WHAT IS THE POTENTIAL OF DISTANCE EDUCATION FOR LEARNING AND PRACTICE DEVELOPMENT IN CRITICAL CARE NURSING IN THE SOUTH ISLAND OF NEW ZEALAND?

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ABSTRACT

This thesis explores the potential of distance approaches to teaching and learning in post registration nursing education within the context of critical care nursing practice. The thesis specifically considers the appropriateness of distance education within the population of critical care nurses in the South Island of New Zealand. The geographical distribution of critical care services and subsequent population distribution of practising critical care nurses within the South Island has resulted in a demand for post registration education from relatively small yet distinct groups of nurses spanning a substantial land area (150,461 Km^2). National shortages of experienced and qualified critical care nurses, and consensus regarding the necessity for post registration education for specialist practice have been recognised throughout the Western World (Ball 1992, Charlton, Machin and Clough 2000, Cutler 2000, Johnston 2002). Yet nurses in the South Island of New Zealand have limited provision or access to critical care education programmes (Hardcastle 2003). The thesis therefore presents a pertinent and timely exploration into the potential of distance approaches to educational provision for an area of specialist practice that is currently unable to consistently meet health care demands.

The thesis uses descriptive and interpretive research (previously conducted by the author), and relevant literature in order to provide a comprehensive exploration of the study context and consider the research question. The thesis aims to enhance understanding of the specific population in terms of educational provision and demand, and the meaning of 'effective' education for critical care nursing practice. Subsequent examination of the potential of distance education within this context will more clearly indicate whether distance approaches could be compatible with concepts of effective education. The outcome of which will be useful in order to determine educational strategies that may positively influence the future of education for critical care nursing practice within the South Island of New Zealand.

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CHAPTER ONE

INTRODUCTION AND BACKGROUND

Health-care providers require a dynamic workforce that possesses the capability, skill, innovation and compliance to address the expanding continuum of health care needs and respond with appropriate quality service. One point on the acute health care continuum is collectively termed 'Critical Care' and may be extended to various spheres of practice including; intensive care, coronary care, high dependency, operating theatres, recovery units, and emergency care (Chaboyer *et al* 1997, Scholes & Chellel 1999, Charlton, Machin & Clough 2000). Although the term 'critical care' may refer to the act of caring for a person in a critical condition, regardless of their locality within the hospital, nurses who regularly care for persons who are critically ill, invariably do so in designated critical care areas. In recognition of the unique role of the 'critical care nurse', the *Declaration of Madrid on the Preparation of Critical Care Nurses* was published in 1993 in order to provide guidelines for "governmental, professional and educational bodies governing the practice of nursing" (p.24). The declaration defines the role of the critical care nurse as:

> "..essential to the multidisciplinary team needed to provide care to critically ill patients. The critical care nurse, which [sic] enhances delivery of a holistic, patient-centred approach in a high tech environment, brings to this team a unique combination of knowledge and caring. In order to fulfil their role, nurses require appropriate specialised knowledge and skills not typically included in the basic nursing programs of most countries".
>
> (Declaration of Madrid on the Preparation of Critical Care Nurses 1993, p.24)

This belief is reflected in widespread consensus regarding the need for post registration nursing education programmes that specifically address the concerns of specialist practice within critical care nursing (Arthur *et al* 1983, Oermann 1991, Ball 1992, Hendricks-Thomas, Crosby & Mooney 1995, NZNO 1996, Chaboyer *et al* 1997, Strachan, Armstrong & Sibbald 2000, Jeffrey 2000, Cutler 2000, Gibson & Douglas 2000). In addition to orientation and in service education programmes that address the norms and safety issues of local nursing practice, nurses practising in critical care environments frequently undertake formal post registration qualification(s) in critical care nursing.

Background to the Study

The broad subject area of post registration education for critical care practice is of particular personal interest as critical care practice has been the focus of the author's professional development for the last eight years with substantial involvement in post registration education in this field throughout this time. Indeed, the author's

involvement in post registration education for specialist nursing practice inspired current Masterate study as a means of professional development as a qualified practitioner and an educator. Interest in the specific study area of critical care education in the South Island of New Zealand has evolved from several perspectives. As a recent migrant from the United Kingdom to the South Island of New Zealand, it seemed that educational provision (or access to) for critical care nursing practice in the South Island was not comparable with that of the majority of critical care areas in the United Kingdom (UK). Whilst it is clear that the population distribution in the South Island is also significantly different from that of the UK, the provision of intensive and critical care services in metropolitan centres in the South Island is not dissimilar to that in many centres in the UK. Yet, following preliminary inquiry it was evident that nurses practising in one large tertiary hospital with substantial intensive and critical care provision did not have access to a critical care nursing education programme based in the South Island.

This led to an assumption that the proportion of nurses practising in critical care in the South Island who hold a post registration qualification in critical care might be low (when compared to critical care contexts elsewhere). A further assumption that critical care nurses in the South Island might either have to travel in order to undertake post registration education, or obtain qualifications elsewhere also warranted further exploration. An extensive literature search showed that critical care education in the South Island had not been studied previously. Moreover, the author found only one article that referred to critical care nursing education in New Zealand (Hewitt-Taylor 1998 – reference to paediatric intensive care education). It was therefore necessary to undertake a preliminary research study in order to explore the current state of education for critical care nursing practice in the South Island and more fully understand the study context (Hardcastle 2003).

Given the population distribution of critical care services and nurses practising within the specialty, and the author's proposal that educational provision and access within the South Island is inadequate for contemporary critical care practice (Hardcastle 2003), a rudimentary hypothesis emerged concerning the potential of distance learning within the educational preparation of critical care nurses in the South Island. The provision of education for specialist practice in critical care across the South Island is certainly a challenging prospect in terms of delivery, assessment, clinical experience, accreditation and financial viability. As distance education approaches to post registration education have been adopted in other countries, the author was inspired to examine the potential scope of distance education within critical care and, more specifically, within the South Island context.

Significance of the Study

Concern regarding the lack of adequately qualified and experienced critical care nurses is presently a global issue that is all too apparent in New Zealand (Johnston 2002). Some countries have previously undertaken exploratory studies in order to investigate the educational needs of critical care nurses within specific regions so

that educational planning could address inadequacies in educational provision or focus (Queensland Nurses Union of Employees 1993, Restas 1993, Chaboyer *et al* 1997, Hewitt-Taylor 1998). Indeed, the deficits revealed in the Queensland studies resulted in significant educational restructuring and financial procurement from local governments in order to address educational provision that was previously inadequate and encourage staff retention (Hendricks-Thomas, Crosby & Mooney 1995, Chaboyer *et al* 1997). Yet the state of education for critical care nursing practice in New Zealand had not been considered in published literature prior to this author's preliminary research studies.

This thesis not only provides an unparalleled exploration of critical care education in the South Island, it also provides a comprehensive inquiry concerning the concept of 'effective' education for critical care nursing practice and the potential of distance approaches to teaching and learning therein. Whilst several authors have presented literature pertaining to the effectiveness of critical care education, the predominant focus is upon outcome criteria, and how they may be best achieved in terms of teaching strategies, assessment methods, course structure and curricula. Although it is important to evaluate the process and outcome for learning situations, one would argue that focusing predominantly on outcome criteria encourages a learning environment that is prescriptive and goal oriented rather than learner centred and individualistic. One would further propose that, in order for education to be effective for nursing practice, educational programmes should facilitate individual learners to utilise personal learning strategies so that they may understand and enhance their own practice. The thesis therefore aims to expand the current conceptualisation of effective education by exploring the meaning that effective education for critical care nursing practice holds for critical care nurses practising in the South Island.

The notion of distance education within the specialty of critical care education is not entirely new. Moreover, several authors refer to the use of distance education strategies within critical care nursing programmes (see for example Hewitt-Taylor 1998, 1999, Camsooksai 1999, Manley 2000). However, the potential or scope that distance education may hold for critical care nursing education has not been explored in existing literature. The thesis therefore represents an original and comprehensive inquiry that may significantly influence the future of post registration education for critical care nursing practice in, and beyond, New Zealand.

Aims and Objectives of the Study

The thesis utilises and expands upon relevant literature and information gained during the course of prior research undertaken by the author in order to compare and contrast the emerging concept of effective education for critical care practice with existing concepts of distance education. The intention is to more clearly understand:

- What 'effective' education means for nurses practising in critical care environments in the South Island
- The relationships between education and practice development

- The potential of distance education within critical care nursing education
- The specific application of distance education approaches for critical care nursing education and practice development in the South Island of New Zealand

In order to focus the inquiry on teaching and learning within the context of critical care nursing it is necessary to first consider the broader contexts of nursing education, critical care nursing practice and the specific characteristics of nursing education in New Zealand and the South Island. Chapter Two thus provides a comprehensive discussion concerning prevalent issues within nursing education and professional practice development. Influential theories and philosophies are discussed within broad and study specific contexts in order that the reader may more fully comprehend the assumptions and values that underpin contemporary education and practice. National and international approaches towards general and specialty nursing education and professional regulation are then discussed with particular reference to professional standards and accountability in practice. It is important to note, however, that the literature, perspectives and discussion surrounding general and specialty nursing education reflect predominantly Western values due to an absence of available literature concerning broader perspectives. The chapter concludes with a detailed description of the primary context of the inquiry and presents preliminary research findings concerning the current issues relating to critical care education in the South Island.

The effectiveness of past and current ventures in critical care nursing education has received a certain amount of attention within research and literature pertaining to nursing education and specialty practice, although interpretation of effectiveness as a concept is somewhat varied. Chapter Three begins with a review of existing conceptualisations and evaluation of effective education for critical care nursing. The assumptions and values reflected in current literature are highlighted in order that the determinants of effective education may be considered from various perspectives. Literature concerning the meaning of education for critical care nursing practice is then discussed with reference to existing concepts of effective education and the author's own research concerning the meaning of effective education for critical care nursing practice within the study context. As much of the critical care education literature reviewed focuses on the effectiveness of specific approaches to, or structure of, educational programmes, popular approaches to teaching and learning in critical care are then discussed with reference to existing and emerging concepts of effective education.

In order to consider the appropriateness or potential scope of distance education in critical care education it is necessary to explore the concept of distance education within adult and professional education. The second section of Chapter Three thus explores distance approaches to teaching and learning within relevant literature, research and adult learning theory. Existing applications of distance approaches to teaching and learning in

nursing education are then reviewed in order to identify the existing scope and implications of distance education within the profession and for specialty practice.

Chapter Four begins by presenting an enhanced conceptualisation of effective education for critical care nursing practice developed from new and existing information, literature, and research and a greater understanding of what effective education means to nurses practising in critical care environments. The composite description of effective education is presented as a new perspective on effective education for critical care nursing practice. This perspective is then integrated into a model for critical care education that reflects the most fundamental issues within effective education for critical care nursing practice in New Zealand. Chapter Five explores the new, emerging concept and model for education within the context of contemporary approaches to, and principles for distance education. The second section of Chapter Five then utilises the model for critical care education in order to examine the potential of distance education within critical care nursing education and the study context.

The thesis concludes with a presentation of the author's conclusions regarding the potential of distance education within critical care nursing education in New Zealand and recommendations for the development of an educational strategy for critical care nursing practice in the South Island. A glossary of terms is included in the appendices in order to provide greater clarity regarding terminology that may be interchangeable, specific to nursing or subject to situational interpretation.

Summary

The study provides a unique exploration of critical care nursing education in New Zealand and the potential of distance education as an approach to professional education for specialty nursing practice. The inquiry highlights the significance of individual learners and personal practice development within the broad scope of critical care nursing and professional practice. Aspects of nursing education that have traditionally been grounded in clinically based teaching, learning and assessment are explored from alternative perspectives that may enable the provision of comprehensive distance critical care education for nurses throughout the South Island within national professional guidelines for post registration nursing education (NCNZ 2001).

CHAPTER TWO

THE STUDY CONTEXT

INTRODUCTION

This chapter provides an overview of the study context in order that the reader may more fully comprehend the domains in which this inquiry is situated. As the primary focus of the inquiry is to consider teaching and learning in the context of critical care nursing practice, it is necessary to discuss the concepts that are embedded within the study context. The leading section provides an outline of the concepts that underpin education and professional development in nursing. The predominant philosophies are discussed with reference to theory, learning and practice development in nursing. Contemporary issues within nursing education are also highlighted with respect to evolution, consequence and current integration within professional standards.

Section two provides an outline of the critical care domain and its situation within the broad arena of health care. Notable variations in the scope of practice within specialty, advanced and critical care nursing are discussed with particular reference to the demand for, and requisites of, educational preparation. The third section provides a descriptive overview of contemporary education for critical care nursing practice by examining educational demand, theories of teaching and learning in critical care and current approaches to critical care education. Existing educational practice is discussed, however distinct approaches to teaching, learning and assessment are critically reviewed in greater detail in Chapter Three. Western perspectives regarding critical care education and practice are then outlined in section four in order to present international concerns and trends within critical care nursing education and practice development.

Section five provides a conclusive précis of nursing education in New Zealand with a particular focus on post registration education, professional regulation and the concept of cultural safety. The evolution and development of critical care nursing is discussed and context specific issues concerning critical care education in New Zealand are raised. The final section provides a detailed description of critical care nursing and education in the South Island as the primary context underpinning the inquiry. The current state of education for critical care nursing practice is discussed with reference to educational access and provision. The chapter concludes with a summary presentation of the salient issues drawn from the study context and potential strategies for future direction and development.

Education and Professional Development in Nursing

It would seem almost unthinkable to discuss education in nursing without reference to the concepts of theory / practice relationships and the disputable theory / practice gap. Elements of or inference to a theory / practice gap potentially underpin most aspects of nursing education and practice development. The perception of a 'gap' between theory and practice is certainly a common theme within nursing literature (Reed & Procter 1993, Ewan & White 1996, Nicklin & Kenworthy 1996). From an educational perspective, the discussion surrounding this contentious concept in nursing bears striking resemblance to philosophical discussions concerning the nature of knowledge. Ryle's (1949) differentiation between 'knowledge that' and 'knowledge how' (for example) seems relevant to nursing literature that struggles to make explicit the differences between what nurses 'know' and what they 'do'. Whilst several authors view education as the means to 'close' or 'bridge' the gap by uniting theory and practice (Reed & Procter 1993, Durston & Rance 1995, Hendricks-Thomas, Crosby & Mooney 1995, Ewan & White 1996, Thomson 1996, Nicklin & Kenworthy 1996, Smith 1997), others dispute the existence of a gap or afford greater attention to the relationships between theory and practice (Benner 1984, Meerabeau 1992, Allmark 1995, Hendricks-Thomas, Crosby & Mooney 1995, Cutler 2000).

Theory as a concept may be perceived as the means by which nursing practice can be described, explained, anticipated, planned, and evaluated (Argyris & Schon 1974), and as such could be viewed as an ideal foundation upon which to develop educational strategies (Reilly 1980). Although somewhat outdated, Reilly's proposal that theory provides focus for the goals, boundaries, nature, methodology and values of practice is still evident in some nursing education programmes today. Reilly goes on to state that practice without a theory base is "subject to inconsistency, irrationality and unpredictability" and is derived from "intuition" and "imitation" (p.21). Yet, one would propose that the uniqueness of individuals and the relationships within each nursing situation mean that nursing practice is frequently influenced by factors such as inconsistency, unpredictability and intuition, which Reilly considers to be incongruous with nursing practice. Such reference to professional sensitivity was frequently demonstrated throughout the 1980s (in the United States in particular) with the inception of many theories of nursing that attempted to identify nursing as a distinct profession. Whilst the generic aim to develop nursing as a profession in its own right is commendable, nurse theorists' reluctance to renounce the medical-scientific model has resulted in theories of nursing that attempt to encompass both humanistic and scientific assumptions. Whilst proposing a holistic approach to nursing, many nursing theories also aim to rationalise nursing practice with scientific knowledge. Yet, to adopt this perspective, one would surely accept that each component of practice, and the means by which components interact and are interdependent, could be explained and

validated by theoretical constructs. Although many aspects of practice may well originate from, or are informed by, empirical theory (Carper 1978), when one considers the complexity of nursing practice, one would doubt whether theory could explain nursing practice in its entirety.

In contrast, other nurse educators acknowledge a more pragmatic perspective concerning knowledge and practice by proposing that the types of knowledge used in practice can neither be taught nor rationalised in entirely theoretical terms (Carper 1978, Benner 1984, Endacott 1992, Meerabeau 1992, Allmark 1995, McDonnell 1997, Cutler 2000). Emphasis is placed rather, on the relationship between the concepts of theory and practice. In support, it is recognised that nurses demonstrate a kind of tacit knowledge and intuition in various aspects of their practice that can not be explained by theory, yet forms an integral component of expert practice (Carper 1978, Benner 1984, Endacott 1992, Meerabeau 1992, McDonnell 1997). Roper, Logan and Tierney provide a timeless example in their discussion of nursing theory when they recall Florence Nightingale's (1859) statement: "I believe...that the very elements of nursing are all but unknown" (1986 p.25). Pragmatic approaches to the application of nursing theory and scientific knowledge perceive theory as an eclectic and dynamic framework that may assist nurses to devise ways of thinking about the process of nursing in their own context (Wright 1986, Fulbrook 1996). As such, nurses may approach nursing practice and learning needs from their own philosophical perspective, drawing on the many and varied forms of knowledge that are required in practice and professional development.

The notion of nursing 'praxis' may be perceived as an extension of the latter perspective. Derived from philosophy, education and professional practice, the term refers (most simplistically) to the link between or interdependence of theory and practice (Lutz, Jones & Kendall 1997, Warelow 1997, Bawden 1997, Seng 1998, Penney & Warelow 1999). Characterised by a continuous process of reflection and action, praxis may be viewed as "the synchronous conjoining of thinking and doing" that may be able to move nursing "beyond thinking or theorising to an energised achieving or attaining" (Lutz, Jones & Kendall 1997 p.23). In contrast to the notions of theory as an explanation of, or guide to practice, praxis denotes an interdependent relationship in which theory both informs and is informed by practice and experience. Each form of knowledge embedded in nursing practice is therefore valued and may contribute to and compose personal theory. Yet the concept of nursing praxis also depicts notions of empowerment, transformation and change (see for example Owen-Mills 1995, Lutz, Jones & Kendall 1997, Warelow 1997, Penney & Warelow 1999), which are somewhat incongruous with the pervasive notions of consensus and apolitical professionalism in nursing (Owen-Mills 1995, Warelow 1997). It could be argued that this perception denotes some misunderstanding regarding the necessary scope of praxis. Indeed there are those who

believe that nursing praxis is able to advance critical analysis and effective learning from practice at a personal or collective level by using both theory and practice in a more complementary way (Seng 1998, Litchfield 1999, Penney & Warelow 1999). As such, nursing may be viewed as a more 'theoretico-practical process' that allows a greater understanding of personal beliefs and practices (Warelow 1997).

Philosophy and Nursing Education

Philosophical beliefs, values and attitudes influence the way in which individuals approach 'nursing' as a concept from many perspectives, including one's approach to the process and outcome of teaching and learning. Although many nurses may not be conscious of the philosophical beliefs that underpin their own practice, or educational experiences, their practice and learning experiences are likely to have been influenced by behaviourist and / or humanistic philosophy in some way (Reilly 1980, Woodrow 2000, Clarke 2001). The fundamental behaviourist assumption that learning occurs via a stimulus - response process may seem an inappropriately crude theory upon which to base nursing education. Indeed, contemporary perspectives on adult education are largely critical of behaviourist assumptions (Brookfield 1986, Cranton 1992, Elias & Merriam 1995). Yet, the influence of behaviourism is apparent (although not always overt) in nursing education and practice (Kershaw & Salvage 1986, Hendricks-Thomas & Patterson 1995, Woodrow 2000) and, some would argue, in all theories of learning (Rogers 1996). Certainly, the adoption of behavioural competencies and performance standards as learning outcome criteria would appear to reflect the belief that learning results in behavioural change. Although it is acknowledged that behaviourist approaches can reduce nursing to a prescriptive and essentially task orientated process, it also seems unlikely that nursing could exist without the influence of behaviourism when one considers the plethora of health service policies, procedures and guidelines that serve to regulate many aspects of nursing practice.

In contrast, humanistic philosophy emphasises the value of the individual in learning and the nursing process and the concept of 'holism' (the whole person) (Rogers 1978, Elias & Merriam 1995, Woodrow 2000), and to some extent has been popularised as a result of dissatisfaction with behaviourist and scientific approaches to nursing education. Abraham Maslow's (1970) emphasis on the needs of the individual and personal growth has certainly been influential in the progression of humanistic approaches towards self actualisation in nursing education and nursing theory (see for example Rogers 1970, Orem 1985, Roper, Logan & Tierney 1996). The influence of humanistic concern for personal growth and learning is also becoming more apparent in nursing education with the advent of concepts such as 'lifelong learning' and 'reflective practice'. Learning is no longer necessarily confined to and controlled by behaviourally structured education programmes. Rather each clinical environment is thought to represent

a learning environment in which individual learning needs may be emphasised (Benner 1984, Wright 1986, Hendricks-Thomas & Patterson 1995, Dunn & Burnett 1995, Woodrow 2000). One could argue that the more contemporary approaches to nursing education value knowledge 'that' *and* knowledge 'how' by recognising individual learning approaches and adopting less predetermined behaviourist outcomes. However, one is nonetheless reminded of the, perhaps necessary, persistence of behaviourist influence when one considers the overarching concern for the maintenance of safety within nursing actions.

Whilst the assumptions and values originating from behaviourism and humanism are notably the most influential philosophies underpinning nursing theory and education, the influence of alternative philosophies are also apparent. Indeed the concern for humanism over behaviourism is somewhat mirrored as nursing education embraces progressive values such as learner centredness, experiential learning and facilitative teaching in place of more traditional, liberal teacher centred, content dictated approaches. Yet whilst liberal philosophy acknowledged the concept of lifelong learning and valued critical assessment and analysis as an intellectual aim (Elias & Merriam 1995), one could argue that nursing failed to progress much beyond the adoption of liberalism's curricula dictated philosophy.

Many of the early theories of nursing focused upon what Elias & Merriam (1995) call the 'synthetic' or 'comprehensive function' of philosophy in that the underpinning philosophy serves to provide a coherent set of beliefs and arguments about nursing. However, in conjunction with an interest in the notion of nursing praxis, philosophies that express concern for critical analysis of underlying ideologies and endeavour to move beyond positivist truths are gaining respect in nursing curricula (see for example Owen-Mills 1995, Lutz, Jones & Kendall 1997, Penney & Warelow 1999). Originating from radical philosophy, critical social theory represents a shift in focus from educational technique and psychology to critical analysis of the political, economic and social aspects of education. Autonomy in learning may be achieved through processes of critical analysis and praxis that are able to empower learners by raising critical consciousness (Beder 1989, Elias & Merriam 1995, Lutz, Jones & Kendall 1997, Warelow 1997). However, the scope or necessity for political and social transformation within critical theory seems to be open to interpretation within the context of nursing and nursing education. Whilst authors acknowledge critical theory's radical origins and resolute social conscience, the concepts of emancipation and transformation appear to be approached from a more individual (than social) perspective (see for example Owen-Mills 1995, Lutz, Jones & Kendall 1997, Seng 1998, Warelow 1997). Nonetheless, the concepts of critical reflection, contructivism and praxis are highly applicable and influential with regards to understanding and learning from practice and experience in nursing.

It seems therefore that any one distinct philosophy is unlikely to encompass all aspects of nursing education and practice. Whilst philosophical frameworks can define and guide practice, education and practice are dependent on context and, as such, the appropriateness of any one philosophical orientation may fluctuate according to specific contexts. Education in nursing is essentially striving to achieve an acceptable balance between humanism and safety in practice. The evolution of reflective practice in nursing may be perceived as an approach to learning and professional practice that encourages nurses to examine their own philosophical beliefs and values in order to more fully understand their practice and enhance patient care. Although the concept of 'reflecting' or 'reflection' in learning has been explicitly discussed in educational literature since the 1930s (Dewey 1933), the value of reflection in nursing education and practice has only been recognised within the last two decades. Throughout this time, several professions and practitioners have adopted reflection as a method of integrating experience and academic study by the questioning of experience and practice (Boud & Walker 1998). Whilst Schon's (1983, 1991) eminent work *The Reflective Practitioner* was far from original, it became renowned within professional education as the concept of the reflective practitioner gathered prominence (Jarvis 1992, Hannigan 2001). As nursing education became dissatisfied with behaviourist approaches to teaching, learning and practice, Schon (1991) similarly objected to the notion of 'technical rationality' in professional practice. He proposed that decision making and problem solving in professional practice are frequently characterised by uncertainty and irregularity and that, in such situations, professionals *reflect-in-action* using a form of tacit knowledge that informs decision making and yet may be difficult to rationalise. Consequently, the intricacies of professional practice can not be explained or informed entirely by scientific and positivistic explanations or technical rationality (Schon 1991).

The debate, once again, seems to surround the mechanistic *vs.* humanistic assumptions that may underpin and influence learning and professional practice. Whilst the idea of reflection as a method of integrating theory and practice has been embraced by the nursing profession, the integration of reflection and reflective processes into nursing education and practice has not always maintained an appropriate focus on learning and personal development (Boud & Walker 1998, Hannigan 2001). Reflection for some is perceived as a way of realising and enhancing efficacy in education and practice (Atkins & Murphy 1993, Johns 1996, Ewan & White 1996), whilst others, although acknowledging the potential value of reflection, are critical of its mechanistic and potentially unethical adoption in some nursing education environments (Richardson 1995, Boud & Walker 1998, Hannigan 2001). If turning experience into learning *is* a fundamental assumption underpinning the concept of reflection in nursing education (Boud, Keogh & Walker 1985), then reflection *could* be perceived as a means to develop personal meaning from, and understand, nursing practice. Reflection could therefore represent an approach that could unite theory and

practice, using knowledge how and knowledge that as both a foundation and guide for future learning and practice development. Yet several authors believe that many learning and assessment activities that occur under the auspices of reflection frequently result in abstract thought without necessarily progressing to new understanding and / or action (Jarvis 1992, Reed & Procter 1993, Boud & Walker 1998, Hannigan 2001). One could argue perhaps, that this confusion or omission has arisen from the disparate interpretations of reflection that are presented in nursing literature, in particular the frequent lack of distinction between reflection on action and reflection in action (as proposed by Schon 1991).

Despite significant variance in interpretation and application, reflective practice is nonetheless an integral and somewhat progressive component of contemporary nursing education. The attempts of Schon (1991) and Benner (1984) to reconceptualise theory and practice by acknowledging the value of tacit knowledge in professional practice are particularly influential in modern day nursing education (Meerabeau 1992). Nursing has progressed from a discipline primarily concerned with knowing 'facts' to a profession concerned with understanding how to learn and advance professional knowledge (Reed & Procter 1993, Lindeman 2000, Lee 2001). Whilst the value of experience in practice has always been appreciated (Benner 1984, Hunsberger *et al* 2000), latterly nursing education has placed greater emphasis on understanding experience and exploring the knowledge that is utilised for practice, rather than being consumed by the distance between knowledge and practice as isolated concepts.

Nursing Academe

Pre registration nursing education programmes represent the pivotal foundation for all educational initiatives for advanced and specialist nursing practice (Romaine-Davis 1997). Nursing education programmes leading to registration were generally offered in three year, hospital based school of nursing certificate or diploma programmes until mid to late twentieth century, whilst baccalaureate degrees in nursing are now more prevalent. Pre registration nursing programmes aim to enable nurses to practice at a generalist level by encompassing practice and theory relating to the traditional scope of nursing practice (Romaine-Davis 1997). If nurses then choose to practice in an environment that necessitates more in-depth knowledge and practice, post registration qualifications in advanced and / or specialty practice may be undertaken.

In conjunction with a comprehensive progression towards higher academic awards for nursing programmes, programme provision has progressed from traditional health care settings into tertiary education environments. Historically, both pre and post registration nursing programmes conducted within the health care sector predominantly emphasised clinical theoretical application over the academic

abilities that are often associated with higher education qualifications. As a result, many nurses undertaking subsequent qualifications in the higher education sector are disadvantaged because they lack 'academic' skills such as writing, critical thinking, computer skills and the ability to utilise library and other resources (Ryan 1993, Chaboyer & Retsas 1996, Carnwell 1998, Rogerson & Harden 1999). Although it may be argued that practising nurses undoubtedly utilise self directed learning skills in practice, such abilities are not necessarily transferable to the unfamiliarity of study within higher education (Ryan 1993, Zollo 1999). Indeed Chaboyer & Retsas' (1996) study highlighted a significant need for nurses to be provided with some form of preparation for study in higher education before undertaking specialty nursing qualifications accredited or managed by tertiary education institutions. It is likely therefore that practising nurses without formal tertiary academic qualifications may require some form of academic preparation in order that they may undertake contemporary post registration nursing programmes provided by and / or based in tertiary education settings. There is also a demand from nurses and health care managers for post registration programmes to be more accessible and more flexible (Rogerson & Harden 1999, Wigens & Westwood 2000). The profession is consequently challenged to employ innovative and creative methodology to effectively teach clinical practice within higher education settings (Huff 1997, Mallow & Gilje 1999, Lusk *et al* 2001, ShuZhen 2001).

Nurses are also under increasing pressure from professional bodies to undertake continuing professional development to maintain registration and meet the evolving demands of clinical practice (Kelly-Thomas 1998, Dowswell, Hewison & Hinds 1998, Rogerson & Harden 1999, Wilson & Pirrie 1999, Billings & Rowles 2001). Subsequently, continuing education in nursing has become a significant concept within current professional practice (New Zealand Nurses' Organisation (NZNO) 1996, Kelly-Thomas 1998, NBS 2000, Billings & Rowles 2001). The scope of nursing and medical knowledge is constantly augmented by advances in technology whilst simultaneously being restrained by organisational demands. As a result, the notion of lifelong learning has become a prevalent feature within nursing literature and educational strategies (Abruzzese 1996, Kelly-Thomas 1998, Zollo 1999, Ben-Zur, Yagil & Spitzer 1999, Rogerson & Harden 1999, Lindeman 2000). Nurses are expected to continue to critically question and refine practice beyond the boundaries of distinct educational or developmental programmes. Consequently, nurse educators are further challenged to encourage and nurture individualised learning and professional development strategies that can facilitate personal learning beyond the scope of teacher learner contact during specialty or advanced nursing education programmes. Having completed distinct educational programmes, nurses may be expected to apply principles of lifelong learning as an integral component of their personal and professional responsibilities. It is hardly surprising then that lifelong learning might be perceived as a cheap option that could ensure continuing professional development at

no further cost or inconvenience (due to absence of nurses from clinical practice) to health care organisations.

Learning and Accountability

The issue of accountability, although not unique to nursing, is arguably one of the most distinctive and compelling features of education for professional nursing practice. Lindeman provides an apt summary by stating that "in nursing we have accepted the notion of a contract with society" (2000, p.6, Holloway 2000). The public is concerned with the provision, quality and appropriateness of nursing care and resources, and consequently, the product or outcome of nursing education programmes (Reilly 1980, Lindeman 2000, Bland & Olliver 2002). Nursing as a profession is accountable to:

- Society – for individual nursing actions or omissions and the maintenance of professional standards
- The profession and its governing bodies – to respect, uphold and practice within professional guidelines and accepted practice values
- Learners in nursing – to ensure that future nurses (and those seeking post registration education) are adequately prepared to practice safely and within the boundaries outlined by relevant professional bodies

It is clear that there is likely to be some conflict of beliefs, values and assumptions concerning the nature and scope of nursing and best practice from what are, potentially, very different perspectives and interests. McFarlane (1986) alludes to the influence of what could be termed 'external accountability' when she notes that many of the ideas concerning accountability and current best practice appear to originate from individuals who no longer practice direct patient care – such as educators, managers and statutory bodies. This situation reflects, once again, a conflict between humanistic ideology in nursing education and the obligatory outcome of professional accountability that serves to ensure public safety in practice. Whilst nursing education may strive to practice learner centred approaches, thus encouraging the learner to accept responsibility and accountability for learning and practice, nurse educators are nonetheless accountable to society and governing bodies to ensure that learners are adequately prepared for registration and practice.

One could argue that reference to the concepts of 'competence' and 'competencies' have become increasingly conspicuous within nursing literature as a way of responding to, and approaching, the issues of accountability and learning in nursing education. The challenge to offer an adequate definition of competence and competency in the context of nursing practice is somewhat onerous as the description

and application of competence in education and practice is extremely varied. Although the author does not wish to reduce the complex argument surrounding competence into mere definitive statements, it seems necessary to provide concise (although not exhaustive) definitions upon which to base this and further discussion within the thesis.

Competence

The ability to apply the knowledge and skills that are required in order to practice safely within a given context.

Competencies

Specific components of competence that can be identified as something which contributes to competence in a given practice context.

Statements concerning what competence means in particular contexts frequently refer to distinct competencies that represent specific areas of knowledge and / or skills that are perceived to be necessary in order to practice safely within the given practice context (see for example NLN 1993, Hager 1995, NCNZ 1998, 1999c, 1999e). Competencies may be viewed as a means of ensuring that minimum standards of practice are achieved, thereby supporting a consistent approach to care that is evidence based and accepted as 'best' practice (Hendricks-Thomas, Crosby & Mooney 1995, ACCCN 1996, NCNZ 1999b & 1999c, Charlton, Machin & Clough 2000, NBS 2000, ANCI 2000, Jeffrey 2000). This interpretation thus views a framework of competencies as a tool for teaching and assessment that is directly and precisely related to theoretical knowledge (Endacott 1992, Hendricks-Thomas, Crosby & Mooney 1995, Jeffrey 2000). Whilst one can regard competency as a foundation for informing and supporting practice that may facilitate standard approaches to practice, teaching and learning, this conceptualisation is based upon certain assumptions. In order to adopt a competence based approach to teaching and learning we must assume (or explicitly acknowledge presuppositions) that consensus can be reached on the determinants of minimum or desired standards, best practice, valid and reliable evidence, and consensus regarding the theoretical content that may best inform practice. Whether this can be achieved or maintained is a contentious issue.

Whilst many propose that competence should form the foundation of teaching, learning, assessment and accountability in nursing practice (Hendricks-Thomas, Crosby & Mooney 1995, ACCCN 1996, CNA 1998, NCNZ 1998, 1999b, 1999c, Charlton, Machin & Clough 2000, ANCI 2000, Jeffrey 2000, NBS 2000), some view the concept as unattainable and fallible (Cutler 2000) and many more acknowledge, yet strive to overcome, the difficulties associated with competence (Gonczi, Hager & Oliver 1990, Hager 1995, Smith 1997, Hewitt-Taylor 1998, Scholes, Endacott and Chellel 2000). Such disparity in interpretation and

conviction demands closer examination and consideration of the presuppositions and values that underpin the application of this concept in education and practice.

