Learning to do, Learning to be

The transition to competence in critical care nursing.

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Thesis submitted to Auckland University of Technology
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Attestation of Authorship

“I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the qualification of any other degree or diploma of a university or other institution of higher learning, except where due acknowledgement is made in the acknowledgements”.

Signed_____

Sandra Fielding

Acknowledgements

Thank you to the critical care nurses who gave of their time to allow me to interview them and collect their stories. Their experiences were full of the richness and complexity that is critical care nursing and I can only hope my interpretation has done them the justice they deserve. Acknowledgement is also given to the critical care nurses who I work with on a daily basis. Thank you for your patience and understanding with my distraction over the course of this research, and for sharing your perspectives and stories of learning with me.

To the Auckland University of Technology Ethics Committee, thank you for supporting my application to complete this research. And lastly, thanks to my supervisor, Dr Deb Spence who ably coached me in both academic thinking and writing.

Ethics Approval:

Auckland University of Technology Ethics Committee

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Definitions of terms

Learner – within the context of this thesis the term learner has been used exclusively to describe a registered nurse who is entering critical care nursing practice.

Key to transcriptions –

Italics - denotes data from transcripts of participants interviews

[ ] – denotes data which has been added to clarify meaning within transcript

….. – denotes pauses within interview; or unrelated material which was deleted from interview transcript

Abstract

Making the transition to an area of specialist nursing practice is challenging for both the learner and staff who are responsible for education and skill development. This study uses grounded theory methodology to explore the question: “How do nurses learn critical care nursing?”

The eight registered nurses who participated in this study were recruited from a range of intensive care settings. The criteria for inclusion in the study included the participant having attained competency within the critical care setting. Data was collected from individual interviews. The findings of this study developed during the coding and comparative analysis process, and subsequently theoretical sampling was used to further explore the identified concepts.

This study found that nurses’ focus on two main areas during their orientation and induction into critical care nursing practice. These are learning to do (skill acquisition) and learning to be (professional socialisation). The process of transition involves two stages: that of learning to do the tasks related to critical care nursing practice, and the ongoing development of competence and confidence in practice ability. The relationship of the learner with the critical care team is a vital part of the transition to competency within the specialist area.

This study identifies factors that influence the learner during transition and also provides an understanding of the strategies used by the learners to attain competency. These findings are applicable to educators and leaders responsible for the education and ongoing learning of nurses within critical care practice. The use of strategies such as simulated learning and repetition are significant in skill acquisition. However attention must also be paid to issues which influence the professional socialisation process, such as the quality of preceptor input during orientation and the use of ongoing mentoring of the learner.

CHAPTER ONE: INTRODUCTION

Observing practice

The nurse stands at the patient bedside. She is surrounded by equipment. From where I stand, I can see a ventilator, a dialysis machine, ten infusion pumps, a patient warming device and cardiac monitoring equipment. In the middle of this is a large man, the patient. He has multiple intravenous lines and I can see from the red syringe on his pillow that he has a pulmonary artery catheter in place. Two doctors stand at the bedside alternatively discussing and examining the patient. The nurse continues what she is doing; she is documenting data from both the ventilator and the dialysis machine. She glances frequently at the monitor. As the doctors continue their examination and discussion she listens. Occasionally she will contribute to the discussion or answer a question. Every now and then, she asks a question. Her hands and eyes remain busy. She picks up and checks medication against the prescription sheet. An alarm sounds on a pump and she moves quickly to the other side of the bed. The infusion of Noradrenaline, a medication to support the patient's blood pressure, is running low. Because the patient is so dependent on this medication, she starts a second infusion of Noradrenaline prior the first syringe emptying. She watches the monitor to assess how the patient responds before discontinuing the near empty syringe. While she watches, she also checks the levels of all of the other infusions at the head of the patient's bed. She notices the patients face, his eyes are slightly open and maybe he is looking. This is new. She leans over and talks to him quietly, "Hi George, it's OK. You are in the hospital. You have been really sick, but we are taking care of you". She watches his face for signs of a

reaction and then asks, "Do you have any pain?" The patient grimaces and rolls his eyes. She reaches over and gently touches the side of his face, "It's OK George – I'm giving you some more pain relief right now". She leans over and increases the rate of the infusion of pain relief.

Every day practice for nurses in critical care is a finely tuned juggling act of performing technical procedures, titrating therapies, analyzing response, interpretating data and in the midst of all of this, caring for the patient. The nurse in this scenario has worked as a critical care nurse for the last five years. She moved into the critical care area because she wanted to learn more and be challenged in her day-to-day job. When she started in intensive care she had a four-week orientation period, during which she worked alongside an experienced staff nurse. Since that time most of her learning has been at the bedside, although she has attended staff training days and a national conference of intensive care staff. She appears confident and competent at the patient bedside. How did she gain the knowledge and skills required to respond and care for this critically ill person? What was her experience of learning? How can those of us who are responsible for the education of learners within this specialist area assist them to make the transition to competent and confident practice?

My interest in the orientation and ongoing development of clinical practice skills within critical care nursing stems from my role as a clinical nurse educator in intensive care and coronary care nursing. I commenced my own orientation to critical care nursing twenty three years ago and have been involved in ongoing learning related to critical care ever since. Within my

current role I have had the opportunity not only to observe but also share the experiences of nurses making the transition to critical care. This led to a curiosity about the nature of their experiences and the factors that influence either the success or failure of their integration into the critical care setting. My position as both a provider of education and a critical care nurse gave me the opportunity to research from within the field of practice. This had advantages, such as being able to understand the language used by research participants to describe their experiences and the nature of their practice settings. Glaser (1992) refers to this ability to understand the nuances of the research field and incorporate them in the research process, as theoretical sensitivity or the,

> "researcher's knowledge, understanding and skill, which foster his generation of categories and properties and increase his ability to relate them into hypotheses" (p.25).

It also allowed me the opportunity to observe, reflect upon and critically analyse an issue that I consider important within my practice, the orientation and ongoing education of critical care nurses.

The orientation and ongoing development of critical care nurses presents challenges both for the nurse and the team responsible for the educational process. Learning to function competently requires exposure to clinical situations in which patients have the potential for physiological instability. This can be catastrophic if the learner fails to recognize and respond to changes in patient condition. The critical care team must balance their responsibility to provide safe and competent care to the critically ill patient with the need to

provide learning opportunities for the new critical care nurse. Bizek and Oermann (1990) identify the preceptor as taking on an,

> "added responsibility which demands more of the preceptor's time and energy, a fact that is particularly true in the critical care setting where the care of an acutely ill patient can be physically and emotionally exhausting for even the most experienced staff nurse"(p.440).

The orientation of new nurses involves a significant financial investment. The cost of standard organizational orientation has been estimated as 60% of an organization's total in-service budget (Kase and Swenson, cited in Lewis-Cunningham, 1988). When the transition is into an area of clinical specialization, such as critical care, financial cost and required resources are far greater. Within New Zealand hospitals, Morley (2000) identified a lack of standardization in both the duration and quality of nursing orientation to critical care. Issues such as a lack of trained preceptors, inadequate ongoing support for learners and the pressure for the learner to take on a patient load can impact negatively on the learning experience. Failure to orientate and equip the learner with the necessary skills for clinical practice has implications in terms of patient safety, job satisfaction, ongoing recruitment into the area and the retention of both the new staff member and existing staff.

The most common reason cited for nurses choosing to move into critical care nursing is to challenge and extend their existing knowledge and practice (Benner, Hooper-Kyriakidis, & Stannard, 1999; Reising, 2002). In moving into a critical care environment nurses enter an area of practice that requires a different type of clinical competency than required from nurses working in less

acute settings. Nurses who are unfamiliar with critical care initially find the technological environment of critical care overwhelming (Little, 2000; Walters, 1995). Alongside this, critical care patients and their families are often confronted with life changing situations and require high levels of emotional and psychological support, which further increases the demands upon a new staff member. Critical care patients are physiologically unstable and the nursing assessment, treatment and management skills required to respond to this instability are complex (Thelan, Urden, Lough & Stacy, 1998). To practice competently within critical care nursing requires not only knowledge of the pathophysiology and management of critical illness, but the ability to reason and apply this knowledge in often rapidly changing clinical situations (Benner et al., 1999). Critical care nurses learn to practice within an environment that is intellectually, physically and emotionally demanding.

Choice of research methodology

In choosing a methodology to investigate the learning of critical care nursing I wished to ensure that that experiences of critical care nurses remained central to the research process. Phenomenology has been used extensively to explore the experience of learning and working within critical care (Benner et al., 1999; Little, 1999). The data produced from phenomenological studies is descriptive and focuses on the illumination of experiential knowledge, however I also wished to identify factors that influenced the learning experience. Strauss & Corbin (1998) claim that grounded theory has the capacity to capture descriptive data and facilitate discovery of the underlying processes or patterns of behaviour. Because there was a wealth of

descriptive data about critical care nursing, I believed that grounded theory would be useful in providing fuller interpretation of the processes and behaviors that affect nurses during their transition to critical care.

In keeping with grounded theory methodology I did not commence this research with a clearly identified problem or question. I rather had a suspicion that there were issues or processes influencing nurses during their learning. The research therefore began with the broad focus of wanting to know how New Zealand nurses learnt to be critical care nurses. Glaser (1992) describes the grounded theory researcher as moving into the field of research,

> " with abstract wonderment of what is going on that is an issue and how it is handled" (p.22).

The challenge this presented for me was my involvement and familiarity with the field to be researched. Several of the methodological decisions I made related to a need to 'be open' in both data collection and analysis processes. These will be discussed more fully in Chapter Three. The choice of methodology was also influenced by the values I bring into my role as an educator. In particular I see the role of educator as that of empowering the learner to seek the knowledge they require and to gain the skills needed to function competently within critical care. Much of the existing New Zealand research focused on factors such as availability and accessibility of educational resources (Hardcastle, 2003; Morley, 2000). The focus of my research was on what the learner did to gain knowledge, rather than from 'where' knowledge was obtained. This, along with the variable availability of critical care education programmes in New Zealand, confirmed for me the

validity of focusing on the learner's experience to identify influences on their learning.

The other value I brought into this research process is an immense respect for the commitment and skill of critical care nurses. Well-educated and experienced critical care nurses make the difference on a daily basis to the outcomes of critically ill people and their families. This belief is reinforced by research into the differences experienced critical care nurses can make on patient outcomes (Ball & Cox, 2003; Ball & McElligot, 2003). These studies identified that nursing effectiveness, in terms of responsiveness to changes in patient condition and prevention of complications, relate directly to the knowledge and experience of nurses employed within critical care. As an educator my responsibility is to ensure that nurses with whom I work receive preparation for clinical practice that enables them to impact positively on patient outcomes. A greater understanding of the learning processes and education needs related to critical care may be of assistance in planning how best to meet the needs of future critical care nurses as they make the transition to specialist practice. Issues such as the aging nursing population and the dwindling numbers of people entering nursing are also causing concern for the future. Identifying how nurse leaders can make critical care a safer and more accessible specialisation for nurses may result in improve outcomes for critical care patients.

Structure of thesis

This thesis will be presented in three sections. The first section (Chapters Two and Three) focuses on the background knowledge related to both critical care

nursing and the research methodology. A literature review will be presented as part of this background knowledge but the relationship of literature to the findings of the research will not be fully explored until the last section of the thesis. This is in keeping with grounded theory methodology and allows for the findings of the research to set the direction for exploration of the literature related to findings.

Section Two (Chapters Four and Five) presents the findings of the research based on the participants' experiences of learning critical care nursing. The core categories, concepts and strategies used by learners during the transition to critical care nursing will be presented, along with a model of the learning experience. The final section is a discussion of these findings, firstly in relation to existing critical care nursing literature. Subsequent discussion of the two core categories: skill acquisition and professional socialisation will occur in relation to more generic literature.

In this chapter, I have given a brief overview of the field of research to be explored and the methodological choices that were made in undertaking this research. The following chapter will develop this further with an explanation of the development of critical care nursing as a specialist field of practice. A review of literature related to learning critical care nursing will also be presented.

CHAPTER TWO: BACKGROUND AND LITERATURE REVIEW

The setting for this research was critical care nursing. Critical care is the subspecialty of nursing that occurs within the setting of an intensive care unit where complex monitoring and treatment modalities are available. Within New Zealand there are currently nineteen hospitals that have designated intensive care units. The smallest of these units has three beds and manages high dependency level patients or those patients who do not require mechanical ventilation for more than a day. The largest units are situated in tertiary hospitals, have greater than sixteen beds and often contain subspecialty focuses such as paediatrics, cardiothoracic or neurosurgery. This chapter will begin with a brief overview of the evolution of critical care as a nursing specialisation, with particular reference to developments within New Zealand. A review of research literature related to both education and clinical practice within this specialist setting will then follow. The literature review for this research was undertaken in two parts. A preliminary discussion of literature will be presented here, with more in depth analysis related to research findings being presented in Chapter Six.

Background

Within New Zealand, nursing was established as a identified profession with the 1901 Nurses Act which regulated both the training and registration of nurses (Wilson, 1998). Over the past one hundred and four years nursing has evolved to reflect not only the major advances in health care but changes within society itself. Blais, Hayes, Kozier, & Erb, (2002) state,

> “Nursing evolved from the art of comforting, caring for and nurturing the sick, to a synthesis of this art with the science and technology of contemporary thinking” (p.30).

Legislation such as the 1901 Nurses Act, along with an increased need to access technology required for both diagnoses and treatment, meant modern healthcare became centralised within a hospital setting. By the 1950’s it was identified that the sickest patients did better if they were positioned together within the hospital setting, in closer proximity to nursing staff (Wilson, 1990). Early ‘critical care’ areas relied on nursing observation and assessment skills to detect changes in patient’s condition. The development of technology and its use within critical care practice was spurred on by the 1952 polio epidemic when successful prolonged use of intermittent positive pressure ventilation was documented for the first time (Trubuhovich, 2004). Within New Zealand, intensive care as a specialist area was established within both larger tertiary and secondary level hospitals by the late 1950’s (Fergus & Watts, 1967; Trubuhovich & Judson, 2001).

Whilst early units were set up in recognition that,

> “intense observation made better patient outcomes possible” (Wilson, 1990 p.32),

it was soon realised by both medical and nursing staff that nurses needed specific education to care both for the patient and the technology associated with observation and treatment. Early critical care nursing education was based within the clinical setting and often delivered by senior medical staff. Over the past thirty years nursing education has moved from hospitals to

tertiary institutions. Preparation for registration is by completing an undergraduate qualification which produces graduate nurses with what has been described as, “A little bit of knowledge across a wide range of settings” (Carroll, 2005).

