‘Back to the bedside’: Graduate level education in critical care

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Accepted 4 April 2007

KEYWORDS
Critical care; Practice development; Education

Summary The need for post registration education for nurses practising at specialty level in critical care environments is widely acknowledged in nursing and educational literature. There is also clear consensus 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. Yet the 'right' approach to educational delivery and evaluation is less clear and stimulates considerable debate amongst nursing educators, care providers, learners and regulatory bodies. The need for critical care nurses to apply advanced knowledge and technical skills to complex and dynamic practice situations necessitates the development of critical thinking and a problem-solving approach to clinical practice that can be fostered through education and experience. This paper explores the relationships within teaching, learning and practice development in critical care nursing and questions the popular assumption that 'post graduate (Master’s level) education fits all'. Discussion focuses on the successful development and implementation of graduate level education for critical care nurses in the South Island of New Zealand and how this development is challenging existing approaches to the provision and evaluation of formal critical care education in New Zealand. © 2007 Elsevier Ltd. All rights reserved.

Introduction/background

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. In recognition of this, post registration education programmes in critical care nursing are widely accepted as an effective method of developing and enhancing the knowledge and practice application required for specialty level practice in this field (Charlton et al., 2000; CCNS, 2000;...
Jeffrey, 2000; Chaboyer et al., 1997; Ball, 1992). Yet the development and refinement of the intricacies of such practice is a gradual process, and one that is accepted to develop in conjunction with experience (Dean, 2001; Gibson and Douglas, 2000; Little, 2000; Scholes and Chellel, 1999; Benner, 1984). Education and experience are therefore mutually beneficial components of practice development in critical care nursing and create rather a ‘chicken and egg’ situation when one considers when and how formal education should be delivered.

Critical care nursing education

Despite an overwhelming consensus concerning the aim of, and need for, post registration education for nurses practising at specialty level in critical care environments, the ‘right’ approach to educational delivery and evaluation is far from clear. Whilst some believe that critical care programmes are integral to the development of competent and safe practice in the specialty (Hanley and Higgins, 2005; WFCCN, 2005; Messmer et al., 2004; CNA, 2002; Charlton et al., 2000; NBS, 2000), others believe that critical care programmes should also prepare nurses for advanced practice and leadership in the specialty (ACCCN, 2006; NCNZ, 2001; Strachan et al., 2000).

The debate concerning educational delivery and evaluation in critical care encompasses various perspectives on issues such as timing (in relation to clinical experience), teaching and learning approaches, clinical practice assessment, academic assessment, appropriate qualifications for course facilitators, level of academic qualification gained and the extent to which formal education meets the needs of clinical practice contexts (Dean, 2001; Wigens and Westwood, 2000; Strachan et al., 2000; Chaboyer et al., 1997). Due to the inextricable link between safe practice, public accountability and specialty level practice, critical care programmes are also significantly influenced by values and assumptions purported by our regulatory bodies (see for example ACCCN, 2006; WFCCN, 2005; NCNZ, 2001; NMC, 2001).

Inflexibility concerning the academic level at which specialty level programmes should be aligned is one such assumption that could be detrimental to learning and practice development in critical care if the relationships between education, clinical experience and practice development are not adequately considered. In recent years Nursing has embraced post graduate (Master’s level) education and the development of advanced nursing practice. Whilst this may be admirable when one considers the advancement and recognition of Nursing as a profession, we cannot assume that post graduate education is the only way that nurses can develop and learn to apply knowledge to practice, or that it is a pathway that is attainable or desirable for all nurses to undertake.