Cutler (2000) believes that conformity surrounding the definition and utilisation of competence is so inadequate that it negates the very aims of standardisation and consistency that it intends to achieve. Considering the notion of competence from a constructivist perspective, Cutler proposes a 'process' view of competence that cannot be predefined. From a process perspective, competence is understood in practice terms and relates to the actions and knowledge that are integrated in real situations, as opposed to the outcome of learning predetermined skills and knowledge. This interpretation of competence as the presence and attributes of an individual is upheld by other authors (Benner 1984, Smith 1997) and may be viewed as a precursor to performance, rather than a successor. Indeed, a process view of competence may reveal a closer indication as to whether an individual can utilise personal knowledge, skill, and aptitude to enhance professional practice, or achieve a predetermined level of performance. Surely the aim should be to determine an individual's ability to assume professional accountability rather than determine if they can perform discrete competencies that cannot reflect the evolving scope of their practice.

Although it is accepted that competencies need not be restricted to purely behavioural outcomes, authors who attempt to assess competence in more affective domains concede to difficulties with observation and specificity of such subjective criteria (Smith 1997, Hewitt-Taylor 1998, Scholes, Endacott & Chellel 2000). Whether competence is assessed as an outcome of nurse education programmes or as a cumulative inference regarding effectiveness of successive and varied performance (Ashworth & Saxton 1990), precisely what competence means in terms of autonomous accountability remains elusive. Despite such disparate interpretations within the profession, many educational institutions and professional bodies use a broad competency based approach to educate, assess, and prepare nurses for professional practice (Gonczi, Hager & Oliver 1990, Yoder Wise 1996, ACCCN 1996, Kelly-Thomas 1998, CNA 1998, NCNZ 1998, 1999b, 1999c, NBS 2000, Jeffrey 2000, ANCI 2000). In the context of specialty practice, competencies are frequently viewed as a method of quality assurance, ensuring that different practitioners are capable of performing at a specified level. From this perspective, competence is a method of describing and defining practice, and assuring professional accountability. Perhaps then, one must concede to the assumption of consensus (regarding minimum standards of practice) that is determined by governing bodies in order to safeguard public accountability.

The penchant for lifelong learning in contemporary nursing practice may offer both harmony and hostility in nursing education's struggle to facilitate safe humanistic practice. The assumption that learning transcends distinct education programmes may afford educators and learners with opportunities to look beyond predetermined learning outcomes (that are deemed to assure safe practice and professional accountability) towards achieving personally relevant learning and individual practice development. Alternatively, the presumption that distinct learning experiences will prepare nurses to 'learn for life'; continually questioning and updating their practice above and beyond specific learning outcomes may place further responsibility with educators who are compelled to produce dynamic and progressive practitioners as the outcome of learning experiences. Once again, one is called to question exactly where, and with whom, accountability and responsibility in teaching and learning for nursing practice should be situated.

The Critical Care Context

Within the general context of health care the collective term 'critical care' may be extended to various spheres of practice including; intensive care, coronary care, high dependency, operating theatres, recovery units, and emergency care (Chaboyer *et al* 1997, Scholes & Chellel 1999, Charlton, Machin & Clough 2000). The concept of critical care is evolving as developments in medicine, technology and health care provide a plethora of progressive treatment options for individuals who previously might not have survived an episode of 'critical illness'. In conjunction with the increasing scope of critical care, some would now argue that critical care is defined by the act of caring for a person in a critical condition, regardless of their locality within the hospital (Parsons & Wiener-Kronish 1992, DoH 2000, Pitacco *et al* 2001, McCallum 2002). Whilst this argument is becoming increasingly pertinent, the current concept of critical care more frequently refers to the care of persons who are critically ill and are located within designated intensive and critical care areas (Thelan *et al* 1994, Ashworth 1995, Hendricks-Thomas, Crosby & Mooney 1995, Camsooksai 1999, Gibson & Douglas 2000, Dean 2001, Blanchard 2002). For the purpose of this study, the term 'critical care' will refer to the care of adults whose medical condition necessitates admission and continuing care within a designated intensive care unit or combined intensive and high dependency or coronary care unit (unless stated otherwise).

Critical care nursing is regarded as a 'specialty' area of nursing practice as the breadth and complexity of clinical decision making involved in caring for patients who are critically ill is unique to this area of practice (Endacott 1992, Thelan *et al* 1994, Pitacco *et al* 2001, Woodrow 2001). This is not to assume that critical care is a more complex or demanding area of practice than other specialties, or indeed, general practice. Application of the term 'unique' is rather employed to highlight the variety of practice, knowledge

and skills that are required in different areas of nursing practice. Indeed, the Nursing Council of New Zealand refers to specialty nursing practice as "any area of practice with a specific focus and body of knowledge" (1999a p.9). The Council further acknowledges that "under this definition it is difficult to identify any area of nursing practice that cannot be described as specialty nursing practice" (1999a p.9). Such interpretation need not be confined to New Zealand and may explain the emergence of many specialty and advanced nursing programmes that seek to differentiate between beginning practitioner and advanced or expert practice. It is considered that educational preparation for nursing practice (in terms of eligibility for registration) is unlikely to address the complexity of practice and decision making that are required for specialty practice in critical care nursing (Oermann 1991, Ball 1992, Endacott 1992, Camsooksai 1999, Woodrow 2000, Pitacco *et al* 2001). Pitacco *et al* (2001) emphasise a fundamental contrast when they remark that critical care nursing centres on the illness of the individual, rather than their health, which is the dominant philosophy and foundation for education in general nursing. This view is supported by the American Association of Critical Care Nurses (AACN) definition of critical care nursing as a specialty that deals with human responses to life threatening problems (2002b). Such a contrast in philosophy is indicative of the necessity for post registration educational input and clinical experience if safe practice in critical care environments is to be assured.

Nursing practice in critical care demands that the nurse is able to utilise multiple components of complex and in depth knowledge in order to exercise clinical judgement and decision making concerning every aspect of patient care under circumstances that may be dynamic and unpredictable. Development and refinement of the intricacies of such practice is a gradual process, and one that is accepted to develop in conjunction with experience (Benner 1984, Oermann 1991, Endacott 1992, Scholes & Chellel 1999). Concerns surrounding the practice of inexperienced nurses focus on the nurse's lack of specific knowledge and expertise, and the consequences that inappropriate action or omission may have on patient care and stability (Oermann 1991, Lally & Pearce 1996, Wright 1999). Furthermore, nurses have identified that deficits in specialty nursing skills, knowledge and education can negatively influence clinical decision making, job satisfaction, anxiety, stress and staff retention (Anderson & Kimber 1991, Norrie 1995, Lally & Pearce 1996, Chaboyer *et al* 1997, Camsooksai 1999, Gibson & Douglas 2000, Little 2000, Batmaz, Enc & Pektekin 2001, Dean 2001). This finding is supported by literature that reports increases in confidence, understanding, reflexivity, knowledge base and skills that nurses associate with experience and education for specialty practice (Oermann 1991, Hogston 1995, Little 1999 & 2000, Gibson & Douglas 2000, Dean 2001).

Traditionally, nurses embarking on new practice within critical care complete an orientation period, during which they are exposed to the fundamental aspects of practice, safety, and cultural norms within

the critical care area, without direct responsibility for patient care (NZNO 1996, Chaboyer *et al* 1997, Scholes, Endacott & Chellel 2000, Cutler 2000, Dean 2001). The orientation experience is thought to provide a safe period that allows the nurse to consider prior knowledge and experience within a new clinical context. However, there is growing evidence to suggest that, when nurses have limited experience as a registered practitioner, orientation alone does not equate to adequate preparation for the demands of critical care nursing practice (Oermann 1991, Hewitt-Taylor 1998, Charlton, Machin & Clough 2000, Dean 2001). As previously discussed, nursing is progressing from a predominantly positivist discipline to a pragmatic profession concerned with learning and autonomy in clinical practice (Endacott 1992, Reed & Procter 1993, Manley 2000, Lindeman 2000, Lee 2001). Hendricks-Thomas & Patterson (1995) refer to this progression as a 'curriculum revolution' in nursing, which is reflected by the emergence of foundation / introductory level education programmes for specialty practice. Such foundation programmes aim to support nurses with limited post registration experience beyond the traditional orientation period as they enhance the scope of their practice in new or unfamiliar domains (Durston & Rance 1995, NBS 2000, Charlton, Machin & Clough 2000, Dean 2001).

One of the most challenging issues in critical care nursing concerns the maintenance of humanistic practice in a highly technological environment (Little 2000, Woodrow 2000, Blanchard 2002, McCallum 2002). It is further acknowledged that the ability to seamlessly incorporate technological competence into the art of caring is a distinctive characteristic of experienced and expert critical care practitioners (Little 2000). Beginning level practitioners are frequently overwhelmed at the prospect of synthesising essential technology into their practice, which may unknowingly create a barrier between the nurse and the patient who is critically ill (Little 2000, Blanchard 2002). Practitioners in critical care are not only expected to maintain humanistic approaches to practice that is significantly technological in nature, they are also required to maintain the humanity of, and for, patients and their families in what can be an intrusive and controlling environment (McCallum 2002). Such complexity within nursing practice is almost certainly not encountered during pre registration or beginning practitioner nurse education.

The concept of the nurse as patient advocate, although certainly not unique to critical care nursing, is somewhat extended within the critical care environment. Patients who are critically ill are frequently unable to make informed decisions regarding treatment options due to impaired consciousness, debility and / or therapeutic interventions (Woodrow 2000). Critical care environments can essentially disempower patients and their families as critical care practitioners exert control and authority over information, the environment and even basic physiological functions. Communicating with and informing patients who may not be able to reciprocate or acknowledge comprehension is frequently unfamiliar and bewildering for nurses entering critical care practice. The nurse's duty of care must include advocacy in situations where the patient or

their family is unable, or restricted in their ability, to make an informed decision. Critical care staff may consciously or unconsciously presume consent or, indeed overrule consent (or non-consent) if breach of safety is anticipated (Woodrow 2000). Alternatively, families may be unable to comprehend the depth or complexity of information that is required in order for them to consider potential treatment options or decisions. The appropriateness of specific therapeutic interventions in critical care is highly contentious and value laden. Nurses practising in critical care are in an unenviable position of acting in, and representing, what they believe to be the patient's best interests and endeavouring to promote informed decision making wherever possible. This highly subjective responsibility is, again, something that is unlikely to have been encountered to a similar degree during pre registration or beginning practitioner nurse education.

Education in Critical Care

Adult education literature stresses the importance of context and situation upon teaching and learning (Brookfield 1986, Miller & Boud 1996, Tisdell 1996, Coles 1997, Woodward 1997, Hansman 2001). While it is acknowledged that learners construct their own meaning from their experience, it is important to also acknowledge that they do so within the context of particular social, cultural, economic, political and personal values (Miller & Boud 1996). As such, one's experience and normative values influence one's perception, understanding, acceptance and integration of new or alternative ideas, information or perspectives. Contextually situated learning is therefore able to encourage learners to explore and / or challenge popular conceptions and recall prior knowledge and experience (Miller & Boud 1996, Woodward 1997). Coles (1997) emphasises the appropriateness of contextual learning in clinical reasoning, stating that in order to develop the richness of knowledge required, learners need to be able to relate information (or learning experiences) to their own knowledge, conceptualisations or experiences. He goes on to propose that the learner's context forms a base or framework within which learners can analyse information and base inquiry. The particular context in which teaching, learning and practice are situated is also influenced by factors such as the scope of clinical experience, practice facilitation, practice norms or the influence that each practice area's financial revenue may exert upon practice and treatment capabilities. In order that the study context may be more fully understood, it is therefore necessary to consider the implications of teaching, learning and practice in critical care nursing as a distinct context from 'generalist' and pre registration nursing education.

Consensus regarding the need for specialty nurse education for critical care practice is clearly illustrated within nursing literature (Arthur *et al* 1983, Oermann 1991, Ball 1992, Hendricks-Thomas, Crosby & Mooney 1995, NZNO 1996, Chaboyer *et al* 1997, Jeffrey 2000, Cutler 2000, Gibson & Douglas

2000, Strachan, Armstrong & Sibbald 2000). Post registration education programmes are considered to be an effective method of preparing nurses for specialty nursing practice (Oermann 1991, Ball 1992, Durston & Rance 1995, Charlton, Machin & Clough 2000). Literature in the field also suggests that post registration and continuing education can improve patient care (Durston & Rance 1995, Hogston 1995, Jeffrey 2000, Gibson & Douglas 2000); increase job satisfaction and performance (Anderson & Kimber 1991, Endacott 1992, Hogston 1995, Hewitt-Taylor 1998); positively influence recruitment and retention of staff (Anderson & Kimber 1991, Jeffrey 2000, Charlton, Machin & Clough 2000); or improve practice (Waddell 1992, Wildman *et al* 1999, Gibson & Douglas 2000, Charlton, Machin & Clough 2000). However, the majority of the literature cited relies on anecdotal evidence, expected outcomes or experientially determined prediction.

From an experiential perspective there is little question that post registration education and qualification in critical care nursing can enhance professional credibility and develop personal confidence and autonomy in clinical practice and decision making (Dowswell, Hewison & Hinds 1998, Wigens & Westwood 2000). Yet there is little research that compares the practice and skill of nurses who have experience but no post registration qualification with those who have experience and / or a post registration qualification, in order to consider whether specialty nurse education is entirely necessary in order to practice in critical care nursing environments. There is, however, research and experiential evidence that nurses perceive promotion decisions to be made on the basis of qualifications rather than experience (Dowswell, Hewison & Hinds 1998) and, in many cases, a specialty post registration qualification is a prerequisite for positions above that of registered nurse. Despite a general air of dissatisfaction with predetermined competencies and behavioural objectives in nursing education, one could argue that the nursing hierarchy demonstrates the value of assured standards of education and practice in recruitment and selection processes. If patient safety and value for money are important considerations when nurse managers seek new staff, surely the employment of a nurse with a specialty qualification that assures a minimum standard of safe practice in that specialty would constitute responsible action. Literature would also suggest that having evidence of clinical ability by way of a recognised or standard qualification eases transference of practice autonomy (Jacobs 1998, CNA 2002, Miracle 2002, Molter 2002).

Teaching and Learning

Some authors contend that nursing education remains somewhat entrenched in programme design that is predominantly teacher directed, and increasingly inappropriate for education in specialty practice (Hendricks-Thomas, Crosby & Mooney 1995, Charlton, Machin & Clough 2000). The expectations of

nursing practice require that critical care nurses become increasingly self directed, problem solvers, critical thinkers and decision makers who are able to utilise theory and evidence in the nursing process. One would anticipate therefore that the pertinence of certain adult learning theories within critical care education would be progressively discernible. Yet, although the work of Malcolm Knowles and David Boud explicitly underpins critical care education at Griffith University, Australia (Hendricks-Thomas, Crosby & Mooney 1995), such overt application of adult learning theory is scarce. Acknowledgement of the philosophies that underpin critical care programmes is more common, and has revealed many shared values, beliefs and attitudes (Scholes, Endacott & Chellel 2000). Yet subsequent regard for relevant andragogical assumptions in approaches to teaching, learning and assessment whilst potentially upheld, is not made explicit.

Perhaps the 'pedagogical hangover' (Hendricks-Thomas, Crosby & Mooney 1995) in critical care education persists as a consequence of the difficulties that many nurses and educators have encountered with self directed and independent learning in this context (Chaboyer & Restas 1996, Hewitt-Taylor 1998). As previously discussed, the transition from positivist to humanist and even emancipatory learning environments is a relatively new experience within pre registration and specialty nurse education. Such transition may therefore, understandably require substantial time and effort. Ironically, it is likely that, as a result of recent progression in nursing education, contemporary pre registration students are significantly more familiar with adult learning processes than current practitioners seeking subsequent specialty nurse education and greater autonomy in professional practice. Conversely, the progress made with adult learning, humanism and professionalism in nursing education may be placed in jeopardy as the concept of 'shared learning' within health care disciplines such as critical care, and the positivist influence of medical models potentially encroaches on nursing ideology once more (Ashworth 1995, Woodrow 2001). The prospect of broadening educational aims in order to reach a greater and more diverse population of learners using existing or even fewer teachers is certainly appealing to educational fund holders in health care (Ashworth 1995). Whilst common themes undoubtedly exist within the teaching and learning needs of nurses, doctors and allied professions within critical care practice, one would argue that the values and philosophies that underpin each distinct profession and their practice reflect unique perspectives and beliefs about care. It is therefore important that nursing education protects and enhances its own approach to theory / practice integration, professional and humanistic values.

Current Practice

In response to a prevailing concern regarding the presence of, or potential for, a theory / practice gap in nursing education, many critical care nursing education programmes strive to make theory / practice

integration explicit within course curricula and philosophies of teaching and learning. The concept of collaborative approaches to teaching and learning in critical care is thought, by many, to facilitate learning *and* professional practice development by mutual consideration and respect for both clinical and academic objectives (Anderson & Kimber 1991, Hendricks-Thomas, Crosby & Mooney 1995, Chaboyer *et al* 1997, ENB 1997, Charlton, Machin & Clough 2000, Gibson & Douglas 2000, Strachan, Armstrong & Sibbald 2000). Despite limited research evidence to support claims of clinical and academic effectiveness, there would appear to be relative consensus regarding the potential for collaboration between clinical areas and tertiary education to meet local needs for specialty practice within the obligations of academic and national standards.

In further support of theory / practice integration, there is a call for educational provision for critical care nursing to be both evidence based and assessed in clinical practice (Chambless, Schwartz & Woodhouse 1994, Strachan, Armstrong & Sibbald 2000, Wigens & Westwood 2000). The notion of simultaneous, multiple assessment of cognitive, affective and practical skills is considered to be crucial in critical care education (Wigens & Westwood 2000). It is proposed that simultaneous, multiple assessment is considerably more effective in clinical settings than in tertiary education settings. Indeed, concern has been expressed regarding the practical validity of competence assessment in higher education settings (ENB 1997, Wigens & Westwood 2000). Integration of 'core' clinical competencies into critical care educational curricula may be perceived to represent a degree of standard practice assurance and theoretical integration. However, this assumption is somewhat flawed with respect to reported disparity within allegedly generic programmes as a result of curriculum adaptations that are made in order to reflect local practice and service requirements (Camsooksai 1999, Scholes, Endacott & Chellel 2000, Jeffrey 2000). The tensions created by the desire for educational provision that meets the demands of generic competence and local needs is a recurrent theme within the literature and anecdotes pertaining to nurse education and will be discussed in greater detail in Chapter Three.

The Demands of Clinical Practice

Nurses are under increasing pressure from professional and regulatory bodies to undertake continuing professional development to maintain registration and meet the demands of clinical practice (Kelly-Thomas 1998, Dowswell, Hewison & Hinds 1998, Rogerson & Harden 1999, Billings & Rowles 2001). Yet this demand is equalled if not surpassed by the need to maintain adequate staffing levels to ensure appropriate standards of patient care and the consequences of restricted nursing budgets and funding for professional education. Indeed it is noted that places on post registration courses remain unfilled in some areas because the cost or logistics of replacing staff cannot be met (Endacott 1992, Ball 1992, Hewitt-

Taylor 1998, Rogerson & Harden 1999). Nursing education's focus on practical programme components also places a significant degree of responsibility with clinical practice nurses who may be expected to participate in clinical supervision and assessment demands in addition to their own expanding clinical workload (Scholes & Chellel 1999, Charlton, Machin & Clough 2000). Whilst the emergence of lecturer practitioner roles and joint clinical academic appointments goes some way to address this concern, such roles are not common (Lloyd-Jones 1995, Jones 1996, Jeffrey 2000).

New Concepts in Critical Care Education

The challenge to humanise critical care nursing has been discussed previously with respect to the scope of practice and the responsibility of facilitating learning and professional development that may enhance humanistic practice. It is accepted that the development of expertise within this domain occurs in conjunction with experience, and is essentially excluded from educational curricula on the grounds that caring can not be taught (Carper 1978, Benner 1984, Meerabeau 1992, McDonnell 1997). Whilst there may be some truth in that assumption, Winland-Brown (1996) discusses the use of experiential story as a teaching tool that can assist students to recognise the impact of caring behaviours on dependent and vulnerable patients. As a result of reading a reflective account of an individual's experience as a patient in intensive care, Winland-Brown's students were able to more fully understand and reflect upon another's experiences of caring. Although this study is unique and was undertaken with undergraduate nursing students, Gartner, Latham & Merritt (1996) similarly report the value of narratives in critical reflection and understanding caring in critical care education. Winland-Brown concludes that recognising and respecting the humanity in every person begins with empathy and consideration of the consequences of one's own practice. If the process of reading a narrative is able to stimulate humanistic reflection then surely its potential to facilitate learning in professional practice should not be disregarded.

Literature concerning the potential value of various communication technologies in critical care nursing education is beginning to appear. Approaches to teaching and learning such as multimedia learning packages, computer assisted instruction and assisted self directed study are discussed with particular reference to cost effectiveness and flexible learning opportunities (Boyer 1996, Hewitt-Taylor 1998). However, as the following chapter is concerned with the concepts of effectiveness in critical care education, the potential of communication technologies in critical care education will be discussed in greater detail there.

Educational Research in Critical Care

Much of the current literature provides descriptive accounts of learning needs that reflect local or national demands and, as such, concentrate on the learning that may be required to achieve the demands

of the service (health care provision) (see for example, Ball 1992, Durston & Rance 1995, Chaboyer & Restas 1996, Charlton, Machin & Clough 2000, Strachan, Armstrong & Sibbald 2000, Dean 2001). Such broad based frameworks for education and standardisation are presented by some as the only way to achieve consistency. Yet they are equally criticised by others for being insufficiently receptive to local learning needs. Despite apparent concern for professional practice and public accountability, the current literature fails to enlighten the reader as to the essence of effective education at either a personal or collective level. Although some authors report nurses' perceptions of personal learning needs (Chaboyer *et al* 1997, Camsooksai 1999, Gibson & Douglas 2000), analysis of such data and subsequent conclusions are invariably integrated into prescriptive frameworks and predetermined outcomes.

Educational research studies of specialty practice are sparse, and the majority of literature appears to lack, what Anderson terms, the 'essential ingredients' of research methodology (1990). Much of the literature reviewed contain elements of qualitative description or discussion regarding phenomena, opinions, perceptions or predictions, yet progress toward data interpretation, conclusion, or refinement of the research problem are frequently wanting. Literature that endeavours to examine the effectiveness of education for critical care practice has focused on the effect that various learning styles, modes of delivery, or curriculum content have upon achievement of outcome criteria (Endacott 1992, Waddell 1992, Chambless, Schwartz & Woodhouse 1994, Hogston 1995, Scholes, Endacott & Chellel 2000, Wigens & Westwood 2000). Effectiveness has also been evaluated using pre-test and post-test measures of critical care knowledge (Sakallaris & Marshall 1989, Oermann 1991), which, at best, provide only a crude indication of the potential for change or assimilation in practice.

Information that demonstrates the effect that specific teaching and learning strategies may have upon observable or quantifiable learning can be of benefit for course structure and curriculum planning if the aim of nursing education is to achieve specific measurable learning. Yet, one could argue that the presence or absence of specified learning evidence or performance following certain teaching and learning interactions does not enhance our understanding of how nurses learn to develop their practice effectively. Surely the process of learning and its relationship to practice development is an important factor within the concept of effectiveness? The current conceptualisation of effective education for specialty practice fails to consider what effective learning means to individuals, or how they use learning to enhance practice at an individual level. The notion that the existing concept of effectiveness education for specialty practice in critical care nursing must evolve in order that nurses and educators may more fully understand the relationships between education and practice development underpins this thesis.

Western Contexts

In the current climate, the USA, Australia, the United Kingdom and New Zealand all report national shortages of critical care trained nurses (Oermann 1991, Hendricks-Thomas, Crosby & Mooney 1995, Chaboyer & Retsas 1996, Charlton, Machin & Clough 2000, Strachan, Armstrong & Sibbald 2000, Johnston 2002). This predicament is intensified by the claim that many hospitals do not, or can not, meet the education needs of critical care nurses. Hospitals are criticised in terms of limited access to educational programmes, adequate support from qualified or experienced staff, or clinical placement experience (Hendricks-Thomas, Crosby & Mooney 1995, Chaboyer *et al* 1997, Ministerial Taskforce on Nursing 1998, Camsooksai 1999). Imbalance between education needs and provision may also be more evident in geographical areas with lower population density (Anderson & Kimber 1991, Williams, Ogle & Leslie 2001, Hardcastle 2003). In shameful contrast however, educational reviews have reported that places on critical care courses remain unfilled in some areas because the financial demands created by the necessity to replace staff (who are absent from the clinical area) can not be met; adequately trained teaching staff are not available; or elements of each problem are evident (Endacott 1992, Ball 1992, Hewitt-Taylor 1998). Yet it is also acknowledged that nurse managers actively use education as an incentive to attract and retain staff (Anderson & Kimber 1991, Jeffrey 2000, Charlton, Machin & Clough 2000, Williams, Ogle & Leslie 2001). Nurses in Australia and New Zealand are exposed to additional obstacles in the pursuit of professional education, as many are often required to be predominantly self funding for educational ventures (Hewitt-Taylor 1998). It would seem that contemporary approaches to post registration education for specialty practice could be perceived as both the source of and potential relief for staffing crises in many countries. Greater numbers of nurses who are adequately trained and experienced in critical care nursing could alleviate the stress and service constraints that currently exist as a result of inadequate numbers of experienced staff. Yet, in order to achieve adequate numbers of experienced and educated critical care nurses, nurses must be released from clinical practice in order to attend and complete post registration education programmes.

Within existing political circumstances, nurse educators and clinicians are challenged to employ innovative, and creative methods to educate and prepare nurses for the evolving demands of clinical practice (Huff 1997, Mallow & Gilje 1999, Strachan, Armstrong & Sibbald 2000, Wigens & Westwood 2000, Lusk *et al* 2001, ShuZhen 2001). The profession is urged to consider alternative and cost effective approaches in the search for effective critical care education. A government-led taskforce in the United Kingdom examined alternative approaches taken in Australia and New Zealand towards educational preparation of specialty nursing staff (Hewitt-Taylor 1998). The inquiry highlighted several initiatives that

are applicable to specialty practice education in many contexts such as seasonal workload and attendance variation, the use of open and distance learning packages, preparation for adult learning, self determined assessment criteria, problem based learning, and case study scenarios. Yet, although teaching and learning within theoretical domains had been approached from adult and individual perspectives, assessment in clinical practice was overwhelmingly grounded in broad competence based rationale. Despite criticisms surrounding positivism, behaviourism and accuracy in competency based assessment, there appears to be an overarching demand from external governing bodies for competency based assessment in nursing education (Hewitt-Taylor 1998).

Indeed, the call for standardisation unquestionably transcends specialty practice within nursing across New Zealand (NZNO 1993, NCNZ 1998, 1999a, 1999b, 1999c), Australia (ACCCN 1996, ANCI 2000), Canada (CACCN 1997, CNA 1998), the United States of America (NLN 1993, AACN 2002a), Europe (Declaration of Madrid 1993, UKCC 1994, ENB 1997, NBS 2000, EFCCNA 2001) and Saudi Arabia (Tumulty 2001). A nationally recognised qualification and accountability within an area of specialty practice might be perceived as an ability to apply certain knowledge and skills within similar work environments, and even reduce local workload regarding quality assurance. Yet studies have consistently highlighted a significant level of disparity in curriculum, academic level, practice assessment and student workload between various specialty courses for critical care that allegedly achieve the same or 'standard' professional award (Scholes & Chellel 1999, Camsooksai 1999, Scholes, Endacott and Chellel 2000). This situation calls into question whether international or even nationally agreed standards and competencies can be achieved without reducing nursing practice to a narrow, prescriptive and predetermined package of knowledge and behavioural objectives (Smith 1997, Cutler 2000). If nurse educators are challenged to facilitate practice and learning skills such as problem solving, critical thinking and reflection, surely learners should be encouraged to discover and direct their own learning needs so that they may construct personal meaning that will enhance professional practice rather than merely achieve minimum competency levels.

There is an overwhelming assumption that consensus can be reached concerning the determinants of effective critical care education regardless of whether such consensus may be extended to national or restricted to local standards. Within this context, the scope and quality of alternative and responsive education are necessarily bound by the quality of experience in clinical practice (Eraut 1994), and professional demands for standardisation (ACCCN 1996, ENB 1997, NCNZ 1999a, 1999b, 1999c, AACN 2002a). Whilst progressive educators and learners may look to professional standards or defined competencies as the absolute minimum level of achievement, thus seeking excellence in learning and

practice, other educators and learners may interpret professional standards or competencies as the 'gold standard' or ultimate aim of educational experience. Alternatively, one nurse may have a wealth of available clinical experiences from which to guide and enhance learning to and beyond professional standards, whilst another nurse may struggle to achieve professional standards if clinical experiences are limited. Each nurse may achieve professional standards, yet their clinical scope will be significantly different.

The interpretation, application and scope of externally imposed standards or competencies in education for specialty nursing practice are not consistent. Yet, despite contextual differences in health care and educational delivery, nursing education is influenced by Western perspectives in terms of nursing knowledge, professional scope and employment (Holloway 2000). Nurses and nurse educators throughout the Western world are experiencing similar issues and concerns and predicting similar demands on nursing education in the future (Casteldine 1999, Holloway 2000, Lindeman 2000). For example, issues such as the development and assessment clinical skills, access to learning, educational preparation for higher education, and increasing public interest appear to be problematic throughout Western contexts. It would therefore seem foolish to disregard international trends and approaches towards the maintenance of professional standards and regulation in nursing education. Whilst indiscriminate adoption of international recommendations is unlikely to meet the needs of distinct communities, enhancing awareness of existing successful educational strategies may broaden the scope and guide improvements in education and practice (Holloway 2000).

The New Zealand Context

The Nurses Registration Act of 1901 represented the emergence of formalised education for nurse registration in New Zealand, and saw New Zealand as the first country in the world to enact nursing registration (Carryer, Papps & Wilson 1995, Papps & Kilpatrick 2002). The amended Nurses Act of 1971 saw the establishment of the Nursing Council of New Zealand as the regulatory body for nursing (previously the Nurses and Midwives Board), which subsequently assumed responsibility for and control over the direction of nursing education (Papps & Kilpatrick 2002). The 1990s were a particularly significant period for development within nursing education. The most conspicuous change was that programmes leading to registration were integrated entirely into formal tertiary education and necessitated the completion of a three year undergraduate degree. Further developments that have influenced pre and post registration education include the introduction of standards and competencies, a post registration framework and progress towards competence based practicing certificates (Nursing Council of New Zealand 1997, 1998, 1999a, 1999b, 1999c, 2000, 2001). A significant number of post registration

education programmes have subsequently been established throughout New Zealand although the attitudes to scholarship in nursing continue to be ambivalent and opportunities for higher education are limited (Jacobs 1999, Papps & Kilpatrick 2002).

The Ministerial Taskforce on Nursing was commissioned by the New Zealand Government in 1998 to complete a comprehensive review of Nursing in New Zealand. It was envisaged that review findings would result in recommendations for the Minister of Health and suggest strategies for change in health care and nursing (Ministerial Taskforce on Nursing 1998). The taskforce identified (amongst other issues) that:

> "The ability of nursing to contribute to a more responsive, innovative, effective, efficient, accessible and collaborative health-care service is hampered as requirements for advanced and specialist nursing have either not been developed or, where they have, no formal process exists to link these with the Nursing Council of New Zealand" (1998, p.27).

The taskforce further identified that, without formal links with, and responsibility to, the Nursing Council, disparate group development of locally relevant competencies for specialty and advanced practice (the New Zealand Nurse Organisation for example) could result in fragmentation and rigidity. The Taskforce also make a clear distinction that advanced and specialty nursing roles represent 'advanced' practice as a result of the educational preparation undertaken for the role rather than the extent of exclusive responsibility for patient care (1998). The clinical nurse specialist role is described as a "role undertaken by a nurse who has both substantial experience in a particular clinical specialty and advanced learning in that area of specialist care", and is considered to be central to improved patient services (1998 p.29). The recommendations of the Taskforce have since been recognised and partially endorsed by the Nursing Council via the introduction of *Competencies for Specialty Nursing Practice* and *the Framework for Post-Registration Nursing Education* (1999, 1999c, 2001).

Limited consistency and coherency between post graduate programmes in New Zealand is perceived to be a significant barrier to creating a structured programme of post graduate education that would be relevant for nursing practice at a specialist level (Ministerial Taskforce on Nursing 1998, Jacobs 1999). Despite the Nursing Council's existing power as a statutory body, it does not currently have the authority to require registration of specialty qualifications (as is the situation in some other countries). What could be perceived as restricted, or alternatively unnecessary governance was seen by the Ministerial Taskforce as an immediate barrier to nursing's ability to ensure client safety and contribute to improvements in health care (1998, Jacobs 1999). However, the Nursing Council's authority now requires that post registration

nursing education programmes in New Zealand are approved by the Nursing Council and based on the current 'Framework for Post Registration Nursing Education' (Nursing Council of New Zealand 1999a, 1999d, 2001). The existing framework offers structure and accreditation for professional education, whilst reflecting the principles of theory / practice integration, collaboration with tertiary education, clinical expertise and safe practice. As a reflection of the profession's public accountability, practitioners are required to achieve nationally recognised competency standards upon which to support their education, practice and professional development. Nurse educators are therefore challenged to use the framework and competency approach to structure innovative and progressive teaching strategies in a manner that will also foster autonomy in learning and facilitate the development of independent, critically reflective practitioners. However, it is interesting to note that, despite the relative longevity of advanced nursing practice in the United States, standardisation of educational preparation and certification for advanced practice continue to be problematic (Cronenwett 1995, Jacobs 1998). Whilst programme development in New Zealand may progress outside the Nursing Council's recommendations, national recognition and accreditation of subsequent qualifications could be significantly hampered at the expense of the participating learners.