The small numbers of critical care settings within New Zealand limits opportunities for student nurses to experience critical care nursing prior to registration. The lack of exposure to specialist settings prior to completion of undergraduate education, along with this broad educational preparation may be a deterrent to graduates being attracted to or entering specialist areas such as critical care.

Critical care nursing education has undergone changes that have impacted on the accessibility and structure of educational preparation for critical care practice. Historically, hospitals presented education in specialist practice areas for nursing staff (Trubuhovich & Judson, 2001). The advent of tertiary education and qualifications has resulted in the demise of hospital education resources. Critical care nursing education is now predominantly based away from the practice setting. There has been limited research undertaken into critical care nursing education within New Zealand. Hardcastle (2003) undertook a survey to evaluate the accessibility of education for critical care nurses employed in the South Island of New Zealand. The study obtained descriptive and exploratory data relating to three key areas. These included the proportion of critical care staff holding a post registration critical care qualification, the availability and the accessibility of such education. Whilst this survey identified geographical, occupational and social difficulties in gaining

access to education, the small sample and relatively low response rate prevent the findings from being generalisable to other settings.

Review of literature related to critical care nursing education

There is considerable international research into the orientation, education and practice of critical care nurses. One of the challenges for new researchers using grounded theory is how to explore and understand the published research without allowing it to influence their conceptualization of what is happening within the research field. In order to remain free from preconceived concepts that may alter the emergence of new knowledge, Glaser (1998) cautions strongly against undertaking a literature review prior to entering the research field. This caution must be balanced against the acknowledgement that it is inappropriate to undertake research without having some understanding of how the topic has already been explored. McCallin (2003) suggests that, in most situations, the student has prior exposure to the field of research either through specialist study or as part of the process of identifying an area of research interest. Within the context of this study a primary review of literature was undertaken to identify and develop the research focus and methodology and then once the core categories were identified to explore these in greater depth.

The attraction, recruitment and retention of staff into critical care nursing are ongoing issues of concern. Research by Oermann (1991) indicates that some form of pre-exposure to the critical care setting may be significant in terms of allowing staff to identify whether or not critical care nursing is for them. It also

explores the influence of practice exposure in terms of theoretical knowledge attainment. A comparison of two methods of critical care education was undertaken using a sample of undergraduate students who completed a fourteen-week critical care course as part of a baccalaureate programme (Oermann, 1991). Quasi-experimental pre-testing/ post- testing of theoretical knowledge was used to compare the two experimental groups with a control group of randomly selected students who did not participate in the critical care education. The first group of students attended a lecture series in critical care nursing, whereas the second group of students attended the lecture series and completed 112 hours clinical practice with a preceptor in a critical care unit. Students were subsequently contacted after graduation to assess whether they had maintained an interest in specializing within critical care.

Key findings from the research included a significant increase in knowledge within both experimental groups. Clinical practice in critical care did not influence the students' acquisition of theoretical knowledge as measured by the testing tool. However practical skills and the ability of the students to function within the critical care setting was not assessed within this research design. Analysis of the experimental groups and the control group of senior nursing students demonstrated a significant difference in terms of knowledge and perceptions of critical care. The follow up interview of both experimental groups found that 80% of the subjects had selected and were working in critical care as their first nursing position, post registration. The 20% who were not employed within a critical care setting reported that experiences in their

course had enabled them to make this decision before graduation (Oermann, 1991).

In a review of orientation processes, Williams, Sims, Burkhead and Ward (2002) describe a situation where orientee's dissatisfaction with an existing process resulted in poor retention of new staff. This led to the development of a 'nurse residency program' which involved sharing of the orientation process between the Education Department and clinical preceptors. The evaluation of the programme used integrated quantitative and qualitative methods, including evaluation of staff turnover rates and focused interviews, post implementation. Analysis of turnover rates between units involved in the 'nurse residency' program and other units using non-specified orientation methods showed lower turnover in the trial units. There was no presentation of qualitative findings but a statement attests to the fact that the qualitative data collected in the focus interviews was congruent with the quantitative data captured in the feedback tools. Whilst this research supports the concept of active involvement by preceptors within the planning and delivery of orientation, it does not identify the reasons why this involvement made such a difference to orientee's experiences. Other variables such as professional supervision or mentoring, or socialization of the new staff member into the unit may have been equally as effective in terms of the measured outcome. Three of the non-involved units had a similarly low turnover rate, which suggests that there were more factors that influenced the retention of new staff than those identified by this research.

It has been suggested that orientation and competency development packages fail to address the development of critical analysis and problem solving skills (Endacott, Scholes, Freeman and Cooper, 2003). There is a strong focus on technological and task based skills within critical care orientation. Issues such as the learner's ability to problem solve or establish care priorities are often overlooked. Kidd and Sturt (1995) developed and evaluated the use of an orientation pathway in the development of orientee's decision-making skills. Preceptor feedback had highlighted that,

> "problems in job performance were frequently related to the nurse's inability to solve problems and not in psychomotor skill performance" (p.522).

A convenience sample of seven consenting pairs of preceptor and orientee with matched learning styles were selected to pilot this research project. Data collection involved a demographic questionnaire, followed with a weekly evaluation by the preceptor of the orientee's progression along the competency development pathway. This research identified that the use of a structured pathway, which addressed the attainment of clinical decision-making skills along with traditional knowledge requisites, was effective. The research also identified the length of time that the orientee took to attain the highest level of proficiency as measured by the research tool. Prior to this study the orientation programme was a 12-week process. However the research identified that all orientees attained proficiency in the measured critical thinking and problem solving skills within 8 weeks of commencing orientation.

Little (1999, 2000) used phenomenological methodology to explore the meaning of learning for qualified nurses undertaking a post-basic critical care education programme. Data collection involved two forms of interview. A group interview was held immediately on completion of the training, followed by individual delayed interviews, which took place three months after training completion. The researcher also documented her own learning experiences and used reflective journaling throughout the analysis process. Data analysis commenced with transcription of the tape-recorded interviews, followed by identification of the common themes within the transcripts. These were then prioritized according to their reoccurrence and the significance given to them by participants and the researcher. The findings were presented as essential and incidental themes. The essential theme, learning as technological mastery, is consistent with that of similar research into critical care education (Benner, Hooper- Kyriakidis and Stannard, 1999; Walters, 1995). The two incidental themes identified were focusing and questioning. The experience of learning through focusing and questioning are characteristics of reflection which assist the learner to integrate theoretical knowledge into the practice setting. In a second paper, Little (2000) further explores the theme of technological competence and to discuss issues such as the development of national core competencies in relation to the findings. This evidence of ongoing reflection and analysis of the research data is consistent with the methodology underpinning Little's research.

The impact of technology was also discussed by Walters (1995) who explored the practice of a group of Australian critical care nurses. Whilst this research

does not focus on orientation or learning, it does contribute to the body of knowledge related to critical care nursing. Walters chose to research from a phenomenological hermeneutic perspective aligned with the work of Heidegger. This exploration focuses on critical care nurses within their day-to-day practice to identify their experiences of ‘being-in-the-world’. The data collection involved interviews with eight specialist nurses from within a critical care setting. They were asked to respond to the question, “What is the meaning of caring to you in the intensive care unit?” Data analysis revealed two main themes: that of ‘being busy’ and ‘balancing’. Being busy was defined as a tension experienced by the nurses due to the technical competence required to practice within the setting, along with the fast pace of the environment. Within the theme of ‘being busy’, nurses described how caring for patients on a one-to-one basis engendered personal closeness and connection to the patient and family. The theme of ‘balancing’ refers to the role the nurses undertook in managing the technology required to care for a critically ill person. The nurses described their efforts to make the ‘patient as a person’ the priority within the environment, rather than the technology.

Research by Calkins (2000) focused on the social structures within a critical care unit that allow for the development and support of learners. An ethnographic method was used to develop a description of the social context in which clinical judgments are made. The aim was ethnographic description rather than interpretation and no attempt is made to explore issues behind the findings. Data collection entailed fieldwork within a critical care unit and included both interview and casual observation of interactions between

different groups such as physicians and nurses. Participants were then involved in reviewing the field notes for accuracy prior to ongoing interpretation. Data collected also included documents such as communication books, orientation material, meeting minutes and clinical flow sheets. Initial coding categories were based on literature research, however as the research process evolved additional new themes were identified and included in data collection and analysis. The social structures identified within the critical care setting included the interactions within the nursing team, how care of a patient is allocated and handed over between nurses and the communication between nurses and physicians. Calkins states,

> "an examination of the processes used to form clinical judgments allows unit leaders and clinicians to reflect on processes that otherwise might be invisible" (p.25).

The research identified that these 'invisible processes' are particularly significant for learners who are attempting to understand and function within a new culture. Acknowledgement of the value of social process, such as communication between staff members may assist with the structuring of processes that support learners within the critical care environment.

The studies that most closely resemble the findings of my own research explored the process of socialization and learning for new critical care nurses. Reising (2002) used grounded theory to investigate the experiences of learners during their first four to five months in the critical care setting. The emphasis of this research was identification of the stages of professional socialization. The findings of this research reflect the strong influence that

interpersonal relationships with nursing team members have on the learner during the process of transition to critical care. The stages of the transition process followed a similar pattern as those described by the participants within my research and will therefore be discussed more fully in Chapter Six. Grounded theory was also used by Huggins (2004) to explore how nurses working in intensive care gain knowledge and skills. The key findings of this research are that learning is a lifelong process, which is affected by internal, external and patient related factors. Both Reising and Huggins' work was based within the USA therefore one of the reasons for repeating a similar piece of research within the New Zealand setting was to identify possible differences between these populations. The findings of my research will be compared with these studies more fully in Chapter Six.

Hurst & Koplin-Baucum (2005) researched the sustainability of critical care nursing practice. They identified professional socialization and the impact of the relationships between the nursing team members as being central to reducing the risk of burnout. The sample group was nurses who had worked within the critical care environment for more than ten years. The aim of the research was to identify characteristics that enabled individual nurses to remain employed in a highly stressful and demanding clinical specialty. Data analysis involved the identification of dominant themes from the interview data. Within the findings nurses had identified compatibility with their co-workers as being central to 'setting the culture' of the unit. Issues such as similar personal values of team members and a sense of commitment within

the team were also identified as being central to their enjoyment of their clinical roles.

Discussion

The research reviewed contributes different forms of knowledge in relation to issues of orientation and ongoing development of nursing within critical care. The quantitative research tended to focus on efficacy of education in terms of easily measured and immediate outcomes, whereas the qualitative research provides deeper understanding through the analysis of experiential data. In all of the studies technological mastery was a recurrent issue for new staff within the critical care setting. This endorses the focus of competency-based education where students are expected to learn and demonstrate technological competence. However the research also revealed issues such as problem solving and clinical priority setting are important when attaining clinical competence in critical care nursing (Little, 1999; Walters, 1995and Kidd & Sturt, 1995). The impact of integration into the clinical team was also identified as essential during the formative stages of learning and ongoing practice development (Calkins, 2001; Reising, 2002). However much of the research was based in larger countries such as the United Kingdom, Australia and the United States of America. There was an absence of research that explored the experiences of critical care nurses working in smaller countries where educational opportunities and professional development may be difficult to access. I felt this justified my decision to explore this area within the New Zealand setting.

This chapter has reviewed both the background of the development of critical care nursing as a field of specialist practice and the preliminary literature related to the learning of critical care nursing. The next chapter will outline the choice of methodology and methods related to this research.

CHAPTER THREE: RESEARCH METHODOLOGY AND METHODS

The choice of methodology and methods for my research reflects my intent to base this research within the experience of critical care nurses. The relatively small population of New Zealand critical care nurses and the difficulty that prior researchers had experienced in collecting data from this widely dispersed group were also deterrents for undertaking quantitative research within this group (Hardcastle, 2003). Qualitative research allows the researcher to collect data directly from the experiences of the participants. Nurses are skilled storytellers. Vandergoot (2005) used narrative enquiry to explore the stories related to orientation within critical care nursing. Similarly phenomenology has been used by Benner et al (1999), Little (1999, 2000) and Walters (1995) to capture experiential stories which illustrate the findings of their research. As a new researcher and a nurse I was attracted to a methodology which used the gathering and analysis of stories to create a deeper understanding of the processes involved in learning critical care nursing. However I was also aware that, as both a critical care nurse and an educator, I was researching an area of practice with which I was very familiar. I was concerned that this familiarity may mean that I would fail to identify factors that were of significance to the learning process. Grounded theory uses a systematic set of data collection and analysis procedures to develop an inductively derived theory from the data (Strauss and Corbin, 1998). The research process is designed to aid discovery of explanatory theory that furthers the understanding of social and psychological phenomena (Chenitz and Swanson, 1986). For a new researcher the use of a systematic approach that allowed for the discovery of processes and structures that underpinned

the transition to critical care nursing were attractive reasons for choosing grounded theory.

Within this chapter I will briefly outline the development and major premises of grounded theory. I will then explain the methods I used within my research to maintain congruency with grounded theory methodology. The work of Chiovitti and Piran (2003) will be used as the framework for reviewing the rigour of the study. Several models of concept development will also be presented and discussed in order to illustrate the process of analysis and emergence of theory within the research process.

In the 1960's two sociological researchers, Anselm Strauss and Barney Glaser, began working together on a study into the social processes involved for patients dying within a hospital setting (Glaser and Strauss, 1967). Through the course of their work they realised that they had combined their different ways of approaching the research field and 'discovered' a new research methodology. Strauss, a social psychologist, was influenced by the philosophy of symbolic interactionism, which focuses on interpreting the meaning of events to people in natural or everyday situation. It studies the reality of the situation together with the action and consequences of the interaction. In contrast, Glaser came from a background of quantitative analysis and was familiar with the use of statistical data in generating hypothesis to interpret social behaviors or attitudes (Stern & Covan, 2001). Between them they developed a model of research that focused on discovering theory or explanations for a phenomenon by systematically

following a set of procedures to develop an inductively derived grounded theory about the phenomena (Strauss & Corbin, 1998). In 1967 they published their methodology (Glaser & Strauss, 1967) and began teaching students how to use Grounded Theory as a methodology within sociological research. Over time their careers took them in differing directions. Differences in their underlying philosophical stances subsequently resulted in a published debate between them related to the nuances of Grounded theory processes (Glaser, 1996; Strauss & Corbin, 1998).