The delivery of post registration education for critical care nurses in New Zealand moved from provincial hospital-based programmes to post graduate nursing schools in the tertiary education sector in most areas during the mid-late 1990s. This transition to post graduate education is now apparent in the majority of educational programmes for registered nurses seeking both specialty and advanced practice qualifications in New Zealand (NCNZ, 2000a). The move from certificate level and hospital-based qualifications to post graduate certificate and diploma level was undoubtedly influenced by the concurrent migration of all pre registration nursing education in New Zealand to undergraduate degree level by 1996 (Lusk et al., 2001). The prevailing assumption in New Zealand appears to be that, as registered nurses now enter practice with a bachelor’s degree, further education following registration should be aimed at a higher academic level. However a national survey of educational qualifications for registered nurses (RNs) carried out in 2000 (NCNZ, 2000b) demonstrated that over fifty percent of RNs’ highest qualification was a hospital-based registration programme. A significant proportion of the nursing workforce in New Zealand is therefore unlikely to be prepared to study at post graduate level. Despite this, the Nursing Council of New Zealand openly advocate for post graduate level education for RNs working in specialty practice areas, and also acknowledge that most areas of practice in nursing can be regarded as specialty practice (NCNZ, 1999; NCNZ, 2001). Consequently, many nurses are encouraged to undertake post graduate level education as their only option for post registration qualification in their practice field regardless of their prior experience with academic study, or indeed their personal learning needs.

The practice environment

The geographical distribution of critical care services and subsequent population distribution of practising critical care nurses within the South Island of New Zealand has resulted in a demand for post registration education from relatively small yet distinct groups of nurses spanning a substantial land area (150, 461 km²). An exploration of critical
care education opportunities in the South Island in 2003 demonstrated that the majority of nurses had limited provision or access to critical care education programmes (Hardcastle, 2003). With the exception of one region, nurses seeking further qualification in critical care were forced to travel to North Island centres, or indeed overseas to undertake specialty education programmes. Whilst the overall demand for education is relatively small, local education needs and pathways for practice development exist and are worthy of equitable attention and provision regardless of nurses’ geographical distribution.

The intensive care unit discussed in this paper is the largest tertiary critical care unit in the South Island and caters for patients requiring general intensive care, trauma care and cardiac surgery in the region and is also a major referral centre for provincial hospitals in the central and northern South Island. With a staffing complement equal to many large critical care units in New Zealand and abroad, the provision of post registration education programmes for specialty development was (prior to 2004) limited to two places per year on a post graduate certificate programme in the North Island. Whilst several nurses had successfully completed this programme, senior staff in the unit were dissatisfied with the overall provision of, and impact that existing educational provision was having on the development of knowledge and collective practice within their unit.

In order to explore the validity and extent to which this dissatisfaction existed amongst the wider staff in the unit, a learning needs analysis survey was conducted involving all full and part-time registered nurses. Survey results indicated that the total number of nurses holding a critical care qualification was below that recommended in Australia and New Zealand (ACCCN, 2003). In addition to quantitative data, the survey provided information from past and future learners concerning content, ‘pitch’ and processes regarding teaching, learning and assessment for what they perceived to be relevant and desirable for critical care nursing education. Nurses indicated that education should be specific to critical care nursing, relevant to the bed space, incorporate technical and interpretive knowledge, use a body systems approach and incorporate practical assessment and learning that is directly applied to the clinical context. These findings were further supported by a qualitative survey involving critical care nurses throughout the South Island exploring the meaning of effective education for critical care nursing. Thematic analysis of descriptive statements within this group revealed that ‘relevance’ and ‘personal learning’ are essential components if critical care education is to be effective (Hardcastle, 2004a).

The needs analysis and thematic analysis highlighted a need for learning that was firmly grounded in fundamental everyday practice that could also extend and enhance the application of theoretical knowledge and critical thinking to nursing care at the bed side (Hardcastle, 2004a). Whilst it is certainly possible to achieve such education and development within a post graduate programme, the focus of the existing programme favoured advanced nursing practice and assumed that students had mastered the application of fundamental knowledge to practice experience. Yet many nurses in the unit were not at this level of practice, had limited academic experience or had significant family and work commitments that precluded them from undertaking post graduate study. The limitations of existing educational provision were most apparent for nurses with less than two years experience in critical care, those with significant outside commitments and those with limited experience or confidence in their academic abilities.

The opportunity for experienced nurses to develop and apply advanced practice knowledge through post graduate study needed to be maintained for professional development options, succession planning and to create a professional development framework for staff within the unit. Yet existing dissatisfaction concerning the lack, or inappropriateness of ‘other’ options highlighted a need for an alternative approach for the remaining majority of nurses to undertake specialty level qualifications in critical care nursing. Incongruence with the recommended proportion of nurses holding specialty level qualifications and the cost of supporting increased numbers of nurses to attend post graduate programmes in the North Island provided significant impetus to convince clinical stakeholders to support the exploration and subsequent introduction of a locally provided alternative for critical care nursing education.