The Clinical Training Agency (CTA) and Ministry of Education currently provide some funding for medical and nursing education in New Zealand. However, it appears that the proportion of funding that is available for post registration nursing education for specialty practice is limited. Consequently much of the desire for post registration education has arisen from nurses' ability to recognise and value the link between continuing education and the quality of nursing care provision. Nurses continue to undertake post registration qualifications despite the lack or absence of financial remuneration for their commitment or the improvements in performance and health care delivery that may occur as a result of continuing education. One could argue therefore that it would be unethical to offer post registration education programmes for specialty practice that did not meet with the requirements of the Nursing Council, however restrictive they may appear. The learning environment that prescriptive guidelines can effect could easily be perceived as one of domination, control and restriction. Indeed many adult learning theorists would abhor such an environment, so stark is the contrast to the transformative, empowering and self directed environments advocated (Mezirow 1981, Brookfield 1986, Jarvis 1987, Candy 1991). Alternatively, the existing environment could rather be perceived as one that provides an opportunity for educators to engage in collaborative and innovative learning strategies that can support the existing framework and recognition of advanced and specialty nursing practice.

There is considerable debate concerning the appropriate balance between the academic and research focus and the clinical components in post graduate study for advanced and specialty practice (Ministerial Taskforce on Nursing 1998, Jacobs 1998, 1999, Strachan, Armstrong & Sibbald 2000). The Nursing Council recommend for example that advanced nursing practice programmes are delivered at Master's degree level or above, whereas specialty nursing practice programmes must be offered at, or above Bachelor's degree level (Nursing Council of New Zealand 1999a, 2001). Such differentiation undoubtedly leads to confusion when the terms advanced and specialty are used interchangeably in practice, education and nursing literature (Fulbrook 1996, Jacobs 1999, Bland & Olliver 2002, Carryer 2002). Confusion and debate concerning the academic requirements of specialty practice programmes is evident when one compares the Nursing Council's 1999 and 2001 version of the *'Framework for Post-Registration Nursing Practice Education'*. In 1999 the Council stated that competencies for specialty nursing practice "may be gained through experience" *or* "demonstrated through a specialty nursing practice programme" (1999a p.14). The view that specialty practice competence could be achieved through experience alone contradicted the recommendations of the 1998 Ministerial Taskforce and prevalent international perspectives and no longer appears in the 2001 version. Does the 'framework' then really achieve its goal of achieving regulation, national standards and recognition of post registration nursing programmes? Or is nursing aiming for a range of entry and exit points within a recognised framework that negates additional barriers to the educational preparation of nurses (Bland & Olliver 2002) whilst also reflecting the alleged aims of the New Zealand Qualifications Framework (NZQA 1992, Strathdee 1994)? It would appear that the requirement that educational provision should meet the demands of professional regulation *and* individual flexibility in learning is highly questionable.

The notions of theory / practice integration and academia in nursing are also questionable within the existing post registration education climate. It is noted, for example, that completion of a master's degree in a nursing specialty does not necessarily equate with visible expansion of practice skills (Cronenwett 1995). And yet the majority of literature pertaining to advanced and specialty practice in nursing emphasises that advanced nursing is, or should be, *practice* based (Ministerial Taskforce on Nursing 1998, Jacobs 1999, Nursing Council of New Zealand 1999a, Goodwin 2002). Whilst higher education qualifications might contribute to the professional status of nursing, one is also reminded of the difficulties many nurses experience with advanced tertiary education, limited educational funding and their overwhelming aim to improve personal and collective clinical practice. It is also noted that established approaches for teaching research methods in nursing does not prepare nurses for the contemporary aim of evidence based approaches to clinical decision making (McArthur 2002). Unless approaches towards the education and inclusion of research practice in advanced nursing programmes are mindful of the

context in which nurses utilise research in daily clinical practice, the appropriateness and scope of research components must be questioned.

Cultural Safety

The concept of cultural safety is unique to nursing education in New Zealand. Whilst most countries are exposed to multiculturalism and nurses throughout the world are educated from a multicultural model, fundamental distinctions are made between transcultural nursing and cultural safety in nursing practice (Ramsden 1993, Carryer, Papps & Wilson 1995, Spence 2001, Nursing Council of New Zealand 2002). According to Ramsden, multiculturalism is "simply a statement of the range of cultural groups present in a society" and our being aware of cultural differences does not constitute cultural safety (1993 p.6). The Treaty of Waitangi, seen as an agreement for the future of Maori and Pakeha in New Zealand, failed to protect Maori from the "horrors of the colonial experience" and subsequent institutional racism (Ramsden 1993, p.5). Nursing education (amongst other areas) has been identified as a critical area in which to effect change that will ensure cultural safety for the people of New Zealand today and in the future. The most fundamental feature of cultural safety, as opposed to transculturalism, is that cultural safety contends that nurses must examine their own cultural attitudes, behaviours and beliefs and the impact that they might have upon others, therefore learning to transfer power within health care to the consumer (Ramsden 1993, Carryer, Papps & Wilson 1995, Nursing Council of New Zealand 1996, 2002). As a reflection of the centrality of cultural safety in New Zealand, it is a fixed curriculum requirement for education programmes leading to comprehensive nursing registration (Nursing Council of New Zealand 1996, 2002). Post graduate nursing education programmes must also include cultural safety in order that nurses are prepared to practice in a culturally safe manner (Ramsden 1993).

The development of cultural safety in nursing education signifies the evolution of the meaning of culture in nursing beyond physical and anthropological understanding (Spence 2001). Adoption of the term 'safety' into cultural aspects of nursing education in New Zealand has emphasised the need for nurses to demonstrate academic, clinical, ethical and legal competence and also that they are culturally safe to practice (Spence 2001). Such integration extends the concept of accountability in nursing practice beyond conventional comprehension and application outside the New Zealand context. The notion of partnership in nursing and biculturalism in New Zealand has influenced the evolution of partnership models of education and nursing practice that aim to respect Maori visions of partnership and participation and the nursing philosophies of humanism and holism (Christensen 1990, Spence 2001). Cultural safety is defined as "an outcome of nursing and midwifery education that enables safe service to be defined by those who

receive the service" (Nursing Council of New Zealand 1996, p.10, 2002). It must therefore be represented in contemporary nursing education, including post registration education for specialty nursing practice.

Critical Care Education in the South Island

Post registration education for critical care nurses in New Zealand began in 1974, less than a year after one of the first departments of critical care in the Southern Hemisphere was established at Auckland Hospital (Arthur *et al* 1983). Initially entitled the 'Intensive Therapy Nursing Course', the hospital based programme aimed to "prepare the nurse for his / her role as a nursing specialist in the care of the critically ill" (Arthur *et al* 1983, p.50). Education of this nature continued in certain centres in New Zealand with progressive development to tertiary education programme provision along similar lines to those of general nursing education. However the persistence of hospital based critical care education has been more prolonged and may be a reflection of the idiosyncrasies present in regional practice and / or service provision. The distribution of critical care services within New Zealand has developed in such a manner that comprehensive intensive and critical care provision is concentrated in the metropolitan centres, which may further compound regional preferences and specific educational needs. Furthermore, the introduction of the Nursing Council Guidelines for Post Registration Education in nursing and the inception of advanced and specialty roles within nursing practice are relatively recent developments (1998, 2001). Consequently, there is still significant disparity in critical care programme design, academic level, approaches to teaching, learning and assessment and equity of tertiary educational provision within the current 'transitional' New Zealand context.

As previously stated, it is reported that nurses associate specialty education with enhanced practice, knowledge base, skills, and staff retention (Anderson & Kimber 1991, Hogston 1995, Chaboyer *et al* 1997, Little 1999, Gibson & Douglas 2000, Dean 2001). Yet the New Zealand public currently face newspaper reports of cancelled operations and disruption to patient care because there are insufficient numbers of nurses with experience and qualifications in critical care nursing (Johnston 2002). As education for advanced and specialty practice is considered to be central to improvements in New Zealand health care (Ministerial Taskforce on Nursing 1998), it seems pertinent that this inquiry should explore concepts of effective education for an area of specialty practice that is currently unable to consistently meet health care demands.

THE SOUTH ISLAND CONTEXT

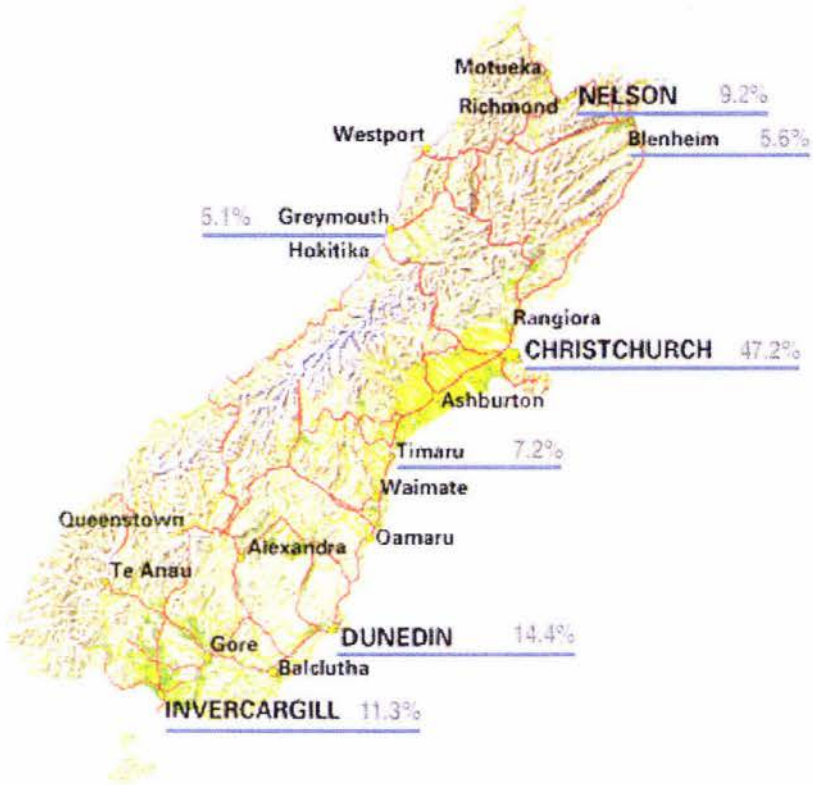
The South Island of New Zealand is geographically isolated from the North Island. Nurses practising in critical care areas in the South Island are therefore geographically isolated from their counterparts in the North Island. The provision of health care for adult patients who are critically ill in the South Island is distributed across six District Health Boards with critical care facilities located in each health board region. Two metropolitan centres (Christchurch and Dunedin) provide designated intensive care facilities with additional, more generic critical care facilities distributed throughout the provincial hospitals. The remaining centres provide generic critical care facilities in designated environments. The total population of nurses practising in the specialty of adult critical care in the South Island is reported to be in the region of 195 (Hardcastle 2003). This figure can be compared with a reported total number of 1452 registered nurses working in intensive care and coronary care in New Zealand in 2001 (NZHIS 2001). As previously discussed, this inquiry focuses predominantly on critical care nursing and education within the specialty of adult critical care nursing and thus excludes paediatric and neonatal critical care and distinct coronary care. Whilst the proportion of critical care nurses in the South Island appears to be relatively small when the national figure is considered, the NZHIS figure does not report the distribution between intensive care and coronary care, nor does it specify whether nurses working in paediatric or neonatal intensive care units are included in the total figure.

The population distribution of critical care nurses in the South Island is illustrated in figure 1. (on the following page), which highlights a significant concentration of critical care nurses in one major centre (Christchurch). Previous research by the author concluded that, although the proportion of critical care nurses holding a post registration qualification in critical care nursing was comparable with other countries, provision of specialty post registration education for critical care nursing is limited with respect to equality of access and provision (Hardcastle 2003). Dunedin is currently the only South Island centre that offers a post registration education programme for critical care nursing and yet critical care nurses in Dunedin comprise only 14.4% of those in the South Island. Moreover, critical care nurses in Christchurch comprise almost half of the total population, they practice in the largest critical care environment and yet have no local facilities for critical care education. The critical care nurses outside Dunedin are, or have been required to travel to the North Island in order to complete specialty qualifications in critical care nursing through periodic attendance and distance learning methods. In comparison, specialty nursing qualifications for critical care nursing are offered by at least five distinct tertiary education or hospital based providers throughout the North Island. Although the population of critical care nurses in the South

Island would appear to be considerably smaller that that of the North Island, the educational needs of South Island nurses are still, however, situated in the South Island context.

Figure 1. Population Distribution of Critical Care Nurses in the South Island

Based on data from a descriptive survey of critical care practice environments in the South Island (Hardcastle 2003)



N.B. Figures have been calculated according to the total number of nurses (part-time and full-time) practising in each area – as reported by relevant nurse managers (Hardcastle 2003).

Given the relatively small and yet extensively distributed population of critical care nurses in the South Island, it is not surprising that a comprehensive approach to critical care education that encompasses the needs of critical care nurses throughout the Island has not evolved. Yet, if the Nursing Council's Framework for Post Registration Education and Competencies for Specialty Nursing Practice are generic and facilitate local adaptation (as claimed), surely they could form the foundation for Island-wide, if not national, education programmes that are sufficiently flexible to accommodate individual and local

adaptations. Whether this concept is able to progress from ideal into the realms of reality will be considered throughout the thesis.

It is necessary at this point however to more fully comprehend the reality of education and critical care nursing practice within the South Island context. It is interesting to note that concern for, and research within, the specific context of the South Island is not apparent in existing nursing or educational literature. Prior to the preliminary research undertaken by the author (Hardcastle 2002, 2003), demographic, descriptive or exploratory information concerning the population of critical care nurses and / or critical care education was lacking. Whether this is simply a reflection of a relatively small population, or the finding that critical care nurses within the South Island appear suitably qualified within the existing educational structure is uncertain at the present time. However, one must acknowledge the significant influence that Dunedin-based critical care nurses have upon the total proportion of critical care qualified nurses in the South Island (every critical care nurse in Dunedin holds, or is undertaking a post registration qualification in critical care nursing).

Although preliminary research demonstrates that the South Island critical care nursing workforce appear to be highly experienced, critical care nursing qualifications are predominantly undertaken at a time when nurses already have considerable experience in the specialty (over five years). This finding is incongruent with existing literature, particularly from Europe, Canada, the United States and Australia that suggests critical care qualifications are often undertaken following as little as six to twelve months of critical care experience (Sakallaris & Marshall 1989, Ball 1992, Chambless, Schwartz & Woodhouse 1994, Chaboyer & Restas 1996, Scholes, Endacott & Chellel 2000, CNA 2002). When this is considered in conjunction with the finding that almost half of the South Island nurses who undertook New Zealand based qualifications did so in the North Island, it would suggest that the current situation in terms of educational provision is neither comparable with that in other contexts, nor able to meet existing demands. The current necessity for many South Island nurses to travel or relocate in order to complete critical care education has significant implications for recruitment, retention, professional development and educational funding for critical care nursing practice in the South Island. As previously discussed, finding and funding staff with adequate qualifications or experience to replace nurses who are absent from clinical practice (for the purpose of specialty education programmes) is increasingly difficult. It has also been noted that education is frequently used as an incentive within recruitment and employment negotiations in critical care nursing. It would seem that in the current climate, nurse managers throughout the majority of the South Island are unable to offer timely educational incentives due to limited access and the increasing financial and logistical difficulties associated with employment of permanent and replacement staff.

If one is to consider the positive effect that critical care education programmes may have upon practice efficacy, job satisfaction, professional motivation and morale or nursing recruitment and retention, one must also question who the beneficiaries in the current situation may actually be. For instance, is the requirement to travel for clinical placements in other critical care units primarily for the benefit of the learners in order that they may expand their clinical experience? Or is the beneficiary rather the tertiary institution that arranges and may charge for clinical experience in the associated hospital(s)? Perhaps the professional networking that may occur as a result of exposure to new or alternative working practices is beneficial for critical care nursing practice on a national level. Alternatively, South Island Health Boards may be further compromising their already depleted nursing resources by exposing learners to new environments that may appear more attractive or lucrative. Professional education in the current context is at risk of being dictated by the needs of others rather than functioning as a process of professional development. Consequently, professional education and practice development appear to be dependent upon an individual's geographical location and availability of continuing education programmes.

Whilst the continuing education options currently available to critical care nurses in the South Island appear to result in an adequate level of specialty qualifications throughout the Island one would question whether the current approach to critical care education is the most effective, efficient or impartial method of maintaining and developing critical care nursing practice in the South Island. One would propose moreover, that the current state of education for critical care nursing practice is inadequate if the educational demands of the entire population are to be addressed in a manner that may develop rather than merely sustain critical care nursing practice in the South Island. Critical care education in the South Island context would appear to have been adequately considered by only one region at the present time. The scope of critical care practice and clinical experience throughout the Island is extensive and deserving of more detailed exploration with reference to clinical practice and professional development. It would now seem opportune to consider the learning needs and potential approaches for progressive professional education for the South Island population within the South Island context. The geographical distribution of critical care nurses within the Island provides educators and clinicians with a significant challenge if the education and professional development needs of critical care nurses within each region are to be addressed impartially.

Summary

Nursing knowledge, its construction, and application is truly a complex entity that is subject to diverse interpretation, adaptation, application and development. Yet the scope of nursing knowledge and practice, however broad, encompasses several important issues and concepts that are influential and must therefore be considered within the context of education for critical care nursing practice. There is an overwhelming desire, for example, for post registration education to embrace concepts such as theory / practice integration, accountability, standardisation and professional regulation, lifelong learning and critically reflective practice. There is also extensive evidence of an underlying conflict between behaviourism and humanism that appears to be created by nursing's progression towards understanding practice and valuing experiential learning, and the persistent necessity for professional standards. Minimum standards of knowledge and expectations of practice (for those deemed to be competent in critical care nursing) may be useful in safeguarding public accountability and regulating professional practice. Yet those involved in specialty nurse education must look beyond, rather than to basic competence levels if the goals of enabling lifelong learning and reflective practice are to be realised.

The existing research and literature review has provided a base from which to explore potential teaching and learning approaches that may best facilitate continuing professional education and practice development in critical care nursing. Finding an approach to critical care education that could be effective for personal and practice development and appropriate for the South Island context is challenging. This chapter has highlighted several factors and influences that must be considered within teaching, learning and practice development in critical care nursing and the South Island context. The population distribution and current inequity of educational provision for critical care nurses in the South Island are perhaps the most notable differences between the South Island and critical care contexts elsewhere. Moreover, one would argue that such factors are inextricably linked. Whilst teaching and learning strategies successfully adopted elsewhere could be appropriate for the educational needs of nurses in the South Island, there is little evidence that such strategies could be successful, or financially viable, in areas with relatively sparse population distribution. In order to explore potential approaches towards critical care education in the South Island context one must endeavour to understand what effective education means to nurses and how they use education within critical care practice development. The notion of effective education for critical care nursing practice is explored in the following chapter.

CHAPTER THREE

EFFECTIVE EDUCATION FOR CRITICAL CARE

INTRODUCTION

The following chapter considers existing studies, accounts and research pertaining to 'effective' education for critical care nursing practice. An outline of distance education is provided in order that the potential of this teaching and learning approach within the study context may be explored further in Chapter Four. The leading section discusses the existing conceptualisation of effective critical care education. Important issues are identified and considered in light of the assumptions and constraints noted in the study context. Suppositions embedded within existing literature are uncovered and examined in order to consider how effective education is determined, what effective education means to practitioners and the consequences of educational assessment. Distinct approaches to teaching and learning in critical care are reviewed with reference to existing and prospective concepts of 'effective' education for specialty practice development.

The second section explores distance approaches to teaching and learning through existing literature, research and adult learning theory. The utility of distance education approaches for teaching and learning practical, technical and aesthetic skills in various contexts is considered with particular reference to skills that may be influenced by affective and technical domains. Section three examines existing applications of distance education within nursing education and the critical care context. The chapter concludes with a brief summary of the implications for distance education within nursing and critical care education in order that the tentative assumptions may be explored further in Chapter Five.

Concepts of Effective Education for Critical Care Nursing Practice

Although critical care nurse educators, managers and practitioners throughout the western world appear to be striving for similar aims - in the provision of progressive, high quality care to patients who are critically ill - the concept of effective education for critical care practice is not particularly clear when it is considered outside the immediate context of patient care. Whilst it is almost certain that any purchaser, provider or practitioner involved in post registration education for critical care practice recognises the improvement of care delivered to critically ill patients and their families as their ultimate aim, opinion concerning the ways in which this aim should be achieved is quite diverse. Extensive integration of prevalent practice and educational concepts may be apparent in nursing literature, yet independent interpretation and adaptation of allegedly universal concepts are, in some instances, virtually incomparable. The following text explores the assumptions and philosophical values that may underpin existing beliefs surrounding the concept of effectiveness within critical care education.

Competence in Critical Care

Perhaps the most overwhelming controversy within critical care and nursing education surrounds the notion of competence. Although this concept has been discussed previously, its centrality requires that it is included in the following discussion. The widespread adoption of competencies and competence based educational frameworks by nursing's professional and regulatory bodies is acknowledged (see Chapter Two). Yet, to a certain extent, the approach by which educational providers integrate competency and competencies into post registration programmes and evaluation remains in the hands of programme designers. It is proposed by some that the establishment of 'essential competencies' for critical care nursing is a sound starting point from which to develop curricula for specialty nursing practice (Hendricks-Thomas, Crosby & Mooney 1995, Wigens & Westwood 2000, Charlton, Machin & Clough 2000, NBS 2000, Little 2000). Yet this assumption is made amidst a plethora of critical care and educational literature that highlights the contradictions inherent within competency based courses that seek homogeneous competence within educational programmes that are also flexible, accessible, responsive, and meet the requirements of tertiary education, professional and statutory regulation (Gonczi, Hager & Oliver 1990, Hager 1995, Smith 1997, Hewitt Taylor 1998 Scholes & Chellel 1999).

Although not explicitly acknowledged, it would appear that nursing's adoption of competence as a means of defining and describing practice standards has possibly evolved from Patricia Benner's celebrated work *From Novice to Expert* (1984). Benner's theory applies Dreyfus & Dreyfus' model of skill acquisition to nursing practice and further identifies 'domains' and 'competencies' of nursing practice that were derived from Heideggarian phenomenological interpretation of practitioner interviews and participant

/ observer records. Benner provides an unparalleled description of performance characteristics at each of five levels of nursing practice development (Novice, Advanced Beginner, Competent, Proficient, and Expert) in order to describe how different practitioners use nursing knowledge in their practice and to identify generic teaching and learning needs at each level (1984). Yet her aim was not to reduce nursing practice into simplified, linear processes (although one could argue that it has been frequently interpreted in this manner). Rather, she explicitly states that understanding and interpreting the specific meaning of any behaviour or nursing action is highly context dependent, and the knowledge embedded within specific actions or behaviours must be studied holistically. "The focus is on the whole situation rather than on breaking it down into specific tasks" as may be required with the beginning practitioner (Benner 1984 p.45), and yet situation based interpretation of competence in nursing practice is frequently wanting. Instead, practitioners and educators face competency statements or standards that appear to be the product of reductionist interpretation and overly generic descriptions of nursing process categories.

Benner's work has provided a valuable and significant contribution to nursing and nursing education. One would further argue that the identification of generic learning and practice characteristics within specific stages of practice development assists practitioners and educators in the evaluation of context specific practice development providing that context and individual interpretation are explicitly acknowledged. Indeed, Benner's aim was that nurses would look to their own exemplars of practice and thus identify practice characteristics within their own context and personal development. From this perspective, the integration of broad, specialty specific developmental stages within educational programmes for specialty practice could provide a framework by which educators and learners could determine learning needs, teaching and learning strategies and evaluate subsequent practice development. Indeed, this approach would appear to encourage learner *and* practice centred education for specialty practice. Support for this 'process' interpretation of Benner's *Novice to Expert* theory is evident in those critical care educational programmes that have integrated the use of portfolios and problem based learning as methods of facilitating personally relevant learning that can also provide evidence of professionally determined practice standards (Hewitt-Taylor 1998, Wigens & Westwood 2000, Charlton, Machin & Clough 2000, NBS 2000, Dean 2001).

The concept of competence however, is not always (and one would argue far too infrequently) interpreted from what Cutler (2000) describes as a 'process' view, in which competence reflects individual performance and can not therefore be predetermined. It is argued that competence is reflected in real situations by the knowledge that is embedded in practice (Benner 1984, Cutler 2000). Real situations in critical care nursing are essentially unique and require that a nurse is able to use knowledge and skills in

practice that may not be specific or predictable. In contrast, competence is often viewed as an outcome or indicator of learning and practice ability in rather specific terms (Smith 1997). Competence is thus viewed as a predictable product of education (Cutler 2000). From this perspective, minimum practice standards for specialty practice are determined by 'experts' within the field and subsequently broken down into discrete performances that, if demonstrated by the learner, indicate that the nurse is competent. Teaching and learning therefore might be considered effective if learners are able to demonstrate competent performance following a distinct educational experience. Whilst this presentation is admittedly simplistic, it is very difficult to comprehend how such an approach could facilitate the development of critically reflective, problem solving practitioners who are equipped for lifelong learning and future self direction. Benner (1984) states that, whilst it is possible to describe expert practice:

> "... it is *not* possible to recapture from the experts in explicit, formal steps, the mental processes or all the elements that go into their expert recognitional capacity to make rapid patient assessments". (p. 42, original emphasis)

Although Benner is discussing expert rather than competent practice, surely educators should be striving towards excellence in practice rather than compartmentalising practice into minimum standards of competence that are subject to constant change? Competence should not be absolute; the scope for progression beyond competence towards expertise should be considered (Eraut 1994). One could argue that the fundamental problem with specialty practice competencies is that some people (nurses, educators, managers, governors) appear to assume that competency based education can meet the demands of professional regulation, local practice and individual learners. Whilst this assumption is not entirely unreasonable, the scope of 'competency' within generic and local practice and learning contexts must be made explicit and, moreover, situated within rather than at the end of a practice development continuum.

Competent practice in critical care nursing is, one would argue, most closely associated with minimum safety standards for clinical practice. The predominant focus on discrete activities reflects the attributes or performance indicators that are considered to be essential components of safe independent practice (Hager 1995). However, whilst safe practice may be a universal aim, the components of such practice are certainly disputable. Furthermore, should safe practice not be viewed as the foundation for education and practice development rather than the outcome? This perspective is certainly reflected in the competency based structure of recently developed critical care education programmes for beginning practitioners (NBS

2000, Dean 2001), and would support the notion that competence is a process within individual critical care nursing practice development.

Cost Effectiveness

Within the context of health care it is impossible to consider effectiveness of education for nursing practice without considering cost effectiveness, given the persistent political and economic constraints that are placed upon educational funding in public health care. Even when nurses self, or part fund post registration educational programmes, there is a consistent requirement that education must represent 'value for money'. Cost effectiveness then should be considered from the perspective of each individual and organisational purchaser, provider and stakeholder. Critical care nurses appeal for education that is available, accessible and affordable (Boyer 1996, Chaboyer *et al* 1997, Hardcastle 2002). Purchasers with responsibility for health care service demand low cost methods of training, recruiting and retaining a skilled nursing workforce that will ensure high quality service provision (Ball 1992, Hewitt-Taylor 1999). Subsequently, tertiary education providers are expected to provide high quality, flexible and responsive programmes within their own budgetary and resource constraints (Endacott 1992, Zollo 1999, Holloway 1999). Although acknowledged in the literature, the concept of cost effectiveness does not appear to have been considered much beyond the scope of 'bums on seats', absence from clinical practice, or pooling of resources. Indeed Chambless, Schwartz & Woodhouse (1994) provide the only noteworthy cost analysis of critical care education from the entire literature reviewed throughout this thesis.

One could argue that cost effectiveness in terms of specialty education for critical care practice could only be assessed by the scope of expertise and contribution of post education practitioners within the collective health care service provided in distinct areas. Yet indicators such as perceived improvement in patient outcomes, reduced length of patient stay, fewer hospital acquired complications, or individual performance appraisal rely on predominantly subjective criteria and are influenced by numerous extraneous variables. Identifying a tangible link between critical care nursing education and cost effective health care is undoubtedly problematic. Although experience would support this notion, it seems unusual that such restrictive funds are potentially allocated with relatively limited evaluation. One can not overlook the possibility however, that the lack of cost benefit evaluation reflects the relative sparsity of post registration education providers. In the author's experience, few critical care education purchasers have the opportunity compare potential education programmes. Choice is, rather, limited to an 'all or nothing' option. Consequently, cost effectiveness is likely to be evaluated in terms of perceived benefits to patient care from the perspectives of critical care nurses and clinical managers, and the perceived flexibility of collaborative programme development in response to practice needs.

Collaboration

Effective critical care nursing education is frequently perceived as something that adequately reflects both academic and clinical concerns. It is thought that educational programmes developed and delivered by experienced clinical and academic practitioners are able to provide nurses with the skills and knowledge to practice effectively whilst also achieving both academic and professional recognition (Slate *et al* 1985, Anderson & Kimber 1991, Hendricks-Thomas, Crosby & Mooney 1995, Chaboyer & Restas 1996, Chaboyer *et al* 1997, Charlton, Machin & Clough 2000, Gibson & Douglas 2000). Through curriculum development processes in which subjects and content are determined through democratic, considerate and collective negotiation it is believed that subsequent teaching, learning and practice will empower learners, nurse educators and expert practitioners (Slate *et al* 1985, Street 1990, Hendricks-Thomas, Crosby & Mooney 1995, Charlton, Machin & Clough 2000). Empowerment (in this context) may be viewed as a way of ensuring that the interests and beliefs of different and varied perspectives on nursing education and practice are valued. Underpinning this belief is an assumption that nursing scholarship is developed directly for and from practice in order that academic programmes are able to meet, and be responsive to the needs of clinical practice. This belief is reflective of the 'curriculum revolution' towards learner and practice centred approaches to nursing education (previously discussed in Chapter Two). Yet, whilst collaborative approaches to specialty nurse education are claimed to promote the needs of the learner on one hand, some authors also state (in the same text) that collaboration is "an effective method of *producing* qualified nurses at lower cost" (Hendricks-Thomas, Crosby & Mooney 1995 p.95, *my emphasis*). Whilst the cost of specialty education certainly features within the concept of effectiveness, the notion of collaboration in this particular context seems to extend only as far as programme design as responsibility appears to be divided between the university and the hospitals with regard to the learning process and the appropriate outcome (respectively). Can collaboration then truly reflect learner centred education if the 'appropriate outcome or product' is predetermined by 'other' practitioners or educators?

Publications pertaining to collaborative approaches to teaching and learning in critical care report educational outcomes such as increased confidence and practice effectiveness, and the development of reflective and critical skills in nurses following collaborative programmes (Hendricks-Thomas, Crosby & Mooney 1995, Chaboyer & Restas 1996, Gibson & Douglas 2000, Charlton, Machin & Clough 2000). However, the studies cited cannot claim that changes in practice were due entirely to the collaborative approach, as opposed to other variables. Few of the publications reviewed adequately describe the process and means by which programme effectiveness was evaluated (Chaboyer & Restas 1996, Charlton, Machin & Clough 2000, Gibson & Douglas 2000) therefore, according to existing literature, the

'effectiveness' of collaborative ventures remains somewhat questionable. Despite general uncertainty as to how educational effectiveness is determined, there are further claims that practice led educational preparation directly influences care (Crotty & Bignell 1987, Durston & Rance 1995, Wigens & Westwood 2000), yet the reader is not enlightened as to how, or to what extent, care is influenced or how such conclusions are made. In contrast, phenomenological studies concerning post educational practice have been supportive of the particular programmes reviewed (Wood 1998), yet it is also acknowledged elsewhere that evaluating nurses' perceptions of improvements to practice could merely be the result of a 'feel good factor' upon course completion (Hogston 1995, Chaboyer & Restas 1996, Wildman *et al* 1999, Wigens & Westwood 2000).

Educational Effectiveness

Viewing educational effectiveness from a quantitative perspective, Wigens and Westwood (2000) propose that practice related teaching and learning can provide observable 'results' such as "improvements to nursing documentation and acute pain management within an intensive care unit" (p.222). Whilst one would argue that such criteria are highly subjective, similar observable and / or anecdotal evidence regarding programme evaluation appear to be relatively common in specialty practice (see for example Chambless, Schwartz & Woodhouse 1994, Durston & Rance 1995, Hewitt-Taylor 1998, Charlton, Machin & Clough 2000, Gibson & Douglas 2000). Wigens and Westwood go on to suggest that observable results are a more reliable indicator of 'effectiveness' of educational preparation than evaluation questionnaires or follow-up interviews (2000). The relatively recent publication of such assumptions is a timely reminder of the persistent emphasis on behaviourism and skills training in nursing education.

There certainly appears to be significant disparity concerning the methods and criteria by which educational effectiveness of post registration critical care programmes can be determined. Approaches range from evaluation of pre-test and post-test critical care knowledge (Sakallares & Marshall 1989, Oermann 1991) to the influence that various programme structures have upon learner achievement of outcome criteria (Endacott 1992, Durston & Rance 1995, Charlton, Machin & Clough 2000, Gibson & Douglas 2000), and opinion questionnaires or structured interviews concerning the perceived impact of education upon practice efficacy or quality of care (Slate *et al* 1985, Chaboyer & Restas 1996, Hewitt-Taylor 1998, Charlton, Machin & Clough 2000, Gibson & Douglas 2000, Dean 2001). Perhaps such diversity is a reflection of disparate assumptions regarding the scope of post registration education amongst the various stakeholders involved in educational ventures. For example, service providers who purchase 'education' from tertiary education providers in order to recruit and retain adequately skilled

practitioners are likely to expect to see improvements in staffing levels and the scope of 'educated' practitioners. Educators who facilitate 'education' for practitioners and ultimately service providers might expect to see progressive evidence of learners' academic ability, self direction, problem solving, critical thinking and integration of theory and practice. And learners, who may be seconded or partially funded by service providers, or self funding, are also likely to hold individual expectations and perceptions of what effective education might be. Consequently, there are at least three very different perspectives of what effective education for critical care nursing practice is, and how effectiveness might be evaluated. Although some authors have attempted to evaluate effectiveness within all three perspectives (Chaboyer & Restas 1996, Charlton, Machin & Clough 2000, Gibson & Douglas 2000), consideration of learner perspectives regarding effectiveness has been inequitably restricted to post, or inter-educational evaluation. Yet, if collaborative approaches to critical care education truly aim to empower learners, nurse educators and expert practitioners, surely the perspectives of future, and experienced, learners should also be considered during programme development. After all, one could argue that the relationships between education, individual practice and patient care are the pivotal focus within each evaluation perspective.

What Does Effective Education for Critical Care Nursing Practice Mean?

