific epistemology of constructivism is set within the interpretivist tradition and contends that the social world is constructed through an interaction between an individual's ideas and experiences. Appleton and King (1997, p. 14) state in relation to the constructivist paradigm that epistemologically, the constructivist researcher takes a subjectivist stance and that "it may be impossible to achieve a single explanation for a complex phenomenon". Eisner (1998, p. 2) extends this position by stating that the ability to see qualities and make interpretations is part of the epistemological stance and broadens what we mean by "to know". The researcher is central to this stance and, therefore, the methodology employed in order to understand how participants construct this reality will reflect this stance.

The research questions may be satisfied by a variety of means and given the stated epistemological stance, methods which bring the researcher closer to the participants should be used (Lodico, Spaulding, & Voegtle, 2010). As has been discussed in

Chapter 5, use of expert judgement is, by its very nature, subjective and not open to the rigorous scrutiny of reliability and validity – in other words, part of this study is concerned with views placed in the context of learning and working. However, there are, as was also discussed in Chapter 5, well-defined and potentially quantifiable pointers around good practice in feedback' and this study aims to examine both of these aspects: how feedback has been delivered, how useful the participant feels that this feedback has been to them and how the participants use this judgement in order to develop.

Methodologies which may be utilised in order to "find out" can be categorised broadly into those which seek to form an interpretation and theory based on the social world through a process of observation, questioning and understanding – that is, qualitative methodologies – and those which seek to collect empirical data – that is, quantitative methodologies. It may be considered that qualitative methodologies seek to answer research questions that adopt an interpretivist stance and quantitative methodologies seek to answer research questions that adopt a positivist stance by testing an hypothesis, the gold standard of which is the scientific experiment under controlled conditions. However, this may be regarded as an over-simplistic view of social science research methodology.

For some aspects of quantitative method, qualitative data is sought: the use of questionnaires to elicit attitudes and meaning or the quantification of themes identified in interview transcripts (Bryman, 2008a). Likewise, quantification of some aspects of qualitative methods is important: a necessary outline of the demographics of a population may help to explain and understand it. According to Eisner (1998), the difference between qualitative and quantitative is not that one addresses qualities and one does not, but the difference lies in the role of the researcher. As discussed above, with qualitative research, the researcher is the instrument of research and the importance of her perspective and personal insight, and indeed connoisseurship and criticism, is vital to the research conduct and analysis. This will lend interpretation to the meaning – that is, the value of the ontological perspective – and the "presence of voice" will lend experience and empathy. For Crotty (1998, p. 14) the divide is between objectivism and subjectivism (positivism and interpretivism) and "the

distinction between qualitative research and quantitative research occurs at the level of methods" – methodologies that are thought of as being "qualitative" can be carried out in a positivist manner (for example some early ethnographical studies) and likewise it is possible to undertake quantitative methodology as part of a interpretivist study – the need to quantify does not just belong to the positivist perspective (Bryman, 2008a). Crotty, however, refutes the possibility of the coexistence of positivist and constructivist epistemologies and Kuhn has referred to this as "scientific incommensurability": theories cannot be compared because they belong to different paradigms (cited in Niaz, 2008). This view is reinforced by Blaikie (2010) who stresses that if there is a use of qualitative and quantitative data collection methods within a single research strategy then a single ontological assumption is being made and both kinds of data are being sought to investigate it. Smith (2006, p. 461) agrees that there cannot be a coexistence of positivist and constructivist epistemologies and justifies the use of mixed methods by stating that "researchers must work to mental maps" and that questions cannot be parsed so easily as to be answered by one approach.

On the other hand, commentators have noted that if differences in opposing paradigms exist, then the differences can be used to complement each other for both pragmatic and epistemological purposes and for this reason mixed methods research is seen by some as a third paradigm (Creswell & Plano Clark, 2011, University of Strathclyde, 2009a). Teddlie and Tashakkori (2009) state that paradigms can be mixed within a mixed methods study (in contradiction to the position adopted above) and can be seen as a means to bridge the gap between the two opposing paradigms.

This thesis will employ a mixed methods approach in answering the research questions, to satisfy a social constructivist epistemology.

## 6.4 Mixed methods research

Creswell and Plano Clark (2011) outlined the definitions of mixed methods research that commentators on the subject have devised, and state that definitions range from those concerning a philosophical stance to those which take a more pragmatic approach, and it seems clear that there is no consensus around definitions and

purposes of mixed methods research. Creswell and Plano Clark (2011, p. 5) outline the core components of mixed methods research, and this outline is utilised as a working framework in this thesis.

The reasons for adopting a mixed methods approach have been similarly studied by analysts of mixed methods research, most notably by Creswell and Plano Clark (2011) and Bryman, (2008b). The most common reasons given by researchers for choosing a mixed methods approach is to enhance the data, for completeness and to facilitate sampling, and these are indeed the principle reasons why mixed methods has been chosen for this study. Quantitative and qualitative data combine to offer a more complete picture in answer to the research questions and each helps to offset the weaknesses of the other, within a single epistemological context. The research questions set will be answered in part by both sets of data.

The literature review revealed that both quantifiable and non-quantifiable data should be sought. This study is to be conducted within a mainly nursing context and, as the literature review demonstrates, most previous and recent work within the context of healthcare education has been undertaken by medical educationalists using quantitative methods. Most of the studies discussed adopt a positivist, a quasi-experimental approach. However, in the context of this study it would be very difficult to recruit an adequate sample, control for extraneous variables and account for any ethical issues arising from the withholding of feedback and, besides, this approach would be contrary to the ontological perspective of this thesis. Nevertheless, there are aspects of this study which are clearly quantifiable.

However, Daniels (2008) discusses the fact that knowledge around situated learning (and communities of practice) is firmly within a qualitative tradition, particularly anthropological knowledge. Once again, within the context of this study, it would be difficult for an inexperienced and single-handed researcher to gain approval for a participant/observational or observational study in a highly confidential environment such as healthcare. By utilising a design that adopts qualitative and quantitative approaches, the evidence gleaned from this study can best fit with existing evidence. Small-scale, single researcher studies must, by definition, be confined and this mixed

method design allows for a reasonably large sample to be questioned by means of a survey, adding to the reliability and validity of the conclusions, and compensating for a smaller, less generalisable interview sample.

## 6.5 Outline of strategy and design

The emphasis for this study will be on qualitative analysis, utilising quantitative analysis to help to answer some research questions and to support and complement qualitative data. Varying strategies for the design of mixed methods research have been outlined, most notably by Creswell and Plano Clark (2011) and Teddlie and Tashakkori (2009). The choice of strategy relies upon the researcher's view on how the quantitative and qualitative strands relate to each other, specifically in order to compare or relate, follow-up or build upon. This study adopts an explanatory mixed methods strategy, typical of a post-positivist and constructivist epistemological stance, and allows for the explanation of quantitative results to be sought (Creswell and Plano Clark, 2011) thus:

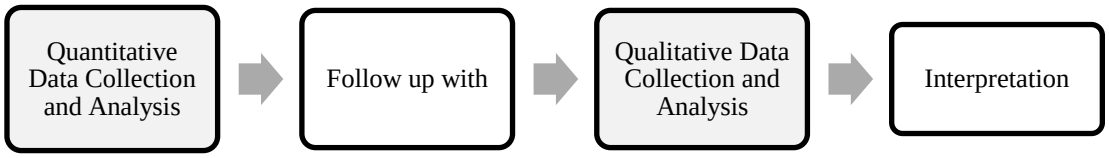


**Figure 3 Explanatory sequential design from Creswell and Plano Clark (2011, p. 69)**

This design is valuable when there are well-defined quantitative variables to be explored and the researcher has access to a sub-sample, although it is typically focused on quantitative analysis, an aspect of this design from which this study deviates.

The quantitative strand of this study was undertaken by means of a survey utilising a self-reporting questionnaire. During this stage, qualitative data was also sought in the form of free text answers and, in this regard, the study has some features of a convergent design, where both strands are collected simultaneously, although this was done for pragmatic reasons, again typical of convergent design. Preliminary quantitative analysis, presented in Chapter 8, was undertaken and a smaller sample

for interview identified from the respondents to the survey. The interview schedule was finalised based on the nature of the survey responses received.

Qualitative data was sought in the form of semi-structured interviews from this smaller sample and data analysis was made on this data, presented in Chapter 9. Finally, both sets of data were merged to form an interpretation and discussion, presented in Chapter 10.

In addition to the above theoretical and conceptual considerations regarding choice of methodology and method, pragmatic considerations have also been taken into account so that the planned design was achievable in this context. In the context of this doctoral level study, it should be acknowledged that this is a single researcher study conducted within a confined professional context with access to the population and sample to be considered, and the planned design had to allow for access to previous students. No single method would have been free of limitations and any method chosen would have had to acknowledge the particular problems and limitations imposed and the chosen method and design is no exception; for example, the sub-sample is self-selecting and may not offer the views and experiences of the general population. Further, it may be that the second stage could be hampered by a low or non-response in the first stage to the option "to be interviewed". If this were the case, the study would be quantitative in nature with any qualitative data drawn exclusively from free text questions within the questionnaire.

Alternative research designs were considered: it may be possible to answer these questions by utilising a case study approach (Yin, 2003) and examine the use of the supervisors' feedback in the context of one clinical area. It would, however, have been difficult to elicit access to one area in this manner and it could not have been guaranteed. Secondly, it may be possible, in fact desirable, to undertake this study as a longitudinal study and to follow-up the participants after a specified period of time has elapsed to follow the progress of judgement and skill development in the nurses. This design would certainly be useful in answering the questions and although, in the context of this study, it was not feasible in terms of the timescale of the project, it

may form the basis of follow-up studies to further add to the knowledge on sustainable assessment.

The incorporation of questions which focus on the views and perceptions of the expert, carried out either concurrently with or consecutively to this study, would undoubtedly complete the picture regarding how experts and their judgement actually help skill development. In the context of this study, access to the expert assessors would have been extremely difficult, particularly by a single researcher and within the given time of the study, given the questions posed. Such studies could, again, be the basis of follow-up research.

The relationship between the professional and theoretical framework for this study to the methodology and method adopted is summarised and presented in Table 1.

*This chapter has outlined the gaps in knowledge which have been identified from the literature and, from this position, formulated research questions that seek to examine aspects of skill learning which occurs with the aid of the judgement of an expert in a specific context. This thesis adopts a social constructivist stance in order to answer the questions set and utilises a mixed methods methodology in order to conduct this research. The aspirations for this methodology are that it will enhance the data, give a more complete picture and facilitate sampling. The study design was outlined in this chapter: planning to send an initial questionnaire to a sample of participants, and then seek volunteers for semi-structured interviews from the respondents. Although there are many benefits of this approach, limitations have been acknowledged and some possible alternative strategies discussed. The following chapter outlines the method and conduct of the research.*

| | | | | | |
|---|---|---|---|---|---|
| Aim: to explore how feedback from a supervisor is used to develop and sustain skill in a group of nurses and examine the interaction between the learner, the supervisor and the context in which the learning is set. | | | | | |
| Theoretical and Professional Framework: *learner nurse practitioners set in a professionally historically hierarchical environment where boundaries of practice are being challenged. Reliant upon doctors to aid development. Social constructivist framework implies that learning is constructed from the context in which the learning is set.*<br>Zone of proximal development: *what happens within the ZPD is important in terms of skill and social development. Does the ZPD relate to adult development?* | | | | | |
| Themes from the literature | Skill development: *what is being learned? Is it just motor skill? Or wider skill set, including socialisation and professional roles and ways of being? How is expertise used and conveyed as a learning tool?* | | Sustainable development: judgement formation relies upon feedback and self-monitoring. *Is the feedback that they are receiving "good"? What factors may influence this? How do they judge their practice? Are they asking the correct questions about their development?* | | |
| Formulation of questions | How do participants use expert judgement to develop skill? | How is expert judgement conveyed to participants? | What factors are related to the perceived usefulness of feedback? | How is expert judgement utilised to help inform participants' own judgement? | How context specific is the judgement that the participant has developed of their level of skill? |

| | | | | | |
|---|---|---|---|---|---|
| Relationship to methodology | Qualitative discernment of methods of communication of judgement by the supervisor. | Qualitative understanding of how skill is developed and how others have impacted on this. | Quantitative analysis utilising feedback pointers. | Qualitative understanding of the formation of judgement by the participants. | Qualitative understanding of how the context of the learning has affected sustainability. |
| Relationship to method | Interview question 2 (How does the expert actually articulate the level of practice to give insight?)<br><br>Free text responses | Interview question 1 (How dependent are they upon the feedback of one person?)<br><br>Free text responses | Quantitative phase<br><br>Free text responses | Interview question 1 (How dependent are they upon the feedback of one person?)<br><br>Interview question 3 | Interview question 5 (Do the limits and boundaries that the participants are aware of stop them from taking risks?)<br><br>Interview question 4 (If they are in a new role (ie nurses haven't done this before) how does that influence their ability to judge their level of practice)<br><br>Interview question 3 (What about skills that they don't use a lot?) |

**Table 1 Relationship between professional and theoretical framework to the methodology and method**

# Chapter 7: Design and conduct of research

*This chapter describes the method of the study for both the survey and interview phases. For the survey phase, sample designs are outlined, along with the nature of each of the variables to be examined, and these are linked to the planned statistical analysis and related to the projected statistical significance of the findings. For the interview phase, the sample is discussed and the nature of the semi-structured interview schedule outlined. Ethical considerations for this research are outlined and planned data analysis for both quantitative and qualitative data discussed.*

In order to gain qualitative and quantitative survey data concerning participants' perception of feedback delivered by their supervisor, a large sample of students who had successfully completed a module of study which incorporated aspects of skill development and feedback from a supervisor were questioned using a self-reporting internet-based questionnaire (www.surveymonkey.com). Survey design is most closely associated with quantitative methodology although the survey consisted of both descriptive and analytical items. The results of this survey were used to glean a smaller sample of participants who were willing to be interviewed further, and this group were interviewed using semi-structured interviewing techniques in order to elicit their perceptions on how they have utilised the feedback of the expert to develop skill and help inform their own judgement, adding to the qualitative data obtained during the survey phase of the study.

## 7.1 Survey phase

Careful consideration must be paid to sample, survey and question design at the developmental stage of a survey with a view to ensuring that the correct questions are asked to the correct individuals in the correct manner in order that the desired analysis can be planned.

### 7.1.1 Sample design

Salant and Dillman (1994) state the benefit of surveys is that they can obtain information from a relatively small sample which describes the entire population.

Critical to the success of the analysis of a survey design is definition of the nature of the sample chosen. The authors state that the first important step in sampling is to define the sample and to draw the distinction between "target population" – ie the subset of people who are the focus of the project – and the sampling frame (or survey population) subset who are actually included in the frame. The target population for this study is all students who have undertaken a specific module at the University of the West of Scotland that incorporated aspects of skill development where this development was supervised and partly assessed by an expert clinical supervisor.

Sampling allows generalisations to be made from the results of a study based on the representative nature of the sample chosen, and the wider the group placed within the sampling frame, the more generalisable the results will be to the wider population (Bryman, 2008a). Salant and Dillman (1994) remind us that survey samples can provide information only on those that are included in the frame and it is not possible to make extrapolations from these results to other groups. In the case of this study generalisation cannot be made to, for example, paramedics, military personnel or nurses outwith the specified health boards. This consideration must be measured against pragmatic decisions based on what can be achieved in the context of a small-scale, single researcher study. However, from the literature there is no evidence to suggest that, for example, nurses in England are likely to behave any differently from those in the sample population who are all within Scotland and, therefore, it may be suggested that results are worthy of consideration outwith this population.

Exclusion and inclusion criteria applied for participants included within the sampling frame for this study are outlined in Table 2.

| Inclusion Criterion | Exclusion criterion | Rationale |
|---|---|---|
| **Successful completion of module** | Unsuccessful in module of study | Although there is no indication in the literature regarding whether or not the use of feedback in skill assessment by the student influences her to pass or fail, this would undoubtedly be an interesting line of enquiry. Were this to be included in the study and in order to make statistically significant conclusions, a stratified sample would have to be made in order to represent the different outcomes (Bryman, 2008(a)). Given the small number of students (n=2) who actually failed in the time frame given (below), it was decided that this group should be excluded from the study. |
| **Completed module between September 2008 and August 2010** | Completion outwith this time | Students who undertook this course prior to this period may not remember how they interacted with their supervisor, and students who started the course subsequent to this period have not yet completed. |
| **Registered nurses** | All other students (for example paramedics) | In the context of this study, gaining ethical approval to survey paramedics, military personnel, nurses in private health care and other NHS areas would have proven too cumbersome and would not add useful additional information as only a total of 14 (11%) of the total population fall into these categories. |
| **Nurses employed within four specified NHS areas within Scotland** | All other students – military nurses, nurses employed within non-NHS institutions, nurses in NHS institutions outside Scotland, nurses in practice outside UK | |
| **Valid/current email address** | No email address | Communication with nurses was by email and the survey was web-based. |

**Table 2 Survey inclusion and exclusion criteria**

This sample frame yielded a sample population of 95 individuals, all of whom were targeted for participation in the survey. Salant and Dillman (1994) and DeVaus (2002) both state that the decision on size of sample depends upon how much error you are prepared to tolerate against an acceptable confidence level, and sampling theory dictates that it is the actual size of the sample that is important, not the size relative to the population. However, as the population size decreases, the chances of sampling error and bias increase and the confidence in estimations decreases. Cohen, Manion, and Morrison (2007) suggest that the smallest sample size acceptable for statistical analysis is 30 and Munn and Drever (1990) suggest that if the population or target population is small, then it should all be used. Given that it is expected that an online survey would yield a response rate of between 30%–50% (University of Texas at Austin, 2010), the decision was made to use the entire sample population.

All members of the target frame were allocated a number and ten individuals (10.5%) were drawn at random (Bryman, 2008a) as a pilot group for the survey. These ten individuals were subsequently withdrawn from the sample and a survey was conducted on the remaining 85 participants. Since confidence and error in survey is determined on the actual sample – that is, the number of survey responses – a response of 55 (from 85 sent) would allow for 95% confidence level for a 9% confidence interval, that is, margin of error (Creative Research Systems, 2010): in other words, based on the assumption that the sample is a random sample, we can state that there is a 95% chance of between 82% and 100% of the population having a particular characteristic. Assuming the above anticipated response rate, this level of confidence may not realistically have been expected and it might have been necessary to tolerate a lesser balance between confidence and error.

### 7.1.2 Survey design: variables

Self-completion questionnaires have the advantage of being easy and inexpensive to distribute to a large sample, although there is little control over the response to the questions (responder bias may be present) and response rates can be low (Robson, 2002). The survey could have been administered by either mail or web-based survey software: both have advantages and disadvantages, summarised by DeVaus (2002).

Web-based surveys suffer from generally poorer response rates, although benefit from better quality of response and ease of administration and for these reasons web-based methods were chosen. The design and piloting of questions is, therefore, important in order to adequately answer the research questions, to avoid ambiguity and generate interest in the study to enhance response. The questionnaire consisted of variable category questions, rating scales and free text opportunities, and generated both qualitative and quantitative data.

The population in question consists of nurses, but within this heterogeneity exists in terms of, for example, field practice, practice location, along with other variables such as length of practice. The consideration of variables, whether they are outcome or predictor and whether they are continuous, ordinal or nominal, is vital to subsequent analysis of the survey (Oppenheim, 1973). The literature reviewed did not reveal any evidence to suggest that any particular participant characteristic would affect the interaction with the supervisor, although it has been shown that perception of expertise is important (Sternberg, et al., 2000).

Therefore, predictor variables, outlined in Table 3, were drawn from aspects of nursing life and culture that, based on my professional experience and the literature reviewed, MAY relate to the interaction with the supervisor. Outcome variables, outlined in Table 4, drawn from the literature on best practice for the delivery of feedback and sustainable assessment, were chosen to directly aid the answering of research questions. Nominal variables were pre-coded (DeVaus, 2002) and the ordinal and continuous variables were formatted via means of Likert scales. DeVellis (1991, p. 68) describes the Likert scale as "... a declarative sentence, followed by response options that indicate varying degrees of agreement with ... the statement". He suggests that a strongly worded statement is made in clear terms in order that people with moderate opinions can be distinguished from those with stronger opinions. A six-point response scale was utilised, although there is some controversy over the length of the scale. DeVellis (1991) states that the reliability of a scale can be improved by extending its length but participants are more likely to respond to short scales. Clearly, optimisation of the length is key and, for this reason six stages were used, to be reviewed after the pilot study. There is some discussion in the

literature as to whether Likert scales should be considered to be ordinal or continuous and according to Pallant (2007) Likert scales can be considered to be continuous variables for the purpose of correlation, multiple regression and other statistical tests which rely on mean and standard deviation values.

| Variable | Type | Response format |
|---|---|---|
| **Gender of participant** | Nominal | Closed category |
| **Number of years qualified as a nurse** | Continuous | Number of years and months |
| **Occupational role of supervisor** | Nominal | Closed category |
| **Managerial position of supervisor in relation to the participant** | Nominal | Closed category |
| **Gender of supervisor** | Nominal | Closed category |
| **Approximate amount of time spent per week with supervisor** | Continuous | Number of hours |
| **Description of practice area in which participant works** | Nominal | Closed category |
| **Number of years practicing in current area** | Continuous | Number of years and months |
| **Perceived level of expertise of supervisor** | Ordinal/Continuous | 6-point Likert scale |
| **Demonstrations given by the supervisor of the skill were useful to their learning** | Ordinal/Continuous | 6-point Likert scale |
| **Perception of whether supervisor shared the participants' view of their (the participants') level of practice** | Ordinal/Continuous | 6-point Likert scale |

**Table 3 Predicator variables**

| Variable | Type | Response format |
|---|---|---|
| **Feedback given by the supervisor was useful to current practice** | Ordinal/Continuous | 6-point Likert scale |
| **Feedback given by the supervisor was useful to current practice – comment on this** | | Free text |
| **Feedback given by the supervisor gave insight into how practice can be developed** | Ordinal/Continuous | 6-point Likert scale |
| **Feedback given by the supervisor gave insight into how practice can be developed– comment on this** | | Free text |
| **Participant was involved in discussions about their views on their practice** | Ordinal/Continuous | 6-point Likert scale |
| **Participant was involved in discussions about their development** | Ordinal/Continuous | 6-point Likert scale |
| **Participant was involved in discussions about their development – comment on this** | | Free text |
| **Feedback by supervisor motivated the participant to learn** | Ordinal/Continuous | 6-point Likert scale |
| **Feedback by supervisor was unambiguous (ie clear goals set)** | Ordinal/Continuous | 6-point Likert scale |
| **Feedback was positive about participant's practice** | Ordinal/Continuous | 6-point Likert scale |
| **Negative feedback was given in a constructive manner** | Ordinal/Continuous | 6-point Likert scale |
| **Feedback from the supervisor continued over time, although the course had finished** | Ordinal/Continuous | 6-point Likert scale |
| **Comment on how confident participant feels to judge own level of practice** | | Free text |

**Table 4 Outcome variables**

Additional questions in the survey were:

- Information and consent to participation (mandatory field)
- Consent to follow-up interview
- Name and email address if consent given.

For the pilot study, three additional questions were added in order to help gauge the accessibility of the survey tool:

- Approximate length of time taken to complete the survey
- Ambiguity of any questions
- Objection to any of the questions.

### 7.1.3 Reliability and validity of survey

Key to the reliability, validity and the success of a survey is the wording of the questions and many authors outline "dos and don'ts" of question wording, (for example (Pallant, 2007; DeVaus, 2002). Question type was dictated by the nature of the variable. For example, continuous variables were used for responses to number of years and months and not categories of time periods.

There is general agreement that even minor variation in the wording of questions can vastly influence interpretation. Some key issues in the wording of the questions are that they should be aimed at answering at least one of the research questions, clearly measure the variables, be short, simple, have common meaning to all respondents, should not be leading and not cause offense (Robson, 2002). Authors agree that negative wording of questions can cause confusion, although there is disagreement amongst authors on this when Likert scales are to be utilised. Bryman (2008a) discusses the necessity to avoid acquiescence and response sets by wording some questions negatively although Roszkowski and Soven (2010) demonstrate that the presence of some negatively worded items actually reduces the reliability of the items and acts to confuse the respondents in this context, a view which is supported by Colosi (2005). It was, therefore, decided to word all questions positively.

Reliability of scaled items can be tested by two means: firstly, test-retest correlations and, secondly by measuring Cronberg's alpha – a measure of internal consistency or how well the items "hang together" (Pallant, 2007, p. 6), an acceptable value of which is generally taken to be >.7. In the context of this study, the scaled items cannot be re-tested and, therefore, reliability will be judged by measure of Cronberg's alpha alone.