In their original work Glaser and Strauss focused on the use of induction, to generate concepts from the data collected during the information gathering processes. These concepts are then examined, ordered and grouped, or coded into categories that explain the processes or events observed within the social field being researched. This process of induction and conceptualization was one of the key areas of difference between the two sociologists in their later writings on methodological process. Strauss & Corbin (1998) proposed a structured process of analysis called axial coding which takes the raw data and subjects it to a set of techniques to code, conceptualize and categorize it. In contrast Glaser (1998) uses neutral questions such as “What is this a study of?” and “What property of what category does this incident indicate?” to focus and structure the conceptualization processes for the researcher. A key requirement of the analysis process is the use of constant comparisons of identified concepts to discover the commonality that allows the researcher to categorize or group the concepts together. Memoing or note taking by the researcher is also

central to both data collection and analysis and begins at the start of data collection, continues throughout interpretation and analysis and may even develop into the skeleton of the written up research. In this way the interpretative work of the researcher is incorporated throughout the research process and eventual findings. Grounded theory relies on the concurrent analysis of data throughout the data collection process to set the direction for the research and subsequent data collection. This concept of theoretical sampling is core to the process of grounded theory and ensures that the research findings originate and develop from within the data collection process (Glaser, 1996). The application of these principles of grounded theory research will be discussed in more depth in relation to the methods used within the research process.

Ethical Considerations

Approval for this research was granted from the Auckland University of Technology Ethics Committee (see Appendix 1). Whilst there is no ethical approval process within its current structure I also contacted the chair of the Critical Care Nurses Section of New Zealand Nurses Organization to inform this group of my intention to research within the field. Maintaining ethical rigor within the research processes was important for the protection of the study participants and for the credibility and validity of the research findings. One of the concerns prior to undertaking this research was that the critical care nursing population within New Zealand is a relatively small group and maintaining participant confidentiality would require the removal of all identifying details from the research.

Another consideration, when researching within one's own field of practice, is that the researcher may fail to recognize significant factors because of their familiarity with the research setting. Strategies such as sampling outside of my own work environment ensured that the practice settings were less familiar to me. The other aspect of grounded theory that assisted me to set aside my assumptions was the grounding of the research findings in the data collected from research participants. Prior to undertaking data collection and analysis I wrote memos outlining my ideas about what may be the most influential factors for the participants. Whilst these memos were initially intended to act as possible cues for questions to pose during the interviews, in hindsight they served more purpose in allowing me to recognise my preconceptions. As an example, the factor that I thought might be the most significant for learners, access to formal critical care education, was barely mentioned by participants. Therefore this became a useful method of checking that the findings were grounded within the participant's accounts of their experiences rather than from my own experience.

Allowing the participants to set the direction of the inquiry process is central to ensuring the research remains grounded within the participant's experience. Grounded theorists may enter the research field without a clearly defined research question. Holloway and Wheeler (1996) state,

> "Grounded theory researchers start with an area of interest, collect the data and allow the relevant ideas to develop" (p.100).

Whilst I entered the research knowing that my area of interest was learning critical care nursing, I did not have a clear research question. My first three interviews had only one structured question, which was “Tell me how you learnt to be a critical care nurse?” Analysis and identification of the common concepts within these interviews set the direction for subsequent questions and sampling. Allowing the participants to guide the inquiry process is central to ensuring that the data is grounded within their experience rather than that of the researcher (Chiovitti and Piran, 2003).

Sampling

Initial recruitment of participants was through advertising (Appendix 2) in a professional bulletin (Critical Comment, June 2004). Purposive sampling was undertaken to ensure that participants came from a range of critical care settings including large tertiary units with 10- 18 beds to smaller less specialist units with 2-5 beds. The critical care unit in which I work and any possible participants with whom I had professional contact as an educator were excluded from participating in the research to avoid potential for bias and/or conflict with my professional role. Sampling criteria included the participants having commenced their critical care nursing within New Zealand. I had thought this to be important because one of the potential problems I had identified in my reflection on the research field was that critical care nursing education may not be very accessible for nurses employed in more remote areas of the country. However, the findings did not support this. Differences in learning experiences appeared to result more from the structure and size of the workforce than from accessibility to education.

Further criteria set for sampling included that the participant be 'competent' within critical care nursing. At the time of commencing this research there was no standardized assessment tool for ascertaining competency within the NZ nursing population, these were introduced in July 2005 (NZNC, 2005). However organisations had adopted the use of tools such as Clinical Career Pathways (Bay of Plenty District Health Board, 2001) or Professional Development Recognition Programmes (Auckland District Health Board, 2002) as ways of scaling individual staff competency. However this process was not standard throughout the country and could not be used as a sampling criterion. In reflecting on my own and other practice settings, I observed that within the rostering or management of the clinical area on a day-to-day basis, the use of a designated nurse to provide clinical co-ordination or shift leadership was common practice. The inclusion criterion relating to competency therefore became the capacity for a participant to function in a coordination or similar leadership role.

Whilst the major source of data generation was from interviews, Glaser (1998) supports the perspective that 'all is data' and thus I found casual comments made in conversation with nurses interested in the research were also valuable sources of data. Memoing my reflections of these informal conversations facilitated their inclusion in the analysis process. Theoretical sampling was used after the first three interviews as several core categories related to learning had been identified. These included the impact of the orientation period, the relationship of the learner to preceptors and other team

members and the impact of technology during skill acquisition. Participants who had acted as preceptors for learners were sought and questioning changed to capture their experiences of learning.

Data collection processes

Initially participants were recruited from those who responded to an advertisement within the professional bulletin. After ascertaining that the participant met the criteria for inclusion, an information sheet (Appendix 3) was sent out to potential participants who then either declined interview or chose to make contact and proceed to interview. Written consent to audiotaping of the interview was obtained and the participants were asked to review their transcript. They were encouraged to comment and/ or add to the interview data if they wished. However no one made significant changes to the original interview data.

The first three interviews were unstructured with the only question being, “Tell me how you learnt to be a critical care nurse?” These interviews were fully transcribed prior to analysis and line-by-line review was then undertaken. Concepts that appeared relevant to the learning experience were identified and a list of these was collated. This first stage of data identification is referred to as open coding (Strauss & Corbin, 1998). Terms or labels offered by the participants to describe their experiences were used to name the concepts and the data remained very much in a raw state.

Sampling for subsequent interviews followed theoretical sampling, which is described by Glaser and Strauss (1967) as,

> "the process of data collection for generating theory whereby the analyst jointly collects, codes and analyzes his data and decides what data to collect next and where to find them, in order to develop his theory as it emerges" (p.45).

Theoretical sampling widened the representative sample to include participants with differing lengths of time working within critical care and allowed for further development of the substantive categories identified within the initial interviews. Demographic data such as age, ethnicity and actual length of time employed within critical care was not formally collected although all participants disclosed the length of time they had worked in this area during the course of their interview. The length of critical care experience amongst participants ranged from 2.5 to 23 years.

Coding of interviews and subsequent data analysis

Grounded theory is a non-linear research process therefore analysis began with the first interview and proceeded through subsequent review of transcripts and memos. In the initial stage open codes from the interviews were transferred onto small flash cards that were then sorted, grouped and re-sorted until clear relationships or categories began to emerge. This process allowed for refining of the initial coding as different 'open' codes for the same underlying process became apparent within a category. Figure 1 below provides an example of the first stage of the analysis / interpretation process. The concept has been described as preliminary in this diagram because as data collection and analysis continued the core category evolved into being a

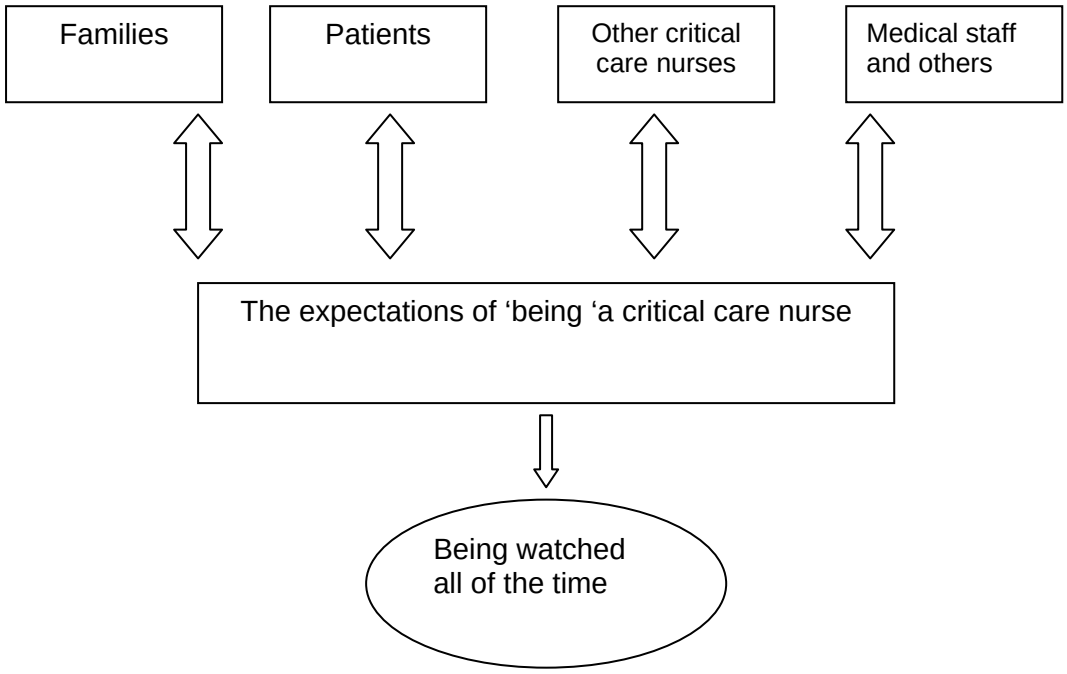
loss of confidence rather than only relating to awareness of their level of practice.

Being aware of their level of practice	• Feeling like a complete novice • Placing high expectations on themselves, e.g. competency within 3 months. • Conscious of being watched and judged • Not knowing what they didn't know (the theory) • Acting / pretending to be a critical care nurse • 'Doing the do' without understanding why • Getting my head around the technology • Starting from scratch again • Pressured to function safely • Forgetting what you did know

Figure 1: Initial grouping of data into a preliminary concept

This process of sorting and resorting open codes was useful in structuring subsequent interviews because in the process of sorting, areas that warranted further enquiry were identified. One example of this was identifying factors that made the learner aware of the 'need to learn more'. Identifying this as a common code for participants led me to ask the question, "How did you realize that you needed to learn more about critical care theory?" Memoing was an integral part of the data collection and analysis process; it took the form of journalled notes and memos in the margins of the transcripts. Memos

within the transcripts often translated directly into open codes, but also identified the direction for ongoing enquiry. Diagrammatic representation of the relationship of concepts to categories was used to link concepts and identify the impact that they had both to each other and the category. These representations evolved through the research process from simple tables of data to more complex diagrams to represent inter-relationships between the core categories. As an example (see figure 2) the concept of learning under scrutiny was developed through the use of this diagrammatic representation of the impact of scrutiny on the learner.



Negative: Panic, mind goes blank, confusion, failure

Positive: Support, safety, team-ship

Figure 2: The pressures of being watched while learning

Conceptualising or interpreting the raw data is a big challenge for a new researcher. Glaser (1978) suggests that the researchers ask key questions, such as,

> "What is this data a study of? What category does this incident indicate? What is actually happening in the data?" (p. 57).

This process is integral to grounded theory in that the methodology relies on induction, or the researcher's ability to interpret concepts from within the raw data, to explain the underlying process for subsequent theory development. In this study the core categories of learning to do (skill acquisition) and learning to be (professional socialisation) were identified using this questioning approach. Constant comparison of the concepts within and between the transcripts served to identify concepts that were common across the transcripts and concepts that were unique to individual participants. Constant comparison continued throughout data analysis until no new concepts appeared within interviews, or saturation was reached. Saturation is the point at which data replicates and no new information emerges from the interviews (Chiovitti & Piran, 2003).

After the first five interviews, the core categories had been identified and data collection was modified from complete typing of transcripts to the use of field notes, which were written immediately after the interview. Glaser (1978) suggests that a full transcript of interviews generates a large volume of data, much of which is incidental to the research process. The full transcripts were becoming increasingly repetitive and I therefore moved to taking brief notes

during the interview to support the data and analysis process. Participants were encouraged to review these notes with me during the interview process. I used an open note pad and noted key words or phases used by the participant. Where these open codes appeared to link with core categories that I had already identified, I circled the phrase and asked the participant to discuss it further. As an example, one participant described the need for the learner to be assertive. When asked to elaborate on what being assertive meant the participant stated: *"Asking questions. Seeking help. Talking about what is happening for their patient. Having the self confidence to just keep on asking".* This participant then went on to describe how this behaviour was viewed within the clinical setting as both positive and negative. The importance of the learner being integrated into the team was then identified. This all confirms the validity of professional socialisation as being a core category. Therefore data analysis became a shared process particularly in the last three interviews. This process of checking out the construction of theory against the participant's meanings helped ensure that the analysis and interpretation process remained congruent with grounded theory methodology.

By this stage of interviewing I had altered both sampling and questioning to capture the experiences of staff that had been involved in preceptoring or orientating of new staff into the critical care area. These participants were asked to reflect on their observations of the orientation process for new staff. The collection of this data was important as it both added to and confirmed the validity of the core concepts that had been identified from the original

interviews. A total of eight formal interviews were performed after which time I felt that no new concepts had been identified in the last two interviews. Analysis had commenced with the first interview and I now had a large amount of data available for ongoing analysis.

Glaser (1996) discusses the phase of analysis and emergence with an almost religious fervour. He describes the dawning of realization of core concepts, categories and theory as being a revelation, which occurs to the researcher through their immersion in the data. Certainly, on reflection, there were times when I had a sense of seeing or understanding more clearly what was happening for the learner at a particular time. Analysis of the experiences of the learners during their first months within critical care was one such example. The phrase, “I felt like a complete novice again” was a common concept experienced by participants. Initially this was coded as “Being a complete novice”, however on further analysis and comparison between transcripts it evolved into the concept of “disempowered, due to lack of competence and loss of confidence” because this more closely represented the experience of the learner.

Eaves (2001) outlines the use of a synthesis technique to identify the interrelationships between categories and subcategories. I found that the diagrammatic representation presented within this work enabled me to identify not only influences on the learner but also strategies they used to overcome these influences. This also helped in understanding how the diverse concepts related to the learning experience. I was able to develop an explanatory

model to show these relationships. Whilst the initial research methods were based on the principles of Glaser (1998) using broad questions to identify the categories and their relationship to the theory, I found the model of analysis adapted by Eaves to be a systematic method for both sorting and clarifying the relationships between the emergent categories. This is outlined in relation to my own work in Figure 3.