Although it seems to be important for nurses to understand the relationships within education and practice development, few studies have focused upon what learning means for critical care nurses and their practice. Little's study concerning the meaning of learning in critical care encourages "a more sympathetic anticipation of future learning needs" amongst critical care nurses (2000 p.397) and, one would argue, provides a valid contribution to the notion of effectiveness in critical care education. Through a process of interview and Hermeneutic analysis Little explored the meaning of learning in critical care nursing. She identified *learning as technological mastery* to be a specific and essential phenomenon within critical care practice. Learners described the inability to harmoniously integrate everyday technology into nursing practice as something that not only prevented them from experiencing meaningful practice and being efficient, but was also the source of notable anxiety (Little 2000). Although other relational themes revealed in Little's study were not considered to be unique to learning in critical care, one would propose nonetheless that they represent a valuable contribution to our understanding of effectiveness in critical care education. Critical care nurses in Little's study described the value associated with the opportunity to formalise learner status by *focusing* on individual learning needs in the critical care context whilst being absolved of concurrent responsibility, and supported by colleagues. The concept of learner status was also perceived to enable learners to be more confident in questioning critical care practice and fundamental aspects of their own clinical role.

Little concluded her study by proposing that bringing technology into the foreground of critical care learning could allow technology to become a natural extension of practice and facilitate learner development of authentic meaning within critical care nursing education and practice. This alternative perspective has particular significance as 'technological' teaching and learning are predominantly situated within the domains of 'orientation' or 'in service training' and are thus considered outside the context of comprehensive education for critical care nursing practice. Subsequently, technological teaching is often undertaken at a time during which new practitioners are also expected to learn about policies, procedures, standards and the cultural norms of the critical care environment. It is hardly surprising then that technological anxiety is a prominent concern amongst nurses undertaking educational preparation for critical care nursing practice (Little 1999, Hardcastle 2002).

McDonnell (1997) provides a reflective account of her own nursing practice in critical care in relation to the use of nursing knowledge. She was able to identify and value each of Carper's (1978) 'ways of knowing' within her own practice and nursing knowledge. Whilst McDonnell explored the ways in which she used knowledge in critical care nursing practice, the account does not address the meaning of education in this context. Indeed, the lack of available literature or research into the meaning of education for practice development in critical care nursing indicates that few have explicitly considered how critical care nurses use education in their practice.

Interest in individual perceptions of what effective education for critical care nursing practice actually means to nurses currently practising within the specialty inspired the author to undertake a research study to explore the phenomenon within the context of the South Island (Hardcastle 2002). Each critical care nurse in the South Island was invited to participate in a descriptive survey in order to obtain demographic data concerning the current state of critical care nursing in the South Island (Hardcastle 2003). The questionnaires also asked for descriptive statements concerning the meaning of effective education for critical care nursing practice (see Appendix B, Q.12-15). Through a process of thematic analysis, one essential and three relational themes within the meaning of effective education for critical care nursing practice emerged from the data: learning needs (essential), personal quality, practice quality and the learning process.

The critical care nurses represented in the study viewed effective critical care education as something that enables and advances personal and collective nursing practice and that the experience of effective education is virtually inseparable from personal practice and individual learning needs. The study outcomes are supportive of a reciprocal and interdependent relationship between theory and practice and further demonstrate that effective education must be relevant to the learner's practice and made actual in

real world situations. Effectiveness within such 'education-practice synergy' learning was also noted to positively influence personal and affective domains such as increased job satisfaction, motivation and reduced anxiety in practice. Although the research findings are somewhat limited to the study context, the study demonstrates that individuals in similar contexts do indeed share experiences and similarities with respect to the meaning of effective education and practice development. Indeed, meaning essences (revealed in the author's study) such as personal development, confidence and practice efficacy support the conclusions of existing literature (see for example Oermann 1991, Hogston 1995, Little 1999, Scholes, Endacott & Chellel 2000, Gibson & Douglas 2000). However, such constituents have not previously been discussed from the perspective of collective or personal experience (as opposed to the effect of distinct programmes). The author's research supports the notion that effective learning and technological mastery are complementary within critical care practice development (Little 1999, 2000). Critical care learners' concern for technological mastery is also supported by Benner's (1984) concept of nurses' characteristics during progression from 'advanced beginner' to 'competent' practice.

The presence and value of core themes and shared experiences within critical care nursing and, more specifically, the study context have provided valuable insight into teaching, learning and practice development in the specialty. The research outcomes have enhanced the author's understanding of the phenomenon and inform conceptual discussion and recommendations within the thesis.

Assessment in Specialty Practice

Despite a general concern for theory / practice integration in critical care education, the concept does not appear to extend as far as educational assessment. Assessment of theory is frequently confined to academic assignments, whilst it is urged that assessment of practice should take place in practice (see for example Chaboyer & Restas 1996, Scholes & Chellel 1999, Gibson & Douglas 2000, Strachan, Armstrong & Sibbald 2000, Wigens & Westwood 2000). Concern for practice based assessment undoubtedly surrounds the concepts of competence and accountability, yet the difficulties associated with competence in educational planning and design are inevitably apparent in assessment practices. Although assessment of practice ability is undoubtedly important, if assessment outcomes are to be used as competence assurance, practice based assessors must be adequately trained and supported in assessment practice, professional development and receive protected time for assessment related workload (Chambless, Schwartz & Woodhouse 1994, Hewitt-Taylor 1998, Scholes & Chellel 1999, Wigens & Westwood 2000). The resource implications of such an undertaking are far reaching when one considers issues such as access; communication; training and replacement costs; staff turnover and re-training; clinical assessment time; diversity and opportunity of clinical experience; clinical workload of the learner and practice

facilitator; funding for education and professional development; and the additional stress and responsibility placed upon practice facilitators who may not receive any financial remuneration. Indeed Scholes & Chellel (1999) found that the assumption that clinical mentors / assessors would be able to meet the demands of supervision, assessment and clinical workload were overly ambitious.

Although some programmes have integrated problem based, and experiential learning approaches in order to assess learners' ability to integrate theory and practice (Gartner, Latham & Merritt 1996, Hewitt-Taylor 1998, 1999), the majority would appear to assess practice and theory as distinct entities. Many practice assessments also rely heavily on clinically based staff despite the identification of 'failure to fail' issues within practice assessment (Hewitt-Taylor 1998). The issue of assessment effectiveness in critical care education is certainly complex and open to disparate interpretation. Whilst the assessment of learners' understanding of practice issues could indicate how they relate theoretical and research knowledge to practical situations, one cannot assume that knowledge 'that' will equate to knowledge 'how', or knowledge 'when' in actual practice. Similarly, the learner's ability to demonstrate a practical skill does not demonstrate that they understand why or how that particular skill can be utilised in practice situations. Somewhere amidst these contrasting perceptions of assessment effectiveness are concepts of simultaneous knowledge, skill and attitude assessments and learner determined assessment procedures. Whilst the latter approaches are more conducive to learner centred education and personal practice development, they must inevitably be finely tuned in order that professional and organisational requirements are achieved.

Approaches to Teaching and Learning

Although collaborative approaches to critical care education seem to be popular at the present time, the collaborative approach does not, however, negate problems or challenges. Authors have noted the practical difficulties associated with achieving 'balance' in collaborative working relationships (Hendricks-Thomas, Crosby & Mooney 1995, Charlton, Machin & Clough 2000). Lecturers have also experienced difficulty in attending to the demands of both clinical areas and universities, and encountered problems in achieving academic credit for practice based learning outcomes (Scholes & Chellel 1999). Collaboration with clinical nurse managers has also resulted in a predominant concern for practice outcomes over teaching and learning strategies in some instances (Hendricks-Thomas & Mooney 1995, Hewitt-Taylor 1999, Scholes & Chellel 1999, Wigens & Westwood 2000). Such outcome directed concern, although understandable from the perspective of educational purchasers, could create a pressure for nurse educators that may be equaled by the demand to apply adult learning theories to teaching practice when such an approach may be unfamiliar to learners (Hendricks-Thomas, Crosby & Mooney 1995, Hewitt-

Taylor 1998). Despite constant pressure to accommodate and respond to the many and varied needs of those involved in post registration critical care education, collaborative ventures nonetheless represent an opportunity to provide relevant, up-to date education that considers the demands and constraints of teaching, learning and critical care practice.

The concept of shared learning between nursing specialties and other disciplines has received a mixed reception amongst critical care educators and practitioners. Whilst there is certainly a degree of overlap within the disciplinary boundaries of medicine, allied medicine and nursing in critical care that may indicate potential value within shared educational ventures, many nurses and nurse educators remain sceptical about the potential recurrence of biomedical domination and a 'vertical' view of health services that would inevitably place nursing within the lower orders of health care education and provision (Ashworth 1995, Woodrow 2001). Ashworth (1995) proposes that, although nurses and doctors require similar knowledge with regards to pathophysiology and medical treatment (for instance), each discipline introduces different and valuable qualities and expertise to critical care situations, which may be at risk should one discipline develop at the expense of another. Furthermore, it could be argued that nursing is unique in its holistic approach to patient and family care, and that such values must be reflected in nursing education. In contrast, authors also acknowledge the potential benefit of increased interdisciplinary knowledge and respect that could be achieved through interdisciplinary learning within specific domains (Ashworth 1995, Hewitt-Taylor 1998, Woodrow 2001).

Shared learning across nursing specialties has received greater attention within nursing literature. Several critical care nursing programmes have embraced the concept of core curricula and shared learning between specialty courses with regard to issues such as professional development, research and management (Hewitt-Taylor 1998, Scholes, Endacott & Chellel 2000). Shared learning in this context is undoubtedly a cost effective use of resources as larger groups of nurses are taught simultaneously. However, several difficulties have been acknowledged: increased numbers of students effectively limit potential teaching and learning approaches, particularly group learning and teacher-learner interaction (Ball 1992, Hewitt-Talylor 1998, Scholes & Chellel 1999); curriculum models are not necessarily appropriate for use in all clinical areas (Ball 1992); and both educators and learners have experienced difficulties as a result of the necessarily broad range of learning outcomes that are incorporated into programmes in order to accommodate the increasingly heterogeneous population of students undertaking post registration education (Scholes & Chellel 1999, Charlton, Machin & Clough 2000, Gibson & Douglas 2000). It would seem therefore, that adoption of shared learning within critical care education must be seriously considered from economic, professional, educational, learner and practice perspectives in order that learning and practice development are not unnecessarily placed in jeopardy.

Summary

The concept of effectiveness within critical care nursing education is certainly complex when viewed from the many and varied perspectives that have been considered here. Whilst each component or contributor within the education and practice relationship has its own value, one would argue that the individual learner's perspective on how education may effect practice development and improve patient care is fundamental. Critical care nurses in the study context view effective education as something that enables the integration of theory and evidence that is relevant to their own area and thus enhances practice development in the real world context (Hardcastle 2002). Within this context however, the issues of competence, professional standards, qualification and regulation must also be considered in order that practice development may be recognised and valued within the professional practice context. Nurse educators are thus challenged to provide educational programmes for that are able to meet individual, practice and professional needs for specialty nursing practice in critical care.

The constraints of clinical practice and health service demands within the domain of critical care education have been discussed previously. It is important to note, however, that the issues created by the absence of nurses from clinical practice during attendance learning sessions or entire critical care programmes has led to the integration of distance education approaches within critical care education. This relatively new consideration could potentially offer critical care nurses and educational purchasers flexible and cost effective approaches towards specialty education and the provision of high quality critical care services by reducing or negating nurse absence from clinical practice. Distance education could also offer critical care nurses practising outside metropolitan centres increased availability and opportunity to undertake post registration for specialty practice. However, whilst the potential of distance approaches to learning in critical care may be significant, substantial inquiry is required in order to more fully understand the implications of distance education in the critical care context. This inquiry begins in the following section with an exploration of distance education as a teaching and learning concept.

Teaching and Learning at a Distance

There are several competing understandings of how terms relating to teaching and learning at a distance are interpreted (Evans & King 1991). Indeed, Evans & King note that once our understandings are formed they strongly influence our thinking (1991). It is therefore important to clarify the meaning that is associated with 'distance learning' and 'distance education' in the context of this thesis. The author supports White & Bridwell's proposition that:

> "While the term *distance education* refers to the entire process of the teaching and learning transaction, the term *distance learning* refers specifically to the learning and to the learner"
>
> (1998 p.390).

The fundamental inquiry that underpins this thesis is therefore to explore the potential of distance education approaches within learning and practice development in critical care nursing.

In addition to the confusion that may surround distance learning and distance education, there is also disparity in the way in which distance education is conceptualised. The fundamental difference appears to be whether one focuses on 'distance' or on 'education' in order to understand and conceptualise distance education. Some authors and theorists maintain that distance education is characterised by the physical separation of teacher and learner in learning situations (Moore 1983, Keegan 1986, Holmberg 1989, Verduin & Clark 1991, Kember & Murphy 1992, Rowntree 1992, Amundsen 1993, White & Bridwell 1998). Yet others maintain that distance is only one factor within most distance education processes and thus question the theoretical value of isolating distance as a remarkable characteristic (Garrison 1989b, 1993, Verduin & Clark 1991, Ljosa 1993). Similar disparity exists with regard to the situation of distance education within the broad arena of education and educational theory. Whilst some believe that distance education is a discipline in its own right (Holmberg 1989), others perceive distance education to be a distinctive field within education (Keegan 1986, Ljosa 1993, Amundsen 1993, Tait & Mills 1999, Matthews 2002), and others still propose that "there is nothing uniquely associated with distance education" that distinguishes it from education (Garrison 1989b p.8, 1993, Oliveira & Rumble 1992). Such disparity surely questions the value of distance specific and general educational theories to support and guide the learning process in distance education. Yet, it could be argued that, the more recent conceptualisations of distance education offer explanatory constructs that focus on the teaching and learning process in distance contexts as opposed to the original preoccupation with physical separation. As such, learning is facilitated through *education* at a distance rather than occurring as a result of *distance* education.

There is no doubt that contemporary concerns within distance education reflect those of adult education theory and the increasing capacity for communication technologies to address non-contiguous communication issues and interdependence within teaching and learning relationships. It would seem then that distance educators and distance education providers are increasingly concerned with distance learning issues and the social context of learning. This paradigmatic shift represents a change in theoretical focus from distance education as a distinct 'form' or method of education. Consequently, distance education is becoming an acceptable alternative to traditional attendance education as technological developments facilitate the integration of distance and traditional education (Garrison 1989b, Hutton 1998, Tait & Mills 1999).

Distance Education Theory

Theories regarding distance education seem to be divided between what Garrison (1993) terms the 'dominant paradigm' and the 'emerging paradigm'. It would appear that the most fundamental assumptions regarding distance education theory surround the concepts of 'access' and 'quality'. Similarly, distance education may be viewed from the perspective of 'opportunity' (to individualise learning), or 'deficit' (lacking opportunity for contact and communication) (Morgan & O'Reilly 1999). Theories that may be situated in the dominant paradigm view 'access', or the ability to serve a large and diverse population of learners, as a primary determinant of distance education (Garrison 1993). Derived from Otto Peters' original notion that distance education is a product of industrial society (1967 in; Amundsen 1993, Garrison 1993, Ljosa 1993), the dominant paradigm is predominantly concerned with characteristics such as mass production, standardisation and learner independence (Garrison 1993). From this perspective, distance education is perceived as a private form of learning that is grounded in behaviourist philosophy and the traditional view of correspondence learning. Students receive prepackaged 'learning' materials that adhere to predetermined objectives and learning outcomes that guide self-instruction via confirmatory feedback. Learners are thus perceived to be independent and autonomous in that they can choose when and where to study. Distance education is therefore accessible to large numbers of learners regardless of time or location (Perraton 1983, Garrison 1993, Matthews 2002). The quality of distance education may thus be assessed by indicators such as the scope and extent of learner enrolment, achievement of learning outcomes or organisational economy. Yet the notion and form of distance education today is significantly different from that of the original correspondence course. Consequently, distance education theories that reflect the stimulus-response roots of behaviourism are somewhat neglectful of today's concern for quality, cognition and constructivism.

The assumptions and values of the distance educator, individual learners, and / or the educational institution influence the way in which the quality of distance education is determined. In contrast to the concern for access in the dominant or industrial paradigm, theories reflecting the values of the 'emerging paradigm' demonstrate an overwhelming concern for the quality of the educational transaction. It is assumed that education is based upon two way teacher-student and student-student communication and that the quality of communication in face to face education cannot be replicated in distance education (Garrison 1993). The more recent distance education theories reveal a concern for higher level cognition, negotiation, critical analysis and personal knowledge construction within distance education, which may be associated with cognitive and constructivist philosophies of learning (Holmberg 1989, Amundsen 1993, Garrison 1993). From this perspective explanatory (rather than confirmatory) feedback is valued, as it is believed that explanatory feedback encourages the construction and integration of new meaning and understanding. Personal knowledge is constructed and validated through discourse and action that, it is proposed, can only be achieved through two way communication (Garrison 1993, Amundsen 1993). The emerging paradigm represents an ideal in which the learner assumes responsibility for meaning construction and understanding within an interdependent teacher-learner environment as opposed to the independent learning environment portrayed in the dominant paradigm. Whilst it is assumed that such learning requires sustained two way communication, it is also assumed that it is now possible to address both quality and access issues within the current scope of communications technology (Garrison 1993).

This rudimentary presentation of two distinct paradigms within distance education theory represents contrasting philosophical and theoretical values. Yet several distance education theorists consider both access and non-contiguous communication to be essential elements of learning in distance education (see for example Moore 1983, Holmberg 1989, Keegan 1986). By conceptualising the process of learning in distance education it is now apparent that theory may best inform and enhance our understanding of distance education if contextual, access and transactional needs are explained with respect to the learning process and underpinning assumptions. The theoretical frameworks presented by Garrison (1989, 1993) and Verduin and Clark (1991) claim to be more inclusive and reflective of the broader scope of distance education. Yet, although both acknowledge teacher-learner separation as a characteristic of distance education, neither framework places any significant emphasis on the concept of distance or separation (Amundsen 1993). Indeed Garrison proposes that accessibility is merely a "technical issue that can be addressed" by the use of technology to facilitate essential two way communication (1993 p.16). Garrison goes on to propose that the concept of independence in distance education (as proposed by Moore 1983 & Holmberg 1989) is a simplistic fallacy that can be responsible for "serious educational learning and motivational problems" (1993 p.15). The concept of 'control' is rather presented as the opportunity to

influence educational transactions through collaborative, interdependent processes. Whilst Garrison's overwhelming concern for student support in the educational transaction is commendable, one would argue that such preoccupation has negated adequate recognition of the wider role of essential components such as social and personal context, programme content and learning style preference.

Alternatively, Verduin and Clark's (1991) framework, although lacking direct reference to the concept of distance, offers theoretical constructs that reflect adult learning theory, learner autonomy and self directedness, communication and learner support and competence in the context of distance learning. They are also the first distance education theorists to consider specialist domains and the nature of subject matter (Amundsen 1993). Verduin & Clark discuss andrologogical principles with respect to individualism and specific fields of study by acknowledging that most educational programmes incorporate both high and low structure or competence material, which (using Moore's original concept of autonomy) necessitate a lesser or higher degree of communicative interaction and support. Rather than adopt "an entirely behavioural, cognitive, or humanistic approach", Verduin and Clark attempt to combine applicable components of each according to "situational basis" (1991 p.135). The outcome of which is a more representative model that explains teaching and learning styles within various contexts. One would further propose that their aim to avoid the prevalent tendency to construct either-or perspectives has also been achieved.

Amundsen (1993) notes however that, as progressive theories have decreased the emphasis placed upon the concept of distance, the educational process remaining bears greater resemblance to that of traditional education. Consequently she suggests that distance education theory should evolve to reflect general educational theory that places learning, rather than the learner, at the centre of distance education frameworks. Distance education should therefore consider the meaning of distance to the teaching and learning process in distinct learning situations (Amundsen 1993). Yet, whilst it is refreshing to see that the impact of distance is afforded due consideration, Amundsen's framework is based upon 'intended learning' which, one would argue, is suggestive of philosophical regression to outcome based behaviourism. Perhaps Amundsen's proposed framework does "provide a reference point for building new understandings of teaching and learning within the context of distance education" (1993 p.77), if 'intended learning' were determined in collaboration with the learner. Yet, it would appear that the current proposition suggests that intended learning, and the impact that distance may have upon it, is determined by someone other than the learner.

Perhaps one must question the appropriateness of learner centred theories in distance education. Weedon (1997) certainly argues that contemporary individualistic models of the learner are insufficient for conceptualising the learning process. She further proposes that there is a tendency in current theory to view the learner as a virtually separate entity, in whom learning occurs by active construction (or acquisition). Whilst this perspective places the learner at the centre of the learning process, other authors also propose that focusing on the interactions that take place within teaching and learning may result in a more holistic conceptualisation of the learning process in distance education (James & Gardner 1995, Repman & Logan 1996, Weedon 1997, Saba 1999). Weedon's (1997) article discusses stages within the learning process that are not incongruent with Verduin & Clark's (1991) concept of situational teaching and learning in distance contexts. Alluding to Vygotsky's concept of the 'intermental' plane of social interaction in the learning process, and Bruner's 'scaffolding' concept of declining need for student structure and support, Weedon suggests that the relationship between learner and tutor changes as learning progresses. Although this concept is neither new nor revolutionary, it appears to be conspicuously absent from other distance education frameworks.

Distance Education Theory and the Study Context

In an earlier statement the author proposed that 'theory may best inform and enhance our understanding of distance education if contextual, access and transactional needs are explained with respect to the learning process and underpinning assumptions' (p. 55). Following the brief exploration of distance education theory presented here, one would maintain that this proposition is particularly valuable in the context of distance education for critical care nursing practice. Whilst access issues are particularly significant in the study context, the learning process and respect for individuality and personally relevant learning must not be overlooked. It would seem that, whilst components of the theoretical frameworks discussed here may contribute to one's understanding of distance education in nursing, the existing theories fail to address the issues and concerns embedded within distance education. Nonetheless, this preliminary exploration of distance education theory has highlighted several important issues that provide an elementary conceptual framework upon which to consider existing literature, reflect upon practice issues and thus stimulate further inquiry.

Comparisons within Distance Education

An array of comparative studies exists within the field of distance education. In order to establish or improve the effectiveness of distance learning researchers have sought to compare distance education with other, more 'traditional' teaching and learning, or to compare distinct distance education methods and / or technology with their counterparts. Despite the plethora of information gleaned from such comparative

studies, one must consider whether our understanding of distance education has been sufficiently enhanced to justify the resources that have been consumed in an essentially repetitive process. Certainly when researchers compare distance education with traditional, classroom-based or face to face teaching, many report 'no significant difference' (Perraton 1983, Hoey 1998, Roblyer 1998, Merisotis & Phipps 1999, Saba 1999). However, upon closer examination of research articles concerning distance education, Merisotis & Phipps (1999) suggest not only that original research is limited, but that findings are questionable due to poor quality research. They claim that existing research fails to account for extraneous variables, validity and reliability of measurement instruments, or the reactive effects of research study.

Several studies compare distance and attendance students' outcome scores relating to content testing or course grades. Martin & Rainey (1993) for example conclude that distance students are able to learn content as, if not more, successfully than attendance students despite being limited to one-way communication with instructors. Their study, however, fails to account for the influence of different instructors in control and experimental groups despite careful control of other variables (Roblyer 1998), and does not consider affective learning criteria. Similarly Hoey (1998) found no significant differences in final course grades when comparing classroom based and Web based course components. Moreover, he concluded that the students' "ability to absorb course materials and demonstrate desired gains in competencies" from Web based learning was equivalent to that of classroom based learning (p. 25). Hoey's conclusions however, are flawed in several respects. The study is based on the assumptions that: academic performance can be judged by course grades; a desirable outcome of teaching and learning is for students to absorb course materials and demonstrate prescribed competencies; and instructors' judgements are a valid and reliable indicator of whether learning has taken place. The study is also based upon part components of complete courses rather than a comprehensive distance approach. It is therefore unlikely that Hoey's research findings would be applicable in the context of distance approaches to holistic adult learning.

Distance Education Technology

The technological aspects of distance education now dominate distance education literature as communication technology rapidly advances and becomes more accessible to a wider audience. The scope of this thesis prevents a comprehensive appraisal of the vast array of available technology based literature. Furthermore, the technological concerns regarding distance approaches to teaching and learning, although valuable, are not considered to be fundamentally important at the present stage of inquiry. Indeed James and Gardner (1995) provide a succinct and realistic conclusion when they state that

"using technology alone without considering individual differences articulated by learning styles is futile" (p. 27). This view is also supported by Merisotis and Phipps (1999) who state that "technology is not nearly as important as other factors, such as learning tasks, learner characteristics, student motivation and the instructor" (p.16). Given the context of this inquiry, the predominant concern surrounds the question of what communication technology can do to enhance learning, whilst many research articles appear to be principally concerned with technology as a virtually isolated phenomenon.

A contrast of opinion exists between those who see technology as the means to educate in distance learning (Wang 1994, Ridley Smith 1996, Abernathy 1997) and those that view technology as an adjunct to distance learning (James & Gardner 1995, Thach & Murphy 1995, Wilson 1997, Merisotis & Phipps 1999). Interestingly, it appears that many of those who predominantly address teaching and learning concerns from a technological perspective also advocate the use of local facilitators and group work at localised learning centres (see Ridley Smith 1996, Abernathy 1997). One could conclude from such advice that technology is indeed an adjunct for effective distance learning if local facilitation is also deemed necessary.

Asynchronous delivery of course material and learning activities is associated with a higher degree of flexibility and convenience than synchronous delivery (Wilson 1997). When deciding upon asynchronous versus synchronous delivery, or a suitable balance of each media, for each learning situation educators must also consider whether the balance of cost and convenience outweighs the potential for interaction. Previous studies have highlighted the importance of interaction and the social nature of learning (Garrison 1993, Amundsen 1993), however highly interactive synchronous media may also be thwarted by technological, financial or access constraints. This is not to assume that interaction with asynchronous delivery is impractical, rather that it can be more challenging. Asynchronous or written material is by nature contextually situated and is therefore open to misinterpretation, misunderstanding, or dismissal (Hillesheim 1998, Seehusen 2000). As such, distance educators and designers necessarily have to apply caution when compiling written material, feedback and communication. Although similar caution is required for synchronous material, it could be argued that synchronous feedback is more open to immediate challenge and clarification. Asynchronous delivery of distance education programmes may be viewed as the poor relation in the current climate of highly interactive multimedia learning environments, yet its inherent flexibility and convenience may be invaluable in the context of this study. Thach and Murphy (1995) assert that the most fundamental concept regarding technological choice is to ensure that the delivery method is appropriate for individual learners and the learning context.

Cost Effectiveness in Distance Education

Many authors report the demand to 'do more with less' in terms of educational provision and financial commitment respectively (Ryan 1993, Lawton & Barnes 1998, Hunt 1998). Distance learning may be perceived as a cheap option, a means to target a wider and more substantial audience with the same (or even less) academic support than in traditional classroom based learning. However, Lawton & Barnes (1998) clearly demonstrate that a distance learning approach can be considerably more expensive than a full time attendance approach in terms of writing and preparation time, peer review, tutorial contact and activity assessment. Although Lawton & Barnes' report concerns the inception of two distance learning courses (that were previously run by attendance at the university), and thus accounts for the hidden costs of course development, the necessity to adopt a business planning approach to flexible course delivery is apparent if course feasibility and cost-benefit analysis are to be considered and costly mistakes prevented.

A distinction has been made between the roles of instructional design, educational design and that of the course co-ordinator (Guri-Rozenblit 1991, Wang 1994, Abernathy 1998). This distinction, although not completely clear by definition, acknowledges the importance of educators understanding the principles and process of distance education, the value of technical design, and the need for academic staff support and development (Wang 1994, James & Gardner 1995, Repman & Logan 1996, Lawson & Barnes 1998, Hunt 1998, Roblyer 1998). As several authors elucidate, experience and effective teaching skills are not necessarily easily transferred to a distance learning approach, necessitating time and development opportunities for academic staff (Stevenson, Sander & Naylor 1996, Mugridge 1997, Hunt 1998, Hassenplug & Harnish 1998, Hillesheim 1998) which must be built into course development plans and cost-benefit analysis (Lawton & Barnes 1998).

Distance education for academic achievement and distance education for corporate training and education appear to have evolved from quite different backgrounds. Certainly what may be seen as the most interactive, supportive and 'virtual' teaching and learning experiences conducted at distance have evolved within institutions that appear to have substantial financial endowment (see Knapczyk 1993, Ridley Smith 1996, Abernathy 1998, Black 1998, Snow 1998). The financial implications of establishing highly interactive distance learning technology are substantial, and we are warned that the emerging multi-functional, highly automated technological approaches to teaching and learning at a distance do not necessarily equate to relevant or meaningful learning (James & Gardner 1995, Thach & Murphy 1995). Indeed, as previously discussed, educators are urged to look beyond technology to refocus on the process of learning, considering what technology can offer to facilitate learning rather than considering learning within potential technological constraints.

Supporting Distance Learners

It is recognised that distance learners require equal if not more support from educators throughout the course of their learning and development. Learners who go on to, or are already, practising in a professional capacity require self directed learning skills in order to keep up to date with professional knowledge and practice evolution. Yet many students are ill prepared and ill equipped for the responsibility of self direction within professional education let alone lifelong learning or distance technology (Ryan 1993, Portier & Wagemans 1995, Thach & Murphy 1995, Rogerson & Harden 1999). It is often expected that students will automatically develop self directed or independent learning skills during the course of professional education as a result of exposure to on campus support services, peer support or even intuition. Indeed some authors assert that self direction is a distinct characteristic of adult learning (Knowles 1980, Brookfield 1986). In contrast, writers such as Candy (1991) argue that the development of self directed and problem based learning skills necessitate continued guided practice and active integration with other course related information. How then can distance educators nurture and facilitate the development of interdependent self direction amongst individual distance learners?

As a generic group distance learners may have some degree of homogeneity, as many learners are adult, have work experience and seek learning that will be personally relevant. However, such characteristics are relatively insignificant when one considers the heterogeneous nature of such a disparate group of individuals. Individual learners have different interests, experience, and philosophies for life, let alone for teaching and learning. An individual's approach to teaching and learning in various contexts is determined somewhat by prior experience and knowledge and will subsequently influence the efficacy of the learning process (Portier & Wagemans 1995, James & Gardner 1995). Yet it is often assumed that individuals undertaking distance education courses should be able to utilise identical course materials and support services irrespective of their individual differences (Portier & Wagemans 1995).

Distance educators are urged to assess the prior knowledge, experience, learning style, maturity, self discipline, learning, interaction, and communication preferences of distance learners before specific learning programmes commence (Portier & Wagemans 1995, James & Gardner 1995, Granger & Benke 1995, Abernathy 1997, Hillesheim 1998, Roblyer 1998). Resultant programmes are expected to be dynamic, flexible and personal and yet planning and design must be undertaken before the idiosyncrasies of potential learners are known in order to market the programme and ensure adequate enrolment. Modular approaches with study options have been adopted with some degree of success regarding the facilitation of personal learning strategies and student support (Rogerson & Harden 1999). It is recognised, however, that the challenges associated with proactive, flexible, distance education design demand

greater resource investment if this particular distance learning issue is to evolve. In contrast, Saba (1999) judiciously argues that by attempting to equate learner behaviours and attributes with those of distance delivery systems, we are disregarding the complexity of distance learning by situating it within the reductionist paradigm.

How students feel about using distance learning is a fundamental issue regarding the ultimate success of this approach for individual learners (Roblyer 1998, Rogerson & Harden 1999). Whether students are able to choose a learning approach or are confined to distance methodologies as the only available approach must surely affect their ability and confidence to utilise distance learning approaches for meaningful and relevant learning. Roblyer (1998) proposes that distance educators require further knowledge of this affective domain if distance learning approaches are to be utilised appropriately and with adequate support. By way of response, Hillesheim (1998) infers that there is a positive correlation between motivation and self discipline and the likelihood of succeeding in distance learning, further proposing that "the maturity level of the potential student" should be established during the application process (p. 33). Although Hillesheim suggests that strategies for success may be taught during students' orientation, she offers no further suggestion as to how teaching and learning may be effectively facilitated during orientation in order to prepare students for distance learning.

Several studies have highlighted a dichotomy between distance learners' preference for self paced, autonomous learning and the simultaneous demand for highly structured study guides and support material (Chesterton 1988, Stevenson, Sander & Naylor 1996, Carnwell 1998, Hoey 1998, Rogerson & Harden 1999). Whilst educators may feel justified in developing detailed and prescriptive curriculum material and activities for those students who do not have direct and continual communication, rigid course packages are unlikely to foster individualised, meaningful learning that is relevant for personal practice or lifelong learning (Chesterton 1988, Carnwell 1998). Chesterton (1988) distinctly cautions distance educators against perpetuating learners' uncritical acceptance of curriculum content that serves to promote the philosophies of institutional decision makers rather than the growth and creativity of distance learners. Chesterton further proposes that distance curriculum designers and evaluators have a responsibility to be aware of and responsive to, their own assumptions and values, in addition to the needs of individual students when making curriculum decisions.

The studies cited emphasise the importance of maintaining two way communication between educators and learners within the realm of teaching and learning, and the particular significance that communication and support hold for distance learning. Students have, not surprisingly, reported feelings of

isolation from educators and other students and subsequently desire more feedback from educators and interaction with both educators and other students (Hoey 1998, Hillesheim 1998). However, several studies report that distance learners were less inclined to utilise established student interaction facilities than was indicated by previous feedback and course evaluations (Hoey 1998, Carnwell 1998, Rogerson & Harden 1999), or that interaction between distance students was not significantly important or effective (Stevenson, Sander & Naylor 1996, Hassenplug & Harnish 1998, Carnwell 1998). Whether distance learners favour interaction with educators or interaction with other learners, interaction of some form is a necessary component of the learning process and is therefore valuable for the construction of personal and relevant meaning from teaching and learning situations (Repman & Logan 1996, Weedon 1997, Saba 1999).

Repman and Logan's (1996) paper discusses barriers and interactions that exist within distance learning environments. With regard to facilitating learner content interaction, they suggest that educators focus on and support the interaction rather than the presentation of content. Their suggestions to vary delivery modes, individual student course requirements, submission choices and individual case study responses are undoubtedly beneficial for individualised, meaningful student learning. Yet they neglect to discuss the resource implications for such individuality and variety in distance education. Furthermore, James and Gardner (1995) and Hassenplug and Harnish (1998) propose that variation in instructional delivery may actually affect the degree of student satisfaction rather than the degree of interaction with different approaches to teaching and learning. James and Gardner's proposition is derived from their framework of learning dimensions and distance learning delivery which provides a unique examination of the relationships between individual learning styles, technology and course design.