According to DeVaus (2002), both reliability and validity of a question can best be tested by piloting a questionnaire, although validity is difficult to prove in social science surveys since meaning is always open to interpretation. The nature of the outcome variables in this study is such that opinion is being sought and some interpretation of, for example, clarity in feedback is to be expected. However, questions which elicit responses during the pilot that offer responses which vary widely from the other questions would be discarded or reworded. The final survey tool is presented in Appendix 1 and can be found at http://www.surveymonkey.com/s/dfjudgement

## 7.2 Interview phase

As discussed above, with regard to survey design, the planning of research interviews is important if the planned analysis is to be conducted and the aims of the research met. In this phase, themes and topics for discussion with the participants were devised in order to complement the data obtained in the survey phase and in order to help explain it.

### 7.2.1 Sample

The results of the survey formed the basis for selection for interview, specifically the basis of a purposive sample. Teddlie and Tashakkori (2009, p. 173) outline the purposes of a purposive sample, namely to "generate a wealth of detail from a few cases" and focus on depth of information to be gleaned. As the name suggests, purposive samples are non-random and are typically utilised in order to generate theory (Cohen, Manion, and Morrison, 2007). Teddlie and Tashakkori (2009) state that purposive samples can be selected in order to achieve representativeness, to sample unique cases or to sample sequentially, or a combination of these. (This is in

contrast to a probability sample, where the nature of the sample is such that it cannot be altered once the design has been set.) This sample was planned to be drawn according to the purpose of the research and to answer the research questions – that is, the perceived usefulness of the feedback of the supervisor for the participant's skill development and in the development of the participant's judgement and was, therefore, a representative purposive sample.

Purposive samples are typically small (Teddlie & Tashakkori, 2009) and, according to Patton (2002, p. 244), "there are no rules for sample size in qualitative inquiry". This may be influenced by the size of the project, and a study which is international and utilises several researchers and assistants would be able to conduct more interviews than a small-scale, single researcher study such as this. Bryman (2008a, p. 461) discusses the notion of "theoretical saturation", that is, no new information is gained from conducting more interviews.

It was planned for the interviews to be piloted on two participants, with a final sample of 15, based on the responses to the questions on supervisory feedback, although theoretical saturation may not be achievable. It was acknowledged that this sub-sample may be too small to perform rigorous thematic analysis, although the experiences of the group would offer complementary data from that gathered during the quantitative phase of the study (Cohen, Manion, & Morrison, 2007). In the context of mixed methods research, Teddlie and Tashakkori (2009, p. 184) discuss the "representativeness/saturation trade off". As more emphasis and rigour is placed on sampling within the survey phase of the project, it may be possible to place less emphasis on the saturation of the qualitative phase.

The sample for the interview was selected based on agreement to be interviewed, ascertained in the questionnaire. This may be seen as the introduction of bias into the study since the participants are self-selecting and it may only be those participants who have had extremely good or extremely bad experiences of feedback that choose to be interviewed. This limitation is acknowledged.

### 7.2.2 Semi-structured interviews

According to Kvale (1996), the purpose of interviewing as research is to attempt to understand the situation from the perspective of the participant and, in using a constructionist epistemology, to understand how the participants have constructed meaning and learning from the feedback of the expert. Eisner (1998) considers interviews with participants an important data source. The participants should be offered the opportunity to express themselves in their own words and the structure gives the researcher the opportunity to control the conversation and attempt to get the participant to say more about a situation than they would in everyday life. However, an important issue for qualitative research when allowing the participants to express their views is to strike the right balance between gathering the correct amount of quality data and the accumulation of irrelevant data. Opie (2007) points out that the use of tape recording in interviews helps to reduce bias but can lead to too much data, some of it irrelevant, and overload is a constant danger, reinforcing the need to pre-plan an interview schedule (Robson, 2002). Also, time limiting the interview to short, focused events will further help to reduce this possibility as well as help to encourage volunteers who are otherwise very busy. Bryman (2008a) adds that telephone interviews do not work well with long interviews. Clearly, a balance must be sought against over-long and unnecessary interviewing and optimising the opportunity to gather worthwhile data.

Short, focused, tape-recorded semi-structured interviews were conducted by telephone in order to enhance and elaborate upon the themes indentified within the questionnaire and to meet the research aims. Semi-structured interviews were chosen since they are a good means by which to ensure that responses are gathered for the data sought but allow freedom in, for example, the exact wording used or the time spent on a particular topic (Robson, 2002).

Telephone interviews have the advantage over face-to-face interviews of allowing participants from diverse geographical areas and locations to be included in the population and sample (an important consideration in this study), and it is less expensive than face-to-face interviewing in terms of time and finance, but it has the

disadvantage for the interviewer of not being able to pick up non-verbal clues and also being reliant upon special equipment (Bryman, 2008a).

Drever (1995) offers guidance on the use of open and closed questions and prompts. The draft interview schedule was comprised of items which sought to explore further how the participants had used feedback (or otherwise) to develop their confidence to develop their judgement of their own practice development. The interview schedule included a set of topic headings, key questions and associated prompts which were devised in order to answer the research questions and expand upon themes which emerged during preliminary analysis of the questionnaire data. Bias in interviewing can be caused by several factors, for example changes to question wording, biased sampling, inconsistent coding of responses, poor rapport with the participant and leading questions (Cohen, Manion, and Morrison, 2007). Opie (2007) reinforces the need to have a well thought through interview schedule in order to help reduce the risk of bias in answering the research questions. It should be borne in mind, however, that these are semi-structured interviews and the order of questions can be altered if necessary and the interviewer should be prepared to alter the direction of the conversation if necessary, dependent upon information offered by the participant. It may be the case that "lines of thought" opened up by previous interviews are explored (Bryman, 2008a, p. 439).

Brenner (2006) describes the semi-structured protocol: the participants are all asked the same set of core questions with the freedom to ask follow-up questions to build on the responses. Topics to be covered will be in pursuance of answering the research questions and will be written on one page, with initial wording of broad questions and a list of areas to be covered by each informant. Kvale (1996) offers advice on how to structure the interview as well as general question types which may be employed. Keeping the flow of conversation going is important and the answers given to these initial questions will be used as a guide in order to reach the detail. "How" and "what" questions that give the informants the opportunity to share their experiences in their own words and questions which elicit a "yes/no" response should be avoided (Bryman, 2008a).

For qualitative data gathered during the process of semi-structured interviews, the tape recordings were transcribed. Hammersley (2010) describes the complexities involved in this process and points out that this process, in itself, may be seen as a construction of the researcher. Vocal inflections, tone of voice (for example irony or sarcasm) may be interpreted and then transcribed, along with other issues such as non-verbal noises and silences, as they can all be interpreted and transcribed differently and may cause difference in construction and meaning. These may, ultimately, affect the analysis and rigour of the study. In order to help minimise these issues, all the interviews were transcribed by the one person and this is the same individual who collected all the data.

Problems and limitations which may be encountered during semi-structured interviews are that the participant does not respond adequately, despite prompting, or the participants feel that they should tell the researcher what they think the researcher wants to hear (the phenomenon of social desirability), particularly if there is a perceived power imbalance between researcher and participant. Both of these limitations should be acknowledged (Bryman, 2008a).

### 7.2.3 Reliability and validity

As has been discussed, the notions of reliability and validity may not be appropriate in the context of qualitative research and, instead, credibility, transferability, dependability and confirmability may be more appropriate criteria. The purpose of this phase of the study is not to obtain a large amount of objective data but rather to obtain data which allows the researcher to understand the situation from the point of view of the participant. As has been discussed in the previous chapter, this can best be confirmed by making the data freely available for analysis by another researcher, by linking the study in both theoretical and methodological terms with similar studies in the field, and by close association of the analysis with related theory. This study proposes to make conclusions about a “broader set of recognisable features” based on the sample and on studies of a similar nature (Bryman, 2008a, p. 392). The semi-structured interview schedule is presented in Appendix 2.

## 7.3 Data analysis procedures

### 7.3.1 Analysis of quantitative data

The precise statistical tests applied to the quantitative data would be determined by both the nature of the variables and the distribution of the data obtained from the survey. Descriptive statistics and tests of normality were carried out on all continuous variables and frequency of response was reported for all nominal and categorical variables. Relationships between predictor and outcome variables were sought and therefore correlation statistical techniques were carried out with a view to multiple regression analysis with the aid of SPSS software, discussed further in Chapter 8 (Pallant, 2007).

It must be noted that multiple comparisons, of the type used in this analysis, may lead to false positive results and there is, therefore, the risk of making a Type I error, that is accepting a null hypothesis when it is, in fact, false. When many tests are performed in order to generate a correlation matrix such as the one generated for this study, sampling error theory dictates that false positives will be generated. Therefore, in order to minimise this risk, the acceptability of probability was reduced from the normally accepted 0.05 to 0.01 (Salkind, 2011).

### 7.3.2 Analysis of qualitative data

Qualitative analysis is the analysis of narrative data, often involving diverse sources such as photographs, diaries, memos and interviews: qualitative data utilised in this study comprises transcripts of interviews and short-answer responses to open ended survey questions. Qualitative analysis is predominantly inductive in nature, that is, developing discussion and/or theory from the data gathered, and (unlike quantitative analysis where the correct design of question, sample and tool along with the correct choice of statistical tests is vital to success of the study), there are "few absolute rules for selecting the most appropriate techniques for any given database" (Teddlie & Tashakkori, 2009, p. 251). Robson (2002) outlines some key features of qualitative data analysis which include coding materials according to themes, relationships, patterns etc., finding generalisations and, indeed, negative cases, in order to find

consistency in the data with an existing body of knowledge and subsequently form constructs or theories.

Codes for the qualitative data in this study were not determined prior to the data collection but were determined both as the data was being collected and on initial and subsequent reading of the short answers and interview transcripts. They were then matched to research questions and associated theory (Drever 1995), further discussed in Chapter 9.

## 7.4 Ethical considerations

In the planning and execution of this study, ethical considerations were taken into account according to the Code of Practice for Investigations on Human Beings set by the University of Strathclyde (2009b) and in accordance with Scottish Educational Research Association (SERA, 2005). This study does not meet the requirements for consideration at the University Ethics Committee and, therefore, the approval of the Departmental Ethics Committee (DEC) was sought, in accordance with the above Code of Practice and the general ethical principles underpinning this Code (University of Strathclyde, 2009b).

This study does not constitute a duplication of work carried out elsewhere or in a different context and the research will add to the understanding of the learning of the process, with a view to making recommendations for both future research and pedagogical changes, enhancements or, indeed, to reinforce good practice and will be of direct benefit to the participants and their peers.

There was no conflict of interest identified in the planning and conduct of, or analysis in, this research. The work did not have any financial sponsorship. It may be contended that, since the researcher is the deliverer of the education, then the study may be designed to reinforce the model and practice delivered, which may introduce a conflict of interest, although there were no preconceived views on either the educational module or the context in which it is set.

Central to DEC ethical approval for research on NHS patients, property or staff is securing the correct ethical approval via NHS mechanisms. Ethical approval was

initially sought through the Integrated Research Application System (IRAS) for research within the NHS in the UK and advice sought as to the status of the study from the West of Scotland Research Ethics Service (WoSRES). It was considered by WoSRES that this study was not categorised as something that required ethical approval via IRAS (NHS Research Development Forum, 2006). Further, as gatekeeper of access to the required sample, Research and Development (R&D) approval was sought from each NHS Health Board area in which staff are placed. For pragmatic reasons, discussed above, this limited the number of staff which could be considered and four Health Board areas were targeted. Advice from the University of Strathclyde Research & Knowledge Exchange Services was sought and each R&D department was contacted with information on the study and agreement to the carrying out of the study was given.

However, it may be claimed that the participants in this study were participating in a personal capacity as former students of the University of the West of Scotland, and ethical approval to access and use of contact information and academic history detail had to be sought from the University of the West of Scotland Research Ethics Committee. In addition, ethical approval was sought and gained from University of Strathclyde, Department of Educational and Professional Studies DEC and permission to proceed with the study was granted by the Research & Knowledge Exchange Services.

### 7.4.1 Voluntary informed consent

Information sheets were developed for the survey and interview samples that outline the purpose and nature of the study and reinforce the voluntary nature of participation. Information sheets were sent by email when participation in the research was sought, and consent to participate in the questionnaire was included in the online questionnaire as an obligatory field. Separate consent was sought by email for the interview stage and separate information sheets were sent to the pilot group and consent was also sought from this group. Appendix 3 presents information sheets given to potential participants prior to their agreement to participate and consent form required prior to interview.

In the context of this study, there were no reasons why participants should not be given full information regarding the nature of the study, its purposes, what their participation would involve and its intended dissemination, and no participants were to be involved without their knowledge (Robson, 2002). All data has been treated as confidential and that which is not anonymous (that is, questionnaire responses in which the participants identify themselves and the data gathered during interview) has been anonymised utilising coding (for both person and place) in this report and will be in any subsequent reporting and publication. Participants were given the right to withdraw their participation at any time and to withdraw their data. Since some of the participants may still have been students at the Higher Education Institution through which the skills course has been delivered, they may have felt an obligation to take part in the study, although voluntariness was reinforced to all participants.

There were no anticipated personal consequences to either the participants or the researcher and no information on the purpose of this study will be or was withheld. No loss of dignity to any participant or to the researcher was anticipated and there were no sensitive questions, although participants may not have wished to discuss the role their supervisor played in their learning. Participation was voluntary at all stages and no vulnerable or young people were involved in this study. No incentives were offered to potential participants.

Data has been stored in password-protected computers and only the researcher has access to this data (SERA, 2005). The survey was carried out via a password-protected web-site.

Although the option to receive summary findings of the survey was omitted from the survey in error, all 95 individuals in the target population were emailed with an invitation to receive these findings and, in addition, all interview participants were offered a copy of the transcript of their interview.

*This study consisted of a web-based survey tool, used to collect quantitative and qualitative data, administered to a large number of participants, followed by semi-structured interviews with a purposive sample of participants, drawn from the survey participants. The population from which the sample for this study was drawn are*

*students who have successfully completed a specific course of study which involved the development of skill with an expert supervisor. The target population is 95 individuals and all were included in the sample. Ten individuals were randomly selected in order to pilot the survey and the remaining 85 were sent the final questionnaire. The choice of predictor and outcome variables was related to the literature,the categorisation of these variables described and related to the planned analysis, and the choice of question setting for the survey described and discussed. The planned purposive sample necessary for the interview phase consisted of those survey participants who volunteered for interview and who demonstrated a range of views on satisfaction with feedback received. The questions planned for the semi-structured interviews were in fulfilment of the research questions and the ethical considerations posed by this study have been examined. Quantitative data was analysed by the use of SPSS software and by using descriptive and inferential statistics. Qualitative data was analysed by the use of coding of narrative data. Ethical approval was sought and gained from relevant NHS R&D departments, UWS Research Ethics Committee and University of Strathclyde, School of Education DEC.*

*The following chapter describes and analyses the findings and results of the quantitative data.*

# Chapter 8: Findings and analysis – quantitative data

*This chapter presents the outcome of the pilot survey and the quantitative findings obtained from the survey. Procedures for preparation of quantitative survey data for analysis are described and the method of removal of qualitative survey data outlined. Descriptive statistics for all predictor and outcome variables are presented and summary analysis of these statistics made. The choice of statistical analysis to determine relationships between variables is outlined, and statistical analysis of quantitative results is presented.*

*Discussion of findings is presented in Chapter 10, as part of mixed methods analysis on the findings.*

## 8.1 Survey pilot and survey

Ten participants were randomly selected from the sample frame and were requested by email to complete the online survey questionnaire via surveymonkey.com, with reminder emails sent after four weeks. Three responses were received (33%), which can be considered to be a poor response rate. Statistical analysis cannot be undertaken on such a small sample, but the respondents answered all the questions clearly and responses to the scaled items appeared to "hang together" well. No responses were given to the additional questions on accessibility of the survey. Free text answers were generally informative. The poor result of the pilot could be considered a limitation to this survey (DeVaus, 2002), where the questions cannot be considered to be adequately tested in terms of meaning, variation, redundancy and acquiescence. Due to the poor response rate, the questionnaire was read by a Faculty colleague, particularly for meaning and variation regarding the pointers for good feedback outlined in Chapter 5, and for redundancy.

Given the small scale of the study, this limitation has to be accepted. Based on the results of the survey pilot, it was decided to make no changes to the wording of the questions and to keep all the questions in the survey. An additional question was added at this stage regarding the gender of the supervisor, since it was considered

that this variable may affect the delivery and effectiveness of feedback, given the traditional gender imbalance noted within nursing in Chapter 2.

The remaining 85 individuals were similarly requested by email to complete the survey and volunteer for interview, with reminder emails sent after four weeks. In total, 49 responses were received (57.6%), three of which were blank. These were discarded, giving 46 responses (55.2%), which is an expected and good response rate (University of Texas at Austin, 2010). With a confidence level of 99%, this sample yields a confidence interval of 12.9% and with a confidence level of 95%, yields a confidence interval of 9.8% (Creative Research Systems, 2010).

## 8.2 Preparation of survey data for analysis

The data was downloaded from www.surveymonkey.com to Microsoft Excel 2007 and qualitative data comprising of free text expansion of the three outcome variables "My clinical supervisor's feedback was useful to my current practice development", "My clinical supervisor's feedback gave me new insight into how my practice can be developed" and "My clinical supervisor gave me the opportunity to discuss what I think I need to do to help my practice development" along with free text comments in response to "Confidence to judge own practice" were separated from quantitative data but kept with its demographic data (predictor variables). This data was subsequently transferred to Nvivo 9 for analysis, results of which will be discussed in the following chapter. A visual, preliminary review of the results was made at this stage, prior to finalisation of the interview schedule, to look for qualitative and quantitative trends: it was clear on first inspection that there was a generally high level of satisfaction with the feedback and experience of expert supervision. However, there seemed to be many comments that emphasised the status of the expert or the status of the workplace. These general impressions helped to inform the development of the semi-structured schedule, although the main aim of the research (that is, the questions to be satisfied) was the primary guide. There was nothing to suggest, on first inspection, that the direction of the research should be dramatically altered.

Data collected for the continuous predictor variables "Length of time as a nurse", "Length of time in area" and "Time working with supervisor per week" was calculated as a percentage of a year. All data was coded and a codebook was prepared, with each variable being defined, labelled and values assigned to each response for nominal variables. A data file was prepared in SPSS 18 according to this codebook and the Excel 2007 data was imported into the SPSS 18 data file, where all subsequent data analysis was performed. The data at this stage was checked for errors: categorical values checked by looking at maximum and minimum values and examined for discrepancies. Continuous variables were checked by looking at standard deviations, means and minimum/maximum values. Visual check was also made on the data and no errors and little missing data was found. Missing data was seen to be randomly located, that is, no patterns were seen (Pallant, 2007).

## 8.3 Descriptive statistics: predictor variables

In order to gain a "snapshot" of the sample, descriptive statistics were generated for continuous predictor variables and frequency tables were generated for categorical predictor variables. Histograms and descriptive statistics were generated for continuous predictor variables and bar graphs were generated for categorical predictor variables.

In summary, the sample comprised 10.6% men with most (69.6%) participants occupied within district general hospitals with a reasonably even spread across the other categories. The participants had a mean length of service of 16.65 years, with a mean service in their current area of 5.57 years. Of the sample, 54% were supervised by senior doctors, with the others having been supervised by either nurse practitioners or senior nurses. Only 30.4% of these supervisors were in a hierarchical managerial position to the participant, with 55% of the supervisors being female. The participants spent a mean time of 7.91 hours per week with their supervisor, with a maximum of 37 hours for one participant, indicating that this individual spent her entire working week with the supervisor.

In order to calculate whether the descriptive statistics for the continuous predictor variables fell within normal distribution, Kolmogorov-Smirnov and Shapiro-Wilk

tests (Tabachnick & Fidell, 2001, Field, 2009) were performed and all variables were found to be significantly non-normal, with the exception of "Length of time as a nurse". Results for both "Length of time in area" and "Time working with supervisor per week" demonstrated a distribution skewed towards the left-hand side – that is, members of the sample are relatively new to their practice area and spent relatively little time with their supervisors. Likewise, measures of "Both have same view of participant's practice", "Perception of expertise of supervisor" and "Demonstration helped learning" demonstrate that the sample are in strong agreement with all of these perceptions, with both distributions being heavily skewed to the left-hand side and tailing off to zero at the right-hand side.

Due to this lack of normal distribution, all continuous, predictor variables which did not demonstrate normality (that is, all except "Length of time as a nurse") were transformed into ordinal variables in SPSS 18 (Pallant, 2007). Visual inspection of the histograms and descriptive statistics for variables "Length of time in area" and "Time working with supervisor per week" suggested that the latter was less skewed than the former and, therefore, was amenable to being split into three categories, whereas the former was more amenable to being split into two categories. The three predictor variables "Both have same view of participant's practice", "Perception of expertise of supervisor" and "Demonstration helped learning" were transformed into the six categories suggested by the Likert scale.

All new variables were renamed to reflect the categories, coded and added to the codebook prior to choosing statistical tests. Frequency tables and bar graphs were generated for all new variables. Therefore, in summary, all predictor variables used in statistical analysis were either nominal or ordinal variables, with the exception of one ("How long have you been qualified as a nurse?"), which was continuous.

Summary results for predictor variables can be found at Appendix 4.

## 8.4 Descriptive statistics: outcome variables

Descriptive statistics for the nine outcome variables were generated and demonstrated that there is agreement amongst participants across the variables and,

at face value, this would suggest that these variables appears to "hang together" well. In order to confirm the internal consistency (reliability) of the items, Cronbach's alpha coefficient (α) was calculated and found to be .921, demonstrating a very good reliability between items (DeVellis, 1991). Histograms were generated for all outcome variables and test of normality were performed.

The descriptive statistics, histograms and tests of normality were inspected and it could be seen that none of the variables demonstrate normality, with all outcome variables being seen to be skewed to the left-hand side (that is, there is agreement with each of the statements). Although the normal distribution is skewed, there are no obvious outlying values since no variable decreases to zero at any point (Field, 2009).

All outcome variables were, therefore, transformed into ordinal variables according to the categories suggested by the Likert scale, renamed to reflect this, coded and added to the code book. Frequency tables and bar graphs were generated for all new variables. In summary, all outcome variables used in statistical analysis were ordinal variables.

Summary results for outcome variables can be found at Appendix 5.

## 8.5 Relationships between variables

In order to ascertain whether the gender of the supervisor was related to their role, a Chi Squared test was performed and these two variables were found to be related ($p=0.005$). This relationship was sought since this relationship may affect the interaction between participant and supervisor. This is further discussed in Chapter 10.

In order to discern whether any of the predictor variables had any relationship with the perception of satisfaction with feedback described by the outcome variables, it was necessary to select the correct statistical tests. As has been discussed above, only one of the variables was found to be normally distributed and, thus only one continuous variable could be used. This implies that few robust parametric tests may be applied (Field, 2009) and non-parametric equivalents should be sought.

The nature of questions asked guides the choice of the correct statistic, and in the case of this study, initially, "relationship" between two variables at a time was sought and, therefore a non-parametric correlation technique was chosen, Spearman's Rank Order Correlation (rho) (Pallant, 2007). Therefore, all predictor variables (11 in total) were correlated against all outcome variables (9 in total), with a significance level of 0.01 being accepted, as discussed in Chapter 7, and the results are presented in Table 5.

It can be seen that the variable "My supervisor's demonstrations of the skills that I was learning helped me to develop my practice6" correlates positively and significantly with all the outcome variables and the variable "My supervisor had a lot of expertise in the topic6" is positively and significantly correlated with three of the nine outcome variables, namely "My clinical supervisor gave me the opportunity to discuss what I think I need to do to help my practice develop6", "My clinical supervisor's feedback was useful to my current practice development6" and "My clinical supervisor's feedback always left me in no doubt about what I needed to do to improve my practice6". It may be concluded, therefore, that the perception of the supervisor as an expert and the demonstration of that expertise are the factors which affect the usefulness of the feedback.

It is interesting to note that the measures of "good feedback" which correlate with perception of expertise of the supervisor are those which explore the issue of using feedback to develop, rather than the technicalities of delivery of feedback, although not exclusively so, and a clear pattern for this set of correlations is difficult to discern.

No other significant correlation was found, indicating that the gender of the participant, the gender of the supervisor, length of time in the profession of nursing, the time spent with the supervisor, time spent working in the practice area, the nature of the practice area, the role and managerial position of the supervisor and whether or not the supervisor shared the participants view of their practice had no relationship on how useful the participant perceived the feedback to be to their development.

Due to the small sample size, the lack of normality for most variables and the few statistical relationships found, no further statistical techniques can be applied (for example, multiple regression techniques) (Field, 2009).