Basic Social Psychological process	**Basic Social Process**	**Stages**	**Strategies**
The learner is… 'disempowered' by loss of confidence and lack of competence. 'Isolated' unable to take on full team responsibility / outside of the team culture	Learning in a high pressure setting ↓ Scrutiny ↓ Personal sense of fear and responsibility ↓ High expectations of self/ and from others	Learning to do ↓ Recognition of knowledge deficit ↓ Learning to be	a. Focus on learning technology and tasks b. Mimic behaviors of preceptor or significant team member' c. Acting or pretending a. Striving for knowledge and experience b. Questioning, practicing and problem solving c. Identifying mentor / role model – support and affirmation' d. Repetition a. Negotiating relationships b. Practicing c. Experience/ time/ exposure to clinical setting d. Competence = confidence e. Becoming a fully functional team participant

Figure 3: Applying the synthesis approach of GT analysis – adapted from Eaves, 2001

Having established the core categories of “learning to do” (skill acquisition) and “learning to be” (professional socialisation) together with the concepts related to both influences and strategies, I then explored the literature relating to these concepts.

The process of reviewing literature for this study was undertaken in two parts. Initially the review focused solely on the information required to develop and justify a research proposal. The second phase of literature review involved searching for information related to the core categories along with any more recent data related to learning critical care nursing. Key pieces of work (Benner et al., 1999; Huggins, 2004; Reising, 2002) were identified at this stage and used to compare and validate the findings. The final phase of analysis occurred with the writing up of research findings when the structure for presentation of findings and a framework for explaining the process were finalized.

Chiovitti and Piran (2003) have outlined a model for evaluating the rigor and therefore the validity of a grounded theory research study. The methods of evaluation include checking that eight key aspects of grounded theory research have been adhered to. I have discussed issues such as selection of participants for the research, allowing the participants to guide the inquiry, checking the theoretical construction against participant’s meanings and the use of the participant’s actual words within the theory. The scope of the

research emerged during the research process as being the orientation period and the time immediately following orientation. This time period was identified by the participants as being the most significant to their learning experience. My own views and perceptions into the phenomenon of learning critical care nursing were incorporated into the research process through memos and through the analysis process. The literature, as it relates to the research findings, will be presented within Chapter Six.

In concluding the review of the research methods utilised I also evaluated my findings against the framework presented by Glaser (1992). He described well-constructed grounded theory as having four key aspects. The categories and their properties must 'fit' the realities of the field of research. Endorsement of fit came with the review of literature that supported many of the research findings. Glaser goes onto describe grounded theory as needing to 'work', to explain the variations in behaviour in the area. The identification of issues such as the learner's self- esteem and the stages of the transition process all provide a framework for understanding the variations in learner's experiences,

"If it fits and works the grounded theory has achieved relevance" (p.15).

The last key aspect is whether the research is modifiable and can be added to or adapted when new data presents variations in emergent properties and categories. The process of interpretation and analysis makes grounded theory infinitely modifiable. A challenge within this research was identifying the point of completion of the research process and withdrawing from data immersion in order to present my research findings.

The following chapters will present the findings of my research and their relationship to literature. Further development of the research will be discussed in Chapter Six.

CHAPTER FOUR: LEARNING UNDER PRESSURE – INFLUENCES ON THE LEARNER

Critical care nurses learn to practice within an environment that is intellectually, physically and emotionally demanding. Identifying the processes that influence the learner during orientation may help educators and preceptors gain an understanding of how best to support the learner. Symbolic interactionism, the underlying philosophy of grounded theory, seeks to understand not only social processes, but the consequences of interactions on the individual or group (Jeon, 2004). This chapter will describe the transition of the research participants during their orientation and initial period of learning within the critical care setting. The processes or social interactions that influence the learner during this time will be identified, along with the consequences these processes have upon the learner during the induction process.

The significance of the orientation period and the time immediately following orientation should not be underestimated. Participants identified this as being the most stressful time during their transition to critical care nursing. Despite the range of time since orientation (2.5 – 23 years) all participants had vivid recollections of experiences that were formative during this time. Recollections of their experiences remain charged with emotion for participants who felt unsupported or bullied during their induction. A sense of being overwhelmed and under enormous pressure both to learn and perform clinically was described. Figure 4 outlines the processes that influence learning in the context of critical care nursing.

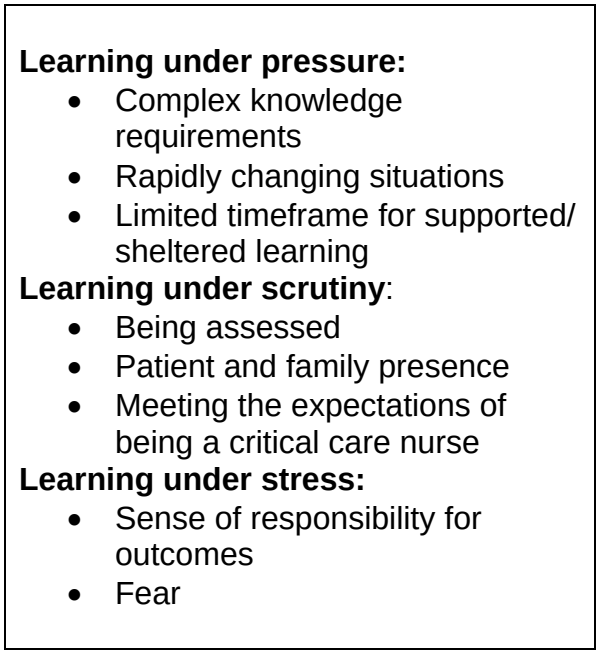


Figure 4: Processes that influence learning critical care nursing

LEARNING UNDER PRESSURE

All of the research participants entered the critical care area with prior clinical experience, yet they described beginning practice in critical care as being similar to that of a graduate entering clinical practice for the first time. The quantity and complexity of the learning that they would need to undertake to practice within critical care was overwhelming. The technological nature of the critical care environment and the requirement to care for severely ill patients impacted significantly. Participants entered the setting knowing they were expected to gain sufficient competence to take on responsibility for patients after a short period of orientation. As a result of these multiple demands the learners felt pressured to learn.

Complex knowledge requirements

Critical care is a highly technical setting; the participants spoke of having to learn how to use the various forms of technology:

"And just the machinery and the technology, it was like – the first week, my head it was just like crammed full of stuff and it was getting your head around all the equipment and the dials".

They also talked about feeling overwhelmed when looking at a critical care bed space and of not being able to *"see the patient for the number of machines around the bed"*. Direct patient care included procedures, such as suctioning an intubated patient, required the learner to focus on the steps of a technological task, rather than the patient:

"I probably didn't start thinking about the patient in the bed until about six months because of the machines and you are kind of so busy, looking at the machines. And once you start to get your confidence with them and I think that that's at about six months, that's the time that you will start to feel, start to look at the patient first and then look at the machines".

Rapidly changing clinical situations

The unpredictable nature of admissions to the critical care setting, together with the unstable physiological status of critical care patients, had a major impact on the learners throughout their orientation and subsequent clinical experience:

"I know for two years, every time the phone went I would think, 'Ohh…what's this one?' And after two years I felt comfortable I could deal with whatever came through the door, but up until then there was always that little, 'What's going on?".

Participants also described emergency situations that had caused them to feel unprepared or out of their depth in the critical care setting:

"I am still a bit nervous about what this patient's going to do, judging by the look of it – but as a new person you just feel, white knuckle sort of fear and you just race off and get somebody or something".

TIME LIMITED LEARNING

Participants perceived there was a 'limit' to how long they could remain a learner within the practice setting. During their orientation period, both the learner and the team viewed questioning and seeking direction, or reassurance in decision-making as positive. The orientation period was recognised as a defined period of time after which the learner was expected to function relatively independently and need less direction or support:

"I think you get to a point where you realise…you feel…like you can only ask so many questions and people are going to say like, 'Gosh, she's a dumb ass'. So I know that that was a little bit more pressure".

Participants described feeling they needed to be able to function independently at three months, because others might see them as not progressing to competency:

"I knew things were being said about me [being uncertain and asking questions] because the charge nurse at the time, I think this was at three months, told me that maybe I was not suitable to work in ICU; that I should think of maybe moving to one of the wards".

Further reinforcement of the concept of a time frame in which to gain competency came from participants who had been involved as preceptors. When they were questioned about learners who had difficulty orientating to critical care, there was a sense that by three months those new to the setting should be able to function with minimal supervision, except in complex or unusual situations.

Learning under scrutiny

Learners were intensely aware of being watched not only by their preceptor but also by other team members. The sense of being under scrutiny was an added pressure during the orientation and this had both positive and negative

effects. In some situations awareness of team members watching gave the learner a sense of safety and support:

"I knew they [the senior nurses] wouldn't let anything bad happen".

In other situations the learner found the scrutiny negative and judgemental:

"There was one particular nurse who watched me to catch me out and to pick up on things and it wasn't my patient care. It was operational things, like have you done the admission book? It frustrated me when I handed a patient over to her, because I would be wanting her - to just stand there and listen to what I was telling her, but she would be going, 'Have you done this? Have you done that?'"

Regardless of whether the effects of scrutiny were negative or positive, they added further pressure to the learning experience. A participant who had described the experience of being watched as positive and supportive still said, *"I am sure that their beady little eyes were looking at me".*

Being assessed

Scrutiny of practice was identified by participants, who had been preceptors, as a form of assessment of the learner's ability to function within the critical care setting:

"At some stage during their orientation you have to take the decision to step back and just watch and let them do things. Because otherwise you'll never know if they are safe to let lose on their own with patients".

This conscious stepping back from the learner to assess their competency may correlate with the stage described by the learner as *'being on their own'.* This seemed to occur towards the end of orientation when the learner was expected to start taking responsibility for patient care. Although this was seen as frightening and testing for some learners, others viewed it as a positive step towards being competent within the setting:

"They checked out my knowledge levels before they would give me a patient or there were some that were very good at saying things like, 'This patient would be good for you to look after' and would really look after me and check out that I was happy with what was going on".

Patients and families presence

Participants were also aware that patients and families witnessed much of their learning. This added the pressure of needing to appear competent to maintain the trust of the patient and the family:

"And I always got so much positive feedback from the patients…and so I thought, 'My goodness it would be absolutely terrible for them to realize that I am not the good nurse that they think I am".

Criticism of their practice, particularly when it occurred in front of patients or families had a major impact on their confidence. This criticism of care, particularly if it occurred in the presence of patients or families, was interpreted as a form of bullying on the part of the senior staff member to belittle the learner:

"Another one would bring up something like, 'Gee he's a bit whiskery' and would say to the relative, 'I bet he likes to be clean shaven all the time' and I would have just been saving the patients life – and it was like, I don't need that in front of relatives".

In this statement, the learner is expressing frustration at the criticism of her nursing care (not shaving the patient) by the oncoming staff member, when her priority had been to deal with more critical aspects of patient care.

Meeting the expectations of being a critical care nurse

Many of the participants entered critical care nursing with a sense of wanting to achieve more than had been possible within their prior practice setting. They were looking for a change of direction that challenged or extended them. For others there was the desire to become more confident in their ability to

function as a nurse. All participants had prior experiences of interactions with critical care nurses either in their practice setting or during their training. These had impacted both on their desire to move into the critical care setting and on the type of nurse they wanted to become:

"There were potential emergencies in the hospital situation and I would be very nervous, I couldn't really handle this and I thought, Right, that if I worked in ICU and I spoke to a few ICU nurses and saw the way that they were so confident in everything and I thought I really would like to learn that".

Participants described the pressure of needing to live up to an image they had of how to behave as a critical care nurse:

"You have to present this confidence the whole time and to other staff when you are the one that they are looking at. And inside you are thinking, oh shit!! What am I doing? And waiting to be found out, I suppose the whole time".

The need to appear competent may also have acted as a barrier or impediment to the learner seeking out learning within their practice:

"I went to a smaller hospital and suddenly it was like, 'They think I know what I am doing!' but I don't really. And because I was an outsider I relied on books and things to find out".

In this scenario the nurse chose to access sources of knowledge such as books to gain knowledge for her practice, rather than asking for help from the team with whom she worked. The team seems to have higher expectations of her because of her prior experience in a larger hospital. Thus the learner felt less willing and able to access the team for support.

LEARNING UNDER STRESS

It is unrealistic to expect learners to attain and assimilate the amount of new knowledge required within critical care into their clinical practice, within a short time frame (Reising, 2002). However learners all had the expectation that they would attain competency within three months (p.40). Whilst some focused on

reading and information gathering from the onset of their learning, achieving competence requires practical experience. Benner's work (1984) recognized that nurses develop skills and understanding of patient care over time. This is a result of a sound educational base integrated with a multitude of clinical experiences. The learners entered the critical care area with minimal prior experience of caring for critically ill patients. The presentation and progression of critical illness was unknown to them and the foreignness of the practice setting was frightening. An experienced critical care nurse can identify patterns of patient response related to therapies such as titration of sedation but the learner does not have the clinical experience to recognise these patterns. This results in a feeling of increased sense of responsibility and fear when confronted with changes within the patient condition that they had not encountered before.

Sense of responsibility for outcomes

The participants described carrying a sense of responsibility for patient outcomes that felt like a weight on their shoulders. As learners they described being hyper vigilant and needing to check and recheck their decision making and actions. At times they were aware of making mistakes or oversights. These instances were significant for them:

"And it is a hell of a lot of responsibility, which OK at the time they [the critical care team] would say, it's not your fault, you're only new, but you always felt that it was your responsibility. And the things that you did wrong, when somebody nearly died or whatever, are forever fixed in your head and you never forget them and you never make that mistake again. But it's not a good way to learn."

During the orientation period the learners were supervised in their practice and in the time immediately following orientation there was still the

expectation that the team would provide support and guidance for their decision-making. However the expectation that the learner would achieve competency quickly impacted upon the learner seeking support:

"After a while you know, you can't keep asking questions because they just seem to get fed up with you. And you start wondering if you are really slow because you just aren't getting it…so you muddle through".

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The situation described by this participant illustrates a conflict the learner undergoes as they make the transition to independent practice. This conflict is due to the learners still needing support but also being aware that continued questioning exposes their lesser level of competency. Paradox refers to the coexistence of apparent opposites and more specifically it describes situations that, initially seeming to be incongruent, on closer examination are proved to have foundation (Spence, 2001). The paradox of being a learner, in this situation, relates to the fact that not wanting to reveal their lack of knowledge through continued questioning led to the learner being unable to seek advice or support from the team. This contributed further to the sense of responsibility experienced by the learner.