Teaching and Learning Skills via Distance Approaches

There is some concern regarding exactly what can be taught through distance learning approaches. In a similar vein to the early theoretical preoccupation with independence and access, distance education was commonly thought to be suitable for imparting cognitive knowledge and factual information only. It was not thought that distance education could be used within the context of learning psychomotor skills or complex performance, or for learning within the affective domain concerning attitudes or values (Rumble & Oliveira 1992). Yet, as previously discussed, distance educators have become progressively more concerned with, and responsive to learning within higher cognitive, affective and constructive domains. The variety in teaching and learning approaches and increased ability to communicate and interact with learners in contemporary distance education has made it possible to develop and evaluate learner's ability to appraise, analyse and reflect upon personal learning (Holmberg 1989, Verduin & Clark 1991,

Amundsen 1993, Garrison 1993, Langford & Hardin 1999). However, despite the progress made within cognitive and affective domains, distance learning that encompasses psychomotor qualities or performance skills appears to have received far less attention.

Sparkes' (1982) contribution to the literature concerning psychomotor teaching in distance education provides limited support or insight concerning skills learning at a distance. Sparkes claims that there are two components in skills learning; instruction and demonstration are seen to be straightforward and achievable via video presentation, computer aided instruction (CAI), or instruction books. Providing opportunities for learners to practice their skills on the other hand is considered to be more complex. Whilst intellectual type skills are considered manageable via CAI or two way communication, Sparkes' only comment regarding more practical skills is that they are not suitable for distance education (1982). As dismissive as Sparkes' opinion may seem, it would appear to be supported by other writers who also believe it is necessary to incorporate face-to-face instruction in order to comprehensively address learning within the psychomotor domain (see for example Rumble & Oliveira 1992, Knapczyk 1993, Thatch & Murphy 1995, Morgan & O'Reilly 1999, Lemckert & Florance 2002).

It appears that, despite the rapid and continued development in communications technology, computer simulated, assisted, and virtual learning are unable to adequately facilitate learning, or assessment of learning, in the psychomotor domain. Despite the apparent universality of this enigma, there is very little literature that actually considers psychomotor or skills learning (at distance) beyond the assumption that such learning cannot be fully achieved using distance approaches. Lemckert & Florance (2002) discuss real-time Internet mediated laboratory experiment (RTIMLE) use for practical skill objectives in science and engineering, yet they conclude that the RTIMLE cannot address the development of hands on manual skills. Similarly, in their case study presentation regarding developing expertise in neonatal resuscitation in a distance education programme, Rumble & Oliviera (1992) stress the importance of the Clinical Teaching Associate's (CTA's) role in work based clinical assessment as a necessary support for theoretical materials and hypothetical case scenario teaching and learning using distance education. Although one can immediately envisage the difficulties inherent in attempting to teach and learn practical or psychomotor skills in distance education programmes, it is nonetheless surprising that there is such a paucity of research relating to this specific domain. It would seem that the assumption that practical skills can not be adequately addressed through distance education alone is sufficiently widespread to have negated any further research or inquiry. One could therefore conclude that one should consider the scope and utility of distance approaches to learning skills within distinct learning and practice contexts.

Summary

Many distance education articles have been reviewed during the course of this inquiry, yet few could be termed original research. The criticism of Merisotis & Phipps (1999) is reflected in the articles reviewed here. Indeed much of the research fails to examine the relationships within distance education or consider how distance learning technologies may enhance, rather than duplicate the teaching and learning process. The current situation regarding distance education research and understanding may be secondary to the chaos created by the interaction of potentially unlimited variables within the complex system that distance education embraces (Saba 1999). By way of simplistic response, many articles present 'how to' guides and / or opinions regarding effective application of distance learning approaches to teaching and learning as an attempt to assume order or predictive control within a chaotic and unpredictable environment (see Granger & Benke 1995, Ridley Smith 1996, Abernathy 1997). Although anecdotal and experiential evidence is of some interest and value for those involved with distance education, such evidence is rarely utilised to formulate a theoretical or conceptual framework upon which to base practice or further inquiry. The following section examines the existing role and use of distance approaches to teaching, learning and practice development in nursing education and the critical care context.

Distance Approaches to Learning in Nursing Education and Critical Care

The demands of contemporary nursing practice exert increasing pressure upon nurses to undertake continued professional development whilst also maintaining adequate staffing levels to ensure that appropriate standards of nursing care are possible (Kelly-Thomas 1998, Dowswell, Hewison & Hinds 1998, Rogerson & Harden 1999, Billings & Rowles 2001). Moreover, this challenge exists within a climate of restricted nursing budgets and limited funding for professional education. Consequently, some view distance learning as a method of providing flexible, accessible educational opportunities to nurses who necessarily have to accommodate conflicting professional, employment, social and educational commitments (Billings 1999, Rogerson & Harden 1999, Langford & Hardin 1999, Mallow & Gilje 1999, Billings & Rowles 2001). Indeed the provision of flexible and open learning opportunities that nurses can undertake in their 'spare time' that reduces the need for study leave, funding and staff replacement has been welcomed by health service managers and fund holders (Dowswell, Hewison & Hinds 1998). One may easily perceive features of distance education such as individuality, flexibility, self paced and convenient learning to offer the perfect solution for continued professional education for nurses. However, as already suggested, this perspective requires enhanced focusing and sensitive deliberation before distance education is accepted as the answer to the problems within post registration education.

Nonetheless, distance education is becoming more prevalent in nursing education with notable progression from distance learning as a supportive strategy towards comprehensive distance education programmes (Billings 1999, Cody 1999, Langford & Hardin 1999, Mallow & Gilje 1999). Reports indicate that distance education has the capacity to foster learning that is contextually relevant, experiential, reflective and collaborative (Oliver & Naidu 1997, Andrusyszyn, Iwasiw & Goldenberg 1999, Iwasiw *et al* 2000). There is no doubt that the attributes noted are conducive to an effective learning environment. A fundamental concern persists however, regarding the quality of technical and affective humanistic skill development and assessment. Reliability, validity and focus of assessment strategies for distance learning are of particular concern when considering accreditation standards for professional practice (Billings 1999). Current nursing education literature does not specifically address this issue which may be secondary to the dominance of more traditional teaching strategies in professional education leading to registration and certification. A vital concern that underpins the current scope of inquiry is that due consideration is applied in order that a valuable teaching strategy is not adopted in a manner that may compromise professional accountability and the worth of distance education.

Technology

Communication and technology are fundamental components of contemporary approaches to teaching and learning at a distance. Within nursing, computer mediated communication (CMC) is reported to enhance effective communication, clinical information, sharing of experience, knowledge and best practice, support networks, and collaboration, particularly among isolated or time constrained staff (Brooks *et al* 2001). Furthermore, combinations of effective learning strategies and compliant technological delivery may facilitate a collaborative, supportive, critically reflective and learner centred environment that is accessible to learners, irrespective of geographical location (Oliver & Naidu 1997, Andrusyszyn, Iwasiw & Goldenberg 1999). Examples of CMC include computer and video conferencing, internet based or supported academic courses, electronic mail network groups and interactive software programmes. Computer conferencing (CC) is a relatively new technological advance in nursing education yet current reports conclude that asynchronous CC has contributed to knowledge construction through sociocultural discourse, integration of critical analysis, academic interaction and flexibility of delivery (Andrusyszyn, Iwasiw & Goldenberg 1999, Iwasiw *et al* 2000). Interactive computer programmes may also offer valuable supplementary educational support and guidance for self directed learning, development of critical thinking and analytical skills whilst providing fundamental information and the feedback required as the basis for professional practice (Boyer 1996). Several authors and learners have found case scenario programmes to be particularly beneficial as a means of 'safe' exposure to complex nursing situations that

stimulate assessment, analysis and decision making (Wales & Skillen 1997, Dowd & Davidhizar 1999, Morgan & O'Reilly 1999, Petro & Heath 2001, Caton-Lemos 2001, Wright 2001).

Despite the positive contributions that computer mediated learning systems may tender, their capacity to constrain professional learning and development cannot be disregarded. This becomes apparent when one considers the critical nature of interpersonal communication, observation, moral and ethical knowledge, caring skills and assessment of clinical and technical competence for nursing practice. Such affective humanistic qualities are extremely difficult to nurture and assess without actual (as opposed to virtual) experience (Mallow & Gilje 1999). Literature concerning student progression in affective domain criteria is sparse in comparison to the reports of knowledge improvement. The distance between or separation of teacher, learner and the supporting organisation can only exacerbate the challenge for educators with regards to affective knowledge. Serious consideration must be given to each specific context of learning and learner experience in order to determine a teaching and assessment strategy that will best facilitate knowledge and skill development, and assure professional accountability.

Reflection

Concepts surrounding the notion of reflection are a prevalent feature of the trends within nurse education and have been discussed previously (see Chapter Two). The value of reflective practice within learning and professional development in nursing and nurse education is widely acknowledged (Atkins & Murphy 1993, Richardson 1995, Stockhausen 1995, Johns 1996, Hannigan 2001). Yet Boud & Walker (1998) provide just warning regarding the perils of acontextual application of reflection in teaching and learning situations. They claim that in order for teaching contexts to be conducive to the questioning of experience necessary for reflection, they must:

> ".. allow learners to explore 'a state of perplexity, hesitation and doubt' (Dewey 1933), 'inner discomforts' (Brookfield 1987), 'disorientating dilemmas' (Mezirow 1990), uncertainties, discrepancies and dissatisfactions which precipitate, and are central to, any notion of reflection".
>
> (Boud & Walker 1998, p.191).

It is further noted that notions of reflective practice have been incorporated into unsuitable contexts when the concept of reflection is also only partially understood (Boud & Walker 1998). Boud & Walker describe a fundamental tension that exists in the context of guidance within reflective practice. Highly structured guidance may encourage essentially unthinking reflective recipe following on one hand and yet unstructured independent reflection may result in unfocused and essentially uncritical thought (Richardson

1995, Johns 1996, Boud & Walker 1998). The boundaries of reflection are, by the nature of questioning and critical thought, unable to be predefined. Reflection may thus provoke ethical, professional and personal dilemmas that are deserved of support from the educator who encouraged such reflective activity. The learning context therefore, must be able to support learners in open and unpredictable critical thought and personal exploration. With this consideration, reflective practice should be encouraged only when learners can be supported in their exploration of underlying assumptions or habitual practice (Rich & Parker 1995, Johns 1996, Boud & Walker 1998). This perspective casts some doubt over the utility of reflective strategies in distance and technological learning methodology where support may not be assured.

Self Direction

Distance learning programmes accredited by tertiary education institutions require that learners have, or must develop, not only academic skills, but also those skills associated with self directed learning, self assessment, and communication technology. It has been acknowledged previously that many nurses and educators have encountered difficulties with self directed and independent learning due to the historical dominance of teacher centred education (Chaboyer & Restas 1996, Hewitt-Taylor 1998). Indeed, Langford & Hardin (1999) state that the previous learning experiences of most nurses are likely to have been grounded in the assumption that face to face interaction and the apprenticeship model are superior approaches to teaching and learning for clinical practice. The effect of the traditional learning environment in nursing education continues to be quite remarkable. How then could nurses who may have little or no experience of self directed learning be expected to undertake a distance learning approach to enhance their theoretical knowledge base and specialty clinical practice?

Boyer (1996) discusses the use of assisted self directed study (ASD) in critical care education, stating that, using materials other than the computer for self paced education is able to stimulate the self directedness of the learner. Yet she also acknowledges that "self paced learning occurs best with self motivated individuals" (p.32f), and learner inexperience with ASD and computer assisted instruction (CAI) was problematic. However, Boyer proposes that hands on experience with computer assisted learning and learning style preassessment is able to negate any preconceived technological anxiety and facilitate individually effective teaching methods. It is important to note, however, that CAI and ASD in this context are used in conjunction with local educational and clinical resource staff and group discussion. Whilst Boyer's programme uses self directed learning as an adjunct rather than a comprehensive approach to teaching and learning, it offers an innovative and resourceful approach towards critical care education that

may foster challenging, self paced, non threatening learning whilst retaining a high level of learner clinical contact and educational support.

Learners who are inexperienced in self direction and distance learning may find support and guidance in highly structured learning packages (Carnwell 1998). Yet tightly managed distance curricula may equally promote prescriptive indoctrination and foster dependence (Chesterton 1988, Carnwell 1998). Indeed Billings & Rowles' advise that on-line "lessons need to be designed in sequence – what the learner needs to know first, second, and at the end" (2001, p.110). They also propose that teaching strategies should "anticipate the type of learner" (p.110). Whilst their objectives to facilitate self paced learning and independent progression may be achieved by such a highly structured format, little, if any regard for personally relevant and meaningful learning has been afforded in an environment in which individual learners and learning appear to be predicted and controlled. Whilst some learners may initially desire structure and place little emphasis on personal autonomy in learning (Moore 1983, Carnwell 1998, Simpson 2000), it is proposed that learner attitudes and ability towards greater self direction progress throughout the learning experience (Verduin & Clark 1991, Weedon 1997). According to Chesterton (1988) and Carnwell (1998), the values and assumptions underpinning distance education curricula and design decisions must be closely examined if distance education programmes are to go beyond the short term goals of course completion and to facilitate the longer term needs of learners.

Distance Learning in Practice

Rogerson & Harden (1999) have several years of experience in providing a distance learning approach to post registration nursing and midwifery qualifications and conclude that they are able to provide individualised learning opportunities that facilitate practice development, integrate theory with the clinical environment, and enhance patient care. By adopting a modular, problem based (PBL) and work based learning (WBL) approach, they assert that nurses are able to remain in professional practice throughout the course of their study and are able to individualise the learning experience by using personal and professional experiences within, and to structure, the learning process. Problem based learning has been successfully adopted within nursing and health care education strategies elsewhere and may be associated with the development of critical thinking (Ryan 1993, Alavi 1995). Recognising the need for student support in distance and new approaches to learning, Rogerson & Harden provide print based study guides, learning approach options and an asynchronous tutor communication system that are all apparently well received (1999). In contrast to other reports regarding the effectiveness of computer mediated communication in distance learning (Andrusyszyn, Iwasiw & Goldenberg 1999, Brooks *et al*

2001), Rogerson & Harden (1999) found that relatively few nurses had access to electronically based study information or successfully utilised a computerised peer group support system.

Although the successful outcomes of Rogerson and Harden's distance learning courses are discussed via anecdotal evidence rather than empirical study, their article highlights some of the implications for distance learning in nurse education. Foremost, that distance learning can be an effective and well received approach to post registration nurse education providing the underlying philosophy and components of the course are grounded in clinical practice and the needs of specific student populations are addressed by appropriate educational strategies and assessment methods (1999). Whether appropriate strategies, assessment and clinical grounding for specialty practice in critical care can be developed from a distance learning paradigm will form the basis for discussion in the following chapter. It must be acknowledged however, that the programmes discussed by Rogerson & Harden (1999) appear to be assessed from predominantly academic perspectives. Although the importance of practice integration is prominent within their discussion and curricula, assessment or certification of clinical practice does not feature.

Fulmer *et al* (1992) discuss distance learning nursing classes in Kentucky from the perspectives of different faculty members. They aimed to duplicate an on campus programme as consistently as possible for those students off campus by running simultaneous telecast transmission classes to deliver lecture content and interaction that was further facilitated by off campus faculty. Fulmer *et al* report success and satisfaction amongst faculty and students undertaking baccalaureate courses in nursing and consider distance learning to be a cost effective method of reaching "place-bound nurses" and "maximising doctorally prepared faculty" (1992, p. 294). Although they acknowledge that their students were dispersed rather than truly distant, they make no reference to the initial cost of interactive television or continued cost of off campus faculty both of which are undoubtedly responsible in part for the success of their classes. The valuable development of personal connections and audio-visual contact between fellow students via video conferencing in nurse education is noted elsewhere in the literature; however, technical and financial constraints are also noted (Iwasiw *et al* 2000). It would also appear that Fulmer *et al*'s report refers only to classes taken by distance learning rather than a complete course of study or comprehensive qualification, and that 'success' is determined by outcome grades and / or instructor appraisal. Furthermore, the clinical components of nursing classes would appear to be undertaken entirely at local, off campus facilities, thus negating the adversity associated with distance teaching, learning and assessment of clinical practice. In short, Fulmer *et al* seem to have little to offer nurses or educators, in terms of understanding and utilising distance learning approaches within nurse education, and adult learning theory.

It is possible that collaborative educational and clinical consortia might offer an alternative approach to distance education in nursing. Indeed the potential for educational consortia within local geographical areas to offer dynamic and flexible solutions to education and training needs for specialty practice is defended in the literature (Slate *et al* 1985, Tickfer *et al* 1987, Chambless, Schwartz & Woodhouse 1994, Seehusen 2000). So called 'community-based' programmes involve pooling experienced instructors and clinicians from multiple hospitals within specific geographical areas in order to provide broader based critical care education and minimise costly duplication of resources within each hospital. Community-based educational programmes appear to be viewed as a halfway house between the more traditional secondment and attendance courses and distance education. As such, learners from a diverse community have access to a more substantial pool of experience and expertise and may benefit from shared practice and co-operation between educators and clinical staff through an approach that is time and cost effective for participating hospitals (Slate *et al* 1985, Tickfer *et al* 1987, Chambless, Schwartz & Woodhouse 1994). Whilst the benefits achieved by pooling expertise and resources are clear, no mention is made (by Chambless, Schwartz & Woodhouse 1994, or Tickfer *et al* 1987) of the inconvenience or travel costs incurred as a result of mandatory single site lecture days. Nonetheless, this approach to critical care education appears to meet the needs of learners and critical care services within the specific communities that have adopted a collaborative consortia approach. However, the scope of such an approach is clearly limited to communities that have several critical care environments dispersed within travelling distance of one another and are prepared to work collaboratively.

Whilst some of the literature pertaining to critical care education alludes to the use of distance and open learning within post registration education programmes (see for example Hewitt-Taylor 1998, 1999, Camsooksai 1999, Manley 2000), and many more claim that there is a need for flexible approaches to critical care education, none of the literature cited refers to personal experience of, or the potential scope of distance education in critical care nursing education. It would appear therefore that, to date, the potential of distance learning approaches within the critical care education context has received little, if any genuine consideration.

Summary

The potential of distance approaches to learning and communications technology has much to offer current and future professional education within nursing. Yet educational strategies that are employed in nursing and specialty practice must embrace the inherent humanistic values of the profession whilst striving to enhance autonomy in practice and defend professional status. The role and potential scope of

educational technology within this paradigm has yet to be defined. Further research is required in order to determine whether the human experience of interactional communication and the subtleties that transpire can be effectively taught using technological media. Whilst communication between learner and educator is more easily facilitated with modern communication methods, the demand for and value of timely, constructive feedback, and the necessity for library and academic resource access to be equal to that of attendance education are notable themes within the literature regarding learner support in distance education. Each of which are merely examples of the vast array of resource issues that must be addressed if distance approaches to teaching and learning are to facilitate the construction of relevant personal meaning and lifelong learning strategies. Resource issues are particularly important when distance learning is considered as a potential approach to post registration education for specialist nurses, a generic group who historically have limited funding for continuing education.

Despite an extensive literature search, there is no evidence of existing critical care nursing education programmes that exclusively use distance education *and* are able to offer a qualification that is recognised at national level. It would seem therefore, that in conjunction with the assumption that practical or psychomotor skills can not be taught at distance, there is an assumption within nursing education that distance education can not assure clinical effectiveness. Whilst several authors advocate the use of distance learning for some aspects of critical care education (see for example Hewitt-Taylor 1998, 1999, Camsooksai 1999, Manley 2000), the dominance of clinical practice assessment appears to scorn any programme that does not contiguously address concerns regarding clinical performance. Protest within this arena can, once again, be traced to behaviourist and humanist philosophies regarding learning and education in nursing. In short, the behaviourists criticise programmes that do not address the acquisition of hands on psychomotor skills, where as the humanists criticise the lack of human interaction that can be equated with some distance education or web based programmes (Cody 1999). The implications of such broad assumptions within the context of critical care education clearly require more detailed consideration. The following chapter explores the potential of distance education within relevant philosophies of learning and the study context.

CHAPTER FOUR

A NEW PERSPECTIVE ON EFFECTIVE EDUCATION FOR CRITICAL CARE NURSING PRACTICE

INTRODUCTION

Exploration of existing conceptualisations of effectiveness in critical care education in the preceding chapter has highlighted a need to consider the notion of effectiveness from broad and varied perspectives. The views of individual learners, educational providers, health care and governing organisations and individuals suffering from critical illness all offer valuable perspectives from which to consider nursing care and professional development in critical care practice. This chapter presents a new, integrated perspective on the concept of effective education for critical care nursing practice. The emerging concept has been developed from relevant literature and the author's own research in order to enhance current notions of effectiveness. Components of effective learning are identified and discussed in order that each aspect of learning and practice development in critical care nursing is considered and integrated into a more holistic conceptualisation.

The fundamental components of effective education are then integrated into a model for critical care nursing education. The model represents the salient issues that the author believes should be considered within educational programmes for critical care nursing practice in New Zealand. The emerging concept of effective education for critical care nursing practice and the model for critical care nursing education are presented in order to facilitate further inquiry and discussion regarding the appropriateness and / or scope of distance education in critical care and the South Island context in Chapter Five.

THE EMERGING CONCEPT OF EFFECTIVE EDUCATION FOR CRITICAL CARE NURSING PRACTICE

The emerging concept presented here aims to provide a more holistic conceptualisation of effective education for critical care nursing practice by recognising the value of different perspectives within the phenomenon (of effective education for critical care nursing practice). In order to enhance the existing concept of effective critical care education it is vital that the perspectives of individual learners, educational providers, health care providers and governing organisations are reflected in that concept. Whilst the perspectives of the ultimate recipients of critical care nursing practice are undoubtedly valuable, it must be noted that literature concerning patient perceptions of critical care nursing is limited. It is also important to note that, due to the very nature of critical illness, patients who are critically ill may frequently be unaware of the nursing care that they receive. Therefore, whilst the personal perspectives of patients are not explicitly reflected in the emerging concept, the concern for patient care is fundamental to each of the perspectives that are represented. In order to provide greater clarity within the following discussion, the

perspectives outlined below are reflected in the emerging concept and will be referred to as 'essential' perspectives:

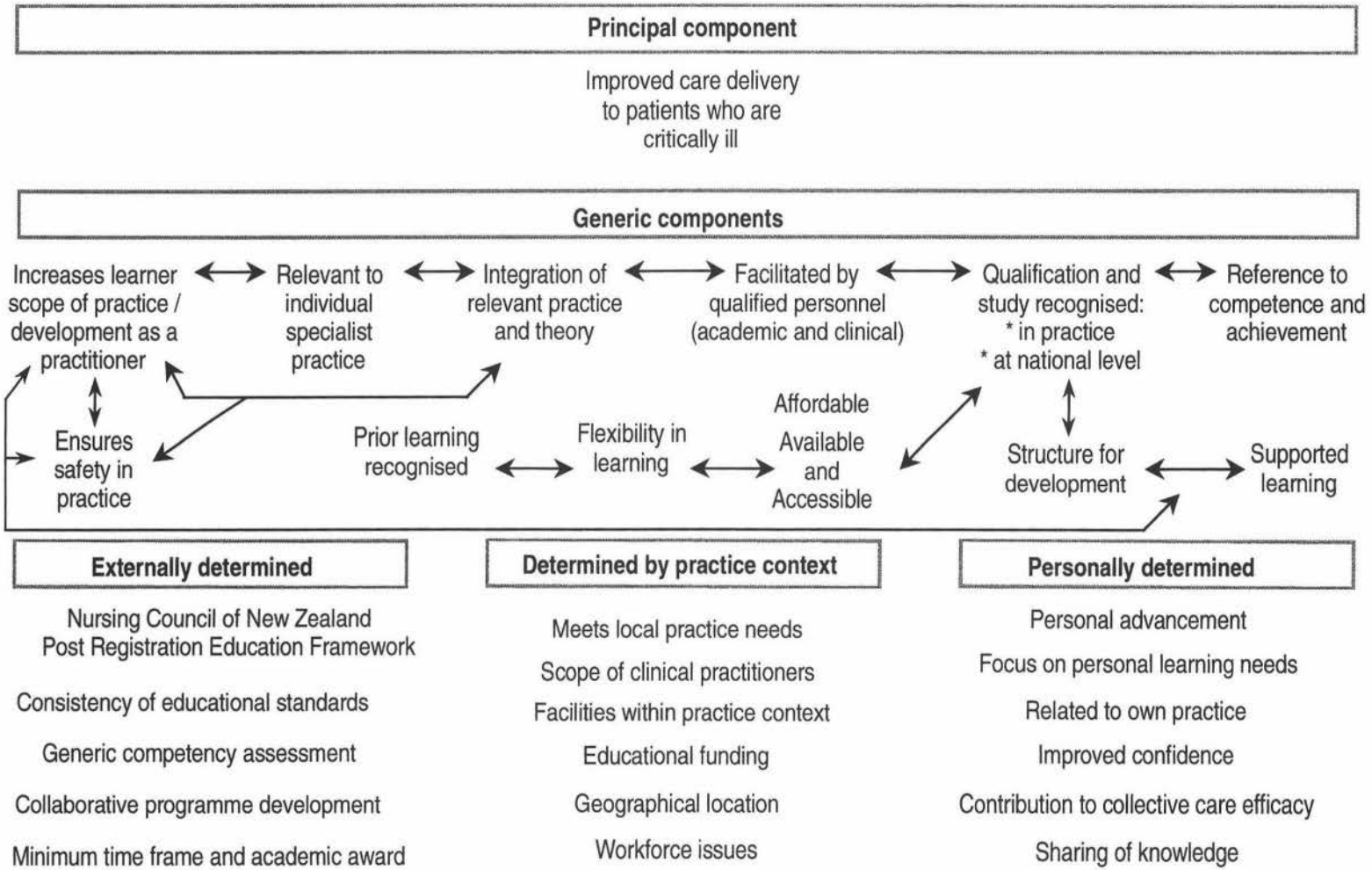
- Individual Learners
- Educational Providers
- Health Care Providers
- Governing Organisations

As previously discussed in Chapter Three, the perspective of individual learners has received little attention in existing literature, whilst the perspectives of educational providers, health care providers and professional governing bodies are more evident. It is proposed that, in order to reflect principles of adult learning and professional practice development, the perspective of the learner should be more central to the concept of effectiveness. In support of this proposition, one would argue that the critical care nurse seeking education in order to develop his or her specialty practice is in a position to exert the greatest influence over the quality of care delivery to patients who are critically ill.

As a result of critical analysis and reflection upon relevant literature and research concerning the concept of effective education, one can identify distinct components of effective education for critical care nursing practice that have been described or determined within each of the essential perspectives. Whilst each perspective clearly places greater value or emphasis on specific components, it is evident that some components appear to be valued by learners, educational providers, health care providers *and* governing bodies. The author proposes that those components that are apparent within each perspective may be classified as principal or generic components (see Figure 2.). In addition to the principal and generic components, further components of effectiveness appear to be more dominant within specific perspectives such as those components that are determined by external agencies such as the Nursing Council of New Zealand, personal approaches or values in learning and practice, or specific practice contexts (see Figure 2.).

'The Emerging Concept of Effective Education for Critical Care Nursing Practice' presented in Figure 2. is a composite representation of each essential perspective. Distinct components have been organised according to the criteria of principal, generic, externally determined, practice context determined and personally determined in order to provide a more holistic conceptualisation that recognises the value and influence of different perspectives. Each component will be discussed according to its origin, classification and contribution to the emerging concept in the following section.

Figure 2. The Emerging Concept of Effective Education for Critical Care Nursing Practice



Principal Component

The principal component that appears to underpin all concepts of effectiveness in critical care education is that the ultimate aim of educational preparation and practice development is to improve the delivery of nursing care to patients who are critically ill and provide support for their families. Whether progress towards this universal aim is evaluated using objective or subjective criteria, personal or collective practice achievement, or academic achievement, the aim is immutable. It therefore seems clear that educational programmes for critical care nursing practice should explicitly relate aims, objectives and the learning process to this principal component so that nursing practice remains central to critical care education.

Generic Components

Whilst the overwhelming aim to improve care delivery is clear, the precise scope of subsequent education and practice is somewhat ambiguous. Nonetheless, several generic components of effective education for critical care nursing practice may be identified within current literature and research (see Figure 2.). There is an overwhelming concern for education to be relevant to the broad scope of critical care nursing *and* individual spheres of practice. Education may be considered to be effective if teaching and learning enable an **increase in the learner's scope of practice and development as a practitioner** (i). This fundamental component of effectiveness in education appears to be valued within each essential perspective (learner, educational and health care providers and governing organisations). Although it is evident that the degree of practice development may vary significantly between practice contexts and individual practitioners, the concept of education as something that enables progression within the broad scope of critical care practice seems to be an essential and highly valued component. In recognition that practice development may be perceived as a continuum that is dependent upon the individual and their practice context, the notion that education must be **relevant to individual specialist practice** was also a prominent component within the concept of effectiveness. It is proposed that this component, in particular, reflects the universal aim to improve patient care delivery. Each essential perspective values their own practice (or practice context) and indicate a desire for education to be directly related to practice efficacy in the real world of clinical practice. As such, theoretical and practical components of critical care education should reflect individual needs and focus on the construction of personal meaning and individual practice development.

A concern for individuality and personal professional development is further demonstrated in each perspective by prevalent reference to the need for **integration of relevant practice and theory** in educational programmes for specialty practice in critical care nursing. It would appear that each

*(i) Distinct components of the emerging concept are highlighted in **bold** print in order to clarify links between the concept and the author's discussion*

perspective recognises the value that may be obtained in terms of **practice development** and **safety in practice** by integrating theory that has personal meaning and relevance for every day practice. As such, relevance appears to be closely associated with the notion of safe practice. By integrating theory and practice experience that enables nurses to question and explore their own practice rationale and use of supporting theory, it is suggested that nurses may develop a greater understanding of their own practice efficacy and the boundaries of safe practice. There is a fundamental concern within each perspective that nurses need to understand the what, when, why and how of clinical practice in order to maintain safety in critical care practice and the delivery of patient care.

The concern for safety and practice development is also reflected in the widespread acknowledgement of the contribution **that suitably qualified programme facilitators** could make towards the effectiveness of theory / practice integration and educational programmes. In recognition of the dynamic and changing nature of critical care nursing practice, and a desire for **qualification and study to be recognised**, nurses, health care providers, educational institutions and governing bodies recognise the value of academic and clinically qualified personnel in critical care programme development, delivery and clinical practice integration. It seems clear that if educational programmes are to achieve the principal aim of improved care delivery, teaching and learning must focus on the real world of nursing practice and how theory may best inform, support and enhance practice development. In order that nurses receive recognition for specialty practice qualifications at national *and* practice level, it seems that programmes must integrate the demands of clinical practice environments, professional regulation and academic standards. Collaboration and negotiation between clinical and academic practitioners is perceived to be an important component of effectiveness in critical care education in order that theory / practice integration is both current and relevant for individual practice development.

The value of recognition as a generic component of effective education is also reflected by frequent **reference to competence and achievement** in **prior learning**, educational programmes and practice progression. Despite the ambiguity associated with competence as a concept, its potential value in terms of recognition and achievement would appear to widely support its inclusion in critical care education. The desire for recognition and achievement is commonly associated with the assurance of competent practice ability. Whether competence is perceived to be an ultimate outcome, or a point on a continuum of practice development, it is an undeniable feature within each of the essential perspectives of effective education. The link between achievement and the perception of effective critical care education as something that enables or facilitates the advancement or **expansion of learners' scope of practice** is clear. Whilst each perspective views practice development as a vital component of education, reference to achievement and

recognition appear to represent the need for such progression to be formally acknowledged. The desire for recognition also acknowledges the need for safety in clinical practice. Each perspective appears to associate achievement and / or competence with an assurance that certain safety standards can be assumed.

The notions of **structure within professional education and development**, and **support for learning** and practice advancement are commonly associated with effectiveness in education for practice. It appears that nurses, educators, governing bodies and health care providers value educational programmes that may be situated within a broad developmental structure that enables individual progression and achievement to be acknowledged and expanded without unnecessary repetition. This notion is further supported by prevalent reference to the value of **flexibility, accessibility** and **availability** in **affordable** educational programmes. As the principal aim of education for specialty nursing practice in critical care is to improve care delivery, educational programmes that facilitate the continuation and integration of clinical practice commitments are perceived to be beneficial within each essential perspective. Nurses, health care providers, educational providers and governing organisations all appear to value critical care education that may be accessed at a time and location that is able to accommodate the needs of clinical practice and patient care. It is proposed that this perception also highlights the continuing relationship between individual practice development and the commitment to improving the quality of patient care. As the notion of cost effectiveness in education is also valued in each perspective, recognition of prior learning and achievement that negate unnecessary repetition and expenditure are considered to be important components of effective education.

Whilst the rationale for **supported learning** may vary within each of the essential perspectives, the notion that nurses should be supported in learning is an important component of effective education nonetheless. Whether support is perceived in terms of finance, learning, personnel, recognition, practice standards or professional achievement, the presence of support appears to positively influence the perception of effectiveness in education. It is important that education is recognised as an essential component of specialty nursing practice in order that developing practitioners are acknowledged and supported in learning, personal practice and professional development. It is proposed that the desire for supported learning reflects the commitment of each perspective towards the universal aim of quality care delivery for patients who are critically ill. Nurses require support in learning in order to develop their own practice efficacy. Health care providers must support nurse education in order to achieve quality care provision. Governing organisations must support nurses in their pursuit of personal and collective

professional development. And educational providers must support nursing practice by providing educational programmes that may best facilitate practice development in critical care nursing.

Whilst it may appear that the generic components identified suggest that effective education for critical care nursing practice must encompass a rather broad scope of teaching, learning and practice development, one would argue that many of the components reflect fundamental principles that are essentially interdependent. Such interdependence is complex nonetheless and requires careful deliberation and exploration if educational programmes are to encompass each generic component. In addition to the components that may be classified as generic, critical care education must also reflect the needs and / or demands that are determined by external agencies, the practice context and individual practice and learning needs.