*A poor response rate to the pilot survey is acknowledged. The survey generated a good response and descriptive statistics were generated for all variables. Only one variable was found to follow a normal distribution. Responses to outcome variables were seen to be highly reliable and non-parametric correlation was found between "My supervisor's demonstrations of the skills that I was learning helped me to develop my practice6" and all predictor variables. Non-parametric correlation was found between "My supervisor had a lot of expertise in the topic6" and three of the predictor variables.*

*The qualitative findings are presented in the following chapter, and both sets of data are discussed and interpreted in the discussion which follows in Chapter 10.*

| | | My clinical supervisor's feedback gave me new insight into how my practice can be developed.6 | My clinical supervisor still gives me good feedback, even although I have finished the course.6 | My clinical supervisor gave me the opportunity to discuss my view of my practice6 | My clinical supervisor gave me the opportunity to discuss what I think I need to do to help my practice develop.6 | My clinical supervisor's feedback really made me feel that I wanted to learn more6 | My clinical supervisor always knew how to tell me that I was doing something incorrectly6 | My clinical supervisor's feedback was useful to my current practice development6 | My clinical supervisor was always very positive about my practice6 | My clinical supervisor's feedback always left me in no doubt about what I needed to do to improve my practice6 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Sex of participant** | Correlation Coefficient | 0.1 | 0.234 | 0.123 | 0.318* | 0.06 | 0.17 | 0.145 | 0.211 | 0.288 |
| | Sig. (2-tailed) | 0.517 | 0.118 | 0.419 | 0.033 | 0.698 | 0.276 | 0.336 | 0.164 | 0.055 |
| | N | 44 | 46 | 45 | 45 | 44 | 43 | 46 | 45 | 45 |
| **How long have you been qualified as a nurse?** | Correlation Coefficient | -0.154 | -0.307* | -0.277 | -0.302* | -0.222 | -0.307* | -0.26 | -0.252 | -0.155 |
| | Sig. (2-tailed) | 0.324 | 0.04 | 0.069 | 0.046 | 0.153 | 0.048 | 0.084 | 0.099 | 0.315 |
| | N | 43 | 45 | 44 | 44 | 43 | 42 | 45 | 44 | 44 |
| **How would you best describe your practice area** | Correlation Coefficient | -0.122 | -0.02 | -0.04 | 0.096 | -0.005 | -0.237 | -0.064 | 0.126 | -0.016 |
| | Sig. (2-tailed) | 0.431 | 0.895 | 0.793 | 0.529 | 0.973 | 0.125 | 0.671 | 0.408 | 0.914 |
| | N | 44 | 46 | 45 | 45 | 44 | 43 | 46 | 45 | 45 |
| **Role of supervisor** | Correlation Coefficient | -0.031 | 0.031 | -0.139 | -0.027 | -0.088 | -0.176 | 0.04 | -0.065 | -0.139 |
| | Sig. (2-tailed) | 0.842 | 0.838 | 0.364 | 0.862 | 0.568 | 0.259 | 0.79 | 0.673 | 0.363 |
| | N | 44 | 46 | 45 | 45 | 44 | 43 | 46 | 45 | 45 |

| | | My clinical supervisor's feedback gave me new insight into how my practice can be developed.6 | My clinical supervisor still gives me good feedback, even although I have finished the course.6 | My clinical supervisor gave me the opportunity to discuss my view of my practice6 | My clinical supervisor gave me the opportunity to discuss what I think I need to do to help my practice develop.6 | My clinical supervisor's feedback really made me feel that I wanted to learn more6 | My clinical supervisor always knew how to tell me that I was doing something incorrectly6 | My clinical supervisor's feedback was useful to my current practice development6 | My clinical supervisor was always very positive about my practice6 | My clinical supervisor's feedback always left me in no doubt about what I needed to do to improve my practice6 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Managerial position of supervisor** | Correlation Coefficient | 0.128 | 0.071 | 0.121 | 0.164 | -0.092 | -0.025 | 0.152 | 0.208 | 0.268 |
| | Sig. (2-tailed) | 0.406 | 0.637 | 0.43 | 0.283 | 0.554 | 0.874 | 0.314 | 0.171 | 0.075 |
| | N | 44 | 46 | 45 | 45 | 44 | 43 | 46 | 45 | 45 |
| **Sex of supervisor** | Correlation Coefficient | 0.225 | 0.206 | 0.052 | 0.265 | 0.25 | 0.133 | 0.266 | 0.179 | -0.067 |
| | Sig. (2-tailed) | 0.147 | 0.174 | 0.737 | 0.082 | 0.106 | 0.397 | 0.077 | 0.241 | 0.665 |
| | N | 43 | 45 | 44 | 44 | 43 | 43 | 45 | 45 | 44 |
| **My clinical supervisor's view of my practice was always the same as my view of my practice6** | Correlation Coefficient | 0.371* | 0.149 | 0.203 | 0.201 | 0.251 | 0.056 | 0.370* | 0.192 | 0.252 |
| | Sig. (2-tailed) | 0.014 | 0.328 | 0.187 | 0.19 | 0.104 | 0.724 | 0.012 | 0.212 | 0.099 |
| | N | 43 | 45 | 44 | 44 | 43 | 42 | 45 | 44 | 44 |
| **My supervisor had a lot of expertise in the topic6** | Correlation Coefficient | 0.320* | 0.288 | 0.367* | 0.388** | 0.384* | 0.349* | 0.427** | 0.350* | 0.447** |
| | Sig. (2-tailed) | 0.034 | 0.052 | 0.013 | 0.008 | 0.01 | 0.022 | 0.003 | 0.018 | 0.002 |
| | N | 44 | 46 | 45 | 45 | 44 | 43 | 46 | 45 | 45 |

| | | My clinical supervisor's feedback gave me new insight into how my practice can be developed.6 | My clinical supervisor still gives me good feedback, even although I have finished the course.6 | My clinical supervisor gave me the opportunity to discuss my view of my practice6 | My clinical supervisor gave me the opportunity to discuss what I think I need to do to help my practice develop.6 | My clinical supervisor's feedback really made me feel that I wanted to learn more6 | My clinical supervisor always knew how to tell me that I was doing something incorrectly6 | My clinical supervisor's feedback was useful to my current practice development6 | My clinical supervisor was always very positive about my practice6 | My clinical supervisor's feedback always left me in no doubt about what I needed to do to improve my practice6 |
|---|---|---|---|---|---|---|---|---|---|---|
| **My supervisor's demonstrations of the skills that I was learning helped me to develop my practice6** | Correlation Coefficient | 0.612** | 0.483** | 0.594** | 0.505** | 0.616** | 0.430** | 0.586** | 0.516** | 0.517** |
| | Sig. (2-tailed) | 0 | 0.001 | 0 | 0 | 0 | 0.004 | 0 | 0 | 0 |
| | N | 44 | 46 | 45 | 45 | 44 | 43 | 46 | 45 | 45 |
| **Time with super 3gps** | Correlation Coefficient | 0.03 | -0.043 | -0.012 | -0.172 | 0.036 | 0.186 | -0.127 | -0.026 | -0.154 |
| | Sig. (2-tailed) | 0.85 | 0.779 | 0.937 | 0.263 | 0.817 | 0.238 | 0.407 | 0.869 | 0.319 |
| | N | 43 | 45 | 44 | 44 | 43 | 42 | 45 | 44 | 44 |
| **Length of service as 2 groups** | Correlation Coefficient | -0.055 | 0.039 | -0.036 | 0.036 | -0.127 | -0.114 | -0.015 | 0.027 | 0.171 |
| | Sig. (2-tailed) | 0.721 | 0.797 | 0.815 | 0.816 | 0.411 | 0.465 | 0.922 | 0.858 | 0.263 |
| | N | 44 | 46 | 45 | 45 | 44 | 43 | 46 | 45 | 45 |

*. Correlation is significant at the 0.05 level (2-tailed). **. Correlation is significant at the 0.01 level (2-tailed)

## Table 5 Correlation matrix (n=46)

# Chapter 9: Findings and analysis – qualitative data

*This chapter presents the qualitative findings of the survey and semi-structured interviews. Development of an interview schedule and the selection of participants for interview is described and procedures for preparation of qualitative data for analysis, including formation of themes, are outlined. Findings are presented according to the themes devised and qualitative data obtained within the survey is related to its demographic data.*

*Discussion of findings is presented in Chapter 10, as part of mixed methods analysis on the findings.*

Qualitative data was obtained from 37 participants in the form of free text answers to survey questions and/or individual interviews.

In all, 29 participants agreed to be contacted for follow-up interview. In order to make a purposive sample for interview based on a range of views on perceptions of feedback, the short-answer responses for these 29 participants were reviewed. Two of these participants had given no qualitative data, two had made comment only to evaluate the course and one had stated that s/he had undertaken the module in order to gain the academic award and not to develop professionally or occupationally. Since the aim of the study is to gain insight into how feedback is used to develop skill and judgement in the participants, it was deemed that it was necessary for some consideration on their development and practice to have been demonstrated and these participants were thus excluded from the interview list, and any qualitative data offered was withdrawn.

Of the remaining 24 volunteers for interview, their overall quantitative scores across the outcome variables (perception of feedback) were examined and, based on a range of overall responses, an initial sample of 15 was chosen and requested, by email, to participate in interview. However, only five participants responded to this request and, subsequently, the remaining nine participants were contacted. In total, 10 participants agreed to interview, which fell short of the anticipated 15 interviewees

sought. These 10 participants were interviewed by telephone, which effectively turned the planned purposive sample into a convenience sample. This sample type is defined by Bryman (2008a, p. 183) as "one that is simply available to the researcher by virtue of its accessibility" and this limitation is acknowledged and is further discussed in the following chapter.

## 9.1 Interview pilot and interviews

The qualitative results of the survey demonstrated that the participants who offered qualitative data were generally confident in their judgement, further discussed below. The planned interview schedule was considered and the focus on questioning was designed to explore this judgement, particularly in situations where the participants felt separated from their expert supervisor, either in time or place. Further exploration was also sought on how the participants had used the experience of working with an expert to learn. The final interview schedule is presented in Appendix 2.

Pilot interviews were conducted on two participants, the first two who agreed to be interviewed. Both interviews elicited quite different kinds of discussion with the participants: both responded well and appropriately to the questions, with one participant giving short and to-the-point responses with no elaboration whatsoever (despite prompting) and the other giving very free and elaborate responses with no prompting required. The former interview lasted 10 minutes, the latter lasted 30 minutes. This variation in interview length did, potentially, violate the research protocol and Robson (2002) points out that it is the responsibility of the researcher to keep to the protocol. As a result of the pilot interviews, subsequent interviewees were informed if the interview was running over time (after 15 minutes) and given the opportunity to terminate the interview. As a result, the average length of interview was 25 minutes, with no participant withdrawing before the end. No changes were made to the interview schedule, and the data collected during the pilot interviews was included for analysis due to the small sample size.

## 9.2 Preparation of qualitative data for analysis

Pseudonyms, which were randomly chosen from a UK name website (Baby Names UK, 2011), were assigned to each of the 37 participants who gave qualitative data. However, on reading the results with the pseudonyms in place, the names inferred a story of the participant and names assigned appeared to infer stereotype on the participants, for example, the name "Nancy" infers an older woman and "Abdul" infers a male of Arab ethnicity. Since gender has been seen to be one aspect of interest within this study, gender neutral names (such as "Ali") were deemed to be unsuitable and since the study does not aim to follow individuals and make conclusions on these individuals (it is, rather, how learning is occurring and the context of that learning), it was considered that the use of codes for each of the participants in reporting was more appropriate. The coding assigned to identify the participants of this study during reporting who offered qualitative data presented here has been Survey Participant/Gender /Number (for example, SPM1) for those participants who offered qualitative data within the survey only or Interview Participant/Gender/Number (for example, IPF5) for those participants who offer qualitative data within the survey and at interview. Short notes on each of the interview participants can be found at Appendix 6.

The qualitative data gleaned from the survey was prepared in an Excel 2007 spreadsheet by preparing fields for the demographic data for the participants. This dataset was exported into Nvivo 9 and case nodes were created for each of the participants with attributes set for each of the demographic details assigned for these nodes. Free text answers to survey questions were coded to the appropriate case node. Interview transcripts were similarly anonymised for all people and places referred to and were exported into Nvivo 9, being coded to the appropriate case node. All qualitative data was, consequently, contained within and managed within Nvivo 9 in order to facilitate the management and analysis of the qualitative data (Gibbs, 2002), the main source of data and analysis for this thesis. During coding, all qualitative data, regardless of source, was coded using the same nodes, since broad inspection of data from both sources demonstrated that the sets of data expressed similar impressions.

## 9.3 Analysis of qualitative data

During initial data collection themes began to emerge: this was particularly apparent during the conduct of the interviews when it became clear that the picture painted of their learning by the interviewees formed a degree of uniformity, although themes had already begun to surface from the short text data. Brief notes and memos had been made on these *in vivo*. This process of the discovery of emergent themes often leads to qualitative data analysis being an iterative process, with data collected, coded and analysed which leads to more data collection based on this analysis, and so on (Teddlie & Tashakkori, 2009) and in this way, the analyst can reach a point of theoretical saturation. In the context of this small-scale mixed method study and the small interview sample, theoretical saturation was not possible and formal coding of the data commenced after the data had been collected. Further, the semi-structured interviews were structured in order to generate data around specific ideas related to the research questions.

Miles and Huberman (1994) discuss differing approaches to the identification of themes generated from qualitative data, namely deductive and inductive approaches and since, as has been previously discussed, there is no single correct method for any particular data set, a marriage of both methods was utilised. In other words, the analysis was both data driven and concept driven (Gibbs, 2002).

Themes were created initially by generating a conceptual "start list" from the associated educational and professional theory associated with this study (Miles & Huberman, 1994) and by utilising the broad conceptual framework suggested by Gibbs (2002). This deductive process created a long list of "start list codes", many of which became immediately redundant: it very quickly became clear that many of the broad theoretical concepts had little or no relevance to the learning of the participants. For example and specifically, there were no mentions of gender issues related to the participants' learning or development, and there was only one mention of the personal consequences of learning for the participants. In other situations the themes clearly overlapped. In yet others, the important themes had not been identified by the literature and in others, the theme did not assist in answering the

research questions. Although this process did not produce a definitive list of themes, the process of stopping (at this stage) to review the theory and aims of the research helped in clarifying the conceptual framework around which the final themes were to be developed.

These broad categories were used as a basis for first-level coding and were entered into Nvivo 9 as tree and child nodes. Miles and Huberman (1994) describe the process of pattern coding where explanations are now sought – "the patterns, the recurrences, the plausible whys" and the coded data was then re-grouped according to emergent patterns and a cognitive map was established. Four interrelated pattern codes were constructed that sought to summarise relationships, causes or explanations and meaning expressed by the participants. Nodes and child nodes were merged and renamed in Nvivo 9 according to the now apparent themes (Gibbs, 2002), and the four interrelated themes that emerged were "learning as part of the job", "learning strategies", "professional roles" and "feelings and constraints".

Results and partial analysis for each of the themes is reported below and each of the themes is mapped against the research questions (Appendix 7). Finally, patterns are sought regarding responses and demographic data, derived from the survey results.

## 9.4 Theme 1 – learning strategies

The participants reported adopting a wide range of learning strategies which they had used to learn from the experts. This theme was further subdivided thus:

- Learning by doing
- Learning by proximity to medical practice
- Importance of evidence
- Discussion
- Criticism
- Group learning
- Control of own learning
- Reflection.

### 9.4.1 Learning by doing

The overriding and principle learning strategy adopted by the participants in order to learn in response to feedback was learning by doing and here, the learning of these participants is recognisable and comparable with the theory of skills development discussed in Chapter 4. Clearly, in pursuit of both skill and fluency, there seems to be little doubt that there is no substitute for practice.

The participants would use trial and error to help development:

> *There's a couple of times I've thought I've found a pneumonia type thing but it wasn't – it was just bronchial type stuff, difficult sometimes to differentiate between like deep bronchial as opposed to actual lung field, if you know what I mean. (IPM2)*

And IPF6 describes this process as "fumbling":

> *And sometimes I, like, what I was doing was maybe fumbling the thing because I had read it and never actually practised it.(IPF6)*

The supervisor used cues, demonstrated their skill and advised on technique. SPF9 described her supervisor as *"excellent at showing practical skills"* and SPF10 reports *"she would correct and show me if I had done something wrong"*.

And, particularly, repetition of action to perfect and refine skill and without which the skill quickly became degraded:

> *We did a lot over and over that has stuck in my mind and that was really good and I practised on my own children and stuff like that and that's helpful. (IPF7)*

SPM1 considers that this repetition is part of the process of becoming confident:

> *As I have utilised my assessment skills on a daily basis I believe I am confident. (SPM1)*

IPF5 used repetition of action to discriminate between ways of practising and refining her judgement:

> *I would either feel comfortable with it or I wouldn't feel comfortable with it. If I didn't feel comfortable, I would practise it a couple of times when I was on my own. (IPF5)*

And IPF1 recognises the value of pattern recognition and experience in the formation of her judgement:

> *I know I had things chugging in my head before I got to the full completion of the assessment, you know, I was already starting to think what, potentially, could be wrong with them. I think if you were inexperienced that would have been harder but the assessment would still get you to the same answers but it would probably take you longer and you would have four or five things at the end of it instead of one or two. (IPF1)*

### 9.4.2 Learning by proximity to medical practice

The second learning strategy reported by the participants was to become immersed in the world of the doctor and learn by tapping into the tacit knowledge and heuristics of the supervisor. This strategy had the added outcome, apparently, of not only developing skills but also of developing occupational socialisation; a view and entry into an otherwise prohibited sphere both educationally and professionally.

In some cases the participants were learning along with relatively senior doctors who were, themselves, in training for a specialist role and who were often referred to by the participants as "the juniors", typical in, for example Intensive Care Units:

> *And obviously junior anaesthetists – they weren't supervising us but they would show us their techniques and kind of tips of what they've learned over the years and things like that. (IPF1)*

In others, seeing things from the perspective of a doctor was both revelatory and enlightening; many comments, typified by IPF4, illustrated the disparity in both theory and practice between the professions:

> *The biggest insight I got was what the doctors were actually looking for when they were actually examining and how they were going so much deeper than we did as nurses. That was the biggest insight and when you were actually listening, what you were listening for ... just different clues as to what could be wrong with the actual patient. Not just doing an examination, it was looking at a much bigger picture and not being deterred by what could be red herring, doing the full examination so I got a much bigger insight into what the doctors are actually looking for when they are doing an examination as opposed to what I was looking for prior to doing the course in auscultating the chest. (IPF4)*

IPM2 appeared to use this insight as a means to confirm or reject his thoughts:

> *If you've done it yourself and you've learned your differential diagnosis before the doctor's examine them, and you look at what he writes and think "oh well, that was right". I'd guessed that correctly or you might have written something different and you might think "ah well, fair enough". That's quite different. I always like to read through the doctor's notes when he's finished, just to compare. (IPM2)*

And, importantly, learning the "tricks of the trade", the heuristics, and glimpsing into the nature of expertise. Most of the interviewees made mention of this and described both this and its usefulness.

> *They just become very familiar with a thing and they don't look as tho' they're carrying out all the steps. They may well be and they may just be not articulating it – it may not be obvious to you cause I'm maybe a bit slower at a thing and more deliberate.(IPF6)*

> *I felt that because he was a GP and has got a GP's background, his assessments were much more fluid and ...consolidated in relation to time. (IPM1)*

and

> *What they were giving me was their refined skills that they had learned not the way, you know, when you open a book and learn a patient assessment you are learning everything. They were giving me their refined techniques that they had developed which got the history they needed. (IPF7)*

> *I think the ones that spring to mind are things that were more omissions. They would say "you don't need to do that", you know "you can do it if you want but you won't get much from it", particularly looking at patients' JVPs was a big one. It is very much out of vogue in clinical medicine and in the dead of night they think, you know, it's nice to see and if it's a barn door thing then wonderful, but don't waste your time when there's a whole gambit of other things that could tell you the same information and that was just one that kind of sticks out and it was more, kind of, advice – it wouldn't be the worst thing if you didn't do it. (IPF1)*

IPM3 reported the use of the opportunity to tap into this tacit knowledge to also tap into the social world of the medical staff, a world which is otherwise inaccessible:

> *... so I got the medical registrar up and we sat for a good hour just chatting and went through the case notes and he gave me reasons why it could be this and why it might not be it and kind of went on a management plan of what would be appropriate to manage it if it was and what we'd do if it wasn't. Ehhm – it's formal but it's informal – does that make sense? (IPM3)*

### 9.4.3 Importance of evidence

However, it was apparent that, for these participants, the learning of skill was not seen as a purely practical pursuit; the interviewees all overtly valued the educational process and valued learning, both formal and informal and saw "certification" as important:

> *You must have it [the knowledge] and you must never lose that. (IPF7)*

Further, they used an evidence base to reinforce their skills with the use of texts, University notes and websites. In other words, the learning of skill was both a practical and theoretical pursuit.

> *I always carry my Clinical Examination book with me. So I would maybe, if I know it was an admission coming in who was going to potentially have a particular problem, then I would then go and just "brush up", essentially, or I would use the internet access cause there's internet in all the wards in the hospital that I work in. (IPF6)*

> *Quite often I'll sit down and I'll listen to the website, the auscultation sounds and have a listen just so that I remind myself of the wheezes and the crackles and the rubbing. (IPM2)*

The value of evidence was particularly important when, firstly, the participants felt that their skills had become degraded. In this situation, they invariably returned to their text books as well as the practical skill:

> *I still look stuff up all the time, ehhm, sometimes if I just feel I haven't quite got that, or if I haven't done it in a while, I'll go and look it up first before I go and see the patient.(IPF7)*

> *... probably something like a refresher and it wouldn't necessarily need to be a long refresher and having some practice, looking in and being asked some questions in a safe environment away from patients. (IPF5)*

The second situation where the participants turned to evidence was when they were faced with ambiguity, particularly when the "experts" disagreed and this marriage of theory and practice was the means by which judgement was developed. Reasons why something was done in a particular way helped form judgement. Since most of the interviewees were supervised by several people (as will be discussed below), this skill was apparent in all of them. For example:

> *... they would give an explanation and I would try it and see, sort of , the way that they were suggesting. (IPF5)*

*If somebody says "I don't normally do that this way or that way" then I just say "that's the way I've been taught" and that's the way I do it unless there is a good reason I shouldn't be doing it. (IPM2)*

*There could be a possibility that I could be right and they could be wrong but I think you have to discuss these things to see what their thought process was behind, you know, the rationale, so to speak of what they're trying to tell you or teach you. (IPM3)*

*And then I will hone the skill once I have the skill properly in my knowledge base and I'm happy with it. Like anything that's the way I learn, it's like – this is how the books tell me, this is how it's supposed to be done, this is how you want it done and I did it like that. Then as I developed, I could then give a rationale for maybe if I changed my tact slightly, you know. (IPF1)*

*When you get conflicting advice you either read about it or you speak to different people and take your own slant and your own opinion on it. (IPF2)*

### 9.4.4 Discussion

In addition to the utilisation of evidence and explanation, discussion and variation of opinion was crucial in the process of formation of their opinion:

*I certainly didn't find it [having more than one supervisor]confusing, I think having debate is quite healthy, particularly when you're learning new skills and sometimes it is important to take on board other people's opinions no matter how different they might be from your own because then you can maybe take a wee bit of reflective practice then and think "perhaps that is the correct way to do it. (IPM3)*

IPM2 utilised one main person as a point of reference and used others as reinforcements:

*It was handy to have just one named person to just bounce ideas off and discuss things with but it was also handy having other people around if I was*

> *stuck ... it gave me insight into how different people think and it's not an exact science. (IPM2)*

And, ultimately, to use the various opinions to help form their own judgement as to how a skill should be performed:

> *It was quite good from the point of view that you were able to glean different information from each of the different people themselves. It [having more than one supervisor] gave me a more rounded view on whatever it was that we were looking at at that moment, rather than "this is the way to do it", one person's opinion. So in some respects I felt that it was better because it was more rounded but it was also a case of siphoning out what I felt was more pertinent to make up my own judgement on. (IPF5)*

and

> *I think it certainly wasn't bad to have, to have more than one person [to supervise me]. I did always notice that I found out that there was different ways to do things – some people put more emphasis on one thing than another and I learned from thinking something that I had already gone over with another ENP [Emergency Nurse Practitioner] and thinking I knew where I was at with that (and) doing it again and thinking "well they didn't do this and they didn't do that". I picked up more things, you know. (IPF3)*

The usefulness of discussion for the participants can also be seen in decision making and "thinking it through" was often apparent. SPF14's supervisor asked for the thinking behind the action:

> *Firstly, she asked me to talk through what I was going to do, then I actually did the examination and finally we would sit down and discuss where I perhaps needed to improve upon. (SPF14)*

IPM3 found the process of thinking out loud helpful:

> *They might be totally happy with what you've done for that patient but then you can also sit down with them and you can chat and you can go through your thought process, ehhm, and then you would have an idea in the future if what you've done is correct. (IPM3)*

By using this strategy of the marriage of theory, practice and discussion, the participants could learn judgement and learn their own way to perform their practice and, as IPF6 articulated, learn to "*pick up bulls*^t"*.