Fear

The experience of being a learner in a highly complex area where patients are dependent on the nurse's ability to manage the environment often resulted in feelings of fear for the learner. Learning critical care nursing requires exposure to practice, which carries the risk of a learner making a mistake or missing a cue relating to change in the patient's condition:

"One time when I was just orientating and working with another staff member who had taught me that it was really important to know which lines were which and not get them all tangled up…and they had gone out of the room to get something. Well, I paused this guy's infusion [of inotropes] to straighten up

the lines and his blood pressure just dropped, like it plummeted into his boots and the alarms were going off and I just thought, Oh my God.. I've killed him!!".

Experiences such as these can adversely impact upon the learner's confidence, however participants appeared to accept that this was a necessary part of the learning in critical care nursing:

"I was stuck down there in the end [of the unit, isolated from the rest of the team] and it was just all this beeping of the machine [alarms] going off and I was like 'Oh what the hell do I do' and umm…. that is very scary. But you learn to cope with it. I just figured that I could only do what I can do. These are the resources that I am provided with. I can use them, I can only do what I can do".

Fear was not always regarded negatively. It was often seen as a positive tension that helped the nurse to practice safely. This was particularly evident when participants spoke about their experiences orientating more junior staff:

" There was one student, who just didn't get it. She did a set of observations and I wasn't working with her, but I was just sort of observing and she obviously thought it was really boring and went off and did some photocopying and I didn't see her for a couple of hours and when she came back and I questioned her, she was just like, this is so boring. And then something did happen [a bad outcome for a patient] and she just carried on…it was like she didn't learn anything from it".

Another participant recalled some useful advice given to her by a more experienced critical care nurse:

"Always be a bit frightened by what you do in the unit. It is a good and safe way to be with patients who are so unpredictable".

Thus this participant came to value fear as a tool, because it could make her acutely aware of changes or deterioration in patients' conditions.

Prior experiences of critical care nursing also contributed to learners' fears affecting their self-expectations in terms of functioning in this setting. One of

the participants, who had worked in paediatrics, remembered feeling very inadequate as a critical care nurse when she first moved to the area:

" I was very aware that when we sent a child from the ward to ICU, we took a huge sigh of relief, because this patient who was really sick had gone. And all of a sudden I was that nurse receiving that very sick child, thinking Oh my gosh, this is it. I am out of my depth".

In this example, fear relates directly to the learner's sense of inadequacy in coping with a patient who would have been outside of her prior clinical experience. Fear is exacerbated by the learner's sense of new responsibility in relation to caring for a critically ill child.

THE CONSEQUENCES OF PRESSURE, SCRUTINY AND STRESS

Having identified the processes that influence the learner during their transition to critical care I went on to explore the impact of these influences on the learner. The participants described their experience of entering critical care nursing as *"feeling like a complete novice".* Further analysis identified two key concepts that further explained their sense of being a novice. These were the experience of feeling disempowered in comparison with their prior level of practice and isolated from working within a familiar team. These two concepts will now be discussed.

The learner - on entering critical care nursing feels like a complete novice…	**Disempowered – lack of competence and loss of confidence**	**Isolated – not a fully functional member of the team**

Figure 5: The experience of entering critical care nursing

Disempowered – lack of competence and loss of confidence.

Recollecting their initial orientation period was not difficult for research participants. The intensity of the experience and their memories of that time remained very vivid and their recollection of how it was to be the new person was very detailed. All of the participants shared stories and examples of situations or interactions that had influenced their subsequent practice development. The most common experience for the participants was that of *"feeling like a complete novice"* again. This experience was significant because it resulted in a change in how they functioned both professionally and personally. Some participants had previously functioned in roles which involved leadership responsibilities, or from within other specialist areas, e.g. paediatrics. Despite this specialist knowledge their description of feeling like a complete novice was the same as that described by learners who had come from more generalist areas. Participants described feeling during their initial orientation as if nothing they had previously learnt was applicable to the critical care setting. Often their stories reflected the surprise they felt when they realized that their prior experience was useful:

"It took me a while to realize that I knew things that they didn't like how to monitor a child, or even take a babies temperature, or change a nappy. And all of that stuff was useful".

Being unable to function at the same competency level, as they had previously resulted in a loss of confidence that sometimes manifested itself in potentially dangerous ways. Participants described being confronted with stressful situations and *"'freezing"* or *"going completely blank"*. Loss of confidence was also described as stressful, overwhelming and frightening. Some participants experienced physical and emotional symptoms of stress,

including dyspepsia and insomnia. The personal stress experienced by these participants made their transition more difficult:

"I just felt like I wasn't getting it…I was always tired and I concentrated so hard…it was, I just couldn't get it into my head".

Isolation – not being a fully functional member of the team

Interactions with other members of the critical care nursing team were significant for the learner during their transition to critical care. During the initial stages of their orientation participants were often assigned to a preceptor or educator. Although this relationship continued and remained significant in terms of ongoing support and role modelling, in some cases the relationship only lasted the duration of orientation. After this time, the learners all described a sense of *'being on their own'.* This expectation came in part from the nursing team but it was also an internal challenge that the learners set for themselves as an indicator that they were gaining competency in critical care nursing. Their feelings of isolation related to their expectation that they would take responsibility for patient care:

"I think a lot of it is with you, you know, you have to just get on and do the job, look after the patient and you don't want to always be asking or needing help".

During the time following orientation some participants spoke of feeling '*outside the team'*. Participants identified this as being the time when they felt less supported and therefore more vulnerable. The impact of this depended on the structure and culture within particular critical care units. One participant described commencing work in a unit with a very stable experienced work force:

"I was the new girl and they all knew what to do and how everything in the unit worked. It was like at first, I had to be really assertive and make sure that they knew that I didn't have any real ICU experience; because they would do

things like demand that I look after a ventilated patient. And I would have to be really assertive and say, 'No I can't do that yet'."

Other participants described experiences where other nurses used bullying behaviors to undermine the learner's confidence and further increase their sense of isolation:

"I went in and started the shift, which was in coronary care and the two senior nurses said, 'Right we're going to go and help out in the wards, you take over CCU' and off they went. There were four patients and it was going to be a busy morning. I had no handover. At 11 o'clock in the morning when they came back, I had not finished the showers or anything and I was like a fly in a bottle – flitting from here to there and everywhere. And not getting anywhere – and I got told off".

Whilst the key players within the socialisation process appeared to be members of the nursing team, there was also acknowledgement that other members of the interdisciplinary team, particularly medical staff, impacted on the learner's experience and their ongoing practice development. Some participants, particularly in smaller units where staff turn over was less common, were very aware of being labelled as the new person by medical staff and consequently of being under closer scrutiny. As with the impact of being assessed (p. 44), this type of scrutiny had the affect of reinforcing the nurse's loss of confidence:

"If you were seen as an incompetent nurse, which I was, it was very difficult because they were, as I remember one time, basically a couple of the anaesthetists just brushed me off as if, 'You are just useless".

Other negative behaviors, such as complaining about the learner's competency to more senior staff within earshot of the learner, further reinforced the learner's sense of isolation from the critical care team.

The transition to critical care nursing practice includes integration into the critical care team. This process occurs over time with increasing competency and confidence from the learner, along with acceptance of the learner by the nursing team. Each stage of the transition carries expectations of how the learner will behave or function within the critical care setting. The basis for this relationship is trust. The learner must be able to trust the team to provide the learning and support required to practice safely within the critical care area. The team must be able to trust the learner to seek help and direction when they are unsure. Issues occur due to the requirement for the learner to assume responsibility for the provision of patient care. The concepts under pinning these findings will be discussed further in Chapter Six. The following Chapter will identify strategies used by the learner to overcome their sense of disempowerment and isolation.

CHAPTER FIVE: LEARNING TO DO, LEARNING TO BE.

The process of becoming a critical care nurse requires the learner to gain knowledge and skill in the techniques associated with caring for the critically ill and to integrate fully into the critical care team. The provision of quality care for a critically ill person cannot be achieved in isolation; the learner has to function as part of a team in order to be effective as a clinician. As identified in Chapter Four, the learner enters the critical care setting feeling both disempowered and isolated. The environment and culture of critical care adds further stress to their already vulnerable situation. In order to manage this situation and survive the transition to critical care practice, learners adopt a number of survival strategies. Identification of these strategies allows insight into methods that may be useful in assisting learners during transition.

Learning to do

Skill acquisition has been widely researched in a range of settings including sports, industry and recreation. Herbert and Stuart Dreyfus developed a model of skill acquisition identifying five stages of transition from novice to expert based on their research of learning to drive an automobile or to play chess (Dreyfus, 2004). Within this model, when a novice gains knowledge and experience over time, he or she progresses through increasing levels of skill or competency. Benner (1984; 2004) applied the Dreyfus model of skill acquisition to clinical practice development within nursing. Her work has been adapted widely as a framework both for practice development and the assessment of nursing competency and skill levels. The acquisition of

competency in specialist practice is thought to be similar to that of a newly graduated nurse entering the clinical setting as a novice (Benner et al., 1999; Dreyfus, 2004).

Focusing on learning technology and tasks

Participants described feeling pressured by the amount of learning required and the expectation that they would be able to take sole responsibility for a patient within a relatively short time frame. Learners focused on gaining competency with the skills and tasks that they identified as central to critical care nursing:

"*I spent the first while…you know just like everyone - learning to 'do the do'".*

The technology of critical care was the major learning challenge at the beginning of the orientation period:

"Everything was different, you know even checking a patients blood pressure. In the ward I was so used to just getting a cuff and doing it…and now suddenly it was on the monitor and I had to understand how it got there and how to care for arterial lines and everything".

Core nursing cares, with which they had felt familiar in prior clinical settings, were also identified as being more challenging within the critical care setting:

"Every time we rolled him on his side to change his position his MAP [mean arterial blood pressure] dropped and his $Sp0_2$ [saturation of oxygen] dropped and I had to learn to be as quick as I could and to just leave him alone as much as possible".

Most participants described a period of 3-6 months when learning the technology seemed to be the most important part of their transition to critical care. Being able to successfully complete tasks such as set up a monitoring line, or suctioning a patient were identified as important because the learner

was aware of the need to be able to provide patient care independently upon completion of orientation.

The learner's level of comfort with taking on the responsibility for a patient, related to the size and structure of the critical care unit and the availability of senior nursing or medical staff to supervise their practice. Learners from larger units rarely made independent decisions such as changing mechanical ventilation settings. In the smaller units, where medical staff were not available at the bedside to assist with decision-making, learners relied on assistance from senior nurses. For those learners who perceived medical or senior nursing staff as knowledgeable and supportive, the senior staff often became role models for their own professional behaviour. Witnessing and being involved with decision making processes at the bedside motivated them to seek further knowledge on which to base their own practice decisions.

A further impetus for '*learning to do'* resulted from the learner wanting to appear to be competent in the clinical setting. The ability to complete tasks and therefore appear competent facilitated the learners' entry into the critical care team. This allayed some of the learners' sense of isolation and loss of confidence. Participants gave several examples of how task completion impacted on their relationship with other members of the nursing team:

"I learnt that if I tidied up the patient, you know combed their hair and put a fresh sheet on their bed before the next shift came on, I would get a far better reaction from the person taking over from me. It didn't matter that I had missed other things".

ACTING LIKE A CRITICAL CARE NURSE

Participants reported that *'pretending'* or '*acting like a critical care nurse'* was central to their ability to function during this initial stage:

"I'd stop before I went in the door and tell myself, right now I am going to pretend to be a critical care nurse".

This pretending or acting behaviour manifested itself in other ways. Some participants described being hyper vigilant, exhausting themselves and their patients to make sure that they hadn't missed anything. Participants described their sense of needing to give the appearance of being in control of the situation despite their uncertainty of their ability to cope in the new setting.

As identified in Chapter Four, the learner was also under the scrutiny of both patients and families. Participants spoke of having to learn how to behave and communicate within this setting. There was a sense of needing to maintain the patient's trust, which required the learner to act more confidently than they felt. Communicating with patients and families in a situation of high stress also required them to learn how to manage communication at a different level as illustrated in the following remark overheard between a preceptor and her orientee:

"*You know sometimes you just have to ask the family to wait outside for a bit. Just until you sort out what is happening. And it's all right to do that, if you need to get your thoughts straight or just sort out what's going on, just ask them to wait outside for a bit, to take the pressure off yourself".*

It was clear that their own sense of uncertainty within the setting and also their lack of experience of patient progress or outcomes played a significant part in the difficulties they had talking with families:

"How can I tell him [the patient] what is going to happen, when I don't know myself?"

REPETITION OF LEARNING

The most common learning experiences were based within the clinical practice setting. Repetition of learning was regarded by participants as central to learning and the retention of competency:

"When it was quiet I'd get out things…you know like the cardiac output machine and the protocol and I would just go over it again. Stuff like that, that we don't do all of the time…you need to be always pulling it out and going over it and …so that when you do have to do it for real and the patient is sick and it's really pressured, you know what to do".

Time was also spent mentally rehearsing how to manage emergencies or tasks with which they were unfamiliar:

"I went there [into CCU] and would sit there at the beginning of every shift, I would go through, 'What if I look up on the screen and the patient was in VT?' I would get up off the chair. I would go flick the switch, pull out the plug, take the defibrillator to the patient, going through that systematically in my head. And now I can do that without thinking about it".

Several participants also valued to tools such as protocols because they provided a quick reference on how to respond:

"I'd reach for the protocol and just say, OK, now we need to get this or do that…and then later on I would spend time thinking about and explaining the why of what we had done".

Repetition of learning was identified as being ongoing. Participants believed that competency with equipment and procedures required continued practice. Absence from the clinical setting, e.g. extended leave, was described as particularly stressful, because technology and treatments changed frequently and the learner had to actively regain confidence after absence from practice.

LEARNING TO BE

Learning to 'be' occurs in two stages. The first phase, professional socialisation, describes the process by which the learner is integrated into the

critical care team. This happens concurrently with learning the tasks of critical care nursing and results in the learner being able to provide safe competent care within the team setting. The second phase of learning to 'be' is less about integration into the team and more about the learner taking on a professional identity as a critical care nurse. This facilitates movement from the level of competent practice towards the development of expertise critical care nursing. Strategies used by the learner to assist with integration into the critical care team are choosing a role model/ mentor or support person and modelling one's behaviour to fit the team culture.

CHOOSING A ROLE MODEL/ MENTOR OR SUPPORT PERSON

The learners identified people from within the team from whom they felt safe to seek direction and support. Some participants spoke of checking the roster and "*knowing what sort of duty I would have by the staff they were rostered to work with"*. They remembered the positive influence of having a staff member who took an interest in them, or acted as a support, when they felt unsure. When asked to describe the input received from this support person it would appear that a support person provided not only a role model and mentor, but also sheltered the learner whilst they were developing confidence:

"The senior nurse was there and she was just hovering and she was so lovely. She was just there in the background and I knew she was there and so I just carried on with how I thought I should handle the situation. And when it was over, she came up to me and said, 'You know you did really well'. And it was like my confidence was back and it felt so wonderful to be supported like that".

