
CHAPTER 9**AN OPERATIONAL CURRICULUM MODEL FOR AUTHENTIC
NURSE EDUCATION**

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Abstract

A complete rewrite of an undergraduate nursing programme curriculum presents an opportunity for authors to reflect on all aspects of teaching and learning, propose solutions to problems using innovative approaches and take the opportunity to explore alternatives to the current, known or safe options. This paper details the curriculum development experience and outcomes of The Central Queensland University, School of Nursing. One of the products was the development of an operational model that aimed to provide a visual representation of the overall curriculum to guide and confirm content sequencing, reduce risks of arbitrary or individual course changes and remind subject authors to address current nursing theories and promote professional attributes within the content of every subject offered. The other development discussed here is the implementation of an integrated clinical practicum model aimed to overcome the theory-practice divide.

INTRODUCTION

This paper details the experiences and considerations underpinning the creation of a new curriculum adopted by a large regional university's School of Nursing. The experience of planning and development involved academic staff, industry and community representatives. This paper describes three areas that became the focus of debate and proposals for the new curriculum. These were, the need to control course content and prevent content duplication or subject alteration among the four delivery sites throughout the region, the desire to direct course writers to build into every subject nursing theories and professional attributes such as commitment to life-long learning, communication skills and a holistic approach to nursing and eliminate what came to be called the theory-practice divide which impacted on many of these issues

The result was a new model for clinical experience, a curriculum that aimed to ensure concurrent clinical and on-campus experiences were integrated and

provided coherent learning opportunities and the design of an operational model. This operational model allowed course writers to site their subject within the overall nursing programme, relate their particular subject to other subjects and identify the nursing theories and generic skills that were expected to be included within each subject.

BACKGROUND

The education of registered nurses in Australia is through universities. Each undergraduate programme must satisfy not only academic requirements but meet the educational standards of the nurse registering body in each state. Undergraduate nursing curricula aim to provide not only essential theoretic and clinical education but develop in students professional competence and confidence through incorporation of varied teaching and learning strategies, opportunities for students to rehearse and model behaviours, practice decision making skills and learn to balance those aspects of the art and science that makes up nursing.

Most nursing curricula undergo updates and revision or regular rewrites in light of local policies. This was the case for the School of Nursing at Central Queensland University. Towards the end of the current curriculum's 5 year accreditation, there were four regional campuses with teaching teams at each site who changed year to year for various subjects. Staff meetings had identified there had been content drift and content duplication. Clear content boundaries and coherence between concurrent subjects had been lost, relationships between each semester's subjects, particularly those for nursing theory and nursing practice were, in some areas, becoming tenuous. Advanced subjects designed to build upon first year introductory content and learning frequently revisited and duplicated prior learning. Therefore late 2003, staff from all campuses came together to consider these issues during a two day workshop.

Presented with an opportunity to design a new programme the working groups asked various questions such as 'what will dictate content and teaching to achieve cross campus consistency, avoid duplication of content and ensure critical learning and agreed professional and academic standards will be met?' How to better link theory subjects to clinical experience and what were the possible models for clinical experience were also key areas of interest to staff.

CURRICULUM ALTERNATIVES

The Final Report for the Australian universities teaching committee (2002) investigating Learning outcomes and curriculum developments in nursing identified, 'Nursing graduates need to be critical thinking, reflective and self-directed, lifelong learners and that the broad requirements noted in the

ANCI [now known as the Australian Nurse and Midwifery Council] competencies continue to reflect current thinking' (p.1). There was consensus between industry representatives and staff that this was the case for this school of nursing. This report explored the problem of 'workplace readiness' and the widespread problem of teachers of nursing committed to promoting generic skills while students value practice skills, however, it found that: 'Overall, Bachelor curricular are sound, diverse and of high standard' (p.5). Both staff and industry representatives were not convinced that the current CQU curriculum entirely reflected this.