### 9.4.5 Criticism

As quantitative findings presented in the previous chapter demonstrate, the participants found feedback from the supervisors to be closely aligned to principles of good feedback, particularly where expertise is apparent. The data presented in this chapter demonstrates that the supervisors were generally direct and constructive in their comments, a strategy which the participants found helpful. SPF12 and SPF7 found positive reinforcement valuable:

> *I feel fairly confident as I received lots of guidance and constructive criticism and praise from my supervisors and my colleagues. (SPF12)*

> *Feedback was positive and encouraged me to develop and improve my skills. (SPF7)*

And a direct and unambiguous approach by IPF2 and IPF1:

> *I think that there's a personality thing and an experience thing. I'm very much "just tell me, don't beat about the bush" and my mentor's very much like that. Don't spare feelings – this is about sick patients. If I'm doing something wrong – tell me. If I'm not doing it right tell and basically as a learner, as a novice at it, it was "just tell me how you want it done. (IPF1)*

> *It was good because the feedback was good and you knew if you were along the right lines and if it was different, you kind of knew you had a lot to learn. (IPF2)*

### 9.4.6 Group learning

As much of the above data demonstrates, learning seldom happened in isolation and, on the contrary, was seen to be dependent upon the interaction of the participants with their peers, supervisory teams and others in the department. Participants utilised a variety of helpful group learning approaches, both formal and informal, to develop both skill and judgement, and was often build into the overall support of the supervisor and the team and even as part of organised development sessions, all of which were identified as invaluable to learning.

> *We go round as a group and see if we can conclude their findings and certain patients are a bit more difficult. (IPF2)*

and

> *We also have a bi-monthly education session where issues around clinical practice are discussed as a means of ongoing learning. (SPF8)*

> *And you don't feel silly asking the questions if you've not remembered, you know, cause everyone's learning together. I'm sure that'll change as years go on but at the moment it's good for us. That's why the teaching's always there because there are always trainees around. (IPF1)*

Learning from and with peers was vital to developing an overall picture of the task at hand and contextualising the learning.

> *Now Kevin [a colleague] does the same as I do and because Kevin hasn't done the Patient Assessment module and Kevin and I are very different but very complementary in the way we work in that he's got more skills surrounding the mechanics of – because our job works across boundaries between health and social work. (IPM1)*

> *I said "would you do anything different" and we both had a different idea about what was wrong with the patient. (IPM3)*

### 9.4.7 Control of own learning

Participants' reports of taking control of their learning focused around, mainly, finding opportunities to learn and their feelings about learning, although few mentioned control of what is learned. IPF3 reports that she had to find the opportunity to learn:

> *IPF3 Always telling people, I wanted to see, I wanted to learn, I want to watch it and accept whatever opportunity can up and I would watch them.*
>
> *DF Did you ask them to be involved? Or did they sort of say "let me help you with that ..." or, I mean, what was the situation, do you think?*
>
> *IPF3 No – it usually came from me. It usually came from me ... Like – my learning was my responsibility and "don't take up my time".*

For IPM1, his "enthusiasm" for learning motivated him and IPM3 utilises opportunities to "sit and chat" to learn.

### 9.4.8 Reflection

Perhaps surprisingly, relatively few participants mentioned the use of reflection as a learning strategy, given the plethora of literature on the topic and emphasis given to it within nursing. Reflection, when it was mentioned, appeared to occur as part of a group activity as data from IPF1, IPF3 and SPF5 demonstrate:

> *…allowing and supervising my assessments then reflecting with their assistance. (SPF5)*
>
> *Reflecting on individual cases with my supervisor, he would take me past my level of competence, advising next stage of investigation, treatment etc. but always advising a low threshold for contacting GP for advice.(IPF3)*
>
> *We had an hour at the end of each day built in for reflection built in for, you know, mentor feedback but that wasn't the norm for everybody. (IPF1)*

## 9.5 Theme 2 – Learning as part of the job

The learning of the participants was inextricably bound to the actuality that learning was occurring as "part of the job" and this theme pervaded all other issues and feelings. This theme was so prevalent that only one participant, IPM1, mentioned any internal motivating factor for learning. His enthusiasm for learning is his "hobby". As has been discussed above, control of learning, such as it was and when it occurred, centred around the time and place of learning and not what was learned and the demands of the workplace and the curriculum (which are closely related) dominated learning. This theme was subdivided thus:

- Setting
- Importance of supportive supervisor and team
- Part of the job

### 9.5.1 Setting

A frequent and noteworthy issue which was raised by eight of the interviewees was the uniqueness and/or the status of their workplace – that is the practice setting was vital to their learning. For these participants, the skills they were learning were bound by the context in which they were practicing. SPF14 and IPF5 were learning skills in a specific context and for that context, despite the fact that these skills could be learned anywhere:

> *Within my current role, I need to examine hips and knees so therefore I am able to use the feedback I got from my supervisor in my current role. (SPF14)*

> *I wouldn't feel confident to, say, go along to a GPs practice and say "oh right, let me have a look in their ears" and do auditory work and things like that ...I don't do anything with ears. That's not my bread and butter. (IPF5)*

This view that learning was not transferable was summed up by IPF5:

> *The environment that I work in tends to be quite limiting in that there are lots of skills that we have and we need to have but those are our skills and we don't tend to do anything that is very different. (IPF5)*

although the scope for learning in context was emphasised by some participants, particularly IPM3:

> *In working ... in [this] environment, you are learning new skills all the time, ... you know in my job I can learn something new every single shift I'm working. Every shift despite having, kind of, the academic theory behind it, you're always going to learn something new and I think medics are probably the same, even consultants are learning new things. (IPM3)*

For IPM1, his role is unique – "*I think because the job is so unique that we do – there are only two of us"* – and by implication, the skill set is unique – *"I feel competent to do that [apply skills outside the role]. Obviously, if it's the same sort of post."*

For many of these participants, not only is the working environment and their role considered to be unique but it was also judged by them to be high status. For IPF4, working in critical care infers a level of practice and an assumption of competence:

> *It's not actually how you do your work because you are working at a certain level ... when you're working in critical care you know what you're doing. (IPF4)*

IPF5 considers that the total skill set of the entire team is raised:

> *What I consider to be juniors (doctors) as they are in our department although they wouldn't be in a ward setting. (IPF5)*

IPF1 and IPM1, along with others, makes specific mention of the close relationship between their roles and medical practice:

> *And he was more than happy to help me because at the time he was actually.... in my job that I'm actually in I get supervision from a doctor. (IPM1)*

> *I don't know if it was in a different type of setting, I'm sure it [supervision ] wouldn't be there as prominently as it is but you work in such close quarters*

> *with these people [the senior doctors] anyway it just becomes part of the conversation, part of the kind of ethos of how you operate. (IPF1)*

In other words, the role and the practice environment, which the participants saw as unique and high status, was part and parcel of the development and learning. Given that the learning they were undertaking was designed to enhance and expand traditional nursing skills, this learning may be construed as an expansion of this uniqueness.

### 9.5.2 Importance of supportive supervisor and team

Apparent from the qualitative data was the observation that the foundation for learning within this setting was the existence of a supportive team and, of equal importance, a supportive supervisor. Most participants mentioned the value of support in their learning and this support manifested itself in various forms:

By giving time and attention to develop skill:

> *I actually had to make them aware that I was doing the course and once they realised that I was doing the course they were actually very, very happy to help me develop my skills and in particular some doctors came in on their time off and their time is very valuable. Also and in particular one doctor came in on his afternoon off. (IPF4)*

By facilitating the participant to undertake the required skills:

> *…[my supervisor] regularly asked that I was getting good broad experience and covering everything on course syllabus. Made arrangements for me to spend one to one time with midwives, practice nurse. (IPF3)*

By allowing them to be "seen" as learners

> *I sit down with the (supervisor) and have a chat over a specific case and they'll just, kind of, question. It's like critical companionship, essentially and he sits me down, have a wee chat, look over a case that I've seen and he'll just, you know ask me, you know, not question me but ask me my thought*

> *process – my thinking behind the actual clinical situation and my mentor would then say "what about doing it this way?" (IPM3)*

And by facilitating an environment where learning can take place:

> *Regularly asked that I was getting good broad experience and covering everything on course syllabus. Made arrangements for me to spend one to one time with midwives, practice nurses. (IPF3)*

Team support was equally important, and appreciated,

> *… [the other nurses] were all appreciative that I was learning that it wasn't long since they had done the course having been doing a similar job for a long time without having had any training and they remembered what it was like, learning all these things that, they had been doing the job without, without knowing about. So they were able to put themselves in my position. (IPF3)*

As has been noted above, this supportive environment was most notably demonstrated in the use of supervisory teams, most often delegated by a senior doctor to her/his juniors, mostly for pragmatic reasons:

> *She [the supervisor] really delegated her junior staff to help me which was absolutely fine because they are at a senior level as well. (IPF4)*

Nine of the interviewees stated that they had been supervised by several fellow professionals, between two and, in the case of IPM3, 30 and the learning of the individual became a collective responsibility.

### 9.5.3 Part of the job

Pervading this theme is the issue for the participants that they were learning in order to do the job. In response to questions on their future development, the participants were clear that they were learning in order to carry out their responsibilities of their current role. SPF1 states her supervisor *"helped develop my role and where my new*

*skills would be best placed"* and SPF20's supervisor was *"not proactive in further development"*.

IPF4 was quite open about taking on the medical duties:

> *We participate in ward rounds and ITU nurses, generally speaking, are working at an advanced level and as technology progresses we are continually doing more and more – you could say – more of the medical duties. (IPF4)*

And IPM3 acknowledged the dynamic:

> *…cause if I'm competent in my job, it makes their job easier. (IPM3)*

Whereas IPF6 recognised the danger of taking too much of these practices on board:

> *If you sell yourself as an "all-singing, all-dancing I will do everything then you will have to deliver that. So you can put yourself under a bit of pressure to perform if you've said you can perform. (IPF6)*

IPF1 reinforces the learning for the job and also supports the evidence above regarding the specificity of the learning.

> *I could use them [the skills] as part of my nursing assessment but, yeah, I wouldn't be documenting, I wouldn't be documenting a full patient assessment in an area where I'm not, you know, that's not my specialist field. You know, generally that wouldn't happen – I'm not at the stage where I'm independently assessing patients outwith my immediate clinical area. (IPF1)*

For some of the participants, the learning on the course was a consolidation of the role and skills.

> *I had been in post in my job for nearly three years before I commenced my post-grad certificate so ... I had developed myself to a pretty good level clinically before I actually commenced the post-grad certificate so I was*

> *always – I'm not saying I'm an expert, but I've got, you know, pretty confident in ... my diagnostic abilities ... when I'm seeing a patient. (IPM3)*

> *I would have done it beforehand as well, I would do, when you're seeing the patient, the patient assessment – make a decision about what investigations need to be done and carry them out but I would have done some of that anyway. (IPF4)*

For others, the learning as "part of the job" meant the management of personalities and politics:

> *If you are going in fresh and you are learning something you don't know people and you want to learn new skills where you don't know people, you don't know the politics, you don't know how people work – I could see that being more difficult. (IPF4)*

## 9.6 Theme 3 – Professional roles

The third theme developed by the participants was that of their professional roles. This lesser theme is, yet again, a consequence of learning as part of the job and perhaps surprisingly, there was little or no mention of nursing professionalism or the development of nursing practice, although a dominant theme throughout was that of professional responsibility, an issue which is further discussed below. Once again, status was raised in this category as a constant and recurrent theme, both of the supervisor and of the participants themselves, closely allied to reference made to the status of the workplace. Subthemes identified here are:

- Status of medics, participants and supervisors
- Professional Responsibilities

### 9.6.1 Nursing roles and status

Eight of the interviewees stressed their professional expertise and that of their nursing supervisor, often merged with the above noted reference to the status of the workplace. IPM3 felt that it was important to demonstrate this expertise:

> *Not just of doing the job that I'm doing but my kind of eight to nine years experience before I came into it. Ehhm, but it's difficult, again going back to the medical staff, they don't know your background when you first start. They don't know how long you've been doing the job, so it is a case of building up that rapport and the relationship, demonstrating that you are clinically competent in your work. (IPM3)*

And of his mentor's expertise:

> *I had one official mentor which was my boss ...I would trust his judgement. Not that I'm saying that I would trust his judgement more than others ... Cause I trust his judgement completely. (IPM3)*

IPM2 was equally appreciative of the skill of his nursing supervisor but also stressed his own skill:

> *If it was something that I felt was beyond my, ehhm, experience or capability then I would refer it back to an ENP and say "look I think that it's you that better go and do this". I'm not averse to ringing down and saying "come up and give us some help". It's not very often that happens, it's just occasionally. Like the patient that's feeling a little bit off colour. (IPM2)*

IPF3 felt rebuffed if her skills were not recognised in a different context, but seemed resigned:

> *I don't know if its relevant but just before I started the patient assessment module, Diane, I had worked agency for ten years and was well used to be being treated as different as a nurse and you would be the last person that if they, if they --- if you were working with any of the core nurses and they had a problem, you would be the **last** person that they would ask advice of. You know, you know you wouldn't know if there was a problem until someone arrived from a different ward and they would say "do you know anything about this?" So I was well used to, ehhm, my skills being underused and learned how to deal with that. (IPF3)*

IPF7 expressed this need for recognition of expertise, not just personally but on behalf of her fellow nurse practitioners:

> *I would have to prove – I feel that they [the doctors] would have to see and accept that I was able to do it. I don't think that they would necessarily accept. I don't think we have come far enough yet except they do understand the narrow way of the nurse practitioner role ehhm, and will accept it very often from nurse practitioners but you have a varying way people view people differently as well in some cases but they do. I think it is becoming easier – there are more of us and people are becoming more aware of us and we are able to do it. (IPF7)*

IPM1 felt his expertise was derived from a long and varied background and was not now being recognised:

> *My skills, because I've got a very lengthy clinical background lie in patient assessment ... Because when I worked in ITU I was regularly teaching advanced assessment within ITU and, you know, obviously, I used to mentor for the ITU course etc and then obviously I've lapsed since I've come into the community. (IPM1)*

It is worth noting that although seven of the interviewees utilised the expertise of nurses for supervision and, overall, half of the supervisors of the sample were nurses, around twice the number of references to the status of the doctors was made, examples from SPF23, IPF7 and IPM2:

> *…as my clinical supervisor is head of anaesthetic dept. (SPF23)*

> *It [feedback] was always positive but I always felt unsure and struggled to verbalise this due to his role as consultant. (IPF7)*

> *My supervisor has twenty-seven plus years' experience as a casualty doctor within my department. (IPM2)*

This seniority was often, *ipso facto*, given as a mark of expertise – status, experience and expertise were indistinguishable. This was particularly the case with regard to medical seniority but IPM3 also felt this from a nursing stance:

> *IPM3 We're all just band sevens, so they don't really know who's senior and who's not until they've actually worked with them and taken on board and listened to what they've done and then actually had experience of working alongside them.*
>
> *DF So do you think the seniority is more important than actually being able to demonstrate a confident judgement?*
>
> *IPM3 That was the opinion I was getting off them. I think if there is an element of seniority, you should be confident in your clinical judgement*
>
> *DF So that's maybe something that's almost a given?*
>
> *IPM3 Well I would think so, absolutely, I think if you've been in a job where you are assessing patients and you've been doing it for a number of years you should be clinically confident in your skills you know and you should be aware of your limitations but in most situations you're going to be right with your clinical judgement because you've got the experience behind you.*

The seniority and status of the doctors, nurses and workplace sometimes further conflated to impressions of being part of the professional socialisation of the doctors, an extension of the learning regarding the adoption of a new role and relationship to the doctors – entering their world:

> *DF Did you know these people [the supervisory team] well?*
>
> *IPF4 Oh I know them very well, yes, I work with them in intensive care so we work with these people day in day out and we work very closely together and there's a huge amount of trust between us all anyway and there's a huge amount of respect so I suppose that might make things slightly different from maybe other people, I don't know.*

### 9.6.2 Professional responsibilities

Nine of the interviewees made reference to the change in their role and the impact that this has had on their professional responsibilities and getting to know the new "code", both personally and occupationally was important.

Several interviewees made reference to getting to know the policies and procedures:

> *I suppose there's lots of new things – they can be simple things, like local formularies are all different, ehh, most Trusts have got like a clinical book, essentially, talking about specific treatments for conditions like GI bleeds for instance and they might have subtle differences from one Trust to another so it would be a case of familiarising yourself with these kind of things. (IPM3)*

> *…it's really just getting familiar with the different policies and how things get done in a particular unit. (IPF4)*

Other participants stressed the weight of personal responsibility that they felt on taking on new skills:

> *You are the person...it's you at the end of the day that has to make the decisions on what you're hearing and seeing and as long as you're getting to that point and you feel that you have covered all of the bases... (IPF5)*

IPF6 sensed that there was a, perhaps invisible, line that she should not cross:

> *The point at which, you know, this sort of ehhm stepping over a line so to speak. (IPF6)*

Only IPM2 expressed the desire to work "*autonomously*" and only IPF1 made reference to specific nursing expertise and saw the new role as a marriage with her previous role, the new skills added to and enhanced her existing expertise:

> *It was all very positive because they're [the doctors] not used to working with nurses. Ehhm – the first thing I remember from one of my first assessments, you know, and I knew very little about what I was doing was they went*

> *"wow". Introduced yourself, asked the patient what they wanted to be called, got consent, you know, and doctors'll just breenge in, as they say, you know, and they assume consent, ehhm – they were very, from a nursing point of view listening to a chest with a patient on a ventilator, I would have suctioned them, cleared their chest out first and then had a listen in which a doctor would feel that was a nursing role so they wouldn't do that. (IPF1)*

and

> *Little fine things. The nursing skills were there as an ICU nurse as well as doing the patient assessment at the same time and they were very – they liked that. They liked that a lot. They liked it. We had a different way of approaching a patient assessment. It was still the same but it was enhanced because we had nursing skills and, personally speaking, experienced at communication skills. Got more information out of the patient. (IPF1)*

## 9.7 Theme 4 – Feelings and constraints

The final theme in this analysis concerned the participants' feelings and the constraints that were perceived. The subthemes were identified as

- Constraints
- Confident to know limitations
- Confidence
- Lack of confidence
- Intuition

### 9.7.1 Constraints

Constraints in the context of this study were interpreted to be perceived constraints on development of practice, some of which were openly mentioned by the participants, while other references were more obscure. Given the above noted on the vital interaction between learning and the job, many of the constraints to learning were related to the occupational context in which the learning occurred and included, particularly, workplace relationships, especially with doctors. SPF13's supervisor was openly hostile:

> *My supervisor did not appear to be keen on nurses encroaching onto the medical area, believing that nurses did not have the knowledge nor understanding to carry out what she perceives as medical duties ... She did not have time to teach me. My learning was gained from a variety of other people and sources. (SPF13)*

And IPM2 met resistance from often obstructive medical staff:

> *…[the doctor] just didn't tend to say anything like that. It's only if you were talking to him that he would mention something ... in the main he tends not to get that closely involved... it's not very often we actually auscultate cause the doctors are pretty quick. (IPM2)*

It appears that IPF7 had to seek out support in some situations:

> *I would be seeing the patient and going through all the history and so they would ask "well why are you doing all of this?" And I would say "I'm doing the patient assessment course in [a university]" and I would be grateful and I would often say if there is anything on there that I should correct for example either it's not the way that you think that it should be please let me know. Please give me feedback. (IPF7*)

And it sometimes appeared that support was capricious, based on personal evaluation. According to IPF6:

> *It [the supervision from the doctors]depends on who you're working with and whether they deem you competent or not. (IPF6)*

IPM3 voiced the historical hostility from the medical staff:

> *I work in a role, first started five years ago, it was a role that, ehhm, I suppose wasn't despised by the medical staff but it certainly wasn't embraced, that's for sure. (IPM3)*

For SPF13, this hostility threatened the learning process and she had to look elsewhere:

> *To have a negative supervisor who did not have time to teach me caused me stress and did not enhance my practice. This knowledge was gained from other sources, namely ANPs [Advanced Nurse Practitioners] who were well versed with what would be expected from me. Furthermore to have a supervisor who was against the advancement of nursing as a whole impacted negatively on my learning. (SPF13)*

IPF3 acknowledged the potential for hostility from other staff, including nurses, which reinforced the above observation that the skills learned are very context specific:

> *I don't imagine attitudes to me as a new person, as a new member of the team, I don't imagine it would be well received from other staff if I took a stethoscope out my pocket and started listening to chests. Cause an awful lot of nurses, ehhm, actually an awful lot, have got this ehhm, attitude, like "who does she think she is? And she's only..." And especially if I was, I was established in the place it would be accepted much easier but to go as a new person, in the door and use any skills which are beyond the normal scope of skills for nurses, it doesn't go down well. It's a kind of "Who's she?" attitude. (IPF3)*

IPF7 found some feedback unwanted and destructive, yet felt out of control:

> *I hadn't necessarily asked him for his opinion he actually also gave it as well as he happened to be there because he was a consultant and I wasn't going to argue with it. (IPF7)*

Paradoxically, although many statements were made on feelings of equality and professional socialisation with doctors, there remained feelings of separateness and hierarchy, as the above quotations illustrate. Although feedback was positive, IPF7 felt the weight of the pecking order as the quotation above demonstrates, repeated here:

> *It [feedback] was always positive but I always felt unsure and struggled to verbalize this due to his role as consultant. (IPF7)*

IPM1, who of all the interviewees expressed most confidence and reflective ability in his learning, found it difficult to challenge the opinion of the doctors:

> *This [feedback] was uncomfortable because it was something that I was very familiar with but I disagreed with him but because he was in the position he was in, not that I would have challenged him. (IPM1)*

Personality clashes were not mentioned, which was unexpected, given the nature of the learning, the close quarters in which all actors exist and the personal nature of potential comments and, as discussed in Chapter 5, relevant literature on this topic suggests that personality clashes are a potential barrier to this form of learning.

Although quantitative data has demonstrated that feedback was found to be helpful, some references were made of constraints due to poor feedback, particularly destructive criticism. This was usually defined as that which made the participant "feel bad" (especially in front of patients), if no rationale or evidence was given in support of the feedback, if no clear goals were given or if there was no discussion. For IPF1, feedback given by the supervisor was only one (minor) part of a bigger jigsaw:

> *I feel confident to judge my own level of practice, but I feel it came from years of bedside nursing experience and not this individual experience. (IPF1)*

Similarly, time constraints, particularly those of the supervisor and restraints on the amount of time available to undertake or repeat practice, were mentioned but were not a major feature of the learning, perhaps because the use of supervisory teams meant that the total availability to expertise had been increased.

However, one of the most significant constraints on development found was the participants' dependence on their supervisor, particularly to guide and control the

learning and learning environment, although the participants did not identify this as a constraint. In fact, IPF7 felt her supervisor deficient in this regard:

> *Two of the girls were doing their modules with me – the same modules at the same time, one other girl was and she was going out to the GPs and he seemed to be really doing a huge amount with her and was really, really good and was an excellent teacher and I felt she's gaining more insight and knowledge ... she will say "he's told me to look at this, for the, you know" he's drawn out some things and he just seems to be excellent. (IPF7)*

IPF1 appeared to be appreciative of this close control:

> *If I had my supervisor with me. I'd be fine. If I had my expert there saying "I want you to do this, right IPF1, you seem to have missed that", or, you know, "that wasn't quite right", cause that's what they're still doing with us and it just helps that consolidation and again, it's all about patient safety ... Yes. It's [close supervision by consultant] still there. We're all but finished now but it's still there every day and you're still tapping into it every day and it's just part – it's always been part of the critical care ethos if you like. I don't know if it was in a different type of setting, I'm sure it wouldn't be there as prominently as it is but you work in such close quarters with these people anyway it just becomes part of the conversation, part of the kind of ethos of how you operate. (IPF1)*

Similarly, IPF3 is bound by what the doctors are guiding her to do:

> *I tend to think if I was looking, examining those [patients] I would be with the doctors anyway so I don't worry too much about the skills that I don't have ... I haven't, I haven't asked for any dummy runs on anything ... they don't have a doctor based in the A and E department, ehhm, they're always called by the ENP if they're required and so it's patients that I would watch them doing. (IPF3)*

IPF2 notes the close supervision:

*IPF2 And we were, literally assessed every single day and somebody went behind you and fed back whether it be your mentor or one of the senior trainees and whether, in their opinion what your assessment was correct.*

*DF Are you still in a trainee capacity in your role?*

*IPF2 Yeah – I'm at the end of it. And even now I would still, ehhm , if I was on the ward round and unsure of my findings I would still get the trainees to say that they agree with that but I think that ninety-nine percent of the time, yeah, it's right and what I've found is right.*

It seems that there is comfort in knowing that there is back-up available and it is questionable whether this is helping to form judgement or actually militate against it, further discussed in the following chapter.