Participants spoke also of identifying role models on which to model their own practice:

“ I used to watch her and listen to how she was with patients and families and want to be like that. And for a long time I used that, how she was with patients and families in my own practice”.

Modelling one’s behavior to fit the team culture

Another important aspect of learning to be a critical care nurse related to learning how to fit into the team culture. Culture has been defined as a system of shared meanings where communication forms the basis of interconnections within the group (Geertz, cited in Gudykunst, 1991). The critical care unit has it’s own unique culture within the health care setting. The development of this culture is due in part to the highly complex and technologically based environment. The critical care team also deals regularly with patients and families confronting life-changing circumstances. The extent to which this forges a common bond between team members depends upon the structure of the individual critical care unit. Participants from the smaller units spoke of a strong sense of teamship and of being available to support each other in the practice setting:

“I sometimes feel like I don’t really know, or that I am out of my depth with a patient, because we don’t really deal with that type of patient [ventilated] long term. But then I look around at the people I am on with and you know, we are all in it together. We are all feeling the same – so we support each other really well”.

A similar sense of interconnectedness was apparent in the descriptions of staff coming from the larger units:

“*We were actually a very close-knit team. It was a big unit, in a big room and people checked up on each other and I never felt that it was a bad thing. It was always like a good thing. And you realised that the nurses were the ones that you trusted”.*

Participants from the smaller units also spoke of the sense of community beyond the critical care environment:

"We all have a lot in common. Our kid's play sports together and we see each other outside of work, even if it's just around town. So it's important that we all get on and trust each other".

DOING CRITICAL CARE NURSING

Benner's (1984) work identified a difference between the "knowing how", or gaining the required knowledge and skills to practice and "knowing that" which involves learning the theory upon which practice is based. Learners in this initial stage were mainly 'doing critical care nursing' or, as defined by Benner, using the 'knowing how' knowledge they had gained through skill acquisition and integration into the team to function on a day to day basis. For some learners this may be the pinnacle of their practice development. However all of the participants within this study identified that practicing at a competent level was not adequate within the dynamic setting of critical care nursing. The need to continue learning and practice development appeared to be motivated by the recognition that they needed to take the step of "*learning the theory upon which practice is based"* and develop their own professional persona in order to practice expertly.

Recognition of knowledge and experience deficits by the learner

Learning critical care nursing requires experiential learning. The theoretical knowledge required can be learnt from many sources, however nursing practice requires application of that knowledge at the bedside. For some participants there was a catalyst situation, which challenged their level of knowledge:

"You'd want to keep someone cool and you'd get their temperature down to 32^0 and you think you are doing good. Somebody goes 'Oh my God' because

I didn't know too low was bad. And so doing study started to fill the gaps in my knowledge".

In this type of situation the learner recognized that although they could do the tasks they did not have the knowledge to underpin their decision making related to individual patient situations. For other participants the awareness that they could contribute more within their patient care if they understood or knew more than how to '*do things*' dawned gradually:

"I realised over time that I didn't know a lot, ummm….I could 'do the do' but I didn't know why I did the do and that was a revelation in itself".

Participants described these experiences as motivational. Realisation of the need to gain increased knowledge resulted in actively seeking educational opportunities on behalf of the learner

All participants described times when they had felt *'unsure' or 'out of my depth'.* The manner in which the learner responded to this sense of inadequacy related to how approachable and supportive they found the senior staff. The participants' personal sense of confidence also impacted on how assertive they were in seeking assistance. Participants who described situations in which they were able to express discomfort and gain support from the critical care team had less ongoing difficulty making the transition to critical care. Learners within a less supportive workplace described struggling with independent decision making. Sometimes decisions were made without fully understanding the rationale or underlying pathophysiology upon which to base the decision. The experience of "*not knowing, what I didn't know"* was common at this stage of transition for both the well supported and unsupported learners. Reflecting upon this time, participants expressed

concerns about potential risks for both learner and patient when making independent decisions with this level of '*not knowing'*.

The learners' lack of awareness of the limitations of their knowledge also concerned participants who had precepted new staff. These participants worried about new staff who did not ask for guidance or who failed to discuss problem solving or decision making with the preceptor:

"Part of my frustration is - I just don't know what is going on in her head. I just wish she would ask".

Communication from learners was used as a form of assessment as well as a method of reducing the risks of a learner making a poor decision due to lack of knowledge. Reflecting on a situation where the learner took much longer to reach a stage of independent practice within critical care, one participant commented:

"It wasn't that she didn't know or couldn't learn how to do things. It was that she didn't know to ask for help, she didn't seem to even realize that she was out of her depth. That was what was so frightening and dangerous about her".

Seeking knowledge

The experience of realizing that they could 'do the do' but not understand why provided the impetus for learning. Learning during the transition period tended to be independent and structured in ways that met the learner's individual needs. Participants used resources such as books and journals within their clinical setting to further their understanding of particular patients conditions and the pathophysiology of critical illness:

"I knew that I needed to learn what was going on, so I read books, things like Te Oh [a critical care text] and journals and anything else I could find".

Participants recognized the value of ongoing education. Five of the eight participants had completed a structured critical care education programme, either as part of hospital in service education, or at a tertiary level. All of the participants had undertaken postgraduate study, either as single papers or to diploma level. Education specific to critical care was not available for all participants and formal education was often not undertaken until some time after participants felt competent within the area. Such education was seen as contributing to knowledge that they had already gained and also as a way of validating their level of practice competency.

Gaining experience and exposure to clinical situations

Participants believed that it was clinical experience and time that facilitated the development of competency and confidence to practice within critical care:

"One afternoon I had a post op patient who came back from theatre and she had the most rip roaring pulmonary oedema I have ever seen. It was going through the ventilator and out on the floor and we were slipping in it. I remember thinking, 'I don't think this is good'. She got DIC [disseminated Intravascular coagulation] and spent a lot of time in the unit, she did live and I nursed her a lot. And I was thinking, 'OK this is the real stuff. It is the real stuff'".

This type of experience resulted in increased confidence for the learner. It also gained credibility for the learner. Learners recognised having proven their competence and therefore gained their place in the critical care team:

"So it was kind of like, I had proven myself".

Managing team relationships

Integration into the critical care team occurs over a period of time. The participants described the process of integration as having stages during

which they felt different levels of support and expectation from their nursing colleagues. The stages of feeling well supported during initial orientation and then feeling outside of the team, have been discussed. The next stage of integration was described as learning to be interdependent on other team members:

"When I first came I thought that when a post operative patient came into the unit and they come with all the theatre team and someone's handing over and someone comes and helps you put on the leads and the pressure lines and things. And I remember thinking; "Oh I'm useless, because they all come over here to help me all the time". And it took me a wee while to realize that you can't physically do it all on your own. That you do need your team to come over and give you assistance. That took me a while to work out. They don't think I'm useless. So once I clicked onto that, I didn't feel so out of my depth. There is always someone to call on and still is, always some one there who you can say, 'Hey come and help me with this'. They may not be or have the same knowledge as you, but they can help you do things that you simply can't manage by yourself".

Participants who were working in roles beyond that of clinical nurse at the patient bedside, e.g. as educators or specialist nurses, described being both part of the clinical team and yet separate in that they took responsibility for team functioning over and above individual patient care. This perspective of needing to stand apart and consider *"the big picture"* related not only to areas such as resource allocation, staffing, education and professional development, but also to reviewing patient management in order to ensure that best outcomes were being met.

Another aspect of team relationships needing to be learned during transition was how to interact within the multi-disciplinary team. Managing the nurse – doctor dynamics seemed particularly important. Nurses working in the larger units, where junior medical staff (e.g. registrars in intensive care medicine)

were trained, had to learn the skill of directing care through the junior staff without provoking conflict:

"*There was something that had been charted by one of the Registrars and I thought, I don't think so. I went up to the next Registrar and I said, Ummm this medication, we're not really going to give that are we? And he said, why don't you say what you mean?"*

In this example the participant has described using a rhetorical question to challenge the decision made by another member of staff. Learning how and when to question decision making within the team was a skill that the participants used increasingly as their competence and confidence grew:

"Initially when I first started it was fine, because they were the doctors and I was the nurse and I was only learning. As I got more experience it was like realising, 'I know more than you' [talking about new registrars rotating into ICU] and you dread changeover day [when the rotation starts]. The first couple of days usually tells you what you need to know, you know the one's who are going to throw their weight around…. and you think ' OK I have got to really think this through because I don't trust them to make the right decisions".

The interaction between the participants and the senior medical staff was perceived to be more collegial. The relationship between nursing staff and consultants is more stable because the consultants do not rotate through the critical care unit, as do junior doctors:

"We always knew that we could ring the senior doctor if there was a problem. We didn't do it often but if we did he took it seriously and he always backed us up".

In one unit the medical staff were actively involved in education delivery, which included nursing education, however this was the exception.

GAINING CLINICAL CREDIBILITY

Participants identified that proving themselves in terms of clinical practice helped them gain credibility and the subsequent trust of the team:

"And we had a patient come in arrested and they just rushed her down from ED and I had very little warning. The staff nurse and the supervisor came

flying in as well [goes on to recount a successful resuscitation where she is very active in providing leadership] …and after that there was no more sort of sniping about, 'When I used to run the unit we did this'. So it was kind of like…I had proven myself".

Gaining clinical credibility also had significance in terms of interdisciplinary relationships:

"We had one consultant, he doesn't like working with people he doesn't know. And we had a couple of incidents in the first year I was there. He always looks for someone he knows, he would have to make do with you if he couldn't find anyone he knew. And that stresses him, which stresses you a bit more, but he was very good, very tolerant and prepared to teach and also very prepared once he got to know you – to let you make decisions".

Gaining clinical credibility and managing team relationships are closely linked. Clinical credibility requires achieving a level of competence and being able to demonstrate their ability to provide care particularly in emergency situations. Managing team relationships requires the learner to be confident in communicating and negotiating. Some learners were able to negotiate team relationships by speaking up, when they were placed in a situation in which they did not yet feel able to deal with, long before they felt clinically competent.

BEING A CRITICAL CARE NURSE

Participants consistently used the phase to *'be a critical care nurse'* to describe a stage of accomplishment related to working within critical care. It was used to explain their aspirations prior to entering critical care: *"I just wanted to be like them, I wanted to be a critical care nurse".*

It was also used to describe a level of skill within the practice setting*. "I knew how to 'do the do', but not how to 'be' a critical care nurse".* The participants described *'being'* as a stage of skill acquisition that allowed the nurse to practice confidently within any situation that occurred within the critical care setting. The skills required to *'be'* included knowledge, experience and the ability to work within the interdisciplinary team and with patients and families in an expert way.

This stage of the transition process includes both external and internal factors. The learners experienced the acceptance of the team and often were asked to take on roles such as shift leadership or preceptoring of new staff that indicated they were perceived to be competent. Internally the learner's described experiencing a sense of confidence in their abilities:

"I remember thinking, it got to the stage, I thought, I can walk in through the door [to the unit] and I think, 'Whatever happens today, I will be OK'".

Learning was described as lifelong. Participants described continuing to build on their experience and practice knowledge. Their perspective of learning changed from feeling overwhelming in terms of complexity and quantity to being an aspect of their practice development that they enjoyed:

"I love the challenge and having to think. I really enjoy the unstable patients that need us there and what we do is a lot of technology and I enjoy that too. I love and there is always something new to learn…. I mean back to the patient

on ECMO [Extra-corporeal membrane oxygenator]. I got to look after a patient on ECMO and it was great and the learning. I have really good rapport with this patient and I had a lot to do with the family. And he is fine now and ummm he knows me now and it's just following people through".

The following model depicts the interrelationship between the categories: learning to do and learning to be. The left side of the model relates to the process of skill acquisition. The impetus for learners seeking the skills to practice within critical care is their sense of disempowerment, which occurs due to their lack of competence within the new practice setting and their loss of confidence. The right side depicts the process of professional socialisation. The stages of progression to competency are in those steps in the middle of the diagram. The following chapter will discuss these findings in relation to literature related to both skill acquisition and professional socialisation.

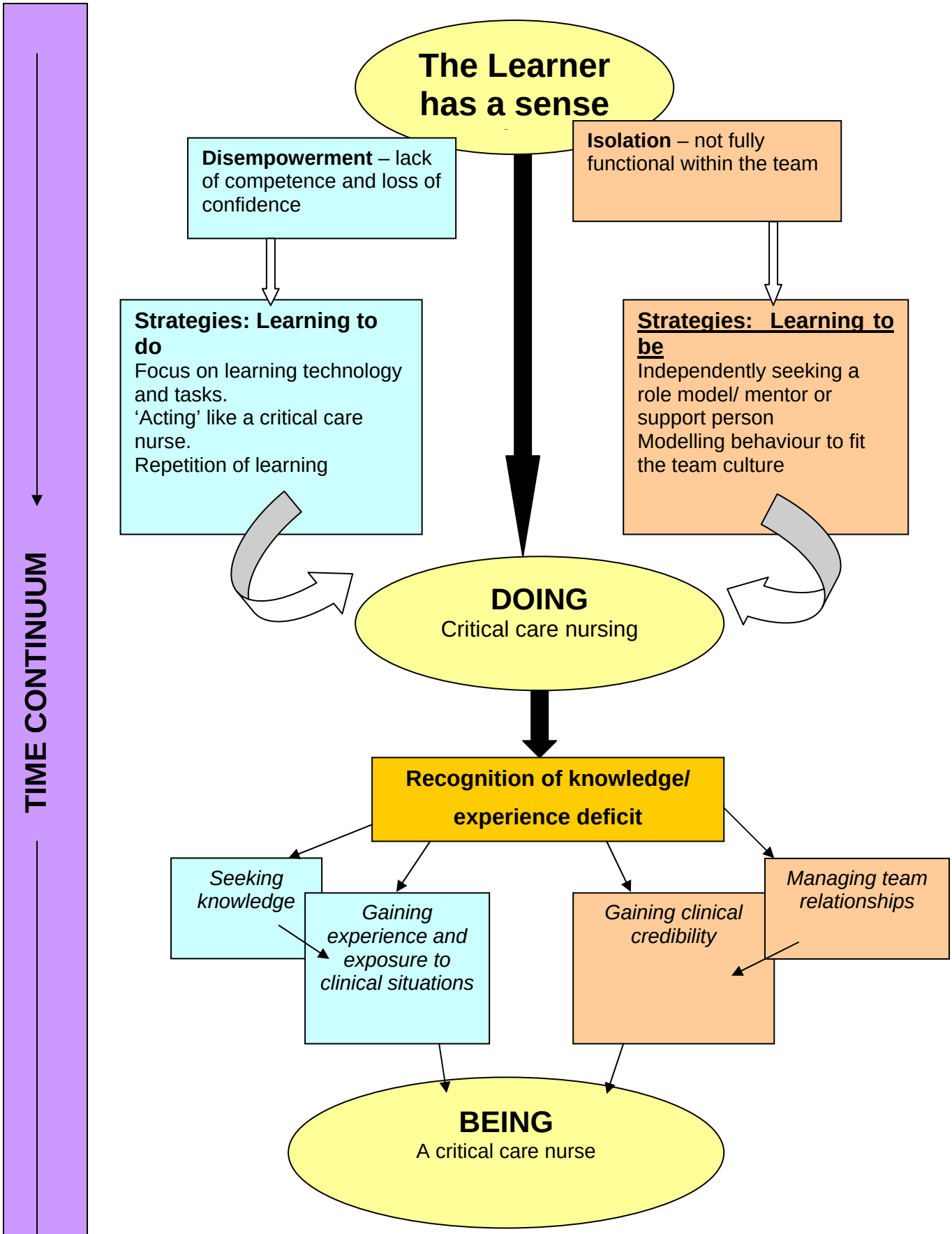

Figure 6: Relationship between concepts

CHAPTER SIX: DISCUSSION AND RECOMMENDATIONS

The previous chapters have explored the process of transition undergone by nurses entering critical care. The model of transition I have developed represents the core processes of learning to do (skill acquisition) and learning to be (professional socialisation). Skill acquisition and professional socialisation have their own linear pathways, yet the core processes are interrelated because if the nurse is to achieve a sense of 'being a critical care nurse' both skill acquisition and professional socialisation must be successfully completed. The transition has two clearly identified stages. The first part of transition is that of being able to 'do' the tasks of critical care nursing. The final stage of transition results in the nurse achieving a sense of 'being a critical care nurse'. This involves not only the attainment of competency but also a sense of confidence in one's ability. This chapter will discuss these findings in relation to the literature pertaining to skill acquisition and professional socialisation. Further exploration of research related to critical care nursing which supports these core categories will also be presented as outlined in Chapter Two.