What is effective education?

The ultimate aim that educational preparation and practice development should improve the delivery of nursing care to patients who are critically ill and provide support for their families is undisputed. Yet the ‘right’ approach to educational delivery and evaluation is less clear. The demands of clinical practice require nurses to be critical thinkers and problem solvers who are able to apply
advanced knowledge and technical skills to complex and dynamic practice situations. Although each critical care nursing education programme may claim to foster such practice development, it is widely acknowledged that significant disparity exists concerning the content, delivery, academic and clinical requirements within each programme despite the 'generic' titles that accompany them (Scholes et al., 2000; Jeffrey, 2000; Camsooksai, 1999; Scholes and Chellel, 1999). So who is right? And under what authority are such claims made?

It would seem that much of the research pertaining to critical care nursing education provide 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) (Dean, 2001; Strachan et al., 2000; Charlton et al., 2000; Chaboyer and Retsas, 1996; Durston and Rance, 1995; Ball, 1992). Despite apparent concern for professional practice and public accountability, the current literature fails to enlighten the reader as to how nurses actually use learning to develop their practice. Although some authors report nurses' perceptions of personal learning needs (Gibson and Douglas, 2000; Camsooksai, 1999; Chaboyer et al., 1997), analysis of such data and subsequent conclusions are invariably integrated into prescriptive frameworks and predetermined learning outcomes rather than informing teaching and learning practices.

Research demonstrating the effect that specific teaching and learning strategies may have upon observable or quantifiable learning can be beneficial for course structure and curriculum planning if the aim of nursing education is to achieve specific measurable learning. Yet 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. The process of learning and its relationship to practice development is an important factor within the concept of effectiveness that is virtually overlooked. Consequently, the means by which education is evaluated frequently fails to consider what effective learning means to individuals, or how they use learning to enhance practice at an individual or collective level. As nurses provide and facilitate care for critically ill patients and their families, surely their perspective on the effectiveness of learning and its influence on practice development should be more closely considered in programme planning and evaluation (Hardcastle, 2004b).

The concept of novice to expert practice progression (Benner, 1984) is embedded within many professional development frameworks in clinical practice settings and was, in part, derived from observation within the critical care nursing context. Yet the role of clinical experience in practice development does not appear to be as consistently reflected in formal teaching and learning approaches in the specialty. When one explores what effective education means to nurses, and how they use learning to develop practice, the concept of relevance to one's own practice level, environment and level of understanding is clearly evident (Hardcastle, 2004a; Little, 1999, 2000; Hogston, 1995). There is a synergistic relationship between education and practice experience that must be explored when considering what, when and how formal educational programmes should be utilised to support clinical practice experience.

Whilst the advanced practice focus of many post graduate programmes may be appropriate for experienced nurses seeking further professional and career development it should not be assumed that this level of preparation is relevant, and therefore effective, for the practice of all nurses in the specialty. Indeed, the sole provision of an advanced practice programme proved inappropriate for the learning and practice needs of many nurses within the unit discussed in this paper. Rather than imply that post graduate education is inappropriate, the analysis of learning needs within the unit indicated that a continuum of educational provision was required in order to provide the right education for the right people at the right time in their practice development. The search for an alternative course of study to complement the advanced practice programme led to a collaborative venture with a local education provider to explore the potential for graduate (degree level) courses within an existing Graduate Certificate in Nursing Practice programme.

Collaboration in practice

Utilising the learning needs survey and local research findings the aim of the venture was to develop a means of formal education that would enhance and develop clinical practice in a way that was relevant for learners and the practice area(s), whilst also reflecting international standards for critical care and the NCNZ (1999) and New Zealand Qualifications Authority (1992) frameworks. The target group in terms of practice experience and theoretical knowledge focus comprised primarily of nurses with six months to two years experience in critical care, although nurses not wishing to undertake master's level study
were also considered. The overall focus was to explore the theoretical knowledge underpinning physiology, pathophysiology, and common treatment modalities for the most common critical care patient presentations and the application of such knowledge to clinical assessment, data analysis and nursing intervention at the bedside. A body systems approach had been identified by potential students as a useful approach and was acceptable according to National standards (CCNS, 2000) and the clinical practice environment. The adoption of such an approach also facilitated the development of two complementary courses that, although designed to be completed in succession, enables students to complete each course at any time in any order. The adoption of this modular approach has subsequently enabled some students to complete the critical care courses over two academic years when their personal circumstances or work experience requirements would have ordinarily negated their study opportunities until the following year.