*It's more like, what I was saying, independent assessments outwith is something that will come, it's not that no-one has said I can't do it, it's just that at the moment from a professional standpoint, I'm very aware that's me out in an unsupervised limb and I'm not ready to take that on yet, although some of my colleagues are doing that in a reduced capacity. They are going out and seeing patients in the wards and stuff like that. I don't think I'm there yet – don't think that's me but that's something I want to pursue – it's not a brand new, not a different skill. Like you said – a different clinical area. Going in blind, if you like, without the safety blanket of a patient who has previously been assessed, admitted, completely clerked in. Do you know what I mean? That's where the real test of a good assessment comes in, if you can do it on a patient that's cold, just in the door. (IPF1)*

and

*Some of the more complicated, difficult patient assessments ...I would see them and I would maybe start off history and write it but I know that I ... would do it in order to continue my own learning but I know that I'm not going to be the only person that's going to be assessing this patient and that's important. (IPF2)*

Very closely allied to this control of learning by the medical staff was the willingness of the participants to seek help and "know their limitations", referred to by IPF6 (above) as "stepping over a line". This sentiment was referred to repeatedly by the interviewees and became a dominant issue. IPF5 makes multiple references to help seeking:

> *If it was an emergency situation then I felt I couldn't properly, hadn't done the examination for a period of time and I wasn't confident then I would just have to get somebody else to do it ...*
>
> *I would either make sure I knew what it was or I would go and ask somebody "would you come and examine here because I don't know if I've picked this up properly?"....or, so, I don't know if that's relevant ...*
>
> *I think sometimes if you actually come across something unusual that you weren't expecting. And you didn't actually know how to explain it. Then I'd definitely go and get some assistance with it or remind myself in some way of "Right, so what's normal here?" (IPF5)*

IPM2 was more direct:

> *Oh yes, I would definitely call through. If it was beyond me experience-wise or training-wise I would pass it over to somebody more experienced – give the doctor a shout and tell him to get his bum up here. (IPM2)*

IPM3, the interviewee who demonstrated most confidence and self-assurance in his practice, voiced help seeking, but in a learning capacity:

> *So I would immediately get someone with more experience than myself to come and manage that situation but also use it to teach me so in the future, if that situation were to arise again I would be up to date in what is probably best practice to manage that situation. (IPM3)*

This interdependece between the tight control of the supervisor and help-seeking behaviour is, perhaps, best summed up by IPF3:

> *I work unsupervised, I need to be aware of my limitations at all times and recognise when to refer to a GP either for advice or to take over a case. Reflecting on individual cases with my supervisor, he would take me past my level of competence, advising next stage of investigation, treatment etc. but always advising a low threshold for contacting GP for advice." (IPF3)*

### 9.7.2 Intuition, confidence, lack of confidence and confidence to know limitations

Given the prominent role within nursing theory and discussion on the role of intuition in practice development, it may have been anticipated that the notion of intuition would have become a dominant theme. Only one participant directly referred to the notion of intuition, which may indicate the level of development of these participants and which will be further discussed in the following chapter.

> *I think I come from an experienced nursing background and fifteen years in intensive care gives you a lot of intuition. (IPF1)*

However, germane to intuitive feelings are feelings of confidence in one's actions and it is worth noting that, in this analysis, there are almost equal numbers of expressions by participants of having confidence in their judgement as having a lack of confidence in their judgement. From much data on this theme, participants stated confidence thus:

> *Over several years, I have gained confidence with reflection on my level of practice and on peer review have agreed with one another. (SPF17)*

and

> *I feel confident that I can assess my practice and know when a situation was handled correctly or if there was room for improvement. (SPF5)*

And lack of confidence thus:

> *There are areas of my practice where I feel I may be overestimating my abilities due to my depth of exposure as a bedside nurse. I have to remind myself that I am now in a different role with different responsibilities. (IPF1)*

and

> *I feel I am confident in my own abilities and within safe limitations, the problem [I] have is once learning new skills being confident enough with my own ability to trust my judgement. (SPF18)*

However, this disconnection between confidence, lack of confidence and judgement is captured in the concept of "having confidence to know limitations", a sentiment that was expressed by 28 of the participants. It is a moot point whether this actually demonstrates confidence in judgement or whether this demonstrates confidence in the participants' secure and controlled environment, a proposition which is further developed in Chapter 10.

Once again, from a plethora of data on this theme, typical of this position is SPF7:

> *I am confident in my own practice when carrying out clinical examinations in my workplace and am aware of my limitations. I will always ask for advice from colleagues if I am unsure of anything. (SPF7)*

And from SPF16:

> *I am happy to judge my own level of practice and am happy to seek guidance and support from my work colleagues and mentor. (SPF16)*

From IPF4:

> *Very confident and competent in my clinical field and am fully aware of my responsibility to acknowledge, accept & stay within my boundaries of safe practice. (IPF4)*

And lastly from IPF3:

> *I am confident in my abilities and very confident that I recognise my limits and know when to ask for assistance. (IPF3)*

These themes are summarised in Appendix 7 which indicates the frequency of reference to each issue. This indication is the total number of references, and the importance of each theme for each participant varied: this is not intended as a statistical test or other proof. It should also be noted that these references are not mutually exclusive, that is, some data has been coded against more than one node if relevant.

## 9.8 Relationship of themes with demographic data

Qualitative data does not seek to quantify and the use of quantification in qualitative data should be used with caution. However, looking for recurrent themes gives an impression of the relative importance of the concept or topic to the participants and trends may be identified. For this reason, the demographic data downloaded from the survey was matched with each of the themes and some examples of this as pictorial views of *demographic vs. theme* can be found in Appendix 8. Visual inspection of this representation suggested that the themes were universal across all demographics with the possible exception of references to confidence/lack of confidence and gender. However, it should be noted that this is an impression of the data and is interesting to note, although no further analysis of this can be made in the context of this study.

*Participants who volunteered for interview were contacted for follow-up semi-structured interview, with a final total of ten interviews undertaken. Themes were identified from transcribed interviews. Participants demonstrated a wide range of recognisable learning strategies while working with supervisors although the context of the learning has been shown to be of overarching significance to the learning of these participants, particularly with regard to development of confidence.*

*In the following chapter, the research strategy is revisited and its strengths and limitations discussed. Analysis of all data in the context of a mixed methods study is made.*

# Chapter 10: Discussion

*This chapter revisits the epistemological stance of this thesis and the extension of this into the theoretical framework utilised to construct the discussion. It discusses the merit of this stance and framework in developing a research approach and in drawing conclusions from the data provided. The discussion then examines the generalisability and credibility of the findings, and the strengths and limitations of this mixed methods research.*

*Key themes of "Learning from experts" and "The context of learning" have been drawn from this theoretical framework, the data collected and the analysis of the data. These themes are discussed with reference to the literature and data collected.*

## 10.1 Reassessment of theoretical framework

This thesis seeks to explore how feedback from a supervisor is used to develop and sustain skill in a group of nurses. The epistemological stance in which this enquiry was placed is that of social constructivism, that is, the interaction between the individual and the context in which she is placed is the basis of knowledge construction. Within this stance, two main strands of theoretical framework were utilised, the first of which is Vygotsky's concept of the ZPD, as it relates to both the individual and the society in which the person is placed and the role of the more experienced peer in development within the ZPD. The second main theoretical strand was the emerging theory of sustainable learning, that is, the educational strategies that we put in place today will have an impact on the future learning of the learner and, in the context of this study, as this relates to skill learning and development. These two strands are not incompatible, and nor are they incompatible with social constructivism, but are conceptually linked.

Literature on professional skill development, mainly drawn from nursing and medicine, demonstrates the importance of this to the healthcare professions and this was placed in the context of the above theoretical framework, specifically exploring the development of skill of a group of nurses who have been facilitated in their

learning by experts. Although there have been a large number of studies undertaken into the efficacy of the changing roles of health professionals and into the nature of skill development, there have been few that specifically look at how skill is learned from experts and the sustainability of this learning, and this thesis adds to this knowledge base. Judgement is brought to bear on these participants and the effect this judgement may have in the long term, as well as in the short term, has been the focus of this study.

This literature depicts an educational environment for the participants that is bound by tradition yet is undergoing upheaval, driven by political and social changes largely outwith the day-to-day control of these participants. The nurses concerned are learning skill in order to take on the role of a traditionally more dominant and influential professional group, the doctors, who often act as their supervisors. Whereas this parallel emerging professional theory was not considered to be a framework for the thesis, it became increasingly important to the analysis of the data and the discussion. This demonstrates the strength of the ontological position, since awareness of the impact of context from the outset added a specific professional dimension to this thesis. It must be acknowledged that this recognition of the importance of the professional context may have introduced bias to the analysis since this thesis is written by someone who is embedded within this context and is not a neutral observer, and cognisance was taken of this throughout. It was necessary to examine not only what had been said, but also the reaction to this, in order to protect against bias in the analysis: as is discussed below, the overwhelming strength of opinion of the participants was surprising and this is the factor which drove the analysis. It was a source of surprise, and initially some irritation, that the participants offered little overt criticism of either the experts with whom they work or the context in which they are learning, since some debate around these issues may have been expected. At first, and particularly with the qualitative data obtained in the survey, this was found to be best unhelpful and, at worst, that a complete miscalculation had been made with the line of questioning. But lack of criticism became a critical point in the analysis and key to interpreting the data: the strength of voice could not be disregarded.

The above theoretical frameworks were extremely useful in helping to keep a clear identity for the thesis and the discussion. However, the nature of social cognition and sustainable learning is such that it is, almost by definition, essentially a set of dynamic and long-term ideas. The notion of development over time and the sustainability of development is fluid and it was necessary to attempt to isolate learning at one point in time and, using these frameworks, project into the future. This was a difficulty in the development of the study and it was necessary to extract some key associated ideas and use these in the questioning in order to gauge how the learning of these participants has and is developing. Valsiner and van der Veer (2005) identified the difficulties in researching the dynamic nature of social cognition and this thesis adds to this body of research.

## 10.2 Methodological rigour and credibility of the study

This study adopts a mixed methods approach in order to answer the research questions posed. An initial internet-based survey was used to collect both quantitative and qualitative data, followed by semi-structured interviews in order to expand upon issues raised. According to Niglas, Kaipainen and Kippar (2008), the challenge for mixed methods research is to combine statistical tools with more interpretive approaches in order meet the aims of the study and, as was discussed in Chapter 6, the reasons for undertaking this study by this means were to develop a more complete picture of the situation by using different forms of complementary data to answer different questions, to attempt to offset the strengths and weakness of each type of research method and to assist in sampling. This chapter uses all the available data in order to develop discussion themes, make inferences and develop a wider analysis.

In summary, the population of 95 individuals in this study were all nurses, drawn from a wider population of healthcare professionals, mainly from secondary care settings, within specified Health Board areas in Scotland and who had successfully completed a course of education in which skills were developed in clinical practice with the aid of a supervisor. Their mean length of service as nurses is 15.56 years, they have worked in their current clinical area for a mean of 5.57 years, and 10.6% of

them are men. Some of the supervisors of the participants were doctors and some were nurses, with the nurse supervisors likely to be women and the doctors likely to be men. The participants in this study spent an average of one hour per week with their supervisor, with 54% having been supervised by senior doctors who were not their managers. This figure was extended to 70% for the interviewees.

The gender of both the participants and the supervisors was an area of interest since it has been noted that nursing is a traditionally female profession (Fagin & Garelick, 2004), with medicine traditionally male, all of which has been thought to influence the socio-professional context of this occupational stage, and in terms of gender distribution, this sample reflects the nursing population at large (Nursing and Midwifery Council, 2008b). In terms of mean length of practice of the nurses, no national statistical records are kept that demonstrate the length of registration of nurses although it can be stated that 63.3% of nurses in the UK are over the age of 40 (Longley, Shaw, & Dola, 2007). It cannot necessarily be inferred that nurses who are recently qualified are under 40 but it can be deduced that nurses who have been qualified for 16 years are over the age of 36 which suggests that, in this regard also, this sample approximates the national population of nurses. It may have been prudent to ask the age of the participants as well as their length of service as that would have given a better estimation of correspondence to the national population of nurses, although for this study the point of interest was in how long the participants have been socialised into the professional milieu and not their age. Another point of missing data may be considered to be the length of time that the participants had been practicing since finishing the course. This may have been interesting to note in terms of both their confidence and development.

Similarly, for the length of time participants have spent within the practice area, there are no national statistics but RCN Scotland (2010) show a nursing workforce which is becoming increasingly static and showing decreasing levels of turnover and which is, on one hand being remodelled to take on “advanced” roles and on the other is being replaced by non-registered staff. The participants of this study are relatively new to their practice area (in relation to their length of service in nursing) which demonstrates dissimilarity to the national trend, although qualitative data has

revealed that some had been practising for many years as nurse practitioners and were now undergoing training for the role, whereas others had been employed and trained for the role straight away. This complex picture reflects the diffuse agenda which exists for this remodelling, with lack of standardisation of kind and content for either education or practice requirements (Fotheringham, Dickie and Cooper, 2011). This data further demonstrates that nurse practitioners are being developed in all areas of practice in Scotland, although the participants in this study are drawn primarily from secondary care in semi-urban environments.

In relation to the qualitative data derived from the interviews, the trustworthiness of this data must, likewise, be discussed. The first issue which should be referenced is that here, too, there was a general uniformity and pattern in perceptions and responses, although there appeared to be somewhat more disagreement in this data than in the quantitative data. The self-reported benefits derived by the participants may not be borne out by longitudinal analysis, a key conclusion of Bowman (2009) in his study of first year students and one which reinforces the above conclusions of the difficulties in researching a fluid situation.

Therefore, in terms of the generalisabilty, trustworthiness and credibility of the results, it may be concluded that the survey sample has some characteristics which are typical of the national picture for nursing practice and some which are not, although making generalisations on a fluid and patchy population would be difficult in any circumstances. Ultimately, these characteristics will be judged on dissemination of these results and the attendant discussion and conclusions.

Discussion on generalisabilty is not merely confined to reliability: validity must also be considered and it must be asked if the quantitative data is valid. The overwhelming uniformity of the response to the questions in the survey related to satisfaction of feedback must be commented upon since valid results must be able to distinguish between concepts and individuals as well as predict future results (that is, have discriminant, concurrent and predictive validity). There is little standard deviation and the high correlation coefficient may lead to questions over the nature

of the questions asked and the manner in which they were posed: in other words, are the survey results an artefact of the questionnaire?

The decision to word all the questions in a positive manner may have led the participants to answer in a response set, both conceptually and spatially, which is a limitation of this study, although as has been discussed in Chapter 7, a different set of limitations would have been imposed had a different questioning strategy been used. Further, DeVaus (2002) states that one method of detecting acquiescence in surveys is to set questions which are contradictory and check for agreement between these items, although with such a low and inconclusive response to the pilot, the uniformity of response was not apparent in this small-scale study.

It is possible that the participants are demonstrating acquiescence; in this case they are acquiescing to their colleagues in clinical practice and showing reluctance to say, even by implication, that their colleagues are anything other than expert practitioners. Given that this was a confidential and anonymous survey, the opportunity was available for participants to offer their views and perceptions, although only one survey respondent offered a contrary view. This respondent offered qualitative data within the survey to demonstrate that hostility from either the supervisor or the wider team did exist and this was supported emphatically by qualitative data from other interviewees, a data set which has become important in this study. In other words, the adoption of a different and complementary data collection method to that originally used has gleaned balancing data which suggests that the learning environment was found not to be uniformly positive which led to a situation which diminished the usefulness of the feedback. This demonstrates the usefulness of a mixed methods approach to data collection, which reinforces De Vaus's (2002) view that there are benefits in using a different form of data to supplement that of survey data.

It should be noted that the use of the word "always" in questions 17, 18 and 19 may be seen to be what DeVaus (2002, p. 99) refers to as a "dead giveaway" and it may have been prudent to avoid this absolute terminology.

Each of the responses to the scale items in questionnaire had a low discriminative power, which indicates that the scale can only weakly discriminate between

individuals (Robson, 2002). This could be for several reasons: firstly, the participants do, indeed, hold uniform perceptions or, alternatively, all the outcome variables are actually measuring the same quality. The outcome variables were devised in order to correspond with principles of good feedback and visual inspection by colleagues suggested that the items did measure different properties. Due to this low discriminative power of the variables and the high Cronbach's alpha value reported in Chapter 8, an alternative statistical analysis was considered, namely the formation of a "Good Feedback" scale that incorporates all measures of good feedback into a single score per participant, and a relationship was sought between this new outcome variable and all the predictor variables. This alternative analysis was rejected on the grounds that the analysis presented in this thesis offers a fuller and more detailed view of the perceptions of the participants and, besides, it was not the purpose of the study to develop a scale, although that may be a consequence if the scale is validated. This alternative statistical analysis is presented in Appendix 9 for the purpose of completeness of this thesis.

It must also be noted that it was sometimes apparent that the participants may have been keen to impress me or keen to reinforce the fact to me that they are expert and experienced in their field of practice. This may be the case since I had been their teacher and Programme Leader (in some cases) and I was aware that sometimes the participants were looking for the "right answer". This reinforces the notion of the power imbalance in interviewing, not just in terms of the responses but also in the dynamic between interviewer and interviewee. The uniformity in response to interviews may also be a result of the convenience sample derived: the participants who offered themselves as interviewees may have had extreme views and this limitation should also be noted.

All the above comments notwithstanding, the utilisation of a mixed method design was a useful strategy in helping to realise the objectives of this research. The planned use of an explanatory strategy was in part successful since each strand brought with it strengths, challenges and weaknesses. At times each data set served to reinforce and explain the other and at others times contradict each other, and both sets of circumstances helped to enhance the eventual interpretation of the data. Therefore,

the stated aim in Chapter 6 of adopting a mixed methods approach *"to enhance the data, for completeness and to facilitate sampling and ... to offer a more complete picture in answer to the research questions and help offset the weaknesses of the other"* was generally met, and helped to focus the following discussion and analysis.

## 10.3 Discussion and analysis of findings

In studying the way in which the participants of this study have learned skill, two major themes for analysis emerged, each of which was subdivided into two subthemes, and each of these subthemes will be discussed and analysed in turn.

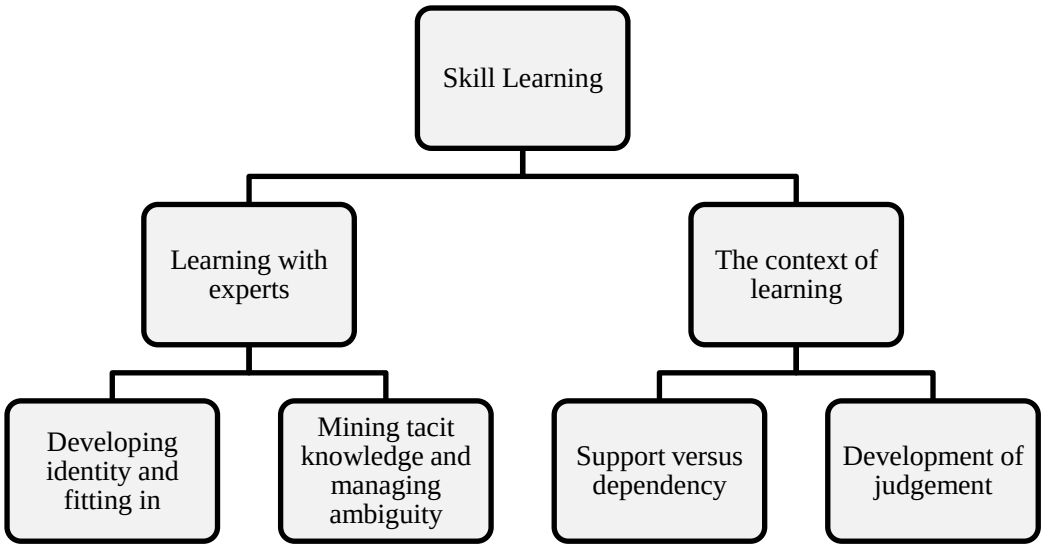


**Figure 4 Map of discussion themes**

### 10.3.1 Learning with experts – developing identity and fitting in

Expertise is an ethereal quality in an individual: the clear demonstration of a schema specific set of skills and associated cognitive cluster are important although the acknowledgement of this expertise by others is also vital, a factor which is dependent upon several features, including the portrayal of the individual as an expert and the acceptance of this portrayal (Sternberg, et al., 2000; Cantillon & Sargeant, 2008; Cusella, 1982; Collins & Evans, 2007). This perception and acceptance of expertise

largely relates to personal stance and beliefs (Kahan, Jenkins-Smith and Braman, 2011) and in validating beliefs about self (Shrauger & Schoeneman, 1979).

Quantitative data obtained in this study has demonstrated that overt demonstration of the expertise by the expert is the overriding factor in the perception of "good feedback", correlating with all measures of "good feedback" by the participants of this study. In addition, the perception of expertise correlates with three of the nine measures (Table 5) and these relationships are reinforced by the statistical inference that the length of time that is spent with the supervisor is not related to any measure of perception of the quality of feedback, suggesting that the perceived quality of the supervision outweighs quantity. This quantitative data is supported by qualitative data obtained where the experience, the expertise and skill of the supervisor are constant and recurrent themes for many of the participants (Chapter 9.6.1). This latter dataset adds another dimension; it is often apparent that the very status of the supervisor is enough to bestow the title of expert, with this seldom questioned (for example, IPM2, Chapter 9.6.2) which suggests that, for these participants, status, position and title are all hallmarks of this expertise. The ability to demonstrate skill and to verbalise this expertise to others has been the fundamental definition of both connoisseur and expert, outlined by Eisner (1976), and the participants' supervisors would appear to be both of these.

These findings notwithstanding, clearly variation in the level of expertise exists within any population or community (Kahan, Jenkins-Smith and Braman, 2011) and it cannot be assumed that the knowledge and skill of all the supervisors involved in this study are universally even, although the participants in this study do appear to be unquestioning of the expertise of the supervisor and the only exception to this wholesale view of the level of expertise of the supervisors is that of IPF6's acknowledgement of "*bulls*^t"* (Chapter 9.4.4). This raises the issue of why this may be the case. Shrauger and Schoeneman (1979) have demonstrated that the ready acceptance of the opinion of a high status assessor helps to form high status concept of self and, therefore, in the context of this study, the acceptance of feedback from supervisors who are perceived to be high status helps to form the participants' attempt to develop a high status identity, an identity which seemed of significance to

this group. This interpretation is, certainly, reinforced by the qualitative data that repeatedly makes reference to not just the status of the supervisor but also to participants' own status (Chapter 9.6.1); the feedback is acting to reinforce self-identity and the cultural position of the group (Kahan, Jenkins-Smith and Braman, 2011; Swann, Chang-Schneider, and McClarty, 2007). Therefore, it would seem to be the case that feedback within the context of this learning is not only concerned with the development of skill but also has a role to play in the professionalisation of this group (Schrock, 1987), with their aspirations of status reflected in the status of their supervisors.

For these participants, recognition of their expertise by others is something which has to be striven for, as emphasised by many of the participants at 9.6.1. Without title, historical status or the world view of others of the high status of nursing activity (Fagin & Garelick, 2004), recognition is likely to be a challenge and the demonstration of skill is the means by which status may be conferred. Some parallel may be drawn between the conclusions here and those of Stockhausen in 2004 where, in her study into the learning of student nurses, the students learned the trade by working with registered nurses whom they held in high esteem and, in so doing, constructed a personal and professional identity. In this study, the struggle for the recognition of the expertise of the participants may be a reflection of their struggle for their identity as an occupational group, sitting between doctors and nurses. The qualitative data at 9.6.1 reveals that the interviewees discussed, almost exclusively, their interaction with doctors, whether or not their main supervisor was a nurse, and little mention was made of nursing expertise *per se*. No statistically significant relationships were found between perception of expertise and role, occupational grouping or gender of supervisor: the occupational expertise for these participants straddles both groups and they looked to both groups for guidance (Table 5).

The aspiration to be held in high esteem may also be reflected in situations where it was perceived that feedback was unhelpful. This occurred when the feedback given questioned the authority or expertise of the participants (particularly in front of patients) or if they were otherwise perceived to be disrespected, for example if little or no reason was given for the criticism, the criticism was delivered in a manner that

was perceived to be unpleasant or if little discussion has been allowed, as voiced by IPF7 (Chapter 9.7.1). This interpretation correlates well with the conclusions regarding poor feedback reached by Clynes and Raftery (2008) and Straub (1997).

This analysis, whereby acceptance of feedback from the supervisor is related to the participant's personal and professional self-concept, may lead to the expectation that those supervisors who share a participant's view of their practice would be seen to be delivering the best feedback; but this was not found to be the case in the quantitative analysis (Table 5), an issue which will be further explored below.

Participants of this study saw their learning as a highly social activity, reinforcing the view of Palincsar (2005) and social constructivist theory. IPM3, IPF5 and others (Chapter 9.4.4), mention the value of discussion with peers and supervisors and these were seen as important aspects of their development. Quantitative data demonstrated that participants perceived that their views on both their practice and their development had been sought, although the qualitative data did not always concur with this. Some participants had to find this conversation (Chapter 9.7.1 particularly by IPF6 and SPF13), and sometimes this took place with peers and not the supervisors. Occasionally, this discussion was incorporated into a participant's learning by semi-formal or formal "time-out" interactions, as illustrated by IPM3 (Chapter 9.4.2), and sometimes it was conflated with other interactions such as case reviews, formal development sessions and social or quasi-social interaction.