Skill acquisition

The Dreyfus model of skill acquisition (Dreyfus, 2004) identifies a five-stage transition process undergone by learners of any complex skill. The initial stage of novice involves the learner gaining the ability to perform tasks within in the area. In the example of student automobile drivers, used within Dreyfus' research, this involves recognition of domain-independent features of the task, such as changing gears when the speedometer reaches a certain level.

Nurses entering critical care function as novices in the areas of practice that they have not previously encountered. Functioning as a novice tends to be related to the technical skills within critical care nursing. It can also relate to treatment with which the nurse is unfamiliar. In the following example the participant describes carrying out an order without understanding the full implications of the treatment:

"Just doing things more or less by rote and you would follow the prescription, but you would follow it too far. You'd want to keep someone cool and you'd get their temperature down to 32^{o}C. And you'd think you were doing well and someone would come along and go, 'Oh my God!' Because you didn't know that too low was bad".

Experiences like these result in the nurse losing confidence. Participants described their experience of entering critical care nursing as similar to that of being a novice. However they were not truly novice, as defined in the Dreyfus model, because they had had prior experiences of registered nursing practice.

The second stage of the Dreyfus model is that of advanced beginner where the learner begins to understand how to respond in some situations through experience. Dreyfus again uses the learner automobile driver as an example and defines this stage as one in which the learner can not only check out the vehicle speed, but also listen to the engine sound as an indication for a gear change. This stage of advanced beginner is a truer reflection of the minimum level of practice on entry into critical care nursing. The participants had prior experience of nursing which, over time, was integrated into their new practice setting. Their initial learning experiences focused on areas in which they were novice, however not all aspects of practice were unfamiliar to them.

The participants in this research believed the amount of learning required for them to function within the critical care setting was overwhelming. To an observer, the role of the critical care nurse may appear to be a complex set of tasks related to the management of technology. The need to understand and respond to warnings, such as alarms is prioritised by the nurse in transition to critical care. Then, as they become more familiar and confident with the interpretation and management of equipment, they can simultaneously also interact with the patient. Their perspective of the technology changes as their competency and confidence increases. The technology becomes a tool, rather than as the primary focus of their day-to-day work. No longer needing to concentrate solely on the technology, the nurse to begins to focus on the patient. This enables the nurse to interact more closely with the patient and family. The technology is regarded as a device to assist with monitoring and the provision of care. The participants in this study described this as the being able to 'do the do' stage. However, although practicing at this level was seen as an achievement of competence, participants did not believe this was an adequate level of functioning in terms of providing optimal critical care.

Dreyfus describes the achievement of competence or stage 3 of the skill acquisition model as particularly fraught or stressful for the learner,

> "With more experience, the number of potentially relevant elements and procedures that the learner is able to recognize and follow becomes overwhelming. Performance becomes nerve-wracking and exhausting" (p.178).

Each of the participants described a sense of uneasiness about their level of ability. This motivated them to continue learning and further develop their

skills. The American Association of Critical Care Nurses (as cited by Thelan, Urden, Lough & Stacey, 1998) defines the scope of critical care nursing practice as,

> "a dynamic process, the scope of which is defined in terms of the critically ill patient, the critical care nurse and the environment in which critical care nursing is delivered" (p.35).

This dynamic process requires the critical care nurse to develop assessment and problem solving skills at an expert level. Dracup & Bryan-Brown (2004) illustrate the level of expert practice in the following example,

> "To the novice focusing on mastering the technical aspects of care for an unstable, critically ill post operative cardiac surgery patient is an urgent to-do list. An expert nurse caring for the same patient would complete the tasks but not be caught up in the technical details. The expert has gone beyond the tasks to read and respond to the whole picture" (p.449).

If critical care nursing practice requires the learner to move beyond competence to the level of expert, the process of learning becomes more challenging. Two areas of learning dominated the participants' development of expertise within critical care nursing. These were described as 'background knowledge' and 'the complex things that we don't do all of the time'. Background knowledge referred to the pathophysiology of critical illnesses and treatment modalities. All of the participants had undertaken some form of clinically focused post-graduate education. This finding was a surprise to me because I had anticipated that access to education might have been difficult,

particularly for nurses working in smaller, more isolated centres. The participants described the need to understand and gain theoretical knowledge to underpin their clinical practice as being the prime motivator for seeking educational opportunities. Benner (1984) differentiates this learning, as "knowing that" or learning the theory, from "knowing how" or completing the tasks of critical care nursing.

The second priority was to master skills that were not part of day-to-day practice. Examples included emergency management, particularly cardiac arrest situations and highly technological procedures such as intra-aortic balloon pumps and continuous renal replacement therapy. These skills were learnt by deliberate repetition on behalf of the learner. The participants talked of coaching themselves in how to respond to a situation or manage a piece of technology. Becoming confident with the skill in a non-pressured setting helped them to practice more confidently in a real situation. Research by Huggins (2004) identified that whilst formal education of theory was significant, the majority of learning by critical care nurses is undertaken within the work place.

> "Continual advances in technology and changes in medical and nursing practice mean there is a need to continue professional development" (p.38).

When asked to define their current level of practice, the participants tended to describe themselves as continual learners of critical care nursing. This reinforces Huggins' (2004) identification of learning within critical care nursing as being life long. Participants described competency as, *"knowing that what*

ever comes through the door today – I will be able to cope". This statement demonstrates movement of the learner from a position of uncertainty and fear, to one of confidence in their ability to practice safely in the context of the critical care setting. The unpredictability of both the practice setting and its patients is no longer a source of stress or concern for the learner.

Dreyfus defines the final stage of skill acquisition as that of expert. Within his examples of expert practice the concept of intuitive knowing is identified as the ability to make an immediate situational response. Benner et al. (1999) describe this level of practice within critical care nurses as clinical wisdom, or the ability to think and respond simultaneously to a clinical event. Achieving this level of skill not only requires theoretical knowledge but also experiential learning under pressure. Learning how to function in a stressful setting requires the learner to take risks when solving problems and making decisions. Professional socialisation and integration to the critical care team thus became essential in maintaining the safety of both of learners and patients in the critical care setting.

Professional socialisation

The orientation and continued development of students of nursing and newly graduated nurses has been researched widely internationally and within New Zealand (Chang, 2003; McKenna, Smith, Poole, & Coverdale, 2003; Parker, Plank, & Hegney, 2003). Some research into the transition of nursing students to the role of registered nurse shows similarities to the transition experienced by the participants in this study. Upon entering clinical practice,

the graduate nurse experiences what has been described as reality shock (Kramer, 1978; cited in Wilson and Startup, 1991). The reality of practice is experienced as being at odds with educational preparation of new graduates. New critical care nurses also experience reality shock but this is more related to the increased sense of responsibility felt within a critical care setting. The greater sense of responsibility derives, in part, from the level of patient acuity and instability. It also relates to the need for the nurse to function effectively as a critical care nurse upon completion of orientation. Graduate nurses experience role ambiguity related to lack of clear expectations of their role. But for the new critical care nurses in this study, the role ambiguity resulted from expectations they had about how they should function within the critical care setting. The participants described an image that they carried of the critical care nurse as being able to respond to emergency situations in a confident and expert manner. This preconceived image set a high standard for them to attempt to emulate, particularly at the beginning of their induction.

In outlining the processes of professional socialisation Shuval (1980) described a three stage model of pre-socialisation, formal socialisation and post socialisation whereby the practitioner both develops an understanding of the role prior to making the transition to practice, then integrates into the role. The post socialisation period is identified as the period of practice in which the 'outcomes' of the socialisation process are realized and the clinician becomes autonomous in their practice. The participants within this study described four phases of transition as outlined in Figure 6.

TIME CONTINUUM				
Position of the learner in relationship to the team	Learner is 'outside' of team	Learner is 'on their own' – attempting to be competent	Learner is making 'connections' with some team members	Learner is integrated into team - interdependence
Level of support given by the team	Supported by preceptor	Team may provide support for the learner – with variable results depending on the socialisation of the learner.	The team's expectations of the learner being fully independent increase over time	The team steps back from support / supervision – become colleagues
Expectations from the team of the learners behavior	Learner is 'expected' to require support and supervision	Learner is 'allowed' to ask and receive support	Learner is 'encouraged' to be less dependent	The learner is independent and may rapidly be expected to take on some leadership responsibility.

Figure 7: Stages of integration into the critical care team

I will now compare this model with the work of Reising (2002) who also used grounded theory to develop a model of professional socialisation of critical care nurses.

The position of the learner in relationship to the team presents the concepts described by research participants. In the initial phase the learner is very aware of being 'outside' of the team. Awareness that they are unable to participate fully in the team results in a sense of isolation. Relationships with team members at this stage tend to be 'arranged', such as being allocated a

preceptor. The team expects that the learner requires a high level of support and supervision thus allowances are made. These allowances may include allocation of patients specifically chosen for the learning they offer. They may also include rostering adjustments to allow for additional learning time. Reising describes this as the 'welcome to the unit' stage. The learner is encouraged and nurtured in their learning.

The next phase identified by my research was that of being '*on their own'*. This tended to occur toward the later stages or immediately after orientation when the learner was required to take responsibility for patient care. The structure of critical care nursing involves the allocation of one nurse, to one or two patients. This means that the learner may be isolated from other team members. The relationship between the learner and the team changes as the learner is required to take a patient load. Whilst the team remained supportive in the majority of cases, their expectations of the learner increased. Ongoing questioning and seeking support with decision-making was accepted initially, however the level of tolerance from the team reduced over time. Clear messages were given, both verbal and non-verbal, that the learners needed to take on an increasingly independent role.

Reising identified two socialisation processes within this phase. The first related to the preceptor and team disengaging from the learner as a method of assessing the learner's ability to function safely on their own. Perception of behavior such competency is subject to external judgment as McFall (cited in Gudykunst & Kim, 1997) explains,

> "Competence does not actually reside in the performance; it is an evaluation of the performance by someone…secondarily, the fact that someone is making an evaluation means that it is subject to error, bias and judgment inferences" (p.253).

As previously discussed questioning and support-seeking behaviors were used by learners to assess both their safety to practice and level of competency. This assessment was subjective and, in situations where the team members held negative views towards learners, this led to the learner being labelled as incompetent which further isolated them from the team.

The second socialisation process described by Reising, involved the learner moving from a stage of self-doubt and questioning of their ability to function within the setting, to a phase of taking charge of their learning and gaining confidence in their practice. Participants in my study described this phase as a time of, "*rising to the challenge, or not letting 'them' get the better of me"*. There was a strong sense of independence and taking responsibility for ones own learning during this stage. However, participants also chose to "*make connections"* within the team. These relationships differed from those with a preceptor or supervisor in that the learner often initiated or sought out the contact rather than being allocated to the relationship. Strategies such as checking out or altering their roster to ensure that they worked with the person they trusted were used. Learners also described practicing independently with greater confidence because they knew that the person would not allow them to fail: *"I knew they wouldn't let anything bad happen".*

The nature of these relationships ranged from that of 'being an encourager' of ongoing learning within the clinical setting; through to close personal friendships that continued away from work. The people chosen for these relationships often had professional characteristics that the learner admired or sought to emulate: *"I just wanted to be like her".*

The final phase of transition to the critical care team involved integration as a functional team member. The learner no longer felt isolated. The interdependence of the team was recognized and the learner became comfortable relating to the majority of team members. Reising describes this phase as reconciliation; a phase where learners become confident of their position and place within the team structure. This stage of socialisation does not necessarily indicate that expertise has been attained. Participants acknowledge that learning is ongoing yet at this stage they recognized that it was not always possible to function independently in the critical care setting. Recognizing that the team was interdependent enabled participants to seek assistance from team members knowing that this was part of safe team behaviour. Knowledge sharing also became reciprocal with the learner able to contribute their knowledge from previous experience.

Professional socialisation has been defined as,

> "acquiring the requisite knowledge and skills and also the sense of occupational identity and internalisation of occupational norms typical of the fully qualified practitioner" (Toit, 1995, p.64).

The concept of in-groups/ out -groups has been used within sociological research to describe the process of socialisation into membership groups. This model describes the acceptance or rejection of behaviors based on the position of the individual in relationship to the dominant cultural group, or in-group. Calkins (2001) defines the critical care team as a,

> "collection of skilled persons functioning in a tight social network" (pg.10).

Whilst there is commonality between critical care and other areas of the healthcare environment, the differences in the structure, language and behaviors of the team result in the development of a unique cultural group. Nurses who are new to the area of critical care are required to take on the characteristics of the cultural group in order to be accepted as a team member. A recent New Zealand study by Vandegoot (2005) identified socialisation into the cultural group as being the most significant factor during the transition from ward nursing to critical care.