Externally Determined Components

Despite the existence and influence of personal and organisational philosophies pertaining to effectiveness in teaching, learning and practice development, conceptualisations of effectiveness exist within a social context that is influenced and guided by externally determined values. The components determined by the Nursing Council of New Zealand are perhaps the most influential of externally determined values pertaining to critical care education and practice within the study context. Whilst one is not compelled to develop educational programmes within the **Nursing Council's Post Registration Education Framework** (1999a, 2001), recognition of qualifications and practice ability is more difficult to achieve if programmes are not approved by the Nursing Council. Although recommendations within the Nursing Council's documents are not all explicitly related to the concept of effectiveness in education, one would argue that educational programmes not meeting the Nursing Council's criteria would be perceived to be significantly less effective within each of the essential perspectives. National recognition and achievement of specialty practice qualifications have been identified as generic components of effective education for critical care nursing practice. Therefore, post registration education that is not recognised at National professional level would be limited in terms of recognition, achievement, structured development and support for learning within clinical practice.

Subsequently, the concept of effective education in the study context must encompass such components as **educational standards, generic competency assessment, collaborative programme development,** and be **delivered at graduate level over at least half an academic year** (NCNZ 1999a, 2001). In order to meet the requirements of the Nursing Council of New Zealand, specialty nursing practice programmes must achieve certain academic and professional standards (see Appendix D),

encompass the *Competencies for Specialty Nursing Practice* (see Appendix E) and be developed through collaborative processes involving academic and clinical practice representatives. Whilst such externally determined components must be considered within the emerging concept of effective education for critical care nursing practice, the intricacies of such requirements will be discussed in more detail in Chapter Five.

Components Determined by the Practice Context

In addition to externally determined components arising from the wider social context, values, beliefs and assumptions embedded within specific clinical practice areas also influence one's perception of effectiveness in education for practice. One would argue that the effectiveness of educational programmes is perceived according to its relevance to **local** and individual **practice needs**. As such, the effectiveness of educational programmes may be evaluated according to locally determined values. Whilst many practice determined values are reflected in the generic components (such as increasing scope of practice, relevance, integration, safety, recognition, structure and support), one would argue that each individuals' perception of concepts such as relevance is significantly influenced by their experience and personal knowledge of the practice context. For example, the way in which a nurse may increase and develop the **scope of** his or her **practice** is determined by the clinical context in which he or she is situated. Whilst developing the ability to effectively and safely manage renal replacement therapy (for example) may be perceived as a valuable and effective area for practice development within clinical practice areas that regularly undertake this form of therapy, such practice is not common to all critical care areas. Development in this area of practice would therefore be less valuable for nurses practising in contexts that do not require, or are unable to facilitate such therapy. The potential and / or direction of clinical practice development and the availability of treatment **facilities in each practice context** thus influence the perception of relevance from each essential perspective.

The effectiveness of educational programmes for specialty practice may be determined by the efficacy and extent to which practitioners are able to respond to **local practice needs**. Whilst this perspective clearly reflects the values of the health care provider, one would argue that practitioners also value educational programmes that prepare them for the demands of their own clinical practice area. A desire to accommodate local practice needs, although determined by distinct practice contexts, also reflects the generic components of relevance and practice development, and the principle component of improved care delivery to patients who are critically ill. Within this universal aim of quality care, each practice context has its own possibilities and constraints in terms of the **funding available for post registration education**. Practice contexts must consider the effectiveness of specialty practice education within the boundaries of available funding. The practice context may be expected to accommodate educational

expenditure for programme enrolment, study leave and staff replacement, all of which may significantly influence the perception of effectiveness.

The **geographical location** of specific practice contexts is also a significant component of effectiveness with respect to availability, accessibility, funding and **workforce issues**. Each practice context must consider the practical implications of releasing and replacing staff from clinical practice for the purposes of study and / or clinical placement. In recognition of the shortage of critical care nurses in New Zealand, specific practice contexts may be unable to locate and / or recruit replacement staff in sufficient numbers or with adequate experience to facilitate ongoing care for critically ill patients. Some practice contexts may also have to consider the financial implications created if learners are required to travel for learning and / or clinical placements. It is argued that the degree to which such issues are of concern and influence one's perception of educational effectiveness is determined by the practice context in which each learner is situated.

Although the latter practice determined components may be most closely associated with learning outcomes and / or the logistics of professional education as opposed to effectiveness of the learning process, their influence within the emerging concept of effectiveness in critical care education cannot be overlooked. Moreover, one would propose that components determined by learners' clinical practice context are inextricably linked to the generic components of effectiveness *and* those that are determined by personal values, beliefs and expectations.

Personally Determined Components

The components of effective education and practice development that one could argue are perhaps the most influential are those that are determined at a personal or individual level. One would propose that those aspects of education that most positively influence the relationships between education and practice may be found within individual descriptions, accounts and exemplars pertaining to the ways in which education improves and advances personal and collective practice. If the principle aim of education for critical care nursing practice is to improve the care delivered to patients who are critically ill, then the perspectives of those who are responsible for that care delivery should be at the forefront of educational initiatives. Whilst personal perspectives may be as unique as the individual, respect for elements and themes of shared meaning such as the value placed upon development of practice confidence can only enhance the effectiveness of education for practice. The notion that education must be relevant to the learner's own practice, whilst reflected in the generic components, acquires a more influential and individual quality when viewed from a personal perspective.

Whilst the notion of increasing the scope of learners' practice and achievement are presented as generic components, the component of **personal advancement** refers to a more individual perception of practice development and educational effectiveness. Education is perceived to be more effective if it enables individuals to progress and improve their own practice and professional capability according to personally determined goals (Hardcastle 2002). This component reflects and extends upon the generic concern for education to be relevant for individual specialist practice by integrating the individual's own perception of relevance, expectations and goals for practice development. In recognition of the value placed upon personally determined goals, it appears that education may be effective if individual **learning needs** are addressed and integrated into specialty practice programmes. As many nurses see effective education as something that helps them to *do* or *be* something that they value in clinical practice (Hardcastle 2002), one would argue that it is important to consider personal learning needs and perceptions of effective practice in educational programmes. Personal learning needs are closely associated with the value placed upon education and learning that is **related to the learner's own practice**. Learners value education that is clearly related to personal practice and is able to help them understand and provide rationale for practice actions and decisions that occur in the real world of clinical practice and patient care.

In conjunction with the component of personal advancement, it appears that education may be considered more effective if it positively affects **practitioner confidence** in clinical practice knowledge and ability (Little 2000, Hardcastle 2002). The degree to which educational programmes influence this personal quality and expectation are surely determined and evaluated at a personal level. The development of personal confidence through effective education is also perceived to enable nurses to openly discuss, question and **contribute to collective care efficacy** within the interdisciplinary team (Hardcastle 2002). One would argue that this component reflects the principal aim of improved care delivery *and* nurses' recognition of their primary role in effective, quality patient care. Education may therefore be considered more effective if it enables nurses to feel capable and confident in their professional contribution to the efficacy of critical care practice. It is further proposed that the components of personal confidence and efficacy in practice contribute to the perception of effective education as something that enables one to **share knowledge** with colleagues, patients and families within the clinical practice context. The development of knowledge and clinical skills through effective education is seen to enable practitioners to act as a resource for other staff in order to assist in the development and efficacy of others' practice. The degree to which education enables nurses to feel confident in sharing knowledge is therefore a component of effectiveness that can only be determined at a personal level.

It seems clear then, that educational programmes for critical care nursing practice should endeavour to value and facilitate learning that is personally relevant for individual practitioners. Such practitioners are, after all, the primary link between patients, families and the delivery of quality care. Whilst several of the personally determined components presented here reflect values and beliefs that are also expressed in principal and generic components, one would argue that individual practitioner perceptions of effectiveness provide extremely valuable perspectives on the ways in which the ultimate aim of critical care education could be achieved.

The following section presents the author's interpretation of the fundamental components within the emerging concept that may contribute towards the effectiveness of educational programmes for critical care nursing practice in New Zealand.

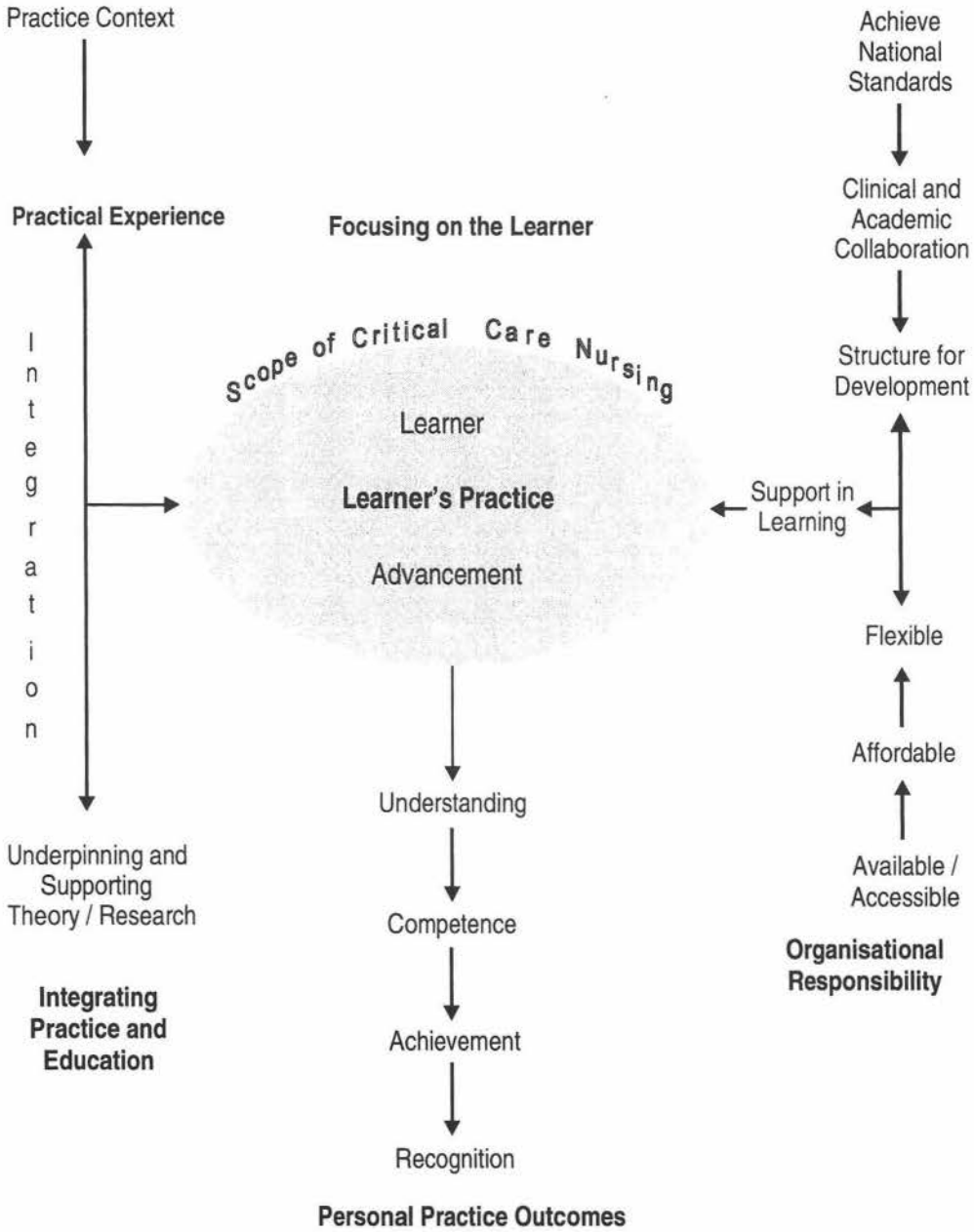
A Model for Critical Care Education

Educational programmes for specialty nursing practice aim to enable learners to utilise and enhance their own practice and experience within particular nursing practice contexts (Jacobs 1999, Nursing Council of New Zealand 1999a, 2001, Goodwin 2002). Effective education may therefore be perceived as something that enables individual practice development. Yet education and personal practice cannot exist in isolation. Specific practice contexts may be associated with specific areas of nursing knowledge, yet the learner and the learner's practice are of primary concern. Indeed, the emerging concept highlights the significance of individual practitioners in the delivery and improvement of care for patients who are critically ill. One would propose therefore that the primary focus of education for critical care practice should be on the learner and the learner's own practice in order that learning and practice development remain situated in a real world context and are, subsequently, directly related to understanding and enhancing patient care.

The development of highly individualised approaches to critical care education may seem incongruous with the notions of generic, external and practice determined perspectives and a holistic concept of effective education. Yet, despite such variety in perception, one would argue that there are certain components and concepts within critical care nursing education that appear to be essential and may therefore represent a fundamental framework for educational planning, implementation and evaluation. Such essential components reflect the most basic and consistently valued ideas, beliefs and requirements for critical care education in the study context. The *Model for Critical Care Education* presented in Figure 3. (on the following page) is derived from the author's interpretation of the most essential and influential considerations for critical care nursing education and practice and provides a fundamental framework for

educational planning, implementation and evaluation in New Zealand. The model represents the culmination of personal and established research concerning effective education for critical care nursing practice, and is presented in order to facilitate further inquiry and discussion concerning the appropriateness and / or scope of distance education within critical care nursing and the South Island context.

Figure 3. A Model for Critical Care Education



Distinct concepts and components of the model for critical care education are highlighted in ***bold*** *print in order to clarify links between the model and the author's discussion*

Focusing on the Learner

The emerging concept presents personally determined components of effective education as distinct, rather than generic components, as individual determinants may not be valued as highly by educational providers, health care providers or governing organisations. However it is argued that each personally determined component is ultimately linked to and interdependent with the principal aim of critical care education and the components that are valued within each essential perspective. It is argued that individual practitioners are in a position to exert the greatest influence over the ultimate aim to improve care delivery to patients who are critically ill. Indeed, each perspective is noted to value education that is able to increase the learner's development and scope of practice. The model for critical care education therefore places **the learner**, the **learner's practice** and **practice advancement** at the centre of the learning process for critical care nursing practice. One would argue that, by centralising individual learners, teaching and learning for practice may remain focused not only on the real world of clinical practice, but also on individual practice development that can make a real difference to patient care.

Learning, the learner and their practice are influenced by assumptions, values and beliefs that originate from or reflect a variety of contexts and perspectives. Whilst the emerging concept endeavours to reflect such perspectives, the author believes that personal exploration into the assumptions, values and beliefs that underpin and influence one's own practice is crucial for personal understanding and reflection. Education for critical care nursing practice that centralises the learner may, therefore, facilitate learning that is sufficiently responsive to individual learning needs and contextual influences.

The learner is situated within the broader **scope of critical care nursing** in recognition of the variances that occur between clinical practice contexts, and the Nursing Council of New Zealand's notion that specialty nursing practice "is any area or scope of practice with a specific focus, body of knowledge and practice" (2001, p.12). Although the model emphasises the importance of individuality in teaching and learning, critical care nursing is recognised as an area of specialty nursing with a distinctive body of knowledge and practice. The desire for national recognition in learning also requires that educational programmes address "the needs of patients/clients within the scope of specialty nursing practice" (Nursing Council of New Zealand 2001, p.15). It is proposed that focusing on individual needs within the broader scope of critical care nursing may provide learning opportunities that enable nurses to progress within their own practice context *and* develop a greater awareness of critical care nursing as an area of specialty nursing practice. It is further proposed that this approach may facilitate the achievement of practice development goals that reflect personal, local *and* nationally determined standards.

*Distinct concepts and components of the model for critical care education are highlighted in **bold** print in order to clarify links between the model and the author's discussion*

Personal Practice Outcomes

The model depicts several practice related outcomes that are noted to be valuable components of effectiveness and should therefore be considered in planning, implementation and evaluation of critical care education. Using the emerging concept, related literature and research the author has identified the personal qualities of understanding, competence, achievement and recognition to be the most fundamental expectations within personal practice development during and following critical care education.

It has been argued earlier in this chapter that education should be directly related to practice efficacy in the real world of clinical practice. Theoretical and practice components of critical care education should therefore reflect individual needs and focus on the construction of personal meaning and individual practice development within the broad scope of critical care nursing. Indeed it has been noted that learners value education that is able to help them **understand** and provide rationale for practice actions and decisions that occur in the reality of practice and patient care. By enabling nurses to understand the what, when, how and why of their practice, education can promote safety in practice, effective decision making, the sharing of knowledge, interdisciplinary approaches to patient care and encourage and empower nurses to value their own contribution to collective care efficacy.

Although the notion of **competence** is extremely complex and difficult to determine, one cannot overlook the value that individuals, practice contexts and governing organisations place on their own perception of what it means to be competent. As competence is seen by so many to represent a certain level of **achievement** and **recognition** in clinical practice, it must surely be considered in critical care education. Indeed, if the Nursing Council criteria for specialty practice programmes are to be met, critical care education must encompass the 'Competencies for Specialty Nursing Practice' (Nursing Council of New Zealand 2001). Whilst the national standards imposed by the Nursing Council are acknowledged in the model, competence has been situated within the domain of the learner and his / her individual practice. It is proposed that both the learner's and the practice context's perceptions of competent practice should be valued by educational providers and integrated with the generic competencies presented by the Nursing Council. As learners may associate competence with recognition, achievement and personal confidence in their own practice contexts (Little 2000, Hardcastle 2002), integration of competence indicators that are negotiated between practice and education contexts into specialty practice programmes may contribute to educational effectiveness. It is argued that this approach would maintain a concern for individuality by integrating essential perspectives *and* the value associated with personal meaning.

Integrating Practice and Education

It is widely acknowledged that nursing education should endeavour to integrate practical experience with theory and research that can inform and support nursing practice and patient care (Hendricks-Thomas, Crosby & Mooney 1995, Chaboyer & Retsas 1996, NBS 2000, Nursing Council of New Zealand 1999a, 2001). The concept of **integration** is highlighted in the model in order to represent the overwhelming concern for education, practice and theory to be relevant to both individual practice and local specialist practice contexts. It is argued that education that enables nurses to examine and question their own practice will also enable nurses to identify learning needs that are personal *and* relevant. As previously discussed, specialty practice education should enable learners to utilise and enhance their own practice and experience within a specific nursing context (Jacobs 1999, Nursing Council of New Zealand 1999a, 2001, Goodwin 2002). It is proposed that this model of learner centred education may assist nurses to examine their own **practical experiences** in order to more fully understand and rationalise the knowledge that **underpins** and **supports** their clinical practice and decision making. By focusing personal practice experiences, the learner may be encouraged to examine the beliefs, values and assumptions that underpin their own practice and those of the **practice context**. It is proposed that such an approach could enable nurses to enhance and feel more confident in their own practice, contribute towards collective care efficacy and develop a greater awareness of the broader scope of critical care practice.

The notion of integration also reflects a predominant concern for **theory** and **research** to be relevant to current and personal practice. It is argued that personal meaning and understanding may be constructed when learning is associated with real world events and personal values. Educational programmes should therefore endeavour to assist nurses to explore theory and research that is situated in, and underpins, the real world of personal practice and experience. It is proposed that this approach may enable nurses to realise and integrate theory in their own, and collective practice. One would propose that successful integration of practice and education could enable nurses to construct personal meaning from experience, theory, values and beliefs that may positively influence the achievement of personal practice outcomes and enhance patient care.

Organisational Responsibility

Whilst integrating practice and education highlights the contribution that educational providers can make within the learning process and individual practice development, organisational responsibility refers to the concepts that should be considered in educational planning, provision and evaluation in order that learners are adequately supported. There appear to be several learner and / or externally determined components of critical care education that provide a fundamental contribution to the effectiveness of

education, practice development and patient care. *The Framework for Post Registration Nursing Practice Education* (Nursing Council of New Zealand 2001) reflects the Council's responsibility to "protect public safety through the standardisation of ongoing competence and education of registered nurses" (p.6). It is therefore the responsibility of educational and health care providers to recognise and integrate the Council's requirements for specialty nursing practice programmes in order that learners may **achieve national standards**. This responsibility reflects the desire for national recognition of specialty practice qualification, competence and practice ability. The Nursing Council also stipulates that specialty nursing practice education programmes "will demonstrate collaboration in planning and delivery" (2001 p.15). Whilst only the Nursing Council explicitly refers to this requirement, the concern for **clinical and academic collaboration** is evident within each essential perspective on effective education and is also acknowledged in this model within the domain of integrating practice and education.

Although this model places the development of learning and practice at the centre of the educational process, there is also a responsibility for educational, health care and governing organisations to situate specialty practice education within a broad **structure for personal and professional development**. It is argued that this responsibility reflects the notion of a practice development continuum that recognises and is responsive to individual experience, practice context and professional scope. One would propose that the concept of a development continuum allows nurses to consistently relate their own learning and practice development to the universal aim to enhance patient care. Providing structure for ongoing development may also encourage lifelong learning and continuing professional development by recognising both achievement and the contribution that nurses can make to interdisciplinary care efficacy.

Whilst it is important to provide formal structure and recognition for learners, educational and health care providers have a responsibility to integrate education with clinical practice in order that nurses may undertake specialty practice education under circumstances that will not compromise patient care. Educational programmes should be sufficiently **flexible** to facilitate personal learning needs and attendance (if required). As previously discussed, ensuring nurse attendance without compromising clinical staffing levels may be problematic and must be considered in educational planning and evaluation. It is proposed that flexibility in learning may contribute to learner support by enabling nurses to accommodate learning needs within personal and professional commitments. The notion that education should be **affordable** recognises the need for nurses and health care providers to have access to education that is personally relevant and cost effective in relation to enrolment, staff replacement and notable positive influences on the quality and / or efficacy of patient care. One would suggest that the responsibility to provide affordable education is only compounded when health care providers have limited

access to educational programmes. It is argued that, in such situations, educational and health care providers have a responsibility to consider the extent to which educational programmes are **available** and **accessible** to critical care nurses and the potential impact that disproportionate access may have upon patient care. It is important to note that one of the basic assumptions underpinning the Nursing Council's Post Registration Framework is that "Post registration nursing practice programmes should be accessible (2001 p. 7).

The Model as a Framework

The model for critical care education provides a framework that may be used to consider the effectiveness of existing and potential educational programmes within the broad context of critical care nursing and, more specifically, education and practice development for critical care nursing practice in New Zealand. The model recognises and represents valuable and varied perspectives on the concept of effectiveness and the influence that learners, educational providers, health care providers and governing organisations can have upon education practice relationships and the quality of patient care. The particular contribution that learners can make towards the ultimate aim of improved care delivery to patients who are critically ill is acknowledged by centralising the learner and identifying the most fundamental components of education and practice advancement.

Summary

This chapter has presented a new perspective from which to consider education, learning and practice development in critical care nursing. It is argued that the emerging concept and the model for critical care education identify and present the most valuable and influential components and concepts that should be considered in critical care education and practice development in New Zealand. The author believes that a more holistic and inclusive perspective on educational effectiveness has been achieved through careful and considerate integration of the most fundamental values and beliefs. Whilst the model for critical care education emphasises the needs of the learner, it is important to acknowledge that the learner is situated in, and thus influenced by, the broader scope of critical care nursing practice, their own practice context and the governance of the Nursing Council of New Zealand.

The following chapter utilises the emerging concept and the model for critical care education as a fundamental framework from which to explore and consider the appropriateness and / or scope of distance approaches to teaching, learning and practice development in critical care nursing and the South Island context.

CHAPTER FIVE

THE POTENTIAL OF DISTANCE EDUCATION IN CRITICAL CARE NURSING EDUCATION AND THE STUDY CONTEXT

INTRODUCTION

This chapter explores principles of distance education within critical care nursing education and the study context. The emerging concept and the model for critical care education presented in Chapter Four are utilised in order to consider whether distance learning could be an effective approach to critical care education in New Zealand and the South Island. Distance education theory and principles are considered in the light of the emerging concept and specific contextual boundaries with particular reference to professional regulation and practice development. Education and practice issues that are particularly pertinent in the South Island context are then explored within the domain of distance education and professional development. The chapter concludes with a précis of the discussion and important issues that subsequently underpin the conclusion and recommendations that are presented in the following and final chapter.

COULD DISTANCE EDUCATION BE AN EFFECTIVE APPROACH TO CRITICAL CARE NURSING EDUCATION?

Distance approaches to post registration education have been used comprehensively in the contexts of general and advanced nursing practice (Carnwell 1998, Rogerson & Harden 1999, Andrusyszyn, Iwasiw & Goldenberg 1999, Iwasiw *et al* 2000), continuing nurse education (Billings & Rowles 2001) and as a supportive strategy in critical care nursing (Lamb & Henderson 1993, Hewitt-Taylor 1998, 1999, Camsooksai 1999, Manley 2000). But the potential of distance education in critical care nursing education has yet to be explored. Whilst it seems apparent from the literature that subject matter such as biochemistry or physiology may be appropriate to learn at a distance, the potential of distance approaches to education within the spheres of affective, humanistic, behavioural and technical domains is not clear. Concern about, or even lack of interest, in the wider scope of distance education within the nursing profession would appear to stem from the basic assumptions that distance approaches to nursing education cannot assure clinical effectiveness, practical skills cannot be taught without face to face contact, and that clinical practice assessment is essential. The ensuing discussion questions these assumptions in order that they may be examined within the domains of critical care nursing and distance

education in New Zealand. It is helpful however, to begin by presenting a précis of the fundamental principles of distance education.

It is widely acknowledged that distance learners are predominantly adults (Moore 1983, Verduin & Clark 1991, Kember & Murphy 1992, Tait & Mills 1999), who often seek additional learning due to a change in role or as a form of preparation for occupational change or advancement (Verduin & Clark 1991). Such characteristics are particularly applicable to critical care nurses, as a generic group, seeking post registration qualifications. With reference to distance learning, Verduin and Clark further propose that realistic goals and challenges and learning at a realistic speed can facilitate adult learning. One would argue that perhaps the person most suited to determine what is and is not realistic is the learner him or herself. As previously discussed, learning cannot exist in isolation from the influences of personal, social or professional contexts, one might further propose then, that the individual learner is similarly the most appropriate person to assess the potential impact that external influences or constraints may have upon realistic personal learning objectives. Adults are uniquely individual; therefore, their learning must accommodate such uniqueness and facilitate the integration of learning and life responsibilities (Garrison 1989a). Darkenwald and Merriam's much quoted statement seems particularly relevant within the current context "The intimate relationship between learning and living is... the hallmark of adult education" (1982, p.124, as cited in Garrison 1989a). By the nature of the profession, nurses are required to balance learning and professional development with irregular working hours, professional, social and family commitments. Adult education for critical care nursing practice must therefore accommodate and facilitate the integration of personal and professional responsibilities with learning and practice development. The inherent convenience and flexibility of distance approaches to nursing education may facilitate learning, living and professional practice by enabling nurses to learn at a time and location that is perceived to be manageable within existing personal commitments.

The author wishes to remind the reader that, within the context of this thesis and the following discussion, the term distance education is used to refer to a comprehensive educational transaction that is characterised by the physical separation of the learner and the educator. Whilst distance learning refers more specifically to the learner and the learning process within distance education. In recognising distance education as an approach to teaching and learning within the broad context of adult education, it is considered appropriate to integrate adult learning and distance education theories in a manner that may best inform and support learning and practice development. Distance education could, therefore, be perceived as an opportunity to individualise learning through quality educational transaction(s) that are

accessible, flexible, supportive and able to accommodate the needs and demands of health care providers and governing organisations.

In her discussion regarding success factors within quality distance education Cavanaugh (2002) introduces the notion of an iterative 'Quality Distance Education Cycle' which this author believes succinctly outlines the principles of distance learning. The 'Resources-Practices-Results (RPR) cycle' encompasses the perspectives and participation of all stakeholders within the planning, delivery, evaluation and progression of distance education programmes. No single stage in the RPR cycle is more important or significant; each stage rather enables and contributes to distance education quality. It is apparent that significant resources are required in order to support and sustain quality distance education. A distance education programme must be capable of supporting learners, educators, the particular programme and the institution towards the generic aim of effective and relevant learning. Such a supportive infrastructure must be sufficiently flexible and responsive to the needs of individual learners and may include institutional and planning resources, stakeholder evaluation processes, faculty and library resources, student support resources and technical support (Cavanaugh 2002). If adequate resources are not available, evaluated or maintained, the quality of teaching and learning practice is inevitably impaired.

The practice phase encompasses the fundamental principles of effective communication and quality in educational transactions in order that learners may develop control and self direction in learning that can be utilised beyond the boundaries of distinct programmes (Garrison 1993, Cavanaugh 2002). Programme structure and learning interactions should thus provide 'flexible scaffolding' for learners in order to assist self direction as required. Such an approach supports the notions previously presented by Verduin and Clark (1991) and Weedon (1997) regarding the changing relationship between learner, educator and the desire for structure and support as learning progresses. The notion of a flexible, supportive learning structure may be particularly valuable in those contexts in which learners may be unfamiliar with distance learning and self direction, thus requiring greater guidance and support during the early stages of the learning experience. Cavanaugh (2002) also proposes that distance education practice should emphasise 'connection not isolation' through interaction, learner choice, personal context and external motivation. With the support of institutional and community resources, the distance educator guides and supports the learner as necessary in their pursuit of relevant personal learning and the achievement of academic or professional requisites.

The results phase refers to the continual processes of evaluation, assessment and feedback within distance education programmes. Evaluation and progression should involve institutional, instructional and

learner determined quality indicators or goals within the specific programme contexts that are continually reviewed and updated in response to previous evaluations or feedback (Cavanaugh 2002). It is proposed that evidence of learner abilities is the most important 'result' of distance education (Cavanaugh 2002). Indeed if distance education places the learner at the centre of the learning process, evidence of personal learning would undoubtedly be a reasonable indicator of achievement or success within the context of distinct programmes. Learner feedback and self assessment are therefore extremely valuable components within distance education. Yet it is acknowledged that adults are not necessarily accustomed to self assessment or the use of self assessment to guide and direct further personal learning (Candy 1991, Cavanaugh 2002). Distance education programmes should therefore be able to encourage and support learners with and during the transition towards self assessment, the management of personal learning and learner directed summative assessment. However, as the window of opportunity for assessment is significantly limited in distance education when compared with face to face education, variety and flexibility in assessment procedures must be maintained in order to provide sufficient opportunity for learners to demonstrate their abilities (Morgan & O'Reilly 1999, Cavanaugh 2002).

In summary, distance approaches to learning in adult education must be adequately planned, supported and evaluated, and responsive to the needs of individual learners, employers and the wider community. Whilst excellence in distance teaching and learning practice may be available to learners regardless of their geographical location, quality learning is unlikely to be experienced if practice is not underpinned by a supportive infrastructure. The role of the distance educator is pivotal to the quality of educational transactions and non-contiguous communication that are necessary for the facilitation of personally relevant learning when learner and educator are separated. It could be argued at this stage that the principles underpinning distance education bear some similarity to the concept of effective education for critical care nursing practice. From either perspective for example; within the scope of a distinct programme, the individual learner is encouraged and facilitated to achieve his or her goals through a supportive process that is responsive to personal, practice and social contexts, professional and academic requirements, and is sufficiently flexible to facilitate the integration of learning, practice and living. Yet there are several significant assumptions and issues within the context of nursing education that must be explored and reconceptualised if distance education is to be accepted as a legitimate approach to post registration education for critical care nursing practice.

Content Structure

Critical care nursing practice draws upon significantly diverse sources of knowledge, research and experience that vary according to specific circumstances and clinical problems. Consequently, many critical care education programmes aim to encompass learning within a wide scope of subject areas that are considered to be relevant to critical care nursing practice. According to the Declaration of Madrid on The Preparation of Critical Care Nurses (1993) for example; the following topics represent the recommended minimum for programme inclusion:

- Anatomy and physiology
- Pathophysiology
- Clinical assessment
- Illnesses and alterations of vital body functions
- Plans of care and nursing interventions
- Medical indications and prescriptions with resulting nursing care responsibilities
- Psychosocial aspects
- Technology
- Patient and family education
- Legal and ethical issues
- Professional nursing roles in intensive care
- Use of current research findings to plan and give care

(Declaration of Madrid on the Preparation of Critical Care Nurses 1993, p.24)

Although the recommended content areas above represent internationally accepted guidelines that are expected to be adapted to meet the needs of specific countries or localities and thus not accepted verbatim, the content specifications reflect those chosen in many critical care education contexts and are presented here in order to discuss the potential of distance approaches in critical care education. If similar programme content is to be considered within learners' own personal and practice contexts and related to one's own practice advancement, this author would contend that each broad subject area listed here may be studied via distance education. In support, one would propose that the opportunity to individualise subject exploration with respect to personal practice development could perhaps be more easily achieved through learning experiences such as distance learning in which the focus of support and facilitation is upon the individual. If the learner is able to receive adequate support and guidance concerning basic learning structure, information resources and fundamental requisites it is believed that meaningful and relevant learning that is able to contribute to practice advancement may be facilitated. Indeed it is noted

that adult learning needs tend to be generated by real life problems and that adults wish to apply acquired knowledge and skills (Knowles 1980, Garrison 1989a). What better way to integrate learning and practice than to utilise the skills of an experienced learning facilitator as a guide for self direction and personal development? Whilst the former learning experience need not be restricted to the context of learning at a distance, one would argue that personal focus could be more easily achieved through the essentially unique educational transactions that are possible within distance education. Learning experiences that are based in classroom teaching, for example, whilst aiming to encompass the needs of many individuals, inevitably contain a substantial amount of generic material. Whilst this situation may also be encountered in groups of distance education students, one would argue that adaptation of generic material to suit individual learning needs and guide self direction may be more successful in the context of distance transactions.

It is argued that the notion of a situational approach to distance learning presented by Verduin and Clark (1991) may be particularly applicable to the critical care education context. Verduin and Clark propose that the nature of subject matter within specialist domains and the notion of competence indicates the presence of high and low structure material within distinct programmes. Individual approaches towards learning content within relatively objective domains are thus less likely to differ than individual approaches towards non-objective topics or those with variable scope. Consequently it may be appropriate to provide greater structure and guidance for learning within objective domains such as anatomy and physiology. Using structured learning resources and study guides within such domains is considered unlikely to detract from personal learning goals and may provide welcome relief from approaches to learning that may be unfamiliar to nurses such as self direction and mediated communication. In contrast, subject areas that are more ambiguous in terms of individual interpretation and application in practice, may be explored more effectively using personally determined approaches and negotiated learning that focus upon individual learning and practice advancement.