This interaction also had the consequence of allowing the expertise of both the participant and the supervisor to be demonstrated as well as giving the participant the opportunity to be acknowledged and be incorporated into the social milieu, which reinforces the conclusions of Melia (1987) who showed that, in the context of learner nurses, as skills necessary for the job are developed, so are the skills of "fitting in". An analogy was drawn in Chapter 4 between apprenticeship or Craft Guilds training and the learning of the participants in this study. Epstein (1998) discussed the social and aspirational nature of skill learning, although it is a moot point whether the society that the participants are seeking to join is the same as that which the doctors

are inducting them into and so the analogy is limited since the point of development is neither nursing nor medicine but a new social order.

Since the supervisors in this study act as the assessors of the participants for part of the assessment process, a final point of analysis on this issue is that an association may be made between the credibility of the expert, the acceptance of the feedback and the validity of the assessment process for the participants: the criticism of the practice of the supervisor by the participants may imply that both the development of the participant and the judgement made on the participant are less than exceptional, with a consequent implication on the practice of the participant.

### 10.3.2 Learning with experts: mining tacit knowledge and managing ambiguity

As discussed at 9.5.2, the participants of this study were learning in the presence of experts but for much of the learning experience, this responsibility had been delegated by the supervisor to someone else. Therefore, the judgement brought to bear on the participants was not from one potential expert source, but from many sources, which raises several issues for the learning and assessment of these participants. Survey data sought the perception of the participants of the expertise of the main supervisor and, therefore, the statistical analysis presented here cannot necessarily infer the perceived expertise of the supervisory group, although from the qualitative data, it may be inferred that the expertise is, indeed, that of the entire supervisory group.

Hounsell (2007) noted that tacit knowledge can be transmitted by means of demonstrations, discussion and peer review, all of which feature significantly in the dialogue of the participants in this study (throughout Chapter 9.4.1). The opportunity to see things from the perspective of someone who knows, that is, the connoisseur, and learning their tricks of the trade, having the rare privilege of drawing upon years of experience and seeing the shortcuts, has exposed the skills in question in ways that the participants did not expect (Chapter 9.4.2). In this way, giving an insight into seeing practice or the skill as the expert sees it – by entering the expert's world – the participants are given a novel perspective of the purpose of their skill and often the means by which the skill should be performed, which leads to a potentially rich

educational environment and one in which both formal and informal learning can thrive. This would, certainly, correlate well with Hounsell's (2007) ideas of the use of both intrinsic and extrinsic feedback to learn and develop.

The value of tacit understanding as a means of learning can be seen in relief in situations where this could not happen. For one participant, IPM2 (Chapter 9.7.1), this tacit knowledge had to be picked up almost by eavesdropping and, for him, it would appear to be the case that occupational socialisation was difficult to achieve since these comments went along with others which suggested that the supervisor was mechanically observing practice and was disinterested in the individual and the role. For one other participant, SPF13 (Chapter 9.7.1), the reluctance and disinterested stance of the supervisor meant that she (the participant) had to pick up skills and understanding where she could, giving an overall poor appreciation of the role. Here, as in other situations, it would be interesting to have an insight into the perspective of the supervisors.

The above comments notwithstanding, the use of heuristics by the expert to informally instruct the novice as a useful learning strategy should be considered. Since the development of rules of thumb depends upon experience (Cioffi, 1997) it may be assumed that these rules are specific to particular experiences and are, therefore, specific to an individual expert. By extension, experience cannot be transferred to the novice and they must develop their own rules through their own experience, *en route* to connoisseurship and expertise. As has been discussed above, the professional end point of this journey is unresolved and it appears that the tacit understanding being transmitted is that of medicine and not nursing. Stockhausen (2004) asserted that, in the process of developing identity, the tacit understanding of nursing is important if, that is, this can be considered to be a nursing journey.

Further, as has been discussed, Tversky and Kahneman (1974) have shown that these shortcuts can lead to errors, and since few of the participants actually question the expertise of their many supervisors, absorbing shortcuts that are assumed to be worthwhile may be considered to be a poor learning strategy. The analogy of learning to drive from a supposed expert (for example, your dad) illustrates the

questionable use of bad heuristics as learning strategy. There are many confident yet incompetent drivers on the road, perhaps those that have learned enough scientific information to pass but failed to a develop wider understanding and reasoning (Kruger and Dunning, 1999) who are at liberty to pass on their "tricks of the trade". In the context of this pedagogical model, this certainly raises the possibility of a multitude of experiences and views being transferred to the learner that could, potentially, confuse and this issue has revealed the fact that expert judgement has been used as part of an overall strategy in the development of the participants' judgement. Somewhat surprisingly, being confronted with a multiplicity of ideas did not confuse the participants and, contrarily, it was this difference of opinion that helped them form their own ability to judge, with every view taken on board (Chapter 9.4.3). When ambiguity arose from the experts, the participants invariably looked for explanation in order to understand.

The lack of experience in the skills in question by the participants led to an understandable and inevitable lack of tacit understanding or use of heuristics of their own and in times of confusion or uncertainty, rules and reasons were sought for why a skill is performed in a particular way. They acknowledged that there is more than one way to perform a task – "*it is not an exact science*" (IPM2, Chapter 9.4.4) – although they relied on the text-book account of how the skill should be performed: although the skill had been practised previously, they were loath to trust their judgement and opted to go back to the text (IPF5 and IPF7, Chapter 9.4.4). Similarly, if new skills were being practised or if the participants felt that their skills were degraded through lack of use, the participants invariably turned to theory or evidence (along with discussion) to explain the actions, which suggests that the participants were, indeed, developing skill and not competence (Seidel, Perencevich, & Kett, 2005): as cognition develops, so does skill and it seems clear that for these participants it is this parallel development of skill and cognition that is necessary to develop judgement. The participants required experience to learn but going hand in hand with this is good feedback from various, supportive sources and parallel cognitive development. Feedback is one part of the jigsaw and reinforces Sadler's

(2010) conclusions that feedback on its own cannot form the judgement of students – the overall picture is more complex.

The participants utilised the entire supervisory team to mine tacit understanding of the skills in question and utilised the close, sometimes almost personal, contact with expertise and judgement discussed above to interact with it. This gave them the opportunity to access the thinking process of the expert and further develop the skill of occupational socialisation, fostering a feeling of being part and parcel of the occupational group (Chapter 9.5.2). It is also worth noting that the participants appeared to actually enjoy the process of learning and the challenge of changing roles, as evidenced by the statistical observation that no measure of the perceived usefulness of feedback was correlated to length of service as a nurse or length of service in the current area (Table 5). The challenges and opportunities to learn and develop were perceived equally by all participants.

Since the supervisors were also the eventual assessors of the participants, the fact that the judgement of more than one supervisor is brought to bear on the participants could be, in this regard at least, a strength of the learning process, since this may act as a source of informal triangulation which supports the conclusions of, for example Shaneyfelt, et al. (2006) and Lurie, Mooney and Lyness (2009), given that judgement assessment lacks the reliability and validity of scientific assessment.

### 10.3.3 The context of learning: support versus dependency

The process of skill learning undertaken by the participants of this study is firmly rooted in the tradition of work-based and on-the-job skill development. Learning as "part of the job" has been an accepted means of learning since the 14$^{th}$ century (Epstein, 1998) and continues today, typically as part of apprenticeship learning (Kvale, 2007) although, in contrast to traditional models of skill learning, the participants in this study have developed their cognitive abilities alongside their skill. In order to learn, they have relied upon a complex combination of theory, demonstration, tapping into tacit knowledge, discussion, trial and error, peer support, the collation of differing views and opinions, with the anticipation of the formation of judgement.

The accepted process of development of skill can be observed in these participants: for most of them, their learning involved asking questions of the task at hand and looking for explanations, and they can clearly be seen to be taking on board instruction and feedback and are prepared, at this stage, to try out new ways of doing things, demonstrating behaviour typical of the cognitive stage of development (Fitts and Posner, 1967) (Chapters 9.4.1, 9.4.3 and 9.4.4). At this stage, they are consciously incompetent and exhibiting the characteristics of the novice or the advanced beginner, that is, they have learned enough to be aware of what they do not know and having their eyes opened to this fact has been a revelation to them (Chapman, 2010) (Chapter 9.4.2). Regardless of how long the participants had been practicing as nurses, the fact that they were relatively new to the work they were currently doing meant that they were, generally, at the stage of developing skill and habit in that skill although, for a few, difficulty in changing practice was voiced (IPF1, Chapter 9.7.2). Viewed from a different theoretical perspective, that of apprenticeship theory, the participants' skill development can best be associated with the stage of modelling and coaching, where the expert is demonstrating the skill, talking through the task, giving encouragement and passing on the tricks of the trade as the learner practises in a safe environment (Billett, 1994; Hansman, 2001).

Transition to the next stage of development, the associative stage, should follow after an unspecified amount of time, and the participants of this study had learned and practised the skills in question for between six and 18 months. Skill development theory would dictate that learners exhibiting action typical of this stage would know how to carry out the skills and apply them in context, would make fewer mistakes, but may still require to "think it through" (Fitts & Posner, 1967). In other words, the learner is consciously competent and can plan around the task in context. In terms of apprenticeship theory, scaffolding and fading occurs, that is, more distant support is offered and cue giving becomes less frequent, although is still necessary (Billett, 1994; Hansman, 2001). For the participants in this study, some of these characteristics are demonstrated in some of the participants (IPM3 and IPF3, Chapter 9.6.1), although all of them continue to voice the need for cues and reassurance with varying degrees of confidence (Chapter 9.7.1). For some of the skills under

examination, most notably those which are not part of the regular working routine, none of the participants have confidently entered this stage of development, and skills degradation has already occurred (Chapter 9.4.3).

Finally, the above theory dictates that the skills become automatic, habitual or intuitive, a stage which can be equated to unconscious competence, in which the skill can be performed confidently in various settings without supervision or coaching. None of the participants exhibited this stage of development, all requiring supervision despite some of them having practised as nurses for many years, and few were able to see the skills outwith the immediate context or to generalise the skills in question to other situations.

As literature on skill development reviewed in Chapter 4 has indicated, there are two fundamental presuppositions for skill development, regardless of the framework in which it is placed, namely the presence of a skilled other and opportunity to practise and develop. Both qualitative and quantitative data gathered in this study suggests that the former is in place: the value of the experience of the expert could be seen to be enormously important to the participant and the value of the expertise is not in doubt. What is also not in doubt is the esteem in which the expertise is held and the value of the insider knowledge, and there can be little doubt that the participants feel generally supported in their learning.

However, with this support comes the terms and conditions of the supervisor and demands of the workplace and the dependency that this engenders. For almost every participant, learning is almost exclusively bound by the demands of the workplace, very often guided by protocol and guidelines, and skill learning was seen as "part of the job" (Chapter 9.5). It is worthwhile restating that it was a prerequisite requirement for attendance on the course that the learning of the skills in question was part of the participants' role as health professionals and, for this reason, the voluntary nature of the relationship between participant and supervisor as a measure of "good feedback" was not specifically explored, although qualitative data that touches on the essence of this relationship was gathered which suggested that the relationship was not voluntary. Examples of the non-voluntary nature of the feedback

are the number in the supervisory team and the fact that the supervisor delegated feedback for pragmatic reasons and not because of participant-related reasons. These observations reinforce Straub's (1997) views on the power relationship inherent in the feedback process, an important point to note with regard to this discussion. It should be noted that although the relationship was not voluntary it did not appear to be threatening, at least from a managerial stance, since no statistical relationship was seen between status of the supervisor and any measure of good feedback (Table 5) and no references by participants were made to suggest that feedback given by managers was destructive or threatening, all of which indicates a supportive learning environment on the part of the participants' managers. These factors may have acted to cause tension in situations where the supervisor was the participant's manager (Clynes & Raftery, 2008).

It was apparent that there was very little evidence of the participants learning, or attempting to learn, anything which was not prescribed by the curriculum or by the employer (that is, the demands of the job) or both, and this context in which the learning occurs was, ultimately, the main determining issue for their learning. In addition to this, learning is dependent upon a supportive supervisor and a supportive peer group (Chapter 9.5.2) and, thus, the learning would appear to be bound by the context in which it occurs. It can be seen that, on one hand, learning is very highly relevant in that it helps to cope with real-life situations and, thus, bears good correspondence with at least one precept of andragogy (Knowles, Holton and Swanson, 1998). On the other hand, the almost complete lack of self-directedness in learning contradicts these principles (Mezirow, 1981).

Healthcare policy in the UK relies increasingly upon a multi-professional workforce, trained to undertake a generic set of skills regardless of the title or role of the employee (Scottish Government, 2007), skills which were once the sole domain of medicine. As the medical staff involved gradually entrust part of their role to nurses (and others), they require, perhaps understandably, the reassurance that they are placing this in the hands of capable professionals and the control of support and thus governance of the learning environment may be seen as one means of ensuring this. In addition to this, it may be argued that control of the learning environment and

control of the knowledge base brings with it control of power (Bradbury-Jones, Sambrook and Irvine, 2008), with an ensuing dependency by the learner on the supervisor, and this relationship between support and dependency must be examined.

What seems to be apparent is that without the support of a wider team, the learning or development of the participants could be stopped in its tracks, particularly if it is perceived that the participant is acting outwith the accepted norm: in other words, if the supportive expert withdraws support, learning is much more difficult to achieve (Chapter 9.7.1). In fact, there was little feeling that the relationship was equal and the support of the medical staff could, it seems, be withdrawn almost at will. Therefore, although the expertise of the supervisor is not in doubt, the opportunity to practise and develop is capricious and dependent upon permission and support. This may mean that it is possible to infer that the participants have not yet had time to practise adequately or, alternatively, it may be inferred that learning has not been given the opportunity to fully develop.

To turn to Lave and Wenger's (1991) interpretation of the ZPD as a societal construct, it may be seen that the "old-timers" (the doctors) are actually compelled to develop the newcomers to a new role, one in which the *status quo* is to be challenged, potentially to their detriment as it may not be in the best interest of this "society" for the status quo to be altered in this manner. The line of least resistance for the participants ("the newcomers") is, in this case, to acquiesce with the tradition of the society and become more like the doctors, perhaps at the expense of their nursing roots. This dichotomy was summed up by IPFI (Chapter 9.6.2), and it may be the case that this feeling of being pulled in two different directions will persist until either the old *status quo* is re-established or a new one is established. In terms of skill development, this is reflected in the observation from the data that the participants remain reliant upon their supervisors – development has occurred within but not beyond the ZPD, both in skill and social development.

The repeated emphasis by the participants on the uniqueness and status of the workplace, the participant and the supervisor (Chapter 9.5.1 and 9.6.1), noted in the findings and discussed above, lends weights to the context relatedness of the

learning. It was often apparent within the qualitative data that support was given to the participant as part and parcel of this workforce (Chapter 9.5.2 and 9.5.3) and may not have been offered to someone who was not personally and professionally established in the role. In other words, by offering this support, the team at large were facilitating the education of one of their own, with a view, perhaps, to a perceived communal good and if this support was not forthcoming, learning did not occur (Chapter 9.7.1) which, once again, supports Lave & Wenger's (1991) societal interpretation of the ZPD. The society is perpetrated through this educational process but if it is perceived that the society is under threat, the process is terminated.

Contrarily, the weakest correlation with any measure of perception of "good feedback" within the quantitative data was that found with the continuation of feedback after the course had finished, which may suggest that supervisors may have thought that their responsibility was to the participants while on the course and not, as the qualitative data suggests, as part of wider lifelong or communal development, with this ongoing dialogue mainly being with peers (Table 5). Van de Ridder , Stokking, McGaghie and ten Cate, (2008) have shown that the purpose of feedback is often unclear to those that are delivering feedback and if, in addition to the noted contention by Knight (2007) that the rules of engagement of the connoisseur are determined by the connoisseur themselves, it may be the case that the supervisors concerned perceive the point of the feedback to have been to aid the participant through the course, and not to enter into lifelong development. Given the nature of the medical-nursing alliance (Fagin & Garelick, 2004), this may be understandable of the medical supervisors, although less so of the nursing supervisors who, it may have been anticipated, would have felt more of a professional investment in lifelong development of their colleagues. This also reinforces van der Veer and Valsiner's (1994) suggestion that there is potential for unhelpful social learning.

### 10.3.4 The context of learning: development of judgement

The learning of these participants appears to be governed and bound by a brittle socio-professional structure, the permissions of fellow professionals and the demands of the workplace, and it must be questioned whether or not the participants in this

study have been empowered to achieve the required skills in self-assessment necessary for the judgement required for sustainable assessment, along with the self-reliance to trust self-judgementsof their skills. Almost every participant who offered qualitative data suggesting that they feel confident about judging their own skill level, also offered the qualification that they are confident about when to seek help, and this is further reinforced by the observation that there have been an almost equal number of expressions of confidence as of lack of confidence (Chapter 9.7.2).

What is not clear, however, is how much of this lack of confidence expressed and help seeking is based on an accurate judgement of participants' actual level of competence: all of the participants have successfully completed the course of study and have, by definition, reached a safe level of practice although confidence is not always apparent, particularly if skills are used out of context. Jansen, Grol, Crebolder, Rethans, & van der Vleuten (1998) noted the mismatch between feelings of confidence and expression of this confidence and Kruger and Dunning (1999) suggest that the unskilled who lack wider reasoning skills consistently over-estimate their abilities, although with these participants it may be the case that they are competent although disinclined to fully acknowledge their skill and level of expertise – the "Kruger-Dunning effect" in reverse.

The above discussion notes that both skill and cognition have been seen to develop simultaneously in these participants and a wide variety of strategies are employed to manage ambiguity and shades of grey. Yet, the participants in this study seem partly disempowered when it comes to acting, making judgements based on the actions, and then trusting the judgements through self-monitoring. A learning environment which fosters in the learner a dependency of the supervisor is unlikely to encourage its learners to develop instinct (Kuiper & Pesut, 2004) and, thus, the participants in this study have been led to a situation where they are developing the "confidence to know when to seek help" and not the "confidence to know what I need to learn" (Eva & Regehr, 2007, Eva & Regehr, 2011). Few saw their limitations as a basis on which to springboard their learning but rather as a justification to seek help. Although the participants must be valued for demonstrating such self-limiting behaviour, it must be questioned at what point help-seeking behaviour and knowing one's limitations

becomes a barrier to acting and, more importantly, developing occupationally and professionally, a contention which reinforces Yeo, Steven, Pearson and Price's (2010) conclusions regarding self-assessment as a means of disempowerment.

It would appear that the dependent context in which learning is taking place directs learning as far as stages 1 or 2 of Gallimore and Tharpe's (1990) interpretation of the ZPD, where the participant can act but not without the aid of someone to show them what to do, and learning is not encouraged either out of context or independent of the supervisor. The skill will never become fully developed and consequently this conceptualisation of learning, which forms a constant loop of development from situation to situation, cannot happen, since it relies on the assumption that the point of development is to become independent of the supervisor.

This lack of independent action, in turn, may relate to both the nature of the feedback given and how it is delivered to ensure the generalisability and transferability of learning (Archer, 2010). As discussed above, no statistically significant was found between "Shared View of Practice" and any measure of good feedback, which does raise the question of whether the supervisors are helping the participants to develop skills of self-judgement, particularly and specifically since this variable did not correlate with "My supervisor gives me new insight into my practice" and any measure of discussion around development (Table 5). If views on the participant's practice differ, then the supervisor would not appear to be using feedback in order to help the participant to make a judgement on her practice and gain a different perspective. It may be the case that the supervisor is using the feedback opportunity to tell the participant what to do, in contradiction to the conclusion made by Sadler (2010), rather than opening a dialogue with them on development. The dominance of an autocratic educational environment which encourages dependence on supervision and decision-making tools would appear to act against the development of adequate self-judgement and control of learning that may be necessary in order to move participants into a stage of autonomous skill development, a necessary prerequisite for skills which are not context bound. Peters (2000) stated that in a non-constructivist (reductionist) curriculum, "Knowledge is seen to be fixed and is the

possession of experts who transmit this knowledge to passive learners" which may describe the circumstances here.

It should also be mentioned that the confusion of accountability noted in Chapter 1 may be acting against allowing the participants to make judgements, since making an incorrect judgement may have far-reaching consequences. However, this is true for all health professionals in all contexts and the "new roles" does not alter these, particular, rules of engagement.

Table 6 presents an outline summary of the relationship between the theoretical frameworks adopted, the methodology and method utilised and the discussion and conclusions drawn and builds upon the summary detail provided in Table 1.

*The epistemological stance and theoretical frameworks adopted by this study formed an appropriate and highly constructive device within which this thesis is formulated. The use of mixed methods for the research design also proved to be efficacious since complementary data from one strand helped to offset weak data from the other and thereby develop an enhanced picture of a complex situation.*

*In the process of learning skill with experts, the participants of this study attempted to fit in with the society in which the learning is placed, and the reflection of the expert is one means by which this could be achieved. These participants enjoyed learning skill and professional socialisation with this group of experts whose expertise is highly valued. Nevertheless, the importance of theory and developing judgement by utilising a multi-dimensional framework has been demonstrated.*

*This learning was seen to be set in the context of a highly supportive yet capricious environment, and much of the learning of the participants is dependent upon permissions. This dependency may be interpreted as inhibiting the growth of confidence in the participants and render the learning context specific. Further, this dependency militates against the formation of judgement in the longer term.*

*The following chapter answers the research questions raised and concludes by outlining the contribution that this thesis has made before outlining future directions for this enquiry and making some personal reflections on this study.*

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| Aim: to explore how feedback from a supervisor is used to develop and sustain skill in a group of nurses and examine the interaction between the learner, the supervisor and the context in which the learning is set. | | | | | |
| Theoretical and Professional Framework: *learner nurse practitioners set in a professionally historically hierarchical environment where boundaries of practice are being challenged. Reliant upon doctors to aid development. Social constructivist framework implies that learning is constructed from the context in which the learning is set.*<br>Zone of proximal development: *what happens within the ZPD is important in terms of skill and social development. Does the ZPD relate to adult development?* | | | | | |
| Themes from the literature | Skill development: *what is being learned? Is it just motor skill? Or wider skill set, including socialisation and professional roles and ways of being? How is expertise used and conveyed as a learning tool?* | | Sustainable development: judgement formation relies upon feedback and self-monitoring. *Is the feedback that they are receiving "good"? What factors may influence this? How do they judge their practice? Are they asking the correct questions about their development?* | | |
| Formulation of questions | How do participants use expert judgement to develop skill? | How is expert judgement conveyed to participants? | What factors are related to the perceived usefulness of feedback? | How is expert judgement utilised to help inform participants' own judgement? | How context specific is the judgement that the participant has developed of their level of skill? |
| Relationship to methodology | Qualitative discernment of methods of communication of judgement by the supervisor. | Qualitative understanding of how skill is developed and how others have impacted on this. | Quantitative analysis utilising feedback pointers. | Qualitative understanding of the formation of judgement by the participants. | Qualitative understanding of how the context of the learning has affected sustainability. |

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| Relationship to method | Interview question 2 (How does the expert actually articulate the level of practice to give insight?)<br><br>Free text responses | Interview question 1 (How dependent are they upon the feedback of one person?)<br><br>Free text responses | Quantitative phase<br><br>Free text responses | Interview question 1 (How dependent are they upon the feedback of one person?)<br><br>Interview question 3 | Interview question 5 (Do the limits and boundaries that the participants are aware of stop them from taking risks?)<br><br>Interview question 4 (If they are in a new role (ie nurses haven't done this before) how does that influence their ability to judge their level of practice)<br><br>Interview question 3 (What about skills that they don't use a lot?) |
| Results | Learning strategies<br><br>Feelings and constraints | Learning as part of the job<br><br>Professional roles<br><br>Feelings and constraints<br><br>Learning strategies | Correlation matrix | Learning strategies<br><br>Learning as part of the job | Learning as part of the job<br><br>Professional roles<br><br>Feelings and constraints |

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| Answer to questions | • recognisable and well-recorded variety of strategies<br>• broader judgement which attempts to exploit the tacit understanding of the supervisor.<br>• Professionalisation and socialisation being developed | • delivery of feedback<br>• group interactions<br>• transmission of tacit knowledge<br>• overt demonstration of skill and status. | • supervisor as an expert<br>• practical demonstration<br>• concerned with the participants' development<br>• demonstrates respect for the participant supported by a wider network within the learning and working community | • feedback<br>• discussion,<br>• peer review,<br>• tapping into tacit understanding<br>• theoretical underpinning | • bound by the requirements of the workplace<br>• bound by dependence upon the support of the supervisor,<br>• context specific in both time and place.<br>• confident to seek help. |
| Discussion | • **Skill development**. Not just motor skills that are being developed:skills of socialisation and professionalisation are being developed concurrently. All skill at early or middle stages of development and not developed beyond the ZPD,<br>**Formation of judgement**. Broad strategy is utilised, including use of feedback, associated theory and social strategies such as discussion and peer review. Also dependent upon mining of tacit knowledge, which reflects perception of supervisors as expert. | • **Seeking identity.** Participants are receiving very good feedback and there is a high association with this and perception of supervisors as expert and demonstration of this expertise. This, along with the association with high status activity and use of tacit understanding, reflects professional identification with what is perceived as and aspire to a high status occupation<br>• **Support vs. Dependency.** Learning largely bound by dependent relationship concerning workplace rules and mores. Dependency and socialisation by dominant group leads to a situation where participants are learning to be confident to seek help but not confident to explore learning needs. | | | |

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| Conclusion | • The learning environment is highly conducive to learning: good feedback, learning with experts who pass on their knowledge and skills to good effect.<br>• The participants are learning more than motor skill: learning to fit in and "be professional".<br>• The nebulous professional identity of the participants leads to learning direction being guided by workplace.<br>The participants' motor and social development are not taken to point of independence of the supervisor. They are learning to be confident to seek help and not confident to identify learning needs. |

**Table 6 Relationship between the theoretical frameworks adopted, the methodology, method and the discussion and conclusions of the thesis**

# Chapter 11: Conclusions

*This concluding chapter reflects upon the extent to which the research questions have been addressed and outlines the contribution that this thesis has made. The thesis concludes by making recommendations regarding future practice and research before making some personal reflections.*

## 11.1 Contribution of this thesis

In Chapter 6, research questions were posed and, in conclusion of this thesis, it is appropriate to address the extent to which these questions have been answered. The resolution to the questions has been complex and drawn from interrelated qualitative and quantitative data.