Traditional approaches to collaborative educational ventures invariably incorporate some form of joint appointment to ensure that the needs of clinical and educational environments are adequately represented (Gibson and Douglas, 2000; Strachan et al., 2000; Hendricks-Thomas et al., 1995). However, significant problems with this approach have also been identified including blurring of role boundaries, hidden hours, potential bias in relation to assessment processes, lone role responsibility and inadequate or ‘assumed’ preparation of clinically based educators or clinicians for academic roles (Hessler and Ritchie, 2006; Billings, 2003; Wigens and Westwood, 2000; Scholes and Chellel, 1999). Consequently, the clinical nurse educator (CNE) and tertiary lecturer roles within this venture, and subsequent course delivery, are distinct with protected time for the CNE to work alongside the tertiary lecturer for course development, planning, evaluation and theoretical assessment, whilst the responsibility for clinically based assessment resides with the CNE and senior clinical staff. This relationship has resulted in significant clinical input into course design, teaching, assessment and evaluation whilst ensuring that the evolving programme is academically robust with respect to design, delivery and assessment procedures. The combination of many perspectives facilitated by two clinically grounded educators has enabled the development of, and commitment to, an educational programme that strives to maintain relevance for every day practice and the development of nursing in critical care.

Discussion

The decision to explore the possibility of, and subsequently embark upon, graduate level education for critical care nursing was somewhat controversial in the New Zealand context. Very few tertiary education institutions in New Zealand provide graduate level education for registered nurses seeking professional development opportunities as, anecdotally, this level of education may be perceived to be inferior to post graduate study with respect to practice and professional development. In the critical care context in New Zealand all other post registration critical care nursing education programmes are delivered as components of post graduate certificate, diploma or master’s degree programmes. So was the decision to invest time, money and energy in a programme that may be seen to be ‘inferior’ or ‘an easy option’ brave or misguided?

The rationale for this venture was driven by the desire for formal education that would improve the delivery of nursing care to patients who are critically ill and provide support for their families. The underpinning philosophy is that this can only be achieved through the development of collective nursing practice which involves all nurses, regardless of their experience in the critical care environment. When one considers the vast range of clinical practice experience and theoretical knowledge amongst the nursing staff in any one critical care unit, the extensive scope of the professional practice continuum is surely evident. And, whilst in-service education and training address the immediate practice safety concerns, many units look to formal education programmes to provide the theoretical basis for more generic critical care nursing knowledge and practice development. Nurses entering into practice in critical care generally have fewer years of general nursing experience than in previous years (Messmer et al., 2004). This highlights an expanding ‘gap’ and increasing demand for educational input between in-service orientation and advanced practice programmes. Educators, clinicians and learners are thus urged to more closely consider what constitutes the right education? And to question whether existing educational programmes actually relate to the clinical practice experience, individual, and collective learning needs of the nurses involved.

Evaluation

The aim of this particular collaborative venture was to provide a dynamic and responsive educational
programme that, by focusing on fundamental every day practice, would enable nurses to understand the 'whys and what fors' surrounding clinical practice in critical care in order to rationalise and critically analyse clinical assessment data, collaborative decision making and nursing interventions. To explore the extent to which this was achieved students who had undertaken both critical care courses in the first year of the programme completed detailed written course evaluations ($n = 10$). Design of the evaluation form was influenced by the issues identified during the needs analysis survey and the author's research exploring the meaning of effective education for critical care nursing (Hardcastle, 2004a). Four core themes within the phenomena of effective critical care education were identified using thematic analysis; personal quality, practice quality, the learning process and learning needs, and one essential theme of 'appropriateness or relevance for individual learning experiences' (Hardcastle, 2004a). The evaluation questions were designed to seek information that would reflect these themes in order to provide data that reflected the core objectives for the programme.