Staff debated whether a rewrite of the current curriculum or investigation of a new model was justified. Individuals elected to research other nurse education models and bring back to the school options for consideration. It was obvious staff did want to overcome duplication or repetition among subjects, they did see a need to balance content over the three year programme as it was clear that the current programme was overwhelming students in clinically focused second year subjects and all staff agreed there could be better use of clinical practicum experience.

IDENTIFYING OUR ISSUES

Theories about curriculum development over the last decade give support for nurse curricula to incorporate varied learning theories reflecting the goals of different subject areas. Staff wanted an holistic approach to learning where integration of disciplines can achieve thinking, reasoning and problem-solving capabilities plus a commitment to the theories, not just the skills of nursing. To capture all of these ideals meant the curriculum model had the potential to become extremely complex, yet a simple replication of established and accepted models, might not give sufficient direction to subject authors nor satisfy industry demands for a work ready graduate.

Recognition of the value of promoting strong ties to the workplace and

The curriculum must rest upon a philosophy held by the whole school which clearly articulates the mission of the School of Nursing. Most curricula are formulated and based on several philosophies (Radcliff, 1997). Staff addressed this issue by exploring various national and international examples of curricula, mission and philosophical statements, a number of which were adapted and resulted in redefining the Mission statement and articulating a clear philosophy.

The need to include unique nursing theory concepts was another requirement. While nurse education draws from many disciplines there is discipline-specific knowledge that characterises the professions' unique perspective and nursing actions (Sousa & Hayman, 2002). Nursing theories

are evolving, they provide a framework for practice thus they give direction to curriculum development. Four paradigms, (frequently referred to in nursing literature as metaparadigms) person, environment, health and nursing represent a world view of common concepts in nursing (Tourville & Ingalls, 2003). These concepts were understood and accepted by staff and industry representatives, and are clearly articulated in a number of nursing curricula in Australia (Clare et al., 2002).

Further, the model needed to meet the demands of staff who had been working to regulate content, limit innocent subject mergers and duplications. A stated aim was to remind course authors and future teaching teams of precisely how each subject related to others in the overall programme, while insisting subjects reflect current theories of nursing education and practice.

Preparation of students to meet and survive the complex, demanding and changing health care environment is a theme that flows unrelentingly through nursing literature (Clare et al., 2002; Ferguson & Jinks, 1994; Fitzgerald, 2001; Heinrich, Karner, Gaglione & Lambert, 2002). In Australia and overseas there are challenges facing nurses, including technological, economic and cultural changes. The serious shortage of nurses has required role adaptations among health staff including nurses. These circumstances dictate that nurse education must incorporate opportunities for students to problem solve, function as critical thinkers and be effective communicators in the real world (Dillard, Sitkberg & Laidig, 2005).

Meetings with industry representatives identified that industry wanted 'industry ready graduates'. They argued that nurse programmes were 'too theoretic' and did not give graduates preparation for the 'real world'. These discussions were alluding to the theory-practice divide issue that appeared to be a concern for all established nurse curriculum models (Landers, 2000).

WHICH CURRICULUM MODEL?

There was a desire among the working party to identify or create a curriculum model that went beyond the 'specific, discrete, physical, trainable behaviour' (Barrow, 1999 p.133). Finding a model that best reflected the ambitions of the working groups and committees proved difficult. It seemed that what Schwab had argued in 1970 'that in principle, no single theory can provide an adequate foundation for educational practice' was a truism (cited in Terwel, 1999, p.196). The debate among staff and industry representatives was also raising questions about the meaningfulness of nurse education.

Bevis, (2000) a specialist in nurse curricula has moved from a strongly behaviourist curriculum development paradigm in 1989 to a new paradigm that focuses on human interaction and active learning. This reflected the

philosophy of the academic staff. Our question was 'how can we influence the teaching and learning experiences to ensure the new broad philosophy of nurse education is unambiguous and incorporated at all levels'. The aim was to marry what Bevis (2000) calls the legitimate curriculum, that is those written documents that are official and accredited and the operational curriculum, 'what is actually taught by the teacher and how its importance is communicated to the student' (Posner, 1992, p.10).