*Question 1* *How do participants use expert judgement to develop skill?*

Skill is developed in response to feedback via a recognisable and well-recorded variety of strategies, such as repetition of action and trial and error. However, broader judgement is utilised to develop skill by trying out the skill in ways which attempt to exploit the tacit understanding of the supervisor. Professionalisation and socialisation are being developed in addition to motor skills.

*Question 2* *How is expert judgement conveyed to participants?*

Delivery of feedback, or criticism, is the most evident way in which expert judgement is conveyed, although the use of more subtle vehicles for conveying judgement during group interactions, both with peers during formal case review sessions and during less formal situations, are apparent. Judgement in a wider sense is conveyed by means of the transmission of tacit knowledge from the supervisor and, allied to this, the overt demonstration of skill and status.

*Question 3* *What factors are related to the perceived usefulness of feedback?*

This thesis demonstrates that the two overriding factors in relation to feedback are the perception of the supervisor as an expert and the overt practical demonstration of this expertise. Other, less important factors identified are feedback concerned with the participants' development and feedback that demonstrates respect for the participant. In addition, the perception of being supported by a wider network within the learning and working community is perceived as enhancing the feedback given.

*Question 4* *How is expert judgement utilised to help inform participants' own judgement?*

Expert judgement is used as one strategy within a broad range of tactics that helps to inform judgement. Discussion, peer review, tapping into tacit understanding and the theoretical underpinning of the skill are equally important.

*Question 5* *How context specific is the judgement that the participants have developed of their level of skill?*

The learning of the participants is bound by the requirements of the workplace and bound by dependence upon the support of the supervisor, and would appear to be context specific in both time and place. This context relatedness of learning is reflected in the participants' judgement on their learning, which has rendered them confident to seek help.

This thesis sought to examine how feedback from a supervisor is used to develop and sustain skill in a group of nurses and in this way, explore the dynamic between the student, their development and the context in which the learning takes place. Although the study has limitations, outlined in the previous chapter, the main aim of this thesis has been met and several important conclusions, which are key contributions both professionally and academically, can be made.

The study reveals an educational environment that is often enjoyable and highly conducive to learning: learning is very highly relevant to the participants, they are very well motivated to achieve and have good managerial support to achieve, their

supervisors are interested in their learning and they are offered unrivalled access to the skills and knowledge of experts who deliver good feedback. Feedback is utilised as a developmental tool and is seen to be useful in these participants' development.

The first contribution of this thesis is its demonstration that the skill of the participants is not fully developed against any benchmark, and the participants utilise a wide variety of recognisable strategies to develop both skill and judgement, including taking advantage of the close proximity to the tacit understanding of the supervisor. However, although this thesis sought to examine the development of learning of motor skills, it must be acknowledged that it actually examined all the activities that the participant is learning while placed in this educational environment, including the skills of occupational socialisation and professionalisation. In the process of learning motor skills, the participants have had to learn to think, learn to manage the working environment and the context in which they are placed, redefine their professional practice and learn to fit into the professional context and with the professional hierarchy.

The principle contribution of this thesis concerns conclusions drawn regarding the occupational socialisation of the new, emerging, professional nurse practitioners. This study reveals an aspirational group that is in search of clarity of their identity and a professional direction and that looks to what is perceived by the participants as high status activity to validate these aspirations. The nebulous professional direction and identity has led to a situation where their learning is shaped and moulded by significant others around them, which has led to the development of a professional group that is confident to seek help, although not confident to know when and what to learn which, in turn, is a consequence of development occurring both educationally and socially within the ZPD but not beyond it. This conclusion suggests that the notion of the ZPD is relevant for adult education and development and is in support of Gallimore and Tharpe's (1990) assertion, a view which is held anecdotally, supported poorly in the literature and corroborated by this thesis.

Connoisseurship and criticism can aid the development of judgement but only if this criticism is used as a proactive tool and the gaps that are to be closed by feedback

are, possibly, being closed for the short term, but it is not clear if this will happen in the long term. Further, it may only be possible to close these gaps in the longer term if the aim of development is to make the student independent of the supervisor, a supposition which cannot be assumed either educationally or socially. This study demonstrates that nurses value the feedback, expertise and community of fellow nurses and, as service and practice develop, it is to be anticipated that a nursing expertise and knowledge will develop. However, the participants are certainly cautious of the balance of relationships and the consequences of a break down in this relationship and Schrock's (1987) conclusions, almost a generation ago, regarding an open professionalism and sharing of power are echoed here.

As discussed in Chapter 1, the use of experts as supervisors, mentors and assessors is extremely common in professional education and the conclusions from this study may be of interest to a wider professional audience where students are taught by experts within professional communities, particularly where the emphasis is on learning for the longer term.

Finally, studies on feedback and development from within a medical tradition have been principally quantitative and those from nursing, qualitative. The adoption of a mixed methods strategy for the study of this dynamic situation demonstrates the complexity of the available data and adds to the methodological knowledge base.

## 11.2 Recommendations for future practice

Thus, the teaching and learning strategy employed means that this educational experience is not really teaching the students to have confidence in their ability to learn and develop for the longer term, but rather to foster dependence and help-seeking behaviour. For the participants of this study, learning is bound by the context in which it is set and response and recommendation to the above conclusions relies upon the view that the point of educating the nurses is the development of individuals for lifelong learning (and not the service), which brings the thesis round full circle to sustainable assessment for skill development and future-led assessment. Since it is unrealistic to alter radically in the short term the context in which the learning is set, it may be prudent to realign the pedagogical model to help develop

the students' skills of self-judgement. Although it was established in Chapter 5 that the key components of self-assessment have yet to be established, it may be possible to deduce from this study practical points which may help self-assessment. It is interesting to note that all of these components are concerned with the learner and are context related, which further reinforces the usefulness of the epistemological stance taken. Recommendations for future practice suggested by this thesis are:

- The opportunity to discuss and "test" ideas with peers and experts. Self-assessment is not a solitary process and sustainability in learning relies upon incorporating one's ideas and practice into a broader picture. This is particularly the case if skills have become degraded.
- Following from the above, the ability to practice skills safely outside the "comfort zone", both in terms of time, place and person. Practice within various settings and being exposed to the judgement of more than one expert and over a period of time aids in judgement formation.
- Repeated access to relevant theory which reinforces practice and self-judgement.
- More opportunity for repetition of action and opportunity to problem solve and the opportunity to develop intuition and tacit knowledge. The skill developed has to become habitualised for judgement to be refined and expertise to be developed
- The existence of a learning environment that is non-dominant in terms of what is to be learned and how it is to be learned, and that places in the hands of the learner the direction in which learning is taken. This leads to an environment which encourages the student to ask "What do I need to know? What do I need to do?" and, further, encouragement to ask these questions in order to satisfy their own educational curiosity and not in order to meet a requirement. Set in the context of a workplace which requires employees to be capable of a specific set of skills, this may be difficult and, therefore, the latter question of "What do I need to do?" may be more appropriate.
- Working with experts who deliver good feedback, a strength of the current pedagogical model and which aims to take the learner to a point of

independence, beyond their current point of development. Feedback given within a framework of scaffolded support that is gradually withdrawn, allowing development and formation of judgement.

- It may be the case that the module leaders should be more prescriptive about the choice of supervisor, taking cognisance of both the personal qualities of the individual along with an understanding of issues at hand. This, however, once again, may be difficult to achieve.

## 11.3 Reflection on the study and recommendations for further research

This study set out with the specific aim to explore how skill is developed and sustained in a group of nurse practitioners. However, in the process of collecting and examining the data, it became apparent that there are many issues which could be identified which offer possible avenues for further research and directions in which this work could be developed. In particular, there are several analytical perspectives which could have, potentially, been applied to this discussion and informed this thesis.

As discussed above, the learning process for the participants involved learning a new, as yet unformulated professionalism, which caused conflict for some of the participants although, for others, their professional direction seemed more straightforward. This change and shifting of the view of self as a practitioner was a skill that was being honed, but one which merits further examination and discussion. This notion of a professional way of being is a fluid and dynamic process and one which interrelates with the idea of being a nurse practitioner (Dall'Alba, 2009). The concept of learning to be a member of a professional group was a recurrent theme within this analysis and constituted a large part of that which the participants of this study are learning to judge and further examination of this theme would be a valuable direction in which to take this work.

In addition, the topics raised in this thesis resonate with studies that examine and analyse the nature of professional knowledge and learning, for example that of Eraut and Hirsh (2007), particularly in relation to the social nature of workplace learning. Allied to this, studies which examine the nature of workplace learning, such as

Billett, (2008), also emphasise the interplay between the social, professional and personal in the developmental process. All of the above authors discuss and emphasise the important of personal agency within workplace and professional education, a topic which this thesis has not examined but which would be highly relevant and an interesting avenue in which to take the work.

Other concepts that may have been used to frame this thesis or that may be useful in taking the study forward include those of social learning and self-efficacy theory (Bandura, 1977): the feelings of the participants regarding what they feel able to achieve is tangible throughout and these perceptions are, perhaps, affecting what they are actually able to achieve. Further, the importance of discourse of and research into the role of metacognition in judgement is acknowledged (for example, Lew, Alwis and Schmidt, 2010), and this would also be a useful means of development for this study.

Political or psychological analyses could have been made during this study. Specifically, the feeling of power pervades the discussion and subsequent analysis and a critical theory analysis would be a useful and interesting direction in which the study may be taken (McCarthy, 1978). Likewise, feelings of paternalism pervade the work and a feminist theory analysis would be a useful addition to the body of knowledge.

In the process of developing discussion and wider conclusions, several areas for further study have been observed which include the following, although are not limited to these:

- A valuable line of enquiry would undoubtedly be the perception of the supervisor within this context, specifically regarding the level of skill developed by their student and the process of socialisation or otherwise.
- The nature of supervisory groups (which have been discussed in this thesis) is of interest to both the learning of the students within the community and in the socio-professional context. Studies that determine the level of experience and perceived expertise of each of the members of these groups, how they are

formed and how they interrelate would all glean data which would add to that gained in this thesis.

- As has been discussed, the dynamic nature of the learning of these participants may, naturally, lead to a longitudinal study to examine the longer term development and judgement making of the participants. This would be particularly valuable in terms of the development of expertise and heuristics in this group.
- Although no relationships between gender and any of the outcome variables could be inferred, there was some impression within the qualitative data that the male participants were more confident in their judgement making than their female colleagues and that they were more likely to disagree with their supervisor. This would form an interesting, although marginal, line of enquiry.
- Further, although expertise of doctors and nurses was valued, it would be interesting to examine in more detail the comparative experiences of students supervised by doctors and nurses. This would offer a clearer picture of the process of occupational socialisation which has been discussed here.
- As was discussed in the previous Chapter, it is not clear whether the lack of expression of confidence is due to a lack of competence or a lack of confidence and this would be an invaluable further study, which could be further linked to the concept of self-efficacy.
- Although the concept of nursing empowerment is well recorded, there is little evidence base for this and an examination of this area would be a valuable addition to the knowledge base .

## 11.4 Personal reflection

This has been a fantastic personal and professional journey for me. I had been doing my job for 15 years prior to undertaking the EdD and had been instrumental in developing many different courses, which involved negotiating with local and NHS providers around the issue of educating healthcare workers to adapt to new roles, one of which is described here. The impetus for choosing to research around this topic was that I had never thought that the accepted way in which skills are assessed

actually works, although I did not know why. Researching this topic and writing this thesis has expanded my view of what I am trying to achieve as an educator and also what I can achieve – the starting point of any curriculum is the position in which it is placed. Nursing education is undergoing further upheaval with the continuing reduction in nursing and midwifery student numbers. The emphasis has now perceptibly shifted wholesale towards multi- and interprofessional working, and education and my research and teaching over the next five years will move in this direction. This thesis has made me re-examine the nature of this interprofessional education and the pedagogical model that can be employed and directions for research in this field.

I had undertaken some small-scale, quantitative investigations prior to this study and some descriptive writing for publications. I started this study with the view that my priority was to learn as much as I could and, above all, to enjoy the experience, and this has certainly been the case. The opportunity to undertake thorough research training has also made me understand and fully appreciate the rigour necessary for any type of research and the attention to detail that is necessary at every step and yet no research turns out perfectly. Moving outside my comfort zone and into qualitative data analysis has opened my eyes to a totally different concept of analysis of data, one in which it has been necessary to listen, understand and interpret what is being said and even in some situations what is not being said. In addition to this, I am now proficient (but not expert!) in three new kinds of software which, in itself, is a good achievement.

I have learned an enormous amount from every experience and now feel part of an academic community which, I now see, I was on the margins of. Central to this is the importance of dissemination of ideas and engaging in this community and, as a result of being engaged in this study, I have had two papers accepted in highly rated journals (Fotheringham, 2011, Fotheringham, 2010). I now fully understand the task ahead that I would have to undertake in order to develop within this particular community of practice, which will be a fascinating journey over the coming years.

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# Appendix 1: Survey Tool

**QUESTIONNAIRE**

**University of Strathclyde, Department of Education and Professional Studies**

**Skill development in nursing: the influence of expert judgement.**

**An exploratory study**

I confirm that I have read and understood the information sheet for the above project and the researcher has answered any queries to my satisfaction.

I understand that my participation is voluntary and that I am free to withdraw from the project at any time, without having to give a reason and without any consequences.

I understand that I can withdraw my data from the study at any time.

I understand that any information recorded in the investigation will remain confidential and no information that identifies me will be made publicly available.

I consent to being a participant in the project. ☐

**Section A – About you and your clinical supervisor**

**1. Are you**

☐ Male

☐ Female

**2. How long have you been qualified as a nurse**

☐ Number of years and months

**3. How long have you worked in your current clinical area**

☐ Number of years and months

**4. How would you best describe your practice area**

- ☐ GP Practice
- ☐ Department of an urban hospital
- ☐ Department in a district hospital
- ☐ Out of Hours Service
- ☐ Other (please specify)

**5. What role does/did your clinical supervisor hold? If you were supervised by more than one person, please state the role of the person who was primarily responsible for your supervision.**

- ☐ Senior Doctor
- ☐ Junior Doctor
- ☐ Nurse Practitioner
- ☐ Senior Nurse
- ☐ Other (please specify)

**6. Was/is your clinical supervisor in a position of managerial responsibility to you?**

- ☐ Yes
- ☐ No
- ☐ Don't know

**7. Was your clinical supervisor**

- ☐ Male
- ☐ Female

**8. Approximately how much time *per week* you did spend working with your clinical supervisor (estimated average)?**

☐ Number of hours

**Section B – Feedback and development of practice**

***Please respond to the following questions on a scale of 1–6, where 1=strongly agree and 6=strongly disagree.***

**9. My clinical supervisor's view of my practice was always the same as my view of my practice**

| 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ | 6 ☐ |
|---|---|---|---|---|---|
| Strongly agree | Agree | Agree a little | Disagree a little | Disagree | Strongly disagree |

**10. My supervisor had a lot of expertise in the topic**

| 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ | 6 ☐ |
|---|---|---|---|---|---|
| Strongly agree | Agree | Agree a little | Disagree a little | Disagree | Strongly disagree |

**11. My clinical supervisor's feedback was useful to my current practice development**

| 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ | 6 ☐ |
|---|---|---|---|---|---|
| Strongly agree | Agree | Agree a little | Disagree a little | Disagree | Strongly disagree |

If you can, please say something about this

**12. My clinical supervisor's feedback gave me new insight into how my practice can be developed.**

| 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ | 6 ☐ |
|---|---|---|---|---|---|
| Strongly agree | Agree | Agree a little | Disagree a little | Disagree | Strongly disagree |

If you can, please say something about this

**13. My clinical supervisor still gives me good feedback, even although I have finished the course**

| 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ | 6 ☐ |
|---|---|---|---|---|---|
| Strongly agree | Agree | Agree a little | Disagree a little | Disagree | Strongly disagree |

**14. My clinical supervisor gave me the opportunity to discuss my view of my practice**

| 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ | 6 ☐ |
|---|---|---|---|---|---|
| Strongly agree | Agree | Agree a little | Disagree a little | Disagree | Strongly disagree |

**15. My clinical supervisor gave me the opportunity to discuss what I think I need to do to help my practice development**

| 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ | 6 ☐ |
|---|---|---|---|---|---|
| Strongly agree | Agree | Agree a little | Disagree a little | Disagree | Strongly disagree |

If you can, please say something about this

**16. My clinical supervisor's feedback really made me feel that I wanted to learn more**

| 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ | 6 ☐ |
|---|---|---|---|---|---|
| Strongly agree | Agree | Agree a little | Disagree a little | Disagree | Strongly disagree |

**17. My clinical supervisor always knew how to tell me that I was doing something incorrectly**

| 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ | 6 ☐ |
|---|---|---|---|---|---|
| Strongly agree | Agree | Agree a little | Disagree a little | Disagree | Strongly disagree |

**18. My clinical supervisor was always very positive about my practice**

| 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ | 6 ☐ |
|---|---|---|---|---|---|
| Strongly agree | Agree | Agree a little | Disagree a little | Disagree | Strongly disagree |

**19. My clinical supervisor's feedback always left me in no doubt about what I needed to do to improve my practice**

| 1 ☐ | 2 ☐ | 3 ☐ | 4 ☐ | 5 ☐ | 6 ☐ |
|---|---|---|---|---|---|
| Strongly agree | Agree | Agree a little | Disagree a little | Disagree | Strongly disagree |

19. Please comment on how confident you feel you are to safely judge your own level of practice (continue over if necessary).

I would like to gain a deeper understanding of the results of this survey by interviewing four of the survey respondents who will represent a range of views expressed in this questionnaire. The information in the interviews will not be given to any other person or organisation in any identifiable form.

**Please tick the appropriate option below to let me know if you are willing to take part in an interview. If you are, further information will be sent to you if you are selected and you can then decide if you still wish to participate.**

☐ I would consider being interviewed

☐ I do not wish to be contacted about being interviewed

*End of Questionnaire*

*Thank you for your participation*
*Please return to:*
*Diane Fotheringham, School of Health, Nursing and Midwifery,*
*University of the West of Scotland, High Street, Paisley PA1 2BE*

# Appendix 2: Interview schedule

1. Greetings and thanks for time

2. Reminder that interview is being taped and that I will be the only person who will listen to it. Anything I use from this will be completely anonymised and confidential.

3. State
   3.1. Name of participant
   3.2. Date
   3.3. Time

4. Check consent

5. Thanks for taking the time to complete the questionnaire. The purpose of the research is to look at how nurses who are developing skills use the feedback of an expert to develop their skill and to develop their own judgement and I would just like to ask a few questions around these themes.

**Questions**

1. How dependent are they upon the feedback of one person? Ie are they trying to copy the skills of the assessor or are they trying to judge their own level of practice? This may be part of the "supportive environment".
   1.1. How many experts were involved in helping you develop your skill?
   1.2. Who were they? How did they get involved?
   1.3. How useful did you find other opinions? Did this help or hinder the process of your skill development?

2. How does the expert actually articulate the level of practice (ie apply criticism) to give insight? Is it only by demonstration? Did they give more reason as to why something should be done in a particular way. (This is related to the point above and may be seen as exploratory questions, leading on from those above)
   2.1. How did your supervisor tell you that you could be doing something better or differently?
   2.2. How did this give you insight into how you practice?

3. What about skills that they don't use a lot? How would they know if they were up to date? How would they judge?

3.1. Some skills that you have learned are used more than others. How do you assess whether or not you are still up to date with these skills?
3.2. Explore their use of their own judgement here.

4. If they are in a new role (ie nurses haven't done this before) how does that influence their ability to judge their level of practice (ie no peer reference point)? Are the skills they have learned role specific? Ie if they were to change role and apply the skill in a different context, would they feel confident to do it and how would they judge? For many, the skills were attached to the expertise of the role they are in. ?
   4.1. If you were to move (or be moved) tomorrow into a different practice area which had a different patient group and a different peer group, how confident do you feel in using the skills of assessment that you learned in the course in this new context?
   4.2. If they answer "yes" they would be confident, I will ask what, if any support they would need (ie look for the whole notion of a supportive environment and how they would know it when they see it). If they answer "no", I'll ask why they feel like this.

5. Do the limits and boundaries that the participants are aware of stop them from taking risks? How do they further develop? Outwith the boundaries of a formal course, how would they judge whether or not they are competent
   5.1. What new skills have you developed that have been initiated by you?
   5.2. If they answer "none" to this, I'll ask why not and explore. If they give an answer, I'll ask them about the support they had to develop.

Other areas that could be explored

- Can you give an example of how you have used your judgement of your practice
- Regarding conversations on their practice and development – who opened the conversation? How did this help form their judgement of their own practice? Did they keep notes on what they wanted to discuss? Did the conversation happen during the practical session? Or at a separate time?
- What, exactly, was it about the feedback that they found motivated them? Was it the fact that the feedback was positive

Thanks very much for your time. Is there anything that you would like to ask me?

# Appendix 3: Participant information sheets and consent form

**University of Strathclyde, Department of Education and Professional Studies**

**Skill development in nursing: the influence of expert judgement.**

**An exploratory study**


**Introduction**

*I am undertaking a Doctorate in Education at the University of Strathclyde and I would like to invite you to take part in a research study. Before you decide, you need to understand why the research is being done and what it would involve for you. Please take time to read the following information carefully. Talk to others about the study if you wish. If you would like to discuss this study with me, please contact me at diane.fotheringham@strath.ac.uk*

**What is the purpose of this investigation?**

*A lot of education in nursing takes place in the workplace alongside clinical supervisors who help you to learn. I would like to find out how the feedback that your clinical supervisor gives you can be used to help you develop your confidence in the judgement of your own practice and it this way help you to develop your practice after a course is finished.*

**Do you have to take part?**

*Taking part in this research is entirely voluntary. If you have any queries or concerns that are not covered by this information sheet please do not hesitate to contact me (see below). You are free to withdraw at any time, without giving a reason.*

**What will you do in the project?**

*You will be asked to complete the enclosed questionnaire about how feedback you received from your supervisor has helped you to develop your practice.*

**Why have you been invited to take part?**

*You have completed either the Patient Assessment or Advanced Patient Assessment module at UWS within the previous 2 years and were supervised during this module by a clinical supervisor. I am asking some of the nursing students in Scotland who fall into this category to take part in this study.*

**What are the potential risks to you in taking part?**

*We do not envisage any risks or disadvantages to you of taking part.*

**What happens to the information in the project?**

*Your participation is completely confidential. Individuals or departments will not be identified in any report. All data will be kept by the University of Strathclyde for five years in password-protected files that only I will have access to. If you would like a copy of the results of the survey please tick the box at the end of the questionnaire and a copy will be sent to you.*

*It is intended that the results of the study will be disseminated through conference presentations and published articles and all information will be anonymised in any such presentation*

**The University of Strathclyde is registered with the Information Commissioner's Office who implements the Data Protection Act 1998. All personal data on participants will be processed in accordance with the provisions of the Data Protection Act 1998.**

**Thank you for reading this information – please ask any questions if you are unsure about what is written here.**

**What happens next?**

*If you would like to be involved in this research, please complete the enclosed questionnaire and return to Diane Fotheringham in the enclosed envelope. Please take time to consider whether you want to be included in this research. The decision to participate is your own and you should feel under no pressure to do so. You will be asked to confirm your consent to participate in this study in the questionnaire*

*Thank you very much for considering this information.*

This investigation was granted ethical approval by the University of Strathclyde ethics committee.