Students were asked to rate (using a Likert scale of 1–5) various elements of the programme according to 'usefulness' for their learning needs ('limited use' to 'very useful' respectively). Students provided numerical ratings concerning 'relevance of learning for my daily practice', 'support for my learning', 'ability to tailor course work to my individual needs and interests' and 'course format and delivery methods'. Additional written comments were sought concerning personal quality (development of value as a team member), practice quality (ability to understand and rationalise practice decisions), learning process (various teaching methods rated for usefulness) and 'additional comments for course improvement'.

Evaluation data revealed extremely positive ratings concerning relevance for practice, support for learning and course delivery. Additional comments highlighted an increase in confidence to practice and contribute to patient care management decisions and an increased understanding and ability to rationalise thoughts, decisions and 'explanation to others'. Comments also revealed a desire for more contact study day time and more detailed guidance relating to course assessment work, particularly relating to academic writing and using literature to support practice.

All evaluation data to date supports the decision to embark on graduate level education for critical care nursing. Data suggests that students value both the fundamental practice understanding focus of the programme, and the degree of teacher-directed learning and assessment afforded by graduate level study.

**Conclusion**

Advancing nursing practice through post graduate study remains an integral component of professional development within the unit discussed in this paper. Yet analysis of the overall learning needs in the unit identified that the gap between in-service orientation and the advanced practice programme was not only significant, it was potentially affecting the quality of care in the unit by limiting the number of nurses undertaking formal critical care education appropriate for their level of practice knowledge and experience. When asked to identify required and desired components of education and practice development in critical care nurses in the unit described fundamental aspects of bedside practice and highlighted the importance of clinical practice relevance. These components supported earlier research which identified relevance to practice as the most significant component of effective education for critical care nursing (Hardcastle, 2004a).

Whilst all other critical care nursing education courses in New Zealand are provided as components of post graduate nursing programmes, development of an additional post graduate course was not believed to be the most appropriate approach to meet the fundamental knowledge and practice needs identified by nurses throughout the South Island. The exploration for an alternative form of formal education highlighted the vast scope of clinical practice knowledge and experience present in the unit and validated the assumption that a more practically focused, taught course with specific content objectives might be more appropriate for those nurses with less experience or opposed to undertaking post graduate study.

Collaborative exploration with a local tertiary education provider experienced in graduate level education for registered nurses has enabled significant clinical input into the development and delivery of two complementary courses in critical care nursing that contribute towards a Graduate Certificate in Nursing Practice qualification. The courses are in their fourth year of delivery and continue to receive positive feedback and evaluation from learners, the clinical practice area and the tertiary provider. Several nurses have gone on to complete other courses within the graduate certificate programme to further expand and consolidate their practice knowledge. Due to the success of
the initial venture and collaborative relationship, a specialty endorsement in critical care nursing has now been approved within the current programme structure.

There is an abundance of literature pertaining to critical care nursing education, yet few papers explicitly discuss the relationships between teaching, learning and practice development. Increasing one’s knowledge of the factors that influence learning and the utilisation of learning in practice should be integral for those involved in planning, delivery and evaluation of the effectiveness of critical care education and its role in practice development. Educators, clinicians and learners are urged to critically appraise the aim and role of existing educational programmes and their applicability according to the learner’s level of practice knowledge and experience. Whilst the overall aim of critical care education can be achieved through education and experience it is vital that the right education is provided to the right people at the right time. There is a role for graduate and post graduate education within the clinical practice development continuum. Post graduate education may not ‘fit all’ and failure to question the assumption that it does could be detrimental to education, learning and the development of clinical practice.

Acknowledgement

The author acknowledge the contribution of Kerry Davis (Clinical Nurse Educator, Department of Intensive Care Medicine) for undertaking the learning needs analysis survey, clinical negotiations and clinical input into course development and delivery.

References


National Board for Nursing, Midwifery and Health Visiting for Scotland (NBS), 2000. Continuing professional development...
portfolio: a route to enhanced competence in critical care nursing. NBS and Interactive Design, Edinburgh.