The majority of nurse educators first learned to be nurses in curricula that were created with Tyler's model which called for prescribed curriculum development products, were strongly behavioural in orientation and focused on learning objectives (National League for Nursing, 2003). A criticism of a behavioural model is that it promotes homogeneity and conformity at the expense of affective and cognitive behaviours (Ferguson and Jinks, 1994; Stenhouse, 1975). Student nurses today are encouraged to be explorers, use principles to guide their practice and draw upon broad experiences to develop critical thinking, creative solutions and develop the ability to find information in a timely and effective manner. These abilities are incorporated in subjects that are generally referred to as 'theory component'. Academics would argue that these skills develop a lifelong learner who will be an asset to industry.

Nurse education reflects behavioural education theories in so far as it is goal orientated and behaviours that meet standards of practice are rewarded. Large tasks are broken down to smaller tasks, and each task is learned in successive order (O'Neil, Fisher and Newbold 2004, p.18). This type of learning satisfies the skill requirements of industry. Competency based instruction and competency assessment provide direction for teaching and learning activities. Achievement of the Australian Nurses and Midwives Council competencies is a national standard for registration. Competency based instruction guides clinical learning and clinical assessment and models of teaching, content decisions and evaluation are strongly influenced by this focus.

Nursing is grounded in science, observable and measurable skills are essential but to prepare for a career based within a very complex health environment, to be able to fulfil the many roles a professional nurse undertakes, means these skills are only a component of content (McEwan, 2002). Nursing also requires education that emphasises cognitive skills, analysis and critical thinking as nurses' work is more than skill attainment. Tertiary studies involve a commitment to more than vocational, functional outcomes.

Curriculum models have been developed based on nursing models. Simulation activities to prepare students for practice are married with learning

experiences aimed at promoting mature, discriminating, problem solving thinking based on professional ethics and standards. The current curriculum had been developed with these aims. Discussions continued to expose differences in the perceptions of graduate readiness. Some staff argued that the balance of theory and practice in the current curriculum was producing suitable graduates. However industry representatives insisted they wanted vocationally sound, better prepared graduates capable of rapid assimilation into the workplace culture. Examining the current curriculum in light of these arguments highlighted the difference between what the current curriculum intended and what was happening in reality. Staff did accept the possibility that expertise within a discipline had influenced course offerings and content, rather than being directed by curricular intent (Short 2002, p.141).

THE OPERATIONAL MODEL FOR COURSE DESIGN

Rosenmund (2000) differentiates between curriculum-making processes described as an institutionalised practice of educational administrations and the curriculum process which mediates between present conditions and expectations about the future. The desire to implement some type of regulatory process, set boundaries and direct content for each of the building blocks of the new programme and to expose course writers to nursing and education theories was overt in the contemplation and planning of a new curriculum.

The aim was to identify a model that could test proposed courses against each other to ensure content, sequencing and progressive learning would occur. Further, given the breadth of nursing studies, the professional and clinical skills and competencies that underpin practice, this model should allow course writers to structure content to reflect these critical learning requirements.

A schematic representation of the curriculum was created. It aimed to show the relationships between subjects, help staff to map their own course content in relation to each stage of the programme and clinical learning experiences. Further, the design unambiguously directed the course writers to recognise and work to consciously include learning that promoted reflection (Greenwood, 1998), critical thinking, (Rubenfeld & Scheffer, 2001), emotional intelligence (Bellack, 1999) and a commitment to self directed, life-long learning (Cornford, 2000) characteristics 'broadly agreed that nurse graduates require' (Fitzgerald 2001, p.39).

These concepts were identified by Clare, White, Edwards & van Loont (2002) in their study of current curricula and clinical education models in Schools of Nursing throughout Australia. The lack of empirical evidence and

thus lack of best practice models to guide nursing curricula was identified as an issue in that study. However, the review did report that nationally there was agreement about what was important in a nursing curriculum. These were the same issues that this School of Nursing wished to address, particularly the need for early clinical placement and a commitment to the premise that 'nursing graduates need to be critical thinking, reflective and self-directed lifelong learners' (Clare et al., 2002, p.1). The requirements of the Australian Nurse and Midwifery Council competencies are recognised by the nursing profession as current and valid and these also provide direction for content and assessment of both undergraduate and graduate nurses.