Learning Practical Skills

Perhaps the most contentious subject area in the context of critical care nursing education and distance learning is practical skills learning. Undoubtedly originating from behaviourist philosophy, and using nursing as a practice based discipline as a principal argument, many nurses and educators believe that education programmes must encompass hands on psychomotor skills learning. Indeed many fail to see how one can learn the intricacies of nursing practice without supervised practice learning. Whilst one would concede that psychomotor skill development is extremely difficult to teach and assess at distance, one would propose that in the context of critical care nursing the development of practical skills in

education programmes should be viewed from an alternative perspective. Rather than seeing a practical skill as a set of behaviours that must be mastered (sometimes through trial and error, albeit supervised), practical skills should be viewed from the perspective of their situation within the broader context of particular clinical situations. Indeed, most practical skills in nursing are performed in the context of patient care (direct or indirect) and are thus situated within unique contexts. Whilst the principles of specific skills may be applied in a variety of clinical situations, the specific context and its influence upon nursing practice is invariably unique and extremely important. From the perspective of safe practice therefore, one would argue that focusing learning on the principles of practice and skills and their application in different contexts would facilitate learning to *understand* the reasoning behind, and the potential influence of practice procedures as opposed to learning 'how to' carry out particular behaviours. Whilst 'know how' is important, one would argue that learning the subtleties of applying know how in one's own practice context is far easier and safer if one is first able to understand the principles that underpin practice.

Consequently, one would contend that understanding practical skills and their situation within the broader context of clinical practice could be facilitated through distance education. There is no doubt, however, that practical skills must be practised and applied in the clinical context in order that nurses can integrate understanding and practice ability. It is also acknowledged that non-contiguous distance teaching and learning practice could not assure clinical competence or the demonstration of safe practice (without the use of synchronous telecommunication). Whilst safe practice is undoubtedly a primary concern in critical care education, the author contends that understanding one's own practice is a vital component of safety that may be achieved through distance education. The concern for clinical competence and practice assurance in distance education is an important, though contentious, issue; it is therefore addressed in more detail in the text referring to competence in practice.

Affective Learning

There is some concern within nursing education that teaching, learning and assessment that are undertaken at a distance cannot adequately address learning and development within the affective domain. The affective domain is concerned with values, emotions, attitudes and beliefs (Holmberg 1989, James & Gardner 1995) that clearly may influence the way in which nurses perceive and address clinical situations. Whilst humanists may claim that distance learning lacks adequate human interaction due to the separation of educator and learners (Cody 1999), it is proposed and reported that distance learning can effectively encourage learners to critically examine values, attitudes and beliefs that are embedded in practice (Sparkes 1983, Holmberg 1989, Verduin & Clark 1991, Oliveira & Rumble 1992, Morgan & O'Reilly 1999). Although previously discussed, one is reminded of the considerable impact that reflective

narratives and story telling have had with learners and their exploration of caring in critical care nursing (Winland-Brown 1996, Gartner, Latham & Merritt 1996). Indeed the process of reading and writing personal accounts of practice and experience can be an extremely powerful stimulant for reflection and analysis concerning practice actions and values. Nonetheless, it is important that affective learning objectives within learning activities are made explicit in order that learners are prepared and supported in critically reflective activities (Holmberg 1989, Johns 1996, Boud & Walker 1998). In distance learning contexts the quality of educational transaction(s) and mediated communication is therefore a vital influence upon the personal value that is associated with critical reflection and learning within the affective domain.

Whilst it is valuable to encourage learners to explore the beliefs, attitudes and values that underpin personal and collective practice in critical care education programmes, it is also important at this point to remind the reader that the study context is concerned with post registration education and practice development. It is therefore reasonable to assume that learners have previously demonstrated their abilities as a culturally safe, ethically and morally accountable practitioner if they have achieved registration as a nurse in New Zealand (see NCNZ 1999e). If educators and the nursing profession truly value prior learning and experience, registered nurses as learners should surely be afforded some recognition in terms of prior learning within the affective domain. It is therefore proposed that affective learning should build upon the competencies of registered nurses (NCNZ 1999e) by encouraging nurses to explore the values, emotions, attitudes and beliefs that might influence the way in which nurses perceive and address complex clinical situations in critical care nursing practice. As such exploration is clearly personal and unique to the individual, one would argue that the ability to critically reflect and learn from practice may be encouraged and assessed through distance education activities and written accounts of personal practice.

Technological Mastery

Technological mastery has been identified as an aspect of learning that is particularly relevant to critical care nursing practice, confidence in practice and the concept of practice advancement (Little 1999, Hardcastle 2002). Yet as previously discussed, learning related to technology may occur more frequently in the context of local practice environments and safe practice policies. One might assume that, as learning about technology in critical care does not appear to be particularly prominent within critical care curricula, it may either be considered relatively unimportant or otherwise difficult to teach. Perhaps however, 'technology' is open to such varied interpretation and may be considered from so many perspectives within critical care nursing, that it cannot be considered as an isolated subject. Certainly from

the author's own experiences, it is difficult to isolate any one aspect of learning or practice in critical care that is not related to technology in some way, so pervasive is its presence. Indeed if the learner's perspective regarding technology in learning is explored further, the underlying concern is for practice advancement to a level at which personal practice scope and confidence is such that technological aspects of caring are seamlessly integrated into everyday practice (Little 1999). Therefore, whilst the importance and influence of technology should remain at the forefront of critical care education, it need not be considered as a distinct concept, rather it should be integrated into learning in a similar manner by which it is integrated into skilled practice. By focusing on and enhancing learners' understanding of the intricacies of practice and critical care therapeutics, technology may become an integral component of holistic nursing practice. Nurses have stated that understanding the why's and what for's of their practice has increased their confidence and practice ability (Little 1999, Hardcastle 2002). It is therefore proposed that by focusing on helping learners to understand their practice using distance education they may also develop a comprehensive understanding of technology and its place in clinical practice.

Integration of Clinical Practice

Within the scope of critical care nursing, learning and advancement of learner's practice is dependent upon the integration of clinical practice and underpinning or supporting knowledge or theory. According to Benner's novice to expert theory, one reflection of increasingly skilled performance is the "movement from reliance on abstract principles to the use of past concrete experiences as paradigms" (1984, p.13). Whilst many nursing education programmes and governing bodies stipulate that nurses must achieve competence in order to receive recognition or qualification, this author believes that in the context of critical care nursing practice, advancement in practice is more representative of Benner's 'proficient' domain. Whilst the competent nurse is noted to establish a perspective and plan according to "considerable conscious, abstract, analytic contemplation of the problem" (Benner 1984, p.26), "the proficient nurse learns from experience", "recognises whole situations" and is more proficient in decision making (1984 p.28). It is proposed that proficiency more accurately reflects the aims of the critical care nurse seeking professional qualification and the demands of clinical practice in many contexts, and thus supports the need for integration of clinical practice and learning.

The use of problem based learning is gaining prominence in nursing education, one would argue because it is highly applicable for the development of understanding and evidence based practice decisions. It is believed that the use of problem based learning in distance critical care education would encourage and facilitate learners to develop knowledge and skills that may be used in practice as a result of supported and safe exploration of clinically based problems and relevant theoretical and experiential

concepts. Learners develop understanding within the scope of practice by constructing personally relevant meaning from new information in the context of their own knowledge and experience (Chambers 1999). Through a guided process of seeking solutions to increasingly complex clinical problems, learners are encouraged to understand and utilise an increasing body of knowledge and reflect upon personal experience. This approach focuses on the process of thinking and critical analysis in the practice context thus encouraging the integration of theory and practice in learning and the development of personal practice (Rogerson & Harden 1999).

Whilst the use of problem based strategies within distance learning clearly signifies considerable demand upon distance educators in terms of problem design, the learning transaction and learner feedback, this author believes that the benefits of stimulating theory / practice integration extend beyond distinct problems or challenges. Indeed one would propose that learning how to recognise and understand the intricacies that underpin one's practice is invaluable for practice development and lifelong learning. This is not to assume that problem based learning is the only approach that may encourage and facilitate theory / practice integration. It is also believed that the quality of educational transaction and feedback (concerning evidence of learning in particular) is able to influence further learning and challenges deeper exploration of theory / practice relationships.

Competence in Practice

Although registered nurses are ultimately responsible for their own actions or omissions (NCNZ 1999a, 1999e), their practice is necessarily governed by policies, procedures and practice guidelines that are imposed at national and local Health Board level. Within each hospital or District Health Board's Policies and Procedures, there are also clinical practice procedures and guidelines that are determined within the scope of practice for particular critical care units, clinical departments, or nursing jurisdictions. Whilst such restrictions and direction undoubtedly impinge upon individual practice autonomy, organisational policies, procedures and guidelines exist as a reflection of the organisation's accountability for public safety and the precise scope of professional indemnity. Nurses must therefore practice within organisational boundaries in order to protect their registration. Issues of practice competence exist therefore, within the context of organisational and clinically determined safety and / or best practice. Although one might presume that conflict between personal and organisational notions of safe or best practice is rare, in the author's experience individual practitioners frequently disagree with the rationale or justification provided in support of some clinical practice policies and procedures. The author would propose that this predicament is reflective of one of the most fundamental issues within the concept of practice competence.

Competence in practice cannot exist in isolation. There are numerous variables, influences and assumptions embedded within the notion of competence that its ambiguity negates its alleged status outside the boundaries of specific practice contexts. Each critical care environment is necessarily bound by declarations of safe and best practice in order that the care provided for patients who are critically ill is delivered within accepted notions of safety and integrity. Practice competence is therefore inevitably bound by the same code of practice. Having explored and philosophised over the notion of competence in clinical practice, this author has come to the conclusion that practice competence in a particular clinical context can only be assured in that particular context. As a consequence of the uniqueness of distinct practice environments, declarations of practice competence can not be transferred entirely from one context to another. Whilst the principles of safe or best practice may be similar in similar contexts, the precise scope of competence is highly unlikely to be completely identical. This notion is undoubtedly supported by the widespread necessity for nurses to receive local Health Board or departmental certification in order that they might undertake roles that are over and above the traditional scope of nursing practice (despite evidence of achievement from other Health Board(s)). One would therefore propose that the concern for competence in education for professional practice should be directed towards principles of safe and best practice that may then be assured at local level, according to local boundaries and consensus regarding accepted practice.

It is therefore proposed that the principles of safe and best practice may be adequately explored within the context of distance learning and that evidence of practice competence should be attained within the accepted policies and procedures of local practice contexts. The integration of such an approach within Nursing Council competence requirements is discussed in the section pertaining to the Nursing Council of New Zealand Framework for Post Registration Nursing Education.

Clinical Experience

Eraut (1994) proposes that the quality of professional education is inextricably linked to, and dependent on the quality of practice, and hence experience. Several studies have further emphasised the importance that learners place on the clinical component and diverse experience that post registration critical care nursing courses can offer (Chambless, Schwartz & Woodhouse 1994, Strachan, Armstrong & Sibbald 2000), stating that clinical experience and clinical facilitation are valued by learners (Chaboyer & Retsas 1996, Hardcastle 2002). Whether it is possible to incorporate diverse clinical experience into distance education programmes is a question that seems to be of significant importance within the domain of critical care nursing education. There is certainly literature to support the effectiveness with which teaching and learning strategies such as problem based learning, work based learning, computer assisted

instruction, case studies and hypothetical case scenarios have enhanced theory / practice integration and the scope of clinical decision making (Lamb & Henderson 1993, Boyer 1996, Wales & Skillen 1997, Hewitt-Taylor 1998, Dowd & Davidhizar 1999, Rogerson & Harden 1999, Manley 2000). Such strategies undoubtedly maintain patient safety throughout the process of learning, yet some maintain that hands on experience (as opposed to hypothetical deliberation) is vital for education and professional development (Hendricks-Thomas, Crosby & Mooney 1995, Charlton, Machin & Clough 2000, Strachan, Armstrong & Sibbald 2000, Wigens & Westwood 2000). Yet, entry criteria for the vast majority of critical care education programmes necessitate that learners are currently practising within a critical care environment. Surely then, learners' own clinical environments are able to provide clinical experience and the opportunity to apply knowledge to practice? Whilst one might assume that critical care education programmes offering various clinical placements would also supervise clinical practice and competency assessment, the responsibility for practice based assessment is invariably assumed by each practice area rather than the educational organisation (Boyer 1996, Chaboyer & Restas 1996, Hewitt-Taylor 1998). Within the perspective of theory / practice integration, it is therefore difficult to justify a need for learners to undertake hands on experience in an environment other than their own practice area.

Indeed, whilst some attendance programmes are able to facilitate student rotation between different critical care units, many are undertaken whilst the nurse is employed in only one unit. The potential limitation for clinical experience is therefore not unique to distance education. Moreover, as previously discussed, the disparity between critical care courses and the scope of clinical experience is, in some instances, quite remarkable (Scholes, Endacott and Chellel 2000). The quality of practice and experience is therefore dependent upon the clinical environment (and prior experiences) in which the learner is situated. Whilst it is clearly beneficial for nurses to expand their scope of practice and clinical experience in order to maximise experiential knowledge, relocating to another practice area cannot assure exposure to new or relevant experience. One would propose rather that encouraging nurses to learn how to learn from experience and apply theoretical concepts in practice may in fact encompass a wider scope of practice knowledge and facilitate learning and practice development that may then extend beyond the scope of distinct educational experiences. Whilst the opportunity to experience new and different clinical practice is undoubtedly exciting and motivating, and may facilitate the construction of personally relevant learning, one must consider whether potential benefits are likely to outweigh real costs. Programmes that deem clinical rotation to be necessary clearly incur additional issues regarding staff replacement, relocation, and active participation by the programme facilitator in each clinical area. Such issues are likely to increase the financial and human resource burden for all participants. In the New Zealand context where the majority of critical care units are some distance apart, replacement staff are increasingly difficult

to find, and educational funding is limited. One would imagine, therefore, that it would be extremely difficult to justify a demand for alternative clinical placements on the basis of the quality and / or variety of learning that might be gained from such exposure.

The opportunity to focus on learning has been identified as a valuable component of education for critical care nursing practice (Little 1999). One would propose that in the context of distance approaches to learning and practice development, acknowledgement of learner status in one's own clinical area is particularly important. Whilst a clinical placement in an alternative critical care area clearly indicates that an individual is participating in some form of learning experience, when learners remain in their own clinical area and undertake distance education, realisation of learner status could be more difficult to achieve. Nurses have described how the opportunity to focus on learning facilitates questioning and inquiry in clinical practice (Little 1999, Hardcastle 2002). It is therefore important within distance critical care education that clinical environments value distance learning and recognise distance programmes as a legitimate approach to critical care education in order that learners are afforded adequate support and recognition in clinical practice. From the author's own experience and informal learner feedback, even the simple act of offering those nurses undertaking critical care education the opportunity to choose their patient workload in order that they might focus upon particular clinical problems is an effective method of increasing awareness and focusing learning. Whilst the educational transaction in distance learning can facilitate personally relevant learning and the integration of learning and practice, the clinical environment is also a learning environment and must be recognised as a valuable component of distance critical care education.

Self Direction in Critical Care Education

It is acknowledged that the ability for adults to direct their own learning is both important to the success of distance approaches to learning (Garrison 1989b, Rowntree 1992, Hutton 1998, Morgan & O'Reilly 1999, Rogerson & Harden 1999, Cavanaugh 2002), and potentially problematic for nurses who may have limited experience or confidence in self direction (Chaboyer & Restas 1996, Hewitt-Taylor 1998, Langford & Hardin 1999, Rogerson & Harden 1999). As previously discussed in Chapter Three, the effects of the traditional learning environment and pedagogical values in nursing education are still apparent, so much so that it would appear that many nurses have limited experience of being encouraged to take personal responsibility for learning. According to Hiemstra & Brockett (1994), absent or limited exposure to self direction in learning can mean that individuals are essentially unaware of their power as learners. Yet as nurses take responsibility for their own practice on a daily basis, one might presume that they should also be able to apportion similar responsibility for personal learning. However, one would argue that as a

concept, self direction in learning and critical care education is not well understood by current or potential learners, and may thus result in problematic integration of self direction in critical care programmes.

Heimstra & Brockett distinguish 'self directed learning' as the external characteristics of the teaching and learning process, and 'learner self-direction' as the individual's internal characteristics, further proposing that 'self-direction in learning' represents the interaction of the two concepts (1994). One could conclude from the available literature that learners who have experienced difficulty with self direction (in post registration nursing education) have perhaps done so as a result of preoccupation with internal responsibility for learning rather than experiencing quality educational transactions and learning to utilise other characteristics of the teaching and learning process. This situation is further complicated by the reality that many nurses have limited experience of formal tertiary education. Self directed learning is an interactive activity (Brookfield 1986, Garrison 1989a) that need not be adopted in an 'all or nothing' manner (Heimstra & Brockett 1994). One would support Candy's notion that the development of self directed learning requires continued guided practice and gradual integration (1991). Indeed:

> "It would be naïve or even irresponsible to grant independence to learners without serious consideration of their abilities and skills (power) as well as the necessary human and physical resources (support) available to achieve intended educational outcomes"
>
> (Garrison 1989a p.228)

Whilst it might appear that the development and facilitation of self direction in distance learning for critical care nursing education may necessitate considerable time and effort on the part of both educators and learners, it is believed nonetheless that self directed learning is able to promote a range of skills that are invaluable for personally relevant and lifelong learning, and the continued development of practice (Morgan & O'Reilly 1999, Rogerson & Harden 1999).

Assessment

It has been noted previously that nursing education is preoccupied with competency based assessment and the assessment of clinical practice *in* clinical practice. However the somewhat limited application of assessment outcomes relating to clinical competence outside distinct practice contexts has also been discussed. In addition to the author's concerns regarding the utility of practical competence assessment in critical care education programmes, concern regarding the reliability of practice based assessment must also be discussed. The human and financial resource implications associated with training practice facilitators and assessors to an agreed standard, that would go some way towards the assurance of reliable and valid practice assessment, has already been highlighted (see Chapter Three).

The value of such considerable collaborative input from educational and clinical staff within the context of learner centred education and personal practice development must surely be questioned. Indeed it has been noted that clinical staff are unable to assure adequate time or commitment to practice facilitation or assessment as a result of their own clinical workload (Scholes & Chellel 1999). It has also been noted that the issue of 'failure to fail' in clinical practice assessment has been identified, and that proactive measures such as assessment by senior nursing staff may actually be less accurate than assessment performed by staff whom learners have regularly worked alongside (Hewitt-Taylor 1998).

It would appear then that considerable resources would be required in order for practice based assessment to adequately reflect individual practice ability and the integration of theory. If one considers the ambiguity that may be associated with practice assessment undertaken in a variety of clinical contexts, the value of assessment outcomes within the broader context of education for critical care practice is doubtful. It is therefore proposed that practice assessment and practice competence remain within the jurisdiction of the learner's clinical context and are not directly assessed in critical care education programmes. Whilst it may appear that such a proposal negates the value of clinical practice ability, it is believed that assessment for and of *learning* for practice development may be more constructive and facilitative for personal learning when focused upon the learner's ability to explore and rationalise theory / practice integration.

If one cannot assume with any certainty that practice assessment in one context equates to practice competence in another context, this author would argue that patient safety could be compromised by attempting to integrate clinical competence assessment into critical care programmes that accommodate learners from more than one practice area. The responsibility for patient safety lies with the nurse and the policies of distinct clinical practice contexts. The responsibility for safety in clinical practice therefore rests upon the nurse's personal accountability and the standards for safe practice as identified by the practice context. It is argued that if safety standards are to be upheld, representatives from the practice context should undertake the assessment of clinical practice ability. Although this approach may appear to separate clinical skills from the understanding that guides clinical practice, this is not the author's intention. Indeed, the assessment of learning in critical care education should focus on the nurse's ability to relate and integrate knowledge and theory into clinical practice. It is suggested that, through the process of self direction and negotiation in learning, learners may choose to submit evidence of practice achievement within distance learning assignments that may then contribute to educational assessment and stimulate critical reflection.

NCNZ Framework Requirements

In order to explore the potential of distance learning in critical care education and the New Zealand context it is necessary to consider the potential of distance education within the *Nursing Council of New Zealand Framework for Post Registration Nursing Education* (1999a, 2001) (Appendix C), and more specifically the *Standards for Specialty Nursing Practice Programmes* (Appendix D), and the *Competencies for Specialty Nursing Practice* (Appendix E). The Framework for Post Registration Nursing Education essentially reflects many of the components of effective education for critical care nursing practice in that it provides structure and recognition for the development and advancement of nursing practice within national standards. The key assumptions underpinning the framework also value theory / practice integration, accessibility and flexibility in educational programmes and the recognition of prior learning (1999a, 2001). The Framework situates specialty nursing practice education within a broader developmental structure based upon advancing practice from the generic competencies required for registration in New Zealand (see Appendix C). Similarly, the Standards for specialty nursing practice programmes also appear to be compatible with the emerging concept of effective education for critical care nursing practice, and as such reflect values, structure and objectives that are considered (by the author) appropriate for distance education. Whilst one must acknowledge that the standard for collaborative programme development and multidisciplinary input may be more challenging to achieve should collaborative discussion be confined to con-contiguous communication, it is believed to be possible nonetheless. Indeed if collaboration were to be extended nation or Island wide, it is proposed that professional networking and the sharing of clinical information may be enhanced.

The potential of distance education approaches to facilitate learning that is able to demonstrate all of the inclusions stipulated within the generic *Competencies for Specialty Nursing Practice* is however somewhat less convincing. The generic competencies focus on clinical judgement and decision making in patient care, clinical nursing leadership, quality improvement and developing nursing practice through research and scholarship (NCNZ 2001). It is believed that fundamental evidence of learning and achievement relating to the four basic competencies can be achieved through collaborative approaches to individual learning and practice development at a distance (as discussed in the preceding sections). However, the inclusion of physical and technical skills and reference to oral communication abilities (Appendix E; 3.2.1.2, 3.2.1.3, 3.2.2.4, 3.2.3.4) is certainly more challenging from a distance learning perspective.

It is required that, in specialty practice, the nurse "utilises effective assessment skills (physical and psychosocial)" (2001, p.17), which might be difficult to achieve when the learner and educator are

separated. However, there is evidence to suggest that the principles and rationale of physical assessment skills are often taught from a theoretical perspective that is then supported by supervised practice and practice assessment (Wales & Skillen 1997). Indeed Wales and Skillen report the use of a written assignment that includes "documentation of health history and physical examination findings" (1997 p.257). One could argue then that a written assignment such as this may demonstrate the ability to determine, locate, describe and analyse physical and psychosocial information that the learner considers to be useful in clinical assessment and problem solving. It is further proposed that the learning process within such an activity would stimulate critical thinking and reflection upon practice and clinical decision making. Whilst the physical ability to perform psychomotor skills cannot be demonstrated in distance education (without the use of video recordings or synchronous video conferencing), it is argued that demonstration of the understanding behind specific physical skills can be achieved through distance learning approaches that may then be supported by submission of written attestation by an appropriately qualified clinical mentor from clinical practice (as required). It is also worthy to note that the scope or opportunity for physical assessment skills in nursing practice may vary considerably in different practice contexts, thus generic physical assessment competencies may be rather inappropriate.

With regards to 'performing technical skills' (competency 3.2.1.3) the author wishes to draw on previous discussion concerning alternative perspectives on teaching and learning physical and psychomotor skills, and the ambivalence associated with practice competence in distance learning and critical care education. In summary, it is proposed that the scope of practical and technical skill assessment outcomes are essentially limited to the specific clinical contexts in which the assessment is undertaken. Furthermore, it is noted that assessment of work related processes (such as technical skill) should reflect the learner's ability to perform under real life pressures as opposed to a 'one off' demonstration of a particular behaviour (Hewitt-Taylor 1998). The value of providing evidence of the learner's ability to perform technical skills within the broader context of personal learning and practice advancement is therefore questioned. However, the ability to integrate technical skills in nursing practice in critical care is clearly a valuable component of practice advancement.

In order that critical care education programmes comply with the Competencies for Specialty Nursing Practice, and facilitate personal learning concerning the integration of technology in caring, it is proposed that distance learning activities and attestations of technical skill may be integrated within personal and programme learning objectives concerning the use of technology in critical care. Technical ability is therefore assessed within local safe and best practice guidelines in order that the learner may extend their scope of practice within their own clinical context. Whereas, the learner's ability to critically analyse and

reflect upon holistic nursing practice and critical care therapeutics may be enhanced and assessed through distance learning activities. It is proposed that this approach could encourage learners to explore and understand the principles that underpin technical skill through distance education, whilst each practice context assumes responsibility for clinical assessment. Whilst it may appear that this approach would limit the transfer of clinical and technical skill, the author would argue that transfer in practice is already significantly limited by variations in local safety standards and the scope of practice, and the frequent necessity for skill assessment to be repeated when a nurse changes practice contexts.

Indeed, the Nursing Council document (2001) merely states that the nurse "performs technical skills effectively" (p.17). The precise skills that should be assessed within the specialty of critical care, and the responsibility to determine effective performance do not appear to be predetermined. However, in order to reflect the desire for national and practice recognition of clinical practice ability, the author would propose that evidence of technical skill may be achieved through the development of a personal portfolio containing written attestations of performance assessment. It is argued that, through collaboration between practice areas and the educational provider, generic guidelines could be determined concerning the format for written attestations and provision of evidence in order that prior learning and clinical achievement could be recognised and reconsidered by other practice areas.

The educational transaction between learner, educator and fellow learners undoubtedly provides the educator with ample evidence of individual learner's ability to communicate in various contexts and with respect to various domains of learning. It is also possible that distance learning activities may simulate or be situated within the context of interdisciplinary communication using written or oral media. Whilst the *Competencies for Specialty Nursing Practice* (Appendix E) do not explicitly refer to oral communication in the practice context, it is stated that the registered nurse "effectively communicates with members of the interdisciplinary team' (2001, p.17). One would suggest that individual or organisational interpretation regarding potential approaches to achievement or demonstration of this particular competence may exhibit significant variance. Whilst individual interpretation is likely to maintain focus upon individual learning needs and areas for personal practice development, it is anticipated that the potential ambiguity of this particular competency statement is likely to meet with a demand for clinically based assessment. However, one would contend that 'effectiveness' in communication is very much dependent upon situational factors and individual perceptions and can therefore not be assured or even achieved in all contexts or occasions. It is therefore believed that whilst distance learning may facilitate the identification and achievement of personal learning goals within the domain of professional communication, the value of

anecdotal evidence pertaining to learner demonstration of effective interdisciplinary communication is highly questionable.

The 1999 version of the Nursing Council Framework for Post Registration Nursing Education states that...

> "delivery of post registration nursing practice programmes must be as flexible as possible to facilitate access for all registered nurses" and "creative options for programme provision will help overcome the perceived and actual barriers by taking advantage of information technology and distance learning"
>
> (NCNZ 1999a p.22)

Yet, the emphasis on creative flexibility and distance learning is not apparent in the 2001 version. One might assume then that the application of distance learning approaches within some of the stipulated Competencies for Specialty Nursing Practice may not be considered to be entirely appropriate by the Nursing Council and the nursing community. However, following exploration of the assumptions underpinning popular and existing beliefs within nursing education, the value of generic practice and competence assessment within the broader context of learning for practice development is called into question. Yet, despite the aberrant nature of competence, it appears to be valued in the context of clinical practice recognition and achievement. It is therefore proposed that the development of personal clinical competence portfolios during, and beyond, distance critical care education programmes could be valued by individual learners, clinical practice contexts and the Nursing Council. Indeed the latter version of the Framework places a greater and more obvious emphasis on "student centred teaching, learning and assessment strategies" and the negotiation of clinical experience (2001, p.16). One would argue that the development of a personal portfolio could provide a personal focus for practice based assessment within available clinical experience.

It appears that the fundamental assumptions concerning distance education in nursing education are reflected in the Nursing Council's Post Registration Education Framework (2001). The extent to which clinical effectiveness, practical skills and clinical practice ability might be taught and assessed in distance education approaches remains highly questionable. The author has presented some alternative perspectives from which to consider the place of clinical skill assessment in critical care education. Whilst such alternative approaches may be scorned by those with strong behaviourist and humanist beliefs, the author urges the reader to question the values and beliefs that underpin generic practice assessment and to consider the possibilities that distance learning may offer critical care education in New Zealand.

The Use of Technology

It is probably apparent to the reader that the use of technology to facilitate mediated communication, the learning transaction and specific cognitive and affective skills such as critical thinking within critical care education has received little attention in the discussion thus far. Whilst the flexibility of computer mediated learning methodology may be particularly valuable in the contexts of continuing educational development for working professionals and specialist practitioner education (Billings & Rowles 2001), it is reasonable to note that increasingly sophisticated learning technology may be associated with increasing financial implications. Financial buoyancy on the other hand is something that is rarely associated with health care or funding for nursing education. The cost of educational programmes per learner is therefore a particularly important factor within the overall effectiveness of any programme. Whilst some may assume that distance approaches can provide a cheap option for education and training, the resources required in order to support quality distance education are significant. Moreover, within the study context the notion that critical care education should be 'affordable' featured strongly within nurses' perceptions of effective education (Hardcastle 2002). It is proposed then, that within the current context, the use of technology in distance learning for critical care education would be most effective within the domain of enhancing learner-educator and learner-learner communication, therefore focusing upon the quality of the learning transaction and availability of support. Should distance approaches to critical care education become a reality in New Zealand, the integration of computer assisted learning packages and interactive CD-ROM's for clinical problem solving and decision making may well be useful. However, it is important at the present time that focus is maintained upon the learner and their practice development.

Learner Focus and Support

Within the study context the issue of support in learning appears to be particularly important for learners and is acknowledged in the Nursing Council Framework for Post Registration Nursing Education (Little 1999, NCNZ 1999a, 2001, Hardcastle 2002). It is also apparent from previous discussion that support in distance learning is an important issue that may significantly influence the quality of distance education (Garrison 1993, Cavanaugh 2002). Yet the degree or frequency of learner support and / or desire for guidance is also influenced by learners' attitude and readiness to undertake learning at distance (Verduin & Clark 1991, Portier & Wagemans 1995, James & Gardner 1995, Weedon 1997, Roblyer 1998). Whilst it is acknowledged that learners often experience conflict between the desire for autonomy *and* guidance in distance learning (Carnwell 1998, Hoey 1998, Rogerson & Harden 1999), it is proposed that in conjunction with the value placed upon learner and learner practice in critical care education, the support available within quality educational transactions can be sufficiently responsive to individual needs. Moreover, it is speculated that distance education could offer learners in critical care nursing greater

opportunity to focus upon personal learning needs and practice development than attendance courses in which individual focus can be more challenging for both learner and educator.

Accessibility and Availability

It may seem almost unnecessary to question whether distance learning for critical care nursing practice is able to meet the demand for critical care education to be available and accessible to nurses throughout New Zealand. Yet such an approach to critical care education can only be available and accessible if it is first accepted as a legitimate and valuable method of developing adequately skilled and knowledgeable critical care practitioners. Distance critical care education must also be adequately supported in terms of academic and professional value, human and institutional resources and non-contiguous communication facilities for participating learners before it may be considered to be accessible. If an adequate and supportive infrastructure can be provided within financial limits that are acceptable for learners, the educational provider and participating healthcare providers, distance critical care education has the potential to reach a wider population of critical care nurses with less disruption to patient services than current approaches. Furthermore, if financial savings can be made from retaining staff within their own units, it is possible that greater numbers of nurses may be able to undertake educational programmes at one time. Distance critical care education could therefore provide an opportunity for more critical care nurses to undertake formal learning at an earlier stage in their critical care nursing experience than is currently occurring within the majority of the South Island.

Affordability

The concern for any educational programme within nursing to be affordable is certainly prevalent. It has already been noted that what may be gained in availability and access to critical care education is very much dependent upon educational funding and cost effectiveness. Whilst one might assume that distance learning and the ability for nurses to remain in their own units whilst undertaking education could represent greater value for money in terms of educational preparation and service provision, the hidden costs of establishing distance education and human resources may be substantial (Lawton & Barnes 1998). At the present time the financial implications with regard to distance critical care education are unclear due to the absence of potentially comparable data. Indeed, further research would be required in order to consider the feasibility of financing distance critical care education in the New Zealand context.

Potential Application in the South Island Context

The emerging concept of effective education for critical care nursing practice and the preceding discussion concerning the potential of distance learning therein essentially reflects the potential of distance critical care education in the South Island. Indeed, personal descriptions regarding what effective education for critical care nursing practice means to nurses practising in the South Island have contributed significantly to the author's notion of the emerging concept and subsequent model for critical care education. Yet the influence that specific clinical, personal and social contexts may have upon the learning process and practice development has been a prominent feature of current discussion. It is therefore important to consider the characteristics of critical care nursing education and practice that may have specific relevance in the South Island context.

The provision of critical care services in distinct clinical contexts within the South Island is significantly varied with respect to unit size, clinical and therapeutic scope, and patient activity. The scope of clinical nursing practice thus ranges from a predominant focus on intensive care or cardiothoracic nursing in large metropolitan units, to the vast and varied scope required to practice in smaller somewhat isolated units where patient dependency and clinical focus may be significantly varied and encompass coronary care, high dependency and intensive care nursing. The role and learning needs of nurses practising in different clinical environments in the South Island are therefore very diverse. In conjunction with the evolution of critical care as a concept that now encompasses the care of critically ill patients regardless of their location in the hospital (Pitacco *et al* 2001, McCallum 2002), the population of nurses requiring educational support and preparation for critical care nursing is likely to increase in size and diversity in the future. The individuality, flexibility and accessibility that can be offered within distance critical care education could therefore be increasingly valuable within the South Island context. With the exception of critical care education in Dunedin, critical care education for the remaining South Island population is currently dictated by the needs of others rather than functioning as a responsive process for personal and professional development. It is proposed that distance critical care education could offer nurses practising in various clinical contexts the opportunity to focus upon personal learning and practice development needs whilst achieving a nationally recognised qualification that, through negotiated learning, encourages exploration within the wider scope of critical care nursing practice.

The integration of distance critical care education in the South Island would also negate the current necessity for many nurses to travel or relocate to the North Island (or overseas) in order to complete critical care education (Hardcastle 2003), thus freeing funds that may have been required for replacement staff and travel costs. Whilst the opportunity to experience alternative critical care environments and

practice is valued by some learners, it is believed that the clinical networks established through mediated communication, collaboration and educational transactions would enhance the sharing of clinical information and practice, and facilitate the negotiation of elective or exchange placements between learners and alternative clinical contexts (should they be considered viable and beneficial by learners and their respective nurse managers). Moreover, it is proposed that the process of negotiating clinical learning placements and applicable learning objectives may challenge learners to critically examine their own learning and practice development needs.