If you have any questions/concerns, during or after the investigation, or wish to contact an independent person to whom any questions may be directed or further information may be sought from, please contact:

Secretary to the University Ethics Committee

University of Strathclyde

McCance Building

16 Richmond Street

Glasgow

G1 1XQ

Telephone: 0141 548 2752

Email: ethics@strath.ac.uk

Researcher Contact Details:

**Diane Fotheringham, School of Health, Nursing and Midwifery, University of the West of Scotland, High Street, Paisley PA1 2BE, 0141-849-4204, diane.fotheringham@strath.ac.uk**

Chief Investigator Details:

**Dr Aileen Kennedy, Room 304a, Henry Wood Building, 76 Southbrae Drive, Glasgow G13, aileen.kennedy@strath.ac.uk, Tel : 0141 950 3356 (Ext. 3356)**

Department of Education and Professional Studies

Skill development in nursing: the influence of expert judgement. An exploratory study


Introduction

*You recently completed a questionnaire that I sent you which asked your views on how feedback from your clinical supervisor helped you to develop your practice. You indicated on the questionnaire that you would be willing to be interviewed and I am now contacting you to seek your consent to be take part in a short interview. Before you decide, you need to understand why the research is being done and what it would involve for you. Please take time to read the following information carefully. Talk to others about the study if you wish. If you would like to discuss this study with me, please contact me at diane.fotheringham@strath.ac.uk*

What is the purpose of this investigation?

*This is the second part of an investigation which seeks to find out how feedback from a clinical supervisor can be used to help you develop your confidence in the judgement of your own practice and in this way help you to develop your practice after a course is finished.*

Do you have to take part?

*Taking part in this interview entirely voluntary, even if you have indicated that you would be willing to take part already. If you have any queries or concerns that are not covered by this information sheet please do not hesitate to contact me. You are free to withdraw at any time, without giving a reason.*

What will you do in the project?

*You will be asked to have a short (around 10 minute) interview with me. This interview will be on the telephone at a time that suits you and which we agree. I will contact you and the call will be tape recorded. I will ask some questions in which I will ask you to expand on the issues raised in the questionnaire.*

What are the potential risks to you in taking part?

*We do not envisage any risks or disadvantages to you of taking part*

What happens to the information in the project?

*Your participation is completely confidential and no other individual or organisation will have access to the tape recordings or their transcripts. Individuals or departments will not be identified in any report. All data will be kept by the University of Strathclyde for five years in password protected files that only I will have access to. If you would like a copy of the results of the survey please tick the box at the end of the questionnaire and a copy will be sent to you.*

*It is intended that the results of the study will be disseminated through conference presentations and published articles and all information will be anonymised in any such presentation*

The University of Strathclyde is registered with the Information Commissioner's Office who implements the Data Protection Act 1998. All personal data on participants will be processed in accordance with the provisions of the Data Protection Act 1998.

Thank you for reading this information – please ask any questions if you are unsure about what is written here.

What happens next?

*If you would like to be involved in this part of the research, please complete the enclosed consent form and return to Diane Fotheringham at the .... Please take time to consider whether you want to be included in this research. The decision to participate is your own and you should feel under no pressure to do so.*

This investigation was granted ethical approval by the University of Strathclyde ethics committee.

If you have any questions/concerns, during or after the investigation, or wish to contact an independent person to whom any questions may be directed or further information may be sought from, please contact:

Secretary to the University Ethics Committee

University of Strathclyde

McCance Building

16 Richmond Street

Glasgow

G1 1XQ

Telephone: 0141 548 2752

Email: ethics@strath.ac.uk

Researcher Contact Details:

Diane Fotheringham, Room A520, University of the West of Scotland

High Street, Paisley PA1 2BE

**diane.fotheringham@uws.ac.uk** Tel: 0141 849 4204

Chief Investigator Details:

Dr Aileen Kennedy, Room 304a, Henry Wood Building, 76 Southbrae Drive, Glasgow G13, **aileen.kennedy@strath.ac.uk** Tel : 0141 950 3356 (Ext. 3356)


Department of Education and Professional Studies

Skill development in nursing: the influence of expert judgement.

An exploratory study

I confirm that I have read and understood the information sheet for the above project and the researcher has answered any queries to my satisfaction.

I understand that my participation is voluntary and that I am free to withdraw from the project at any time, without having to give a reason and without any consequences.

I understand that I can withdraw my data from the study at any time.

I understand that any information recorded in the investigation will remain confidential and no information that identifies me will be made publicly available.

I consent to being a participant in the project

I consent to being audio recorded as part of the project

| | |
|---|---|
| | I hereby agree to take part in the above project |
| (PRINT NAME) | Date |

# Appendix 4: Predictor variables: summary results (n=46)

| | Frequency |
|---|---|
| **Sex of Participant** | |
| Male | 10.6% (5) |
| Female | 87.2% (41) |
| **How would you best describe your practice area?** | |
| GP Practice | 6.4% (3) |
| Department of an urban hospital | 8.5% (4) |
| Department in a district hospital | 68.1% (32) |
| Out of hours service | 4.3% (2) |
| Community hospital | 10.6% (5) |
| **Role of supervisor** | |
| Senior Doctor | 53.2% (25) |
| Nurse Practitioner | 17.0% (8) |
| Senior Nurse | 27.7% (13) |
| **Managerial position of supervisor** | |
| Yes | 29.8% (14) |
| No | 66.0% (31) |
| Don't know | 2.1% (1) |
| **Sex of supervisor** | |
| Male | 42.6% (20) |
| Female | 53.2% (25) |
| **Length of service as two groups** | |
| <= 4.08 | 51.1% (24) |
| 4.09+ | 46.8% (22) |
| **Time with supervisor as three groups** | |
| <= 4 | 38.3% (18) |
| 5 – 8 | 27.7% (13) |
| 9+ | 29.8% (14) |

| | Strongly agree | Agree | Agree a little | Disagree a little | Disagree | Strongly disagree | Missing | Response average |
|---|---|---|---|---|---|---|---|---|
| **My clinical supervisor's view of my practice was always the same as my view of my practice** | 14.9% (7) | 59.6% (28) | 6.4% (3) | 10.6% (5) | 4.3% (2) | 0 | 1 | 2.27 |
| **My supervisor had a lot of expertise in the topic** | 57.4% (27) | 31.9% (15) | 4.3% (2) | 2.1% (1) | 0 | 0 | 1 | 1.46 |
| **My supervisor's demonstrations of the skills that I was learning helped me to develop my practice** | 44.7% (21) | 38.3% (18) | 8.5% (4) | 4.3% (2) | 2.1% (1) | 0 | 0 | 1.78 |

## Appendix 5: Outcome variables: summary results (n=46)

| | Strongly agree | Agree | Agree a little | Disagree a little | Disagree | Strongly disagree | Missing | Response average |
|---|---|---|---|---|---|---|---|---|
| **My clinical supervisor's feedback was useful to my current practice development** | 39.1% (18) | 51.1% (24) | 2.1% (1) | 2.1% (1) | 2.1% (1) | 2.1% (1) | 0 | 1.84 |
| **My clinical supervisor's feedback gave me new insight into how my practice can be developed** | 19.1% (9) | 57.4% (27) | 10.6% (5) | 0 | 4.3% (2) | 2.1% (1) | 2 | 2.14 |
| **My clinical supervisor still gives me good feedback, even although I have finished the course** | 25.5% (12) | 34.0% (16) | 10.6% (5) | 10.6% (5) | 10.6% (5) | 6.4% (3) | 0 | 2.65 |
| **My clinical supervisor gave me the opportunity to discuss my view of my practice** | 29.8% (14) | 51.1% (24) | 4.3% (2) | 6.4% (3) | 4.3% (2) | 0 | 1 | 2.00 |
| **My clinical supervisor gave me the opportunity to discuss what I think I need to do to help my practice develop** | 34.0% (16) | 46.8% (22) | 8.5% (4) | 4.3% (2) | 2.1% (1) | 0 | 1 | 1.88 |
| **My clinical supervisor's feedback really made me feel that I wanted to learn more** | 25.5% (12) | 53.2% (25) | 10.6% (5) | 2.1% (1) | 2.1% (1) | 0 | 2 | 1.95 |
| **My clinical supervisor always knew how to tell me that I was doing something incorrectly** | 21.3% (10) | 61.7% (29) | 4.3% (2) | 2.1% (1) | 2.1% (1) | 0 | 3 | 1.93 |
| **My clinical supervisor was always very positive about my practice** | 31.9% (15) | 55.3% (26) | 6.4% (3) | 0 | 2.1% (1) | 0 | 1 | 1.8 |
| **My clinical supervisor's feedback always left me in no doubt about what I needed to do to improve my practice** | 25.5% (12) | 44.7% (21) | 17.0% (8) | 2.1% (1) | 6.4% (3) | 0 | 1 | 2.16 |

# Appendix 6: Notes on the interviewees

I had met most of the interviewees when they had been students on the modules that I run, and most were at ease during the interviews. We had arranged times for the interviews based on suitability for the participant and, consequently, the interviews took place at all hours of the day, although none during night shifts.

| | |
|---|---|
| **IPF1** | IPF1 works as an ICU practitioner and she was a confident and self-assured interviewee, barely pausing for breath. The interview lasted for 20 minutes and she spoke rapidly throughout. |
| **IPF2** | IPF2 works as an ICU practitioner and was a very confident interviewee. This was a short interview, 12 minutes. |
| **IPF3** | IPF3 works in a rural GP practice and expressed confidence in her abilities. Interview lasted 24 minutes. |
| **IPF4** | IPF4 was an ICU nurse and had recently come back to nursing after a career break.<br>During the interview, she was very willing to talk. At the end of the interview IPF4 discusses some personal issues which are not pertinent to the research questions and this data will not be used in this analysis or report. |
| **IPF5** | At the time of interview, IPF5 was a current student of mine (on another course). IPF5 works as an ICU nurse and was undertaking the course as part of a wider development.<br>During the interview, she was confident and answered the questions very directly and to the point. She seemed to have a good understanding of the issues that we were discussing and gave open and forthcoming responses, although the interview was short. |
| **IPF6** | IPF6 is an existing student of mine and I know her to be very forthcoming with her views and opinions, articulates them well and is confident and vocal in a group. She is employed as an Advanced Nurse Practitioner and is keen on raising the profile of nursing. We had previously discussed skill development and she is interested in undertaking research.<br>During the interview, IPF6 was characteristically confident although hesitant at times. |
| **IPF7** | Unlike the other participants, this is my first encounter with IPF7 since I had ceased being course leader when she undertook the course. IPF7 works in a remote and rural hospital setting and had been in this practice setting for many years.<br>During the interview, she was very talkative although hesitant at first although quickly became at ease.<br>During the interview, on two occasions, IPF7 talks about the modules she has undertaken with UWS and wants to discuss them and this data has not been included in the analysis or report. |

| | |
|---|---|
| **IPM1** | IPM1 works as a community nurse practitioner, in a newly devised role, after a career spent in ICU. His move to a novel role in primary care is still reasonably fresh and his new roles and relationships are still in their infancy. He spoke very quickly and self assuredly throughout the interview and appeared confident in his abilities. |
| **IPM2** | IPM2 works within an Accident and Emergency Department as an Emergency Nurse Practitioner and nursing is a second career for him. I had met IPM2 during the course of the module in question and knew him to sometimes be quite quiet and thoughtful. During the interview, he was a little hesitant at times and seemed curious to learn the new skill set. |
| **IPM3** | IPM3 works as an Advanced Nurse Practitioner and seems very active in the continuous learning process. He was a very talkative and extremely confident interviewee, requiring little prompting to offer views and opinions with the interview lasting 33 minutes. He appeared very confident during the interview, confident in his skill and keen to learn. |

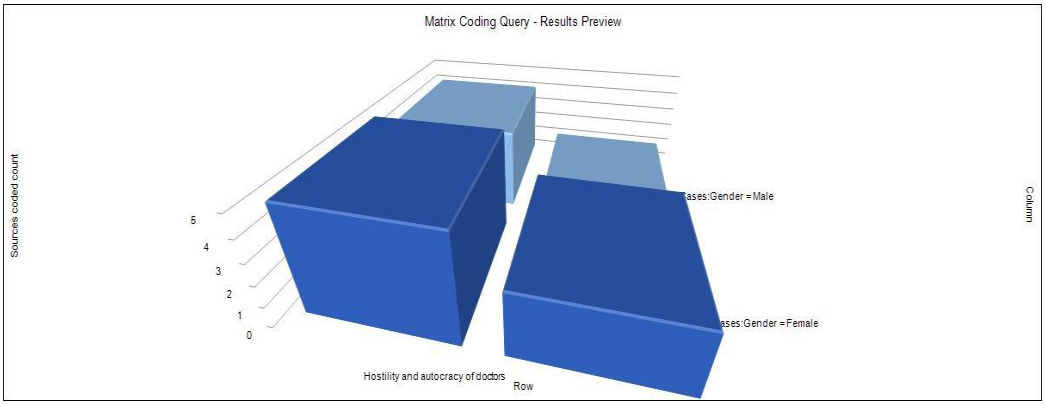
# Appendix 7: Themes for qualitative analysis and mapping to research questions

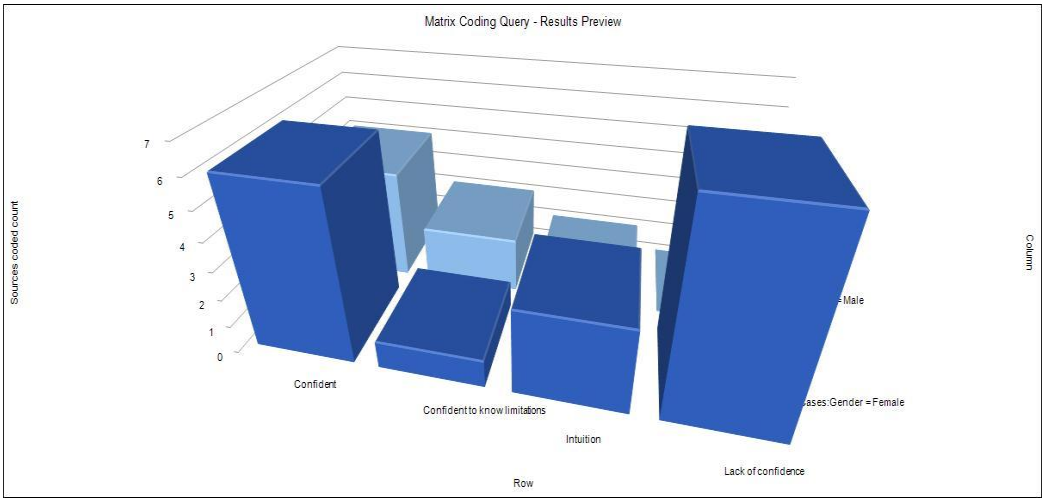
- How do students use the judgement of the expert to develop skill? ⌘
- How is expert judgement conveyed to students? ♦
- What factors are related to the perceived usefulness of feedback? ✚
- How is expert judgement utilised to help inform students' own judgement? ⭘
- How context specific is the judgement that the student has developed of their level of skill? ☐

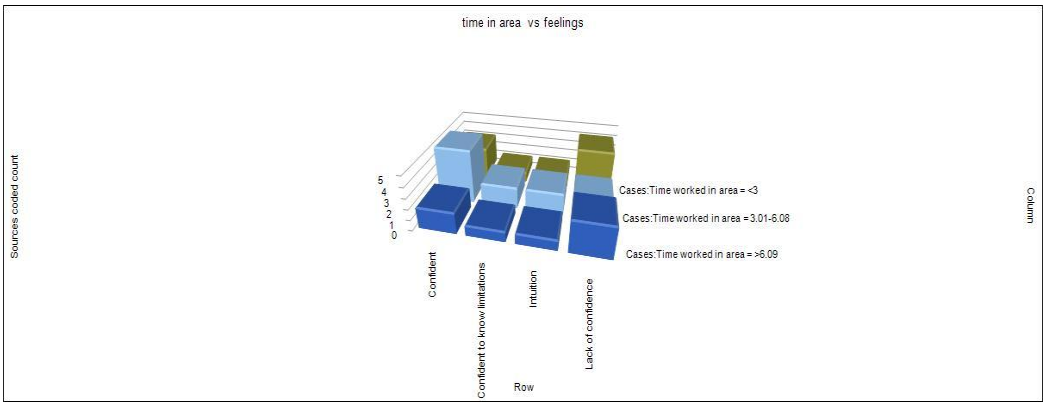
| Theme | Sub themes | References | Mapped to: |
|---|---|---|---|
| **1 Learning strategies** | **1.1 Learning by doing** | | |
| | 1.1.1 Trial and error | 12 | ⌘ |
| | 1.1.2 Value of repetition of action | 22 | ⌘⭘ |
| | 1.1.3 Demonstration by experts | 8 | ♦⌘ ✚ |
| | 1.1.4 Discriminate by practicing | 22 | ⭘ |
| | **1.2 Learning by proximity to medical practice** | | |
| | 1.2.1 Tricks of the trade | 22 | ⌘ ✚ |
| | 1.2.2 See things as a medic would see them | 26 | ⌘ ✚ |
| | 1.2.3 Learning with junior medics | 5 | ⌘ |
| | **1.3 Importance of evidence** | | |
| | 1.3.1 Importance of link to practice | 4 | ⌘ ✚ |
| | 1.3.2 Generation of new perspective linked to evidence | 11 | ⭘ ✚ |
| | 1.3.3 Importance of evidence | 19 | ⌘ |
| | 1.4.4 Value of education | 13 | ⌘ |
| | **1.4 Discussion** | | |
| | 1.4.1 Discussion re decision making | 13 | ♦ ✚ |
| | 1.4.2 Using varying opinions to make judgement | 22 | ⭘ ✚ |
| | **1.5 Criticism** | | |
| | 1.5.1.Clear goals | 9 | ♦ ✚ |
| | 1.5.2 Give constructive criticism | 19 | ♦⌘ ✚ |

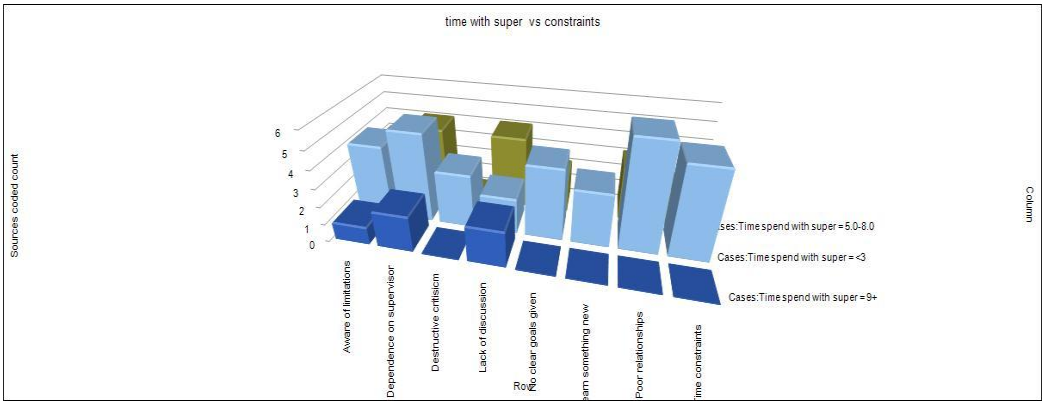
| Theme | Sub themes | References | Mapped to: |
|---|---|---|---|
| **1 Learning strategies** | | | |
| | 1.6.1 Learn in groups | 8 | ⌘ + |
| | 1.6.2 Learn from peers | 17 | ♦ ○ + |
| | **1.7 Control of Own Learning** | 21 | ○ □ |
| | **1.8 Reflection** | 13 | ⌘ ○ |
| **2 Learning as part of the job** | **2.3 Setting** | | |
| | 2.3.1 Status of role or workplace | 37 | □ |
| | 2.3.2 Uniqueness of role or workplace | 30 | □ |
| | **2.1 Importance of supportive supervisor and team** | 47 | ♦ ○ |
| | **2.2 Part of the job** | 31 | ○ □ |
| **3 Professional roles** | 3**.1 Status of doctors, participants and supervisors** | 65 | □ ♦ |
| | **3.2 Professional responsibilities** | 25 | □ |
| **4 Feelings and constraints** | 4.1 **Constraints** | | |
| | 4.1.1 Destructive criticism | 8 | ♦ + |
| | 4.1.2 Not had enough experience to learn something new | 5 | ○ |
| | 4.1.3 No clear goals given | 7 | ⌘ + |
| | 4.1.4 Lack of discussion | 15 | ♦ + |
| | 4.1.5 Aware of limitations | 48 | □ |
| | 4.1.6 Time constraints | 10 | ⌘ |
| | 4.1.7 Dependence on supervisor | 43 | □ |
| | 4.1.8 Poor relationships | | |
| | 4.1.8.1 Hostility of nurses | 9 | □ |
| | 4.1.8.2 Hostility and autocracy of doctors | 32 | ♦ ⌘ □ |
| | **4.2 Confident to know limitations** | 28 | □ |
| | **4.3 Confident in judgement** | 27 | □ |
| | **4.4 Lack of confidence in judgement** | 23 | □ |
| | **4.5 Intuition** | 6 | □ |

# Appendix 8: Examples of relationships between demographic data and themes




time in area vs feelings
Sources coded count
5
4
3
2
1
0
Cases:Time worked in area = <3
Cases:Time worked in area = 3.01-6.08
Cases:Time worked in area = >6.09
Confident
Confident to know limitations
Intuition
Lack of confidence
Row
Column


time with super vs constraints
Sources coded count
6
5
4
3
2
1
0
ses:Time spend with super = 5.0-8.0
Cases:Time spend with super = <3
Cases:Time spend with super = 9+
Aware of limitations
Dependence on supervisor
Destructive criticism
Lack of discussion
No clear goals given
Poor relationships
Row
Column

# Appendix 9: Possible use of the outcome variables as a scale

The high Cronbach's alpha coefficient (α) (.921) of the nine outcome variables raised the possibility of utilising the nine variables together as a scale. Since each outcome variable is measuring a facet of the same issue, "good feedback", it may be possible to compile the score obtained from each to give a total or mean score of "satisfaction with feedback" for each participant, against which the predictor variables may be correlated.

Before this decision was taken, literature on the development of scales was reviewed in order to assess whether this was a feasible option. Attitudes and perceptions are commonly measured within the social sciences by the use of rating scales and in order for such a scale to be used with certainty, it should be published with details of measures of both reliability and validity: the proposed scale had not previously been published and, therefore, had no external peer review acknowledgement. Scales can be devised utilising Likert scales and it is common to have around 20–30 items in the scale, with ten as a minimum (Robson, 2002) although some scales are devised with as few as five items.

Reliability is tested by means of Cronbach's alpha coefficient (values > 0.7 demonstrating reliability of items) and by means of test-retest. In the context of this small-scale study, test-retest on a completely different population is not possible, although results from the pilot study suggested that the results were duplicated from another, albeit smaller, group. Validity is judged by several means (Lowenthal, 2001): content and face validity are linked to the supporting literature and are checked on development. Concurrent validity can only be supported by testing the scale against another scale which purports to test the same quality or by testing the scale on another group. There are no similar, published scales and, therefore, concurrent validity cannot be tested by this means. The scale has been linked explicitly to the literature and is, therefore, valid in terms of content.

Scale development further requires that the Discriminative Power (DP) of each of the items to be calculated and the most and least discriminative items are removed (this further enhances the reliability of the scale) (Robson, 2002). The DP for each item was calculated although no items were removed since this would bring the total number of items to below an accepted minimum and, besides, the difference in DP between items was not large, which is to be expected, given the high Cronbach's alpha coefficient.

A further exploration of the viability of the use of the scale may be means of factor analysis (Loewanthal, 2001), specifically principle component analysis (PCA), which may be considered to be a measurement of the underlying structure of the data, or latent variables. PCA was performed in order to satisfy the theory that feedback given by experts is satisfactory (something which cannot be directly observed). However, some authors consider that this measurement relies upon a larger dataset, with Field (2009) suggesting that a sample of 300 is necessary to provide a stable factor solution. With this proviso having been stipulated, PCA was performed on the nine outcome variables under consideration and results demonstrated that there is a significant correlation coefficient of .3 and above between all variables. The Kaiser-Myer-Oklin value was .865 and Bartlett's Test of Sphericity was significant, both of which results support factorability of the matrix (Pallant, 2007). The PCA revealed one underlying component, which supports the above conclusion that each variable is measuring the same phenomenon. As has been mentioned above, this statistical tool may be best utilised for larger samples and results are presented here for the sake of completion and interest.

Total scores across the nine outcome variables for each of the participants were calculated and the mean for each participant was calculated (to account for missing values) and a new continuous, outcome variable was established, "Mean Satisfaction with Feedback Score" (MSFS), in SPSS 18.

MSFS was correlated using Spearman's rho to all predictor variables and the results. The only significant relationship found was between MSFS and "My supervisor had a lot of expertise in the topic" and with "My supervisors demonstrations were useful

to my practice development" with no other significant relationship demonstrated, which supported and reinforced the results of the reported statistical relationship