The design evolved (see Figure 1) was a combination of blocks of content with core concepts of nursing theory integrated throughout the whole programme. The design accommodates traditional content, that is, blocks of knowledge (Csokasy, 2005, p.153) but rather than allow these to be rigid, the concepts of self-reflection, self-direction, personal growth and recognition of the breadth of individual and nursing needs would be overt. The desire to adopt a spiral approach to learning and avoid a linear or closed approach came to be called consolidation. The programme would provide opportunities to review, revise and apply prior learning concurrent with practice in complex nursing environments.

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Figure 1: Operational Curriculum Model (Madsen & Savage 2003)

This three dimensional model demonstrates that there are three vertical levels which represent how learning progresses from broad fundamental learning and skills to prepare students for clinical experiences to increasingly more complex concepts. The highest level ensures there is opportunity to bring prior learning together with practice to consolidate and develop a broad repertoire of knowledge and skills across four paradigms. This hierarchy directs teaching design and course sequencing.

Subjects in the first year of the programme tend to fit at the base of the pyramid. Preparation for supervised clinical practice leads to progressively more complex clinical experience where the theoretic components are integrated at the relevant stage of student learning. This means in essence that the course writers developed student learning materials for both clinical and theory experience within each specific subject. On-campus learning was directly linked to clinical performance and clinical assessment required evidence of both theory and practice.

USING THE SCHEMATIC

The curriculum directs course content, sequencing and programme outcomes. Each subject must fit within the curriculum to ensure it satisfies accreditation requirements, meets professional registering authority assessment for student competence and relates to the overall model of teaching and learning in a coherent and logical manner. Each subject can be fitted within this model and the subject authors can see the relationship to overall student learning and clinical experiences.

While various subject areas lend themselves to different teaching methodologies, identifying where in the schema these occur allows for adjustments to be made in order to avoid grouping of similar learning experiences and to maintain a varied and balanced student experience. For example, nurse researchers have identified positive gains in student learning with student-centred, problem-solving, experiential activities (McMillan & Dwyer, 1989). Situating courses utilising these strategies within the schema avoids a concentration of subjects using this methodology and opens the way for inclusion of more reflective, research orientated subjects concurrently.

Metaparadigms

Central to most nursing curriculum are four metaparadigms: nursing, person, health and environment. Nursing theories derived from nursing conceptual models clearly identify with the nursing metaparadigms; thus they are unique nursing theories (Fawcett, 1996). While these concepts have relevance to other disciplines, they have been developed by nurse researchers to reflect nursing's unique perspective to provide the basis for nursing care. Some nursing models clearly articulate the four metaparadigms, in other curricula they are less obvious (Tourville & Ingalls, 2003 p.22). These metaparadigms form the basis of this curriculum model.

- The person represents the individual, client, family or community with whom the nurse has a therapeutic relationship. This concept

embraces the holistic focus of nursing, recognizing the interaction of others and the partnership between the 'client' and the nurse.

- The environment allows for the broadest interpretation of where the therapeutic relationship occurs. The factors within the environment that influence the relationship are as varied as the environments themselves.
- Health can be seen as the absence of disease, a continuum, an optimal functional level in relation to an environment or an individual's own measure of their wellbeing.
- Nursing involves assessment, diagnosis, planning, intervention and evaluation in the provision of care. Further, nursing has requirements for health education, health teaching and multidisciplinary knowledge and skills to address all the dimensions of individual needs, at different stages of the lifespan (Tourville & Ingalls, 2003).

Critical supports

In addition to the metaparadigms, a number of critical supports, or elements fundamental to nursing curriculum, have also been emphasised. These are critical thinking, therapeutic relationships, reflective practice and life-long learning.