Professional socialisation takes on greater significance for those participants who had negative interactions with team members during their integration process. Research participants recounted situations where members of the nursing team were unsupportive or behaved in a way that undermined their confidence as learners. This meant it took longer for them to become competent and be integrated into the team. Participants who challenged this behavior by questioning their situation appeared to have an easier transition. Those who were unable to address the negative behaviors of team members described a more difficult induction experience. The reasons for negative

behavior within nursing teams are complex. Randle (2003) found, when researching nursing students that negative behavior occurred primarily because the nurse sought to maintain 'power' over the student. It would also seem, from participants' descriptions, that the maintenance of power within the existing team was the reason for this behavior. Randle identifies the learner's self esteem as being the personality characteristic that is most likely to facilitate,

> "sound, interpersonal relationships, not only with patients, but also with carers and colleagues" (p.396).

Unfortunately the individual's self esteem is also the personal characteristic most vulnerable to the criticism or negative evaluation by team members.

The impact of learners' personal attributes was investigated in relation to student nurses' clinical experience by Wilson & Startup in 1991. Students, teachers and ward staff were surveyed about the significance of particular attributes. Mixing well and having a pleasant personality was identified as critical to the acceptance of student nurses within the clinical setting. However, in the context of critical care, other attributes seem to be more significant. The participants in my study identified the need for developing trust and confidence between the team and the learner. Central to the establishment of trust was communication and the capacity for questioning by the learner. Participants who had functioned as preceptors cited questioning behavior by the learner as central to the assessment of learners' ability. Learners who did not seek advice or ask for directions were viewed with a sense of distrust because the preceptor could not easily assess the learners'

understanding of a particular clinical situation. Questioning, in the context of a novice nurse seeking direction or reinforcement of their decision-making, is described by Benner (1984) as ‘delegating up’. In her examples of this process, the act also enables reflection during practice and the development of the learners’ critical thinking abilities. Learners who fail to question during their learning experience miss out, not only on the opportunity to establish a trust relationship within the team, but also on the opportunity to develop problem-solving skills in a coached environment.

Limitations of this research

This study has illuminated the influences on nurses entering critical care within a relatively small population (New Zealand critical care nursing). Whilst some aspects of this experience are reinforced by literature, e.g. Reising 2002, it is not possible to generalize these findings to a different context or larger population. The nature of orientation programmes, along with the resources and structures within individual critical care settings will markedly affect the outcomes of any induction process. Other than noting differences in the participants’ experiences related to the size of unit and community from which they came, no attempt was made in this study to gather information about the processes or structures within the individual units. Participants were asked about their personal experience as either a learner or a preceptor of learners.

The selection of nurses who had achieved competency meant that only two of the eight participants in this study had orientated to critical care within the last

four years. The remaining six participants had at least ten years experience within critical care, thus their orientation experience was relatively distant. However their recounts of their orientation were vivid. Furthermore, the experiences of the two participants who had orientated within the last four years were similar. When I began the research I did not realize how significant the orientation process would be for learners. Including current learners within the study would have added contemporary data, potentially identifying any changes taking place in both clinical practice and education. Including nurses from leadership positions, such as nurse managers and educators, may have yielded data about learners who required ongoing performance management. This area of 'failure' to successfully make the transition to critical care nursing may be worthy of further research to fully understand the induction process.

Recommendations

The findings of this research are relevant for educators, managers and learners within critical care nursing. Identifying the stages of transition and the strategies that learners adopt to assist themselves during the processes of induction allow insight into behaviors which may be significant for the learner and the team supporting their learning. Learning critical care nursing was identified as occurring predominantly within the clinical setting. Theoretical knowledge was important primarily in relationship to its practical application within the critical care environment. Learners demonstrated considerable determination in gaining the knowledge required to equip them for expert nursing practice. A recommendation from this research would be the forging of closer links between the clinical practice setting and sources of

postgraduate education in critical care. Education that reinforces the learning that occurs within the practice setting would better meet the identified needs of learners within critical care nursing.

It is clear that skill acquisition is enhanced when the learner is presented with structured and repeated opportunities for learning. The amount of learning required appears overwhelming to the learner in the initial phases of orientation. Presenting the learner with a framework of skill acquisition would therefore enable them to set priorities for their learning. The opportunity to learn skills in a 'mock' setting where the learner can practice without the added stress of patient and family would allow the learner to prepare for the reality of clinical practice. Because skill acquisition is a lifelong process, learning opportunities should be repeated regularly in the practice setting and revised as knowledge and practice changes. The provision of resources such as designated educators and the allocation of a proportion of non-clinical time for all staff would increase accessibility to this type of learning. Those skills, which are high risk in terms of complexity and irregularity of performance, require additional resourcing. As an example, the development of cues such as clinical protocols and skill checklists, along with regular repetition of the skill in a simulated setting, would assist in the maintenance of competency and confidence.

Bedside learning is vital to the development of practice competency. Whilst the focus of this learning needs to be on tasks and technology initially, modelling of critical thinking and coaching of the learner in problem solving

should also be a priority during induction. Preceptors require educational and personal development to enable them to teach in this way. Thus resources such as time and funding need to be available for their professional development. Consideration must also be given to the qualities of the preceptor in relationship to individual learners needs. The findings suggest that closer attention to the personal and communication styles of preceptors is warranted. Ongoing evaluation of the preceptor / learner relationship is also recommended to identify issues which may adversely affect the learner.

Orientation is the beginning of a lifelong learning process for critical care nurses. Particular attention needs to be focused on the time immediately post orientation because this is when learners felt most isolated and at risk. Ensuring that the learner does not feel abandoned at the bedside must be a team priority. Providing regular assistance, having systems such as a rostered 'buddy' to support the learner on each shift or ensuring that learners are rostered on the same shifts as their former preceptor, will help alleviate feelings of isolation. Social structures within the critical care setting should also be evaluated in terms of their affects on the learner. Evaluating social processes such as how meal break relief is allocated and resourced may provide opportunities for the learner to be integrated into the team more smoothly. As examples the act of handing over the patient to a reliever is overlooked as an opportunity for the learner obtain validation of their problem solving skills on a regular basis with a more experienced staff member. Sharing a meal break within a staff room also has benefits in terms of

reducing the sense of isolation a new team member experiences and making them feel a sense of belonging with the team.

Within larger teams, a formal mentoring programme may have the advantage of providing the learner with an ongoing relationship with a staff member. Dracup & Bryan-Brown (2004) have argued that mentors further develop the relationships that have begun with preceptoring during orientation,

> "Mentors do more than teach skills; they facilitate new learning experiences, help nurses make career decisions and introduce them to networks of colleagues who can provide professional challenges and opportunities" (p.450).

Formal mentoring programmes have the advantage of the mentor receiving both training and allocated time to assist the learner with skills such as reflection and critique of their practice. My research reinforces the need for the learner being able to select their mentor. However, the provision of a choice of mentors may be difficult in smaller units or areas with high staff turnover. These units may therefore benefit from the adoption of clinical supervision external to the unit staffing. Clinical supervision differs from mentoring in that the supervisor is skilled in assisting the learner in cognitive behavior analysis, rather than the nuances of the practice setting (Butterworth & Faugier, 1992). Provided that skill acquisition can be managed within the education processes in a critical care unit, assistance with working through the stages of professional socialisation with a clinical supervisor may have benefits in easing the learner's transition process.

Conclusion

Exploring the experiences of nurses who have made the transition to critical care nursing using grounded theory has provided insight into the process of transition and the strategies used to cope during this time. Learners identified orientation and the time immediately following orientation, as having greatest impact on them in terms of personal stress. The pressures that induce stress for the learner occur because of characteristics in the environment, which includes contact with technology and the management of complex and unstable patients. Learners place themselves under pressure when attempting to meet the internal expectations they have of what it means to be a critical care nurse. Learning occurs predominantly within the clinical setting and is identified as being a lifelong process.

This study has shown that the transition process is a balance between skill acquisition and professional socialisation. Articulation of the interrelationship between *"learning to do"* and *"learning to be"* adds to the body of knowledge related to transition to critical care nursing. Achieving clinical competencies within the practice setting has been, and continues to be, an essential focus of skill development programmes. Within the critical care context the integration of the learner into the professional team is also important in terms of establishing a relationship of trust and support between the learner and the team. Trust and support between team members facilitates the continued learning essential to effective clinical performance.

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Appendix 1: AUT Ethics Committee Approval

M E M O R A N D U M

Student Services Group - Academic Services

To:	Deb Spence
From:	**Madeline Banda**
Date:	5 July 2004
Subject:	04/105 Learning critical care nursing

Dear Deb

Thank you for providing amendment and clarification of your ethics application as requested by AUTEC.

Your application was approved for a period of two years until 5 July 2006.

You are required to submit the following to AUTEC:

- A brief annual progress report indicating compliance with the ethical approval given.
- A brief statement on the status of the project at the end of the period of approval or on completion of the project, whichever comes sooner.
- A request for renewal of approval if the project has not been completed by the end of the period of approval.

Please note that the Committee grants ethical approval only. If management approval from an institution/organisation is required, it is your responsibility to obtain this.

The Committee wishes you well with your research.

Please include the application number and study title in all correspondence and telephone queries.

Yours sincerely

Madeline Banda
Executive Secretary
AUTEC
CC: 0002263 Sandra Fielding

From the desk of ...
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Appendix 2: Advertisement for professional bulletin

Learning critical care nursing in NZ

Dear Critical Care colleague,
I am the clinical nurse educator in ICU and CCU at Tauranga Hospital in the Bay of Plenty.
As part of my masters study at Auckland University of Technology, I am researching how NZ nurses learn to work within critical care areas .
To do this I am interviewing nurses from a range of critical care settings in NZ and from these interviews identify factors that both helped and hindered the transition into critical care practice.

If you

- began your critical care nursing practice within NZ
- work as a competent nurse within this area (able to function as shift leader/ co-ordinator or senior within your unit)
- and can spare me an hour or so of your time to be interviewed….I will travel to you

I'd love to hear from you
For an information sheet and further information around my research please contact me,
Sandra Fielding
Phone: 07 548 2877 (please leave a message and I will return your call), or contact me via e-mail at: **fielding@xtra.co.nz**

Thank you

Appendix 3:
Participant Information Sheet

Date Information Sheet Produced: June 2004

Project Title Learning Critical Care Nursing

Invitation
As a fellow critical care nurse and educator I am interested in researching how other nurses have learnt about, and gained competency in critical care nursing. I am aware that while some will have had the opportunity to undertake formal training, for many, due to the lack of formal programmes especially in smaller centres, it has been a case of learning on the job.

What is the purpose of the study?
I am undertaking this research as part of a Master of Health Science degree. I am hoping that by gaining an insight into the challenges of learning post registration I will be able to make recommendations to improve learning opportunities for critical care nurses.

How are people chosen to be asked to be part of the study?
I will be selecting critical care nurses who have worked within the critical care area of practice (intensive care, coronary care, paediatric, cardio-thoracic or neurosurgical) solely in New Zealand.
I want nurses who are recognised as competent within their unit, either formally, e.g. Professional recognition programmes, or by regularly undertaking roles such as shift co-ordinator, or senior nurse in their unit.

What happens in the study?
Once you have agreed to participate and have met criteria, we will arrange a convenient time and place for an interview. The interview will take about an hour and the conversation will be audio taped. A typed transcript of the interview will be sent to you prior to analysis of the data so that you can comment on or change the information you have provided.
You are free to withdraw from the research at any time.
I may need to contact you (either by telephone or e-mail) during analysis of the interviews to ensure that my interpretations are accurate and complete up to the completion of data gathering.

What are the discomforts and risks?
Reflecting on time in your working life when you may have felt vulnerable as a novice critical care nurse, carries the risk of revisiting issues that may have been a difficult for you.

How will these discomforts and risks be alleviated?
Your personal comfort and safety is important to this research and if at any time you feel uncomfortable about reflecting on this time you may ask to stop the interview. Should you find that memories continue to be unresolved, you may wish to seek assistance from either your organisation's Employee Assistance Programme or, if that is not available, AUT offers a counselling service for research related issues.

What are the benefits ?
Critical care nursing is a specialisation that requires a high level of learning, yet many nurses are unable to travel or attend education programmes offered outside of their region. Identifying and understanding how critical care nurses gain competence within a range of diverse settings will enable recommendations to be made in relation to post registration learning.

How will my privacy be protected?
The interview data will be transcribed by a typist who has signed a confidentiality agreement. All identifying information, e.g. names, regions, size of unit will be removed from original transcripts. You will be able to review your interview transcript to check that your privacy has been protected. All identifying information will be stored separately from the data in a locked filing cabinet. .

In the final report, data will be presented collectively rather than as individual experience - this also protects the identity of participants.

How do I join the study?
By contacting myself, Sandra Fielding – on 021 105 2323 ; or by email – fielding@xtra.co.nz

What are the costs of participating in the project? (including time)

Initial contact time, interview time and the time spent reviewing or adding to the transcript..

Opportunity to consider invitation
If you would like to participate in this project I would be very pleased to hear from you as soon as possible.

Opportunity to receive feedback on results of research
There is a possibility that conference papers and/or publications may arise out of this thesis research. It will take about a year before the final report is ready - it will then be available in AUT's library.

Participant Concerns

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor. Dr Deb Spence, School of Nursing, AUT. deb.spence@aut.ac.nz 09 917 9999 extn 7844

Concerns regarding the conduct of the research should be notified to the Executive Secretary, AUTEC, Madeline Banda, madeline.banda@aut.ac.nz , 09 917 9999 ext 8044.

Approved by the Auckland University of Technology Ethics Committee on 05/07/2004
AUTEC Reference number 04/105

Consent to Participation in Research

Title of Project: **Learning Critical Care Nursing**

Project Supervisor: **Deb Spence**

Researcher: **Sandra Fielding**

- I have read and understood the information provided about this research project (Information Sheet dated 10th May, 2004.)
- I have had an opportunity to ask questions and to have them answered.
- I understand that the interview will be audio-taped and transcribed.
- I understand that I may withdraw myself or any information that I have provided for this project at any time prior to completion of data collection, without being disadvantaged in any way.
- If I withdraw, I understand that all relevant tapes and transcripts, or parts thereof, will be destroyed.
- I agree to take part in this research.
- I wish to receive a copy of the report from the research.

Participant signature: .....

Participant name: .....

Participant Contact Details (if appropriate):

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Date:

Approved by the Auckland University of Technology Ethics Committee on
AUTEC Reference number 04/105 July 5, 2004

Note: The Participant should retain a copy of this form.