One of the most striking findings from the author's preliminary research was the predominant time, within their critical care experience, at which nurses in the South Island undertook formal critical care education. It would appear that many South Island nurses undertake their critical care qualifications up to four years later than their international counterparts (see for example Sakallaris & Marshall 1989, Ball 1992, Chaboyer & Restas 1992, Chambless, Schwartz & Woodhouse 1994, Scholes, Endacott & Chellel 2000, CNA 2002, Hardcastle 2003). It is not clear whether South Island data is comparable with educational opportunity or provision in the North Island due to the absence of research. Nonetheless, if one acknowledges that critical care education is able to motivate, enhance, recruit and retain the critical care nursing workforce (Anderson & Kimber 1991, Endacott 1992, Hewitt-Taylor 1998, Jeffrey 2000), the potential for distance learning to provide such opportunity at an earlier stage within nurses' clinical experience should surely be welcomed.

The alternative approach to the assessment of clinical competence in distance critical care nursing education outlined within the preceding discussion presents a new perspective from which to view the role of practice based assessors in critical care education. The proposal to make each clinical area responsible for basic clinical competency assessment of their own learners essentially negates the need for other staff to undertake additional training and supervision that may be necessary to become a practice based facilitator for a specific educational programme. Although this may be perceived to increase the workload of clinical staff, one would argue that each clinical area is already responsible for ensuring that all staff perform within locally accepted safety and practice standards. The proposal may therefore reduce the demands from educational providers upon practice based facilitators who, it is noted, are frequently unable to meet the expectations of learners or educators due to their own practice commitments (see for example Scholes & Chellel 1999). However, the author has also stressed the importance of learner support in clinical practice and distance education. Whilst it is believed that quality in educational transaction and communication is able to provide substantial support and guidance when required, additional support from at least one designated clinical staff member would undoubtedly be beneficial to

the learning process and practice development. However, it is proposed that the resources involved in preparing willing practice mentors or preceptors whose role is to support learners would be significantly less than those required to prepare and update adequate numbers of nurses to assess and supervise learners in accordance with educational requirements. Indeed, during the course of preliminary research it was revealed that the majority of critical care units in the South Island have a designated nurse educator who would undoubtedly be involved in collaborative planning and thus already be familiar with the aims and structure of the educational programme. One would argue that a clinical support person need only be aware of the fundamental aims and philosophy of the educational programme as the predominant focus of their support would surround clinical issues and practice development. It may therefore be possible that this alternative perspective on support and assessment in clinical practice could also positively influence the ability of clinical areas to fund additional study leave or distance education enrolment.

Summary

Whilst the potential transition towards distance learning in critical care nursing education is unlikely to be trouble or conflict free, it appears that, within the regulatory boundaries of the Nursing Council of New Zealand, distance learning could make a significant contribution to the development of critical care nursing practice in the South Island. However, there are some fundamental issues and concerns surrounding the potential of distance education within existing notions of psychomotor skill learning and practical competence assessment. In order to consider the potential of distance approaches to learning and practice development in these and other areas of practice, the author has explored the values and assumptions that underpin existing perceptions of practically based skill and competency assessments. Consequently, the value of generic skill and competency assessment procedures and outcomes within the broad context of learning for personal and practice advancement in critical care is questionable. The author proposes that practical skill and competence are so highly influenced by situation and the practice context that any generic, multi-contextual assessment procedure would negate the fundamental aim of safe practice. As such, the place of skill and competency assessment in generic educational programmes from nursing practice should be considered from an alternative perspective, which acknowledges differences in the scope and context of learner's practice.

Although distance learning in critical care education is emerging as a worthwhile and effective approach to overcome the difficulties associated with balancing learning and practice commitments, the notion that distance learning may represent a comprehensive approach to critical care nursing education is quite original. Whilst the author proposes that distance education could enable teaching, learning and practice development for critical care nursing within the boundaries of professional and regulatory

standards, it is acknowledged that the support and recognition of distance learning as a legitimate approach to critical care education within the clinical practice arena may be difficult to achieve.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

This study sought to explore current theory and practices in critical care education and distance learning in order that a conclusion may be drawn regarding the research question:

What is the potential of distance education for learning and practice development in critical care nursing in the South Island of New Zealand?

Exploration of current practices in critical care nursing education in the Western World has highlighted a persistent conflict between local practice demands and national governing standards for post registration and speciaty nursing education. Indeed many educators and health care providers appear to struggle to achieve structured educational programmes that are acceptable for clinical practice development *and* the standards imposed by governing bodies. By exploring the meaning of effective education for critical care nursing practice, this study has shown that critical care nurses in the South Island and the Nursing Council of New Zealand view effective education for critical care or specialty nursing practice to be something that is able to facilitate the integration of theory and practice and enhance personal understanding within practice development through a learning process that is flexible, accessible and able to provide the nurse with a nationally recognised qualification. Exploration of this broadly defined concept within the wider scope of critical care nursing education and practice culminated in a new concept and model of effective education for critical care nursing practice that subsequently informed and guided the inquiry. The emerging concept reflects the fundamental aim to improve the care delivery to patients who are critically ill, and represents the perspectives of individual learners, educational providers, health care providers and governing organisations. This new perspective emphasises the influence that individual learning and practice advancement has upon the quality of care in clinical practice. The wider scope of the emerging concept and model for critical care education is undoubtedly compatible with many adult learning principles and approaches to teaching and learning that also emphasise the significance of the learner in adult education.

Following extensive exploration and consideration of the issues pertaining to critical care nursing education and distance learning the author concludes that distance education has the potential to facilitate individual advancement in learning and practice within the broader scope of critical care nursing in New Zealand. Whilst the difficulties that may be associated with practical skills learning and assessment are acknowledged, it is proposed that distance learning could represent an effective comprehensive or supportive approach to critical care nursing education and practice development in the South Island.

The author's prior exploratory research revealed that critical care education opportunities within the South Island are currently unable to consistently and equitably meet personal or practice demands and are thus struggling to sustain critical care nursing practice. The scope and variety of clinical practice within critical care environments in the South Island is significantly diverse and as such necessitates a flexible approach to critical care education that seeks to develop rather than sustain critical care practice and the nursing workforce. If one examines and explores the fundamental elements of practice development in critical care nursing, it is apparent that although learners undertaking critical care education may strive for similar aims and have similar expectations, each learner is an individual practitioner and is thus unique in the way he or she uses and expects learning to enhance the scope of personal practice. It is proposed that understanding and facilitating each learner to understand and advance their own practice within the broader scope of critical care nursing and professional standards is fundamental to the development of critical care nursing practice in New Zealand. Individuality and flexibility in learning are thus considered to be valuable contributory factors within effective education for critical care practice. It is therefore proposed that distance learning in critical care education could facilitate learning that is accessible, flexible and responsive to individual learning and practice development needs.

Although the author is somewhat critical of the assumptions underpinning competency based education and professional standards, it is believed that the Nursing Council Framework for Post Registration Education is sufficiently flexible to facilitate personally relevant learning and practice development within national qualification standards. Furthermore, it is proposed that the absence of behavioural objectives (in the framework, standards and competencies for specialty nursing programmes) represents an opportunity for local and individual interpretation concerning the evidence required in order to achieve distinct competencies. The author would therefore propose that the Nursing Council Framework, Standards and Competencies for Specialty Nursing Practice (1998, 1999a, 1999c, 2001) could be utilised as a fundamental guiding structure within a flexible framework that would enable the comprehensive delivery of distance critical care education in the South Island. The author believes that distance education has the potential to make a significant contribution to the progression of critical care nursing education and practice in the South Island context. However, acceptance of distance learning as a comprehensive approach to critical care education would require the nursing community in New Zealand to consider the concept of practical skill teaching, learning and assessment from a perspective that may be considered somewhat unconventional.

Concern surrounding the utility of distance learning to teach and assess psychomotor and practical competence in nursing (and other professions) led the author to question underpinning assumptions,

values and beliefs. Consequently one may conclude that the competencies that are undoubtedly difficult to achieve through distance education are also particularly ambiguous and open to misinterpretation or influence from particular clinical or social contexts and recognised practice values. The value of skill attainment and practical competency declarations within the broad context of individually relevant learning for practice advancement is thus highly questionable. Whilst competency assurance in clinical practice is significant when public safety is a primary concern, the author concludes that the ambiguity and disparity associated with the concept of practical competence is such that its value is largely context dependent. Secondary to the prevalence and contextual influence of locally determined practice and safety standards, competence achievement is unlikely to be transferable between different practice contexts. It is therefore proposed that whilst distance education can facilitate personally relevant understanding regarding the principles that underpin and support nursing practice, assessment relating to practical and technical skills should be confined to the learners' own practice context and undertaken according to local practice and safety standards. It is believed that such an approach supports the Nursing Council's recommendation for recognition of prior learning and experience and negates unnecessary repetition of skill assessment within tertiary education *and* the practice context. Rather it is proposed that a personal portfolio containing attestations of practical and skill competence that are achieved in the learner's own practice context may be submitted as supportive evidence in order that learners are able to achieve the practice based competencies stipulated by the Nursing Council. It is accepted that this alternative approach to practice assessment represents a significant shift in perspective. However, the author would urge those who are sceptical to examine the validity of existing beliefs and practices which can also be regarded as problematic.

In order for distance learning to be integrated into critical care nursing education in the South Island it must be valued by learners, educators, health care providers and the Nursing Council as a legitimate approach to professional education in specialty nursing and critical care. Distance learning may provide a valuable opportunity to facilitate the integration of living, learning and practice, yet learners and learning activities must also be valued in clinical practice environments. Whilst distance critical care education would enable nurses to remain in clinical practice throughout their learning, learner status must be recognised and respected by the provision of adequate clinical support, the opportunity to focus and study time away from clinical commitments. The author proposes that quality support and educational transactions in distance critical care education are vital for educational effectiveness at a personal and collective level. In order for learners to achieve personally relevant learning and practice advancement in critical care nursing a supportive resource infrastructure must be available, evaluated and maintained.

Whilst the author contends that the learning required for individual practice advancement and the attainment of formal specialty nursing practice qualifications in critical care nursing may be effectively facilitated using distance education as a comprehensive approach, it is also acknowledged that learning at a distance may be equally effective for personally relevant learning when used as a principle or supportive approach to critical care nursing education. Further research concerning critical care nurses' attitudes towards distance learning for practice development would undoubtedly be beneficial in order to further consider the appropriateness of comprehensive distance critical care education.

In summary, the author proposes that with a quality resource and communication infrastructure, distance learning in critical care nursing education has the potential to:

- Enable learning that focuses on the individual learner, personal needs and personal advancement in clinical practice.
- Acknowledge and respect the influence of clinical practice contexts on the scope of practice, accepted practice values and learning needs.
- Facilitate the integration of supporting and underpinning theory and nursing practice.
- Guide and support personally relevant learning within the scope of critical care nursing practice and professional standards.
- Encourage critical thinking, reflective practice and clinical problem solving.
- Encourage and nurture learners to use evidence and experience as a foundation and guide for future learning and practice development within and beyond the scope of distinct educational programmes.
- Provide a fundamental learning structure based upon the scope of critical care nursing practice, the Nursing Council Framework, Standards and Competencies for Specialty Nursing Practice and distance education theory.
- Facilitate learning that will contribute to the achievement of national competency standards, a recognised specialty nursing qualification and further professional development.
- Provide personal support when required through quality educational transactions and mediated communication.
- Facilitate the integration of learning, living and practice by enabling flexibility in learning.

- Be receptive to the needs and evaluation of individual learners, clinical practice areas, governing bodies and academic requirements – thus facilitating collaboration in critical care education.
- Provide quality critical care education that is accessible to nurses throughout the South Island.
- Positively influence clinical staffing levels by enabling nurses to remain in their own clinical practice areas throughout the learning programme;

  Providing educational incentives for staff recruitment, retention and morale;

  Recognising the need for nurses to undertake supported learning for specialty nursing practice;

  And providing flexibility in learning that could accommodate personal and clinical practice demands.

Recommendations

Preliminary research by the author (Hardcastle 2003) indicates that educational provision for critical care nurses in the South Island of New Zealand is unable to equitably meet the needs of learners, health care providers or patients who are critically ill due, primarily, to disproportionate access to specialty practice programmes. Whilst it is acknowledged that the population distribution of critical care nurses in the South Island creates significant challenges in terms of educational planning, delivery, assessment and evaluation, such challenges are real and could impact upon the quality of care delivered to patients who are critically ill. Indeed, the Nursing Council acknowledge that post registration education is required to support the development of specialty nursing practice, and that meeting the Competencies for Specialty Nursing Practice "leads to quality patient/client care and nursing practice, improved health outcomes, and a qualified specialty nursing practice workforce" (Nursing Council of New Zealand 2001 p.13). One would argue then, that the educational needs of critical care nurses and service providers in the South Island deserve closer attention and consideration if such benefits are to be realised.

In order to achieve the recommendations of the Nursing Council, education for specialty nursing practice should be available and accessible to nurses throughout New Zealand. Following extensive exploration of the potential of distance education for learning and practice development in critical care in the South Island, the author would recommend that distance education should be considered as a legitimate approach for specialty practice education. As discussed in the previous section, distance education has the potential to realise the educational needs of critical care nurses in the South Island, regardless of their location. However, further exploratory research is required in order to more fully

understand nurses' and health care providers' perceptions of distance education, and to explore the financial implications of such a venture.

It is proposed that the Nursing Council *Framework for Post Registration Nursing Practice Education* (2001) can provide a fundamental structure from which to consider and guide the development of critical care education in the South Island. However, in response to the outcomes of this study, it is also proposed that the learner and individual practice development should be central to developing notions of effective education in order that learning is situated in the real world of clinical practice and directly related to patient care. Whilst it may appear that focusing on learners' needs could detract from the generic standards that are proposed by the Nursing Council (1999c, 2001), it is proposed that learning and practice advancement remain situated within the broad scope of critical care nursing practice.

Recommendation 1:

- Teaching and learning activities should enable the learner to construct meaning that, whilst being personally relevant, enables the learner to achieve the Nursing Council's Competencies for Specialty Nursing Practice (2001), and a Nationally recognised qualification.
- Educational curricula should be responsive to individual needs *and* reflect the broad scope of critical care nursing practice. Whilst the learner is central to the teaching and learning process, learners should be encouraged to explore learning and critical care nursing practice outside their own personal scope.
- Teaching and learning activities should facilitate the integration of theory, research, evidence and clinical practice. Learners should be encouraged to question, critically analyse and reflect in, and on, practice.
- Educational programmes should encourage nurses to develop personal learning and development skills that can enable them to progress beyond competence towards proficiency and excellence in clinical practice and lifelong learning.

Nursing has progressed to become a profession that is concerned with understanding how to learn and advance professional knowledge rather than learning facts and know how (Reed & Procter 1993, Lindeman 2000, Lee 2001). As such there is an increasing presence and desire for nurses to be pragmatic, autonomous and more critically aware within learning and practice. Within this context there is

a call for critical care nurses to be self directed, problem solvers, critical thinkers and decision makers who are able to use theory and evidence within the nursing process. Yet the overt use of highly applicable adult learning theory in critical care education is lacking. This study has highlighted a need for learner support and guidance within new or alternative approaches to teaching, learning and assessment. It is therefore recommended that adult learning theory and learning how to learn should be explicitly integrated into critical care education programmes in order that the aims and process of teaching and learning practices may be more fully comprehended and effectively utilised.

Recommendation 2:

- Critical care education programmes should reflect the principles of adult learning theory by:
  - Valuing the needs, experience and situation of individual learners
  - Recognising the differences and influence of practice contexts and clinical experience
  - Endeavouring to facilitate the construction of personally relevant meaning
  - Enabling individuals to develop personal learning strategies that may facilitate lifelong learning and reflection
  - Enabling individuals to learn from experience

The emerging concept and model for critical care education have highlighted the importance of learner, health care provider, educational provider and governing organisational perspectives on the concept of effective education and how education may facilitate practice advancement. It is therefore recommended that:

Recommendation 3:

- Collaboration in educational planning, implementation and evaluation should include the perspectives of individual learners (past, present and prospective), educational providers, health care providers and the Nursing Council. This approach would ensure that each essential perspective on the concept of effectiveness is considered and integrated within programme development.

The notion of safe practice is a fundamental requisite for critical care education in, and beyond, the study context. And, despite the ambiguity associated with it, competence is widely associated with safe practice standards. The author has offered an alternative perspective from which to view the place of competence in critical care education programmes. It is argued that this approach may enable nurses to achieve local practice standards, national competency requirements and develop their understanding of theoretical concepts that underpin and guide clinical practice. It is therefore recommended that the following be considered as a legitimate approach to the assessment of practical skill and competence in clinical practice:

Recommendation 4:

- Local standards for safe practice should be maintained by local assessment of clinical skill and competencies. Collaboration between educational providers, health care providers and the Nursing Council could result in a standard format and approach for writing attestations of clinically based assessment in order that local standards are maintained and clinical skills may contribute toward specialty nursing practice qualification. Consequently, each clinical area assumes responsibility for clinical competency assessment that remains situated in the real world of clinical practice.

  Personal portfolios containing evidence of clinical and technical competency are collated by the learner and may be submitted as evidence for clinically based competence (for qualification and / or reassessment if / when the nurse changes clinical practice area).

Whilst this approach represents a significant shift in perspective, the author maintains that it could significantly reduce the problems associated with standard clinical assessment procedures when employed in multiple contexts.

This study has provided a unique exploration into critical care education in the South Island, and the potential scope of distance education as an approach to post registration education for critical care nursing practice. Whilst the conclusions and recommendations are made with specific reference to critical care education in New Zealand and the South Island, it is proposed that the conclusions drawn provide a fundamental base from which to view distance critical care education in alternative contexts.

Recommendations for Future Research

This study has highlighted a need for educators and facilitators in post registration critical care nursing education to closely examine how nurses use education and learning to enhance personal practice. Whilst the author's preliminary study has provided a unique insight into the relationships between education and practice development, the use of written descriptive statements has generated a rather superficial exploration that is worthy of closer examination. It is considered that adult learning theories are able to inform, guide and support the progressive development of teaching, learning and assessment in critical care nursing education. If this theory is to be supported and implemented within national and international contexts it is proposed that further research into education-learning-practice relationships in critical care nursing is required. One would argue that the fundamental issue that underpins and leads one to question the integrity of various approaches to critical care education is that many educators, learners and clinicians have a relatively limited understanding of the interrelationships between education, learning and practice development in critical care nursing. If the aim of education for critical care nursing practice is to improve care delivery to patients who are critically ill, surely a greater understanding of the relationships between education and practice development would only be beneficial.

It is proposed that distance education has the potential to facilitate quality critical care education and practice development in the South Island. However, it is also acknowledged that distance education must be accepted as a legitimate approach to critical care education if it is to be effective. As such it is recommended that further research is required in order to explore and understand how learners, purchasers and governing organisations perceive distance education and its ability to provide effective learning for practice development. Learner perceptions of their own ability to undertake distance education and self directed learning are likely to be particularly influential in the overall concept of effectiveness in distance education.

The financial implications of establishing and maintaining distance critical care education in the South Island are unknown due to the absence of potentially comparable data. It has been suggested that distance education can be considerably more expensive than one might imagine, particularly in the initial stages of programme development and establishing support systems (Lawton & Barnes 1998). Learner support has been identified as a valuable component of effectiveness in critical care education. The requirements and financial implications of establishing a sufficiently supportive infrastructure for distance education must therefore be explored. It is recommended that further research would be required in order to consider the feasibility of financing distance critical care education in the New Zealand context.

Study Limitations

As the primary focus of the study is the potential of distance learning for critical care education in the South Island, the discussion and recommendations are made with reference to this specific context. Information gleaned from the author's preliminary research is also specific to the population of critical care nurses in the South Island who participated in the research study. Descriptive and demographic data concerning the study population are clearly limited to the study population. However, information gained from thematic analysis of participant meaning structures (regarding the meaning of effective education for critical care nursing practice) revealed relational themes that support the notion that individuals in similar contexts share experiences and similarity in meaning structures (Hardcastle 2003). Whilst one does not wish to reduce descriptions of human experience to universal concepts, the presence of relational themes within participant descriptions implies that the emerging concept of effective education for critical care nursing practice presented in the thesis may be applicable to critical care nurses in other contexts. Similarly, discussion surrounding the scope of distance learning for critical care education in the South Island may also be applicable to critical care education contexts elsewhere. However, the author maintains that conclusions and recommendations are made with specific reference to the study context in this instance.

The emerging concept of effective education for critical care nursing practice and the model for critical care education underpin the inquiry, recommendations and the conclusion that distance learning could be an effective approach to critical care nursing education in the South Island. Consequently any misconception or bias within the emerging concept and underpinning research would ultimately limit the validity and generablisability of the study outcomes and indications for future research within the study context.

Conclusion

The study outcomes represent an inaugural yet preliminary exploration into the potential of distance education in critical care education and the South Island context. The study conclusions are drawn from scholarly inquiry into nursing and critical care education, distance and adult learning theory and the study context. The presentation of an emerging concept of effective education for critical care nursing practice and a model for critical care education represent the author's best attempt to provide an accurate reflection of what has been learned about the concept of effectiveness in critical care education during the course of inquiry. The outcome of which essentially reconceptualises the focus and philosophy of critical

care education to place greater emphasis on the learner and individual practice development. As such, the author welcomes the thoughts, comments and opinions of those involved in learning, education and practice within adult learning, distance learning and critical care contexts.

Given the scope and diversity of critical care nursing practice in the South Island, the author hopes that the study outcomes and conclusions contribute towards the development of critical care nursing education and practice in the South Island. Critical care nursing in New Zealand is worthy of greater attention in post registration education and research, and critical care nurses deserve equality in access and provision of quality education that is able to facilitate personal advancement in practice regardless of one's location or clinical context.

APPENDIX A.

GLOSSARY

Competence The ability to apply the knowledge and skills that are required in order to practice safely within a given context.

Competency May be used to refer to a distinct competency component (singular of competencies). May also be used to refer to the presence or demonstration of a more generic state of competence.

Competencies Specific components of competence that can be identified as something which contributes to competence in a given practice context. Competencies may refer to specific skills or specific areas of knowledge that are assumed to be essential for competent practice.

Competent The act of utilising appropriate knowledge and skills in nursing practice.

Critical Care The care of adults whose medical condition necessitates admission and continuing care within a designated intensive care unit or combined intensive and high dependency or coronary care unit.

Distance education A comprehensive teaching and learning transaction in which the learner and the educator are separated.

Distance learning Used with reference to distance education – this term refers specifically to the learner and learning process

Empower To enable or give ability.

Holistic Consideration of each aspect of the whole situation.

Holistic adult learning Consideration of every aspect of learning as an adult.

In service Education and skills training that is provided by the employer in order that staff are adequately prepared for the requirements of their job.

Learner centred The learner is placed at the centre of the learning process. Teaching and learning processes are planned, implemented and evaluated according to the needs and abilities of the learner.

Orientation A period of time during which newly appointed clinical nursing staff work alongside existing staff in order to observe and become familiar with health care practice in the new context. Staff are generally supernumerary during this period and are therefore not directly responsible for patient care. It is unlikely that supernumerary status would be effective for more than two weeks in critical care environments. Mandatory information and skills training may be undertaken during this time.

Self directed A learning process that is essentially directed by the learner. In practice, the educator provides basic general guidance for specific course or programme requirements that may then be tailored by the learner to meet educational and personal needs.

Self paced A learning process that is characterised by the learner's ability to undertake learning at his or her own convenience. Learning requirements may vary in the degree of structure imposed by the educational provider.

Specialist In the context of nursing practice – specialist practice refers to an area of practice that requires appropriate specialised knowledge and skills that are not typically included in basic, pre registration nursing programmes.

Specialty Specialty nursing practice is a term adopted by the Nursing Council of New Zealand to refer to "any area of practice with a specific focus and body of knowledge" (1999a p.9).

APPENDIX B.

CRITICAL CARE NURSING - SURVEY QUESTIONNAIRE

For the purposes of this study - the specialty of Critical care will refer to; Intensive care nursing, and nursing practice in units that combine Intensive care, High Dependency and / or Coronary care.

If you could please take some time to answer the following questions, I would be extremely grateful.

Please place completed questionnaires in the individual envelope provided and return to Jane Hardcastle in the individual or group stamped addressed envelope provided by 02.08.02
Thank you.

1 How long have you been nursing in the specialty of critical care?

Please tick one of the following:

0-6 months □ 6-12 months □ 1-2 years □ 2-5 years □ 5-10 years □

over 10 years □

2 Do you hold a post-registration qualification in critical care nursing?
Please tick one of the following:

Yes □ → please proceed directly to question 7.

Currently undertaking a course / programme □ → please proceed directly to question 7.

No □ → please proceed to question 3.

3 How would you rate post-registration education for critical care nursing practice?

Please tick one of the following:

Unnecessary □ Not important □ Important □ Highly important □

4 Are you aware of any critical care course(s) / education in the South Island?

Please tick one of the following, and any subsequent question:

Yes □ No □ (Proceed directly to question 6.) Don't know □

If Yes; please specify the following;

Location of the organising institution: .....

Qualification offered:.....

Method of teaching and learning: .....

(Methods of teaching / learning may include; attendance, distance learning, computer assisted learning, learning packages, clinical instruction e.t.c.)

5 Are you aware of any critical care education programmes within in the geographical region covered by your health board?

Please tick one of the following:
Yes □ No □ Don't know □

If Yes; please specify the following;

Location of the organising institution: .....

Qualification offered:.....

Method of teaching and learning: .....

(Methods of teaching / learning may include; attendance, distance learning, computer assisted learning, learning packages, clinical instruction e.t.c.)

6 Are you aware of any critical care education programmes outside the geographical region covered by your health board that you feel would be accessible to you?

Please tick one of the following:
Yes □ No □ Don't know □

If Yes; please specify the following;

Location of the organising institution: .....

Qualification offered:.....

Method of teaching and learning: .....

(Methods of teaching / learning may include; attendance, distance learning, computer assisted learning, learning packages, clinical instruction e.t.c.)

Please proceed directly to question 12 on the penultimate page, Thankyou.

7 What level of academic credit did (or will) your post-registration critical care qualification award?

Please tick one of the following:

Certificate □ Diploma □ Degree □ Post-graduate certificate □

Post-graduate diploma □ Post-graduate degree □

Other □ please specify

.....

8 In which country did you undertake (or are you undertaking) your qualification?

Please tick one of the following, and any subsequent questions:

New Zealand □ → South Island □ North Island □

Australia □ UK □ USA □ Canada □ Elsewhere □ please specify .....

9 What was the format of the course / programme?

Please tick one of the following, and any subsequent questions:

Attendance at university / college / school of nursing □ → Full-time □ Part-time □

Distance Learning □ Other □ please specify.....

.....

.....

10 Were you (are you) able to undertake the qualification whilst working in your own unit?

Please tick one of the following:

Yes □ No □ →

If you answered 'No' to this question - please specify the reason(s):

.....

.....

.....

11 Did (does) completion of the course / qualification necessitate <u>any</u> travel or relocation?

Please tick one of the following, and complete any subsequent question:

No □ Yes □ → Please tick any of the following boxes that may indicate potential reasons for travel / relocation (*you may tick more than one*):

Study block(s) □ Clinical placement(s) □ Assessment procedure(s) □ Workshops □

Other □ please specify.....

.....

.....

12 How would you <u>define</u> 'effective' education <u>for clinical practice</u>?

"For me, effective education is

.....

.....

.....

.....

13 What qualities would education have to have in order for it to effectively enhance your professional practice?

"If education were to be effective, it would have to be / have .....

.....

.....

.....

.....

14 How do you think education affects* / would affect* your practice? *(*please delete one)*

.....

.....

.....

.....

.....

.....

.....

.....

15 What does 'effective' education for critical care nursing practice mean to you?

.....

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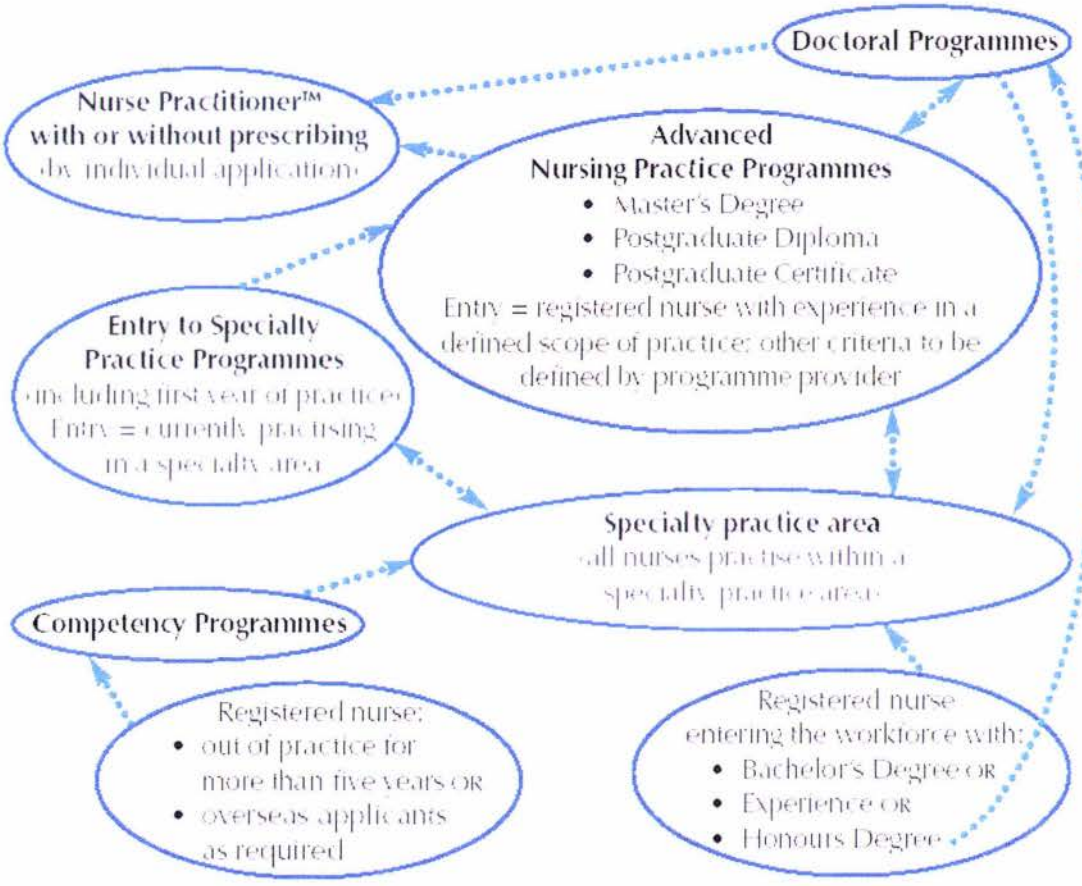
APPENDIX C.

NURSING COUNCIL OF NEW ZEALAND FRAMEWORK POST-REGISTRATION NURSING EDUCATION (2001)



Taken directly from the *Framework for Post-Registration Nursing Practice Education* (2001, p.9)

Nursing Council of New Zealand

Wellington

APPENDIX D.

STANDARDS FOR SPECIALTY NURSING PRACTICE PROGRAMMES

Nursing Council of New Zealand *Framework for Post-Registration Nursing Practice Education*, May 2001

The following excerpt is taken directly from the Nursing Council of New Zealand *Framework for Post-Registration Nursing Practice Education*, May 2001, section 3.1 Standards for Specialty Nursing Practice Programmes:

The needs of patients/clients within the specialty nursing practice area(s) provide the focus for the development of the programme. Entry to a programme requires that the registered nurse practises within the relevant area or scope of specialty nursing practice. Individual programme providers will determine other entry criteria as appropriate. The programme will be no less than half an academic year full-time equivalent in length, at a minimum of Bachelor's degree level, will include relevant theory and practice, and will meet the following standards.

1. Each programme complies with the legislated requirements and Nursing Council policies and guidelines.
2. Each programme will have a curriculum that supports a registered nurse to develop practice within the particular specialty area or scope of practice.
3. Each programme will have clearly defined student-centred teaching, learning and assessment strategies, which support the development of specialty nursing practice.
4. Appropriate facilities and resources will be available to support the programme.
5. Each programme will have clear graduate outcomes and will result in the award of a qualification.
6. Each programme will have detailed information on the processes used to ensure quality improvement is a focus.

APPENDIX E.

COMPETENCIES FOR SPECIALTY NURSING PRACTICE

Nursing Council of New Zealand *Framework for Post-Registration Nursing Practice Education*, May 2001.

The following excerpt is taken directly from the Nursing Council of New Zealand *Framework for Post-Registration Nursing Practice Education*, May 2001, section 3.2 Competencies for Specialty Nursing Practice:

Four generic competencies for specialty nursing practice relate to nursing clinical judgement, leadership, standards, and practice development. They provide the framework on which particular competencies for a defined specialty area or a scope of practice can be developed and demonstrated.

3.2.1 Shows sound levels of judgement, discretion and decision making in patient/client care.

3.2.1.1 Increases clinical understanding and practice on which to assess and manage clinical situations;

3.2.1.2 Utilises effective assessment skills (physical and psychosocial);

3.2.1.3 Performs technical skills effectively;

3.2.1.4 Utilises specialty knowledge and experience to provide effective emotional and informational support to clients and families;

3.2.1.5 Foresees likely course of events for clients;

3.2.1.6 Individualises client centred care beyond a routine approach to care;

3.2.1.7 Further develops effective organisational skills such as time management and priority setting.

3.2.2 Shows clinical nursing leadership.

3.2.2.1 Actively participates in the health care team;

3.2.2.2 Acts as a positive role model of specialty nursing practice;

3.2.2.3 Acts as a nursing resource for the health care team;

3.2.2.4 Effectively communicates with members of the interdisciplinary team

3.2.2.5 Provides guidance, support and nurturing to novice nurses and those entering the specialty practice area;

3.2.2.6 Acts as an advocate for nursing within the specialty practice area.

3.2.3 Monitors and improves standards of nursing through quality improvement processes.

3.2.3.1 Identifies researchable practice issues and refers to appropriate people;

3.2.3.2 Actively participates in quality improvement activities;

3.2.3.3 Contributes to the development of policies/audits/standards;

3.2.3.4 Gives and receives critical and reflective peer feedback;

3.2.3.5 Evaluates nursing practice against current standards through the use of nursing audit tools.

3.2.4 Develops nursing practice through research and scholarship.

3.2.4.1 Provides specialty nursing care which reflects current nursing knowledge, research and understanding;

3.2.4.2 Utilises research and scholarship judiciously to critique clinical practice guidelines;

3.2.4.3 Develops awareness of the impact of broader health policies and directions on specialty nursing practice;

3.2.4.4 Presents and participates in client review from a nursing perspective.

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