Critical thinking content is premised on the requirement to apply holistic nursing knowledge in varied situations to ensure their care is individualised and effective. Nurses need to be empowered to move from what Carlson-Catalano (1992) described as obedient, dependent and fearful care providers.

Therapeutic relationships rely on high order communication skills. Nurses need effective communication strategies and an appreciation of cultural, social and educational impacts for developing and maintaining partnerships with a complex multi disciplinary workforce and clients.

Reflective practice promotes learning from experience (Freshwater, Horton-Deutsch, Sherwood & Taylor, 2005). It provides a bridge between clinical activities and classroom experiences, and, as it is student centred, it is attractive to adult learners as they can draw upon their own values and identify their own learning needs, developing the traits of a life-long learner.

These supports relate to another issue that a number of staff identified as an essential concept which must be built into the design, emotional intelligence (Vitello-cicciu, 2003). Emotional intelligence promotes the ability to accurately perceive, appraise and express emotion, facilitates understanding

of one's self or others, implies the ability to regulate emotions to promote emotional and intellectual growth (Cox, 2002).

As the student nurse moves through the programme, she/he can build on Foundational Knowledge and Skills within all metaparadigms, incorporating Clinical Knowledge and Skills until they consolidate this knowledge and skills as a professional practitioner ready to enter the workplace.

THEORY-PRACTICE DIVIDE

Two reviews of nursing education, one focused upon a systematic literature review of nursing curricula, clinical education and transition from Australia and overseas, (Fitzgerald, 2001) and the other focussed on nursing curriculum models, (Clare et al., 2002) found little evidence to provide specific guidelines for development of a particular model for nurse education. There was agreement in these reviews that nursing curricula need to include what Short calls 'discipline based knowledge' and 'practical or mission based knowledge' (2002, p.141). Nurses refer to these concepts as the theory and practice of nursing. Variations in nurse curricula tend to reflect these specific concepts as theory content and clinical learning and experience.

Overcoming discrepancies between what is taught in theory and what is learnt in the clinical setting is not a new problem for nurse education, although commentators approach the concept in various ways to define, explain or give directions for solutions from very different perspectives (Allmark, 1995; Benner, 1984; Hislop et al., 1996). The term 'theory-practice divide' as it is used here relates to perceptions on the part of staff and identified from student course evaluation data, of poor integration between subjects taught from a discipline perspective and the clinical practicum component which is skill focused and practical. Clare et al. (2002) suggest that using the term 'work readiness' better describes the concerns that employers and students raise about the relevance of course content to clinical work.

Ferguson and Jinks (1994) propose that for nurse education it is the existence of two distinct curricula that creates this gap; the official curriculum which strives to prepare a 'knowledgeable questioning practitioner' who is focused on client needs and the hidden curriculum experienced in the clinical environment, which aims for a 'compliant novice who is focused upon meeting the institutions need' (p.689). Clare et al. (2001, p.2) reported that participants in that large study identified lack of relevance and linkages between subjects taught and actual practice was one cause of the theory-practice divide, lack of currency of clinical knowledge on the part of academics was another.

The involvement and on-going support of industry representatives and their interest in achieving a curriculum that would meet industry needs was an example of what Radinsky, Bouillion, Lento & Gomez, call mutual benefit partnerships (2001, p. 418). The school was working with representatives to achieve direct and consistent industry input within the programme as one strategy to reduce the theory-practice divide.

Much of the discussion between industry and academics circled around the idea of authenticity, that is, 'the relationship of school activities to professional practice' (Radinsky, Bouillion, Lento & Gomez, 2001, p. 405). To identify what education experiences will be recognised as 'authentic, Radinsky, Bouillion, Lento & Gomez,' (2001) report that curriculum reforms which are building stronger connections between schooling and adult professional practice gives support to claims that authentic learning experiences are thereby achieved.

The desire to build stronger connections between school/university based learning and industry is a theme well documented in education (Lave & Wenger, 1991; Radinsky, Bouillion, Lento & Gomez, 2001). Whether there would be agreement among the school of nursing teaching teams, let alone academic staff and the health industry as to what type of curriculum would achieve an 'authentic, nurse learning experience' was an issue for the working party. What was a constant theme in all discussions was a desire for extensive, supervised clinical learning experiences for students for the whole of their programme that were clearly integrated into those theoretic subjects that prepared students for each clinical experience.

Industry representatives who were involved in hiring new graduate nurses participated in these early discussions. They identified that they wanted 'less theoretically minded nurses', they wanted 'good communication skills', 'functionally ready and inculcated to the institutional mores' graduates. Deconstructing these terms was not easy and recasting these into programme aims, behavioural objectives and linking to professional competencies had academics claiming this outcome was already established, industry insisted it wasn't.

The need for student nurses to satisfy academic and vocational requirements has created a tension between industry and nurse education practices for generations, these are now simply more obvious in Australia with the physical separation that occurred with the move of nurse academic education into universities. Every nurse can recall being told 'don't worry about what they taught you in the school, we do it this way on the ward'. Research relating to these theory/practice gap issues consistently identifies students and industry

believe the gap exists (Fitzgerald, 2001; McAllister, 1999; Wellard, Williams & Bethune, 2001).

BRINGING IT ALL TOGETHER

One aim of the new curriculum was to overcome this theory-practice divide. One proposal, which was debated vigorously and investigated at length was to place students in the clinical environment for two full days every week and each semester's clinical placement was related to the nursing skills subjects taught concurrently. To achieve increases in length of student clinical placement time and achieve closer links between what was taught in nursing skills subjects and that clinical experience would require cooperation from industry to achieve clinical placement opportunities and agreement as to the management, support and experiences of students in an extended clinical practicum.

If this new curriculum were to address the stated need for consistency, prevention of duplication and repetition in subjects, provide a coherent programme, ensure the balance of learning throughout the programme and address the theory-practice divide, there would need to be a complete rewrite of the programme.

THE FINAL PRODUCT

Critically the industry representatives were positive about the operational model and proposed curriculum design involving two days clinical practicum commencing the second half of first year and extending throughout second year. The operational model showing the vertical organisation representing progression of knowledge (McCutcheon 2001) and the integration of concurrent clinical and theory at each level on the horizontal plane was understood and supported by student, community, academic, clinical and executive nurse representatives.

Guided clinical experience and clinical assessments if constructed using the model to include the metaparadigms and the critical supports, should avoid the risk of focusing only on performance skills and adaptation to the environment. This will be achieved through real world experience and focused learning which must provide opportunity to develop those attributes in every subject.

The new curriculum involves students participating in 2 days supervised, clinical practicum linked to clinical courses after completion of their first semester. The first semester subjects are designed to address the metaparadigms and prepare the student to satisfy general tertiary skills concurrent with science and nursing content.

After the first semester, subjects incorporate clinical and community experience components. Learning is directly linked to clinical placement. Placements vary each semester, all students experiencing acute nursing, community or aged or mental health experience concurrent with acute, aged, mental health or community subjects. Students remain in the same clinical environment for the whole semester, becoming part of the team but always supernumerary and supervised by a clinical academic who is responsible for linking on-campus content to clinical learning opportunities every week and assessing those taught skills.

The schematic can be used to remind course authors of the 'big picture'. Incorporates evaluation of student learning as each practicum has integrated clinical experience and assessment with on-campus learning. The tendency to try to include every possible thing a nurse needs to know in one subject can be countered by looking at where a course sits in relation to others in the horizontal and vertical planes.

The scope of the curriculum is bounded by the specified exiting requirements. While there will be evolution within subjects, space to explore various teaching methods and adapt to changing skill needs, this curriculum attempts to address the issue of legitimate and hidden curricula by closely allying industry experience to taught concepts. It aims to integrate core skill learning with nurse concepts while providing the learner with opportunities to explore their own values and attitudes.

REVIEW

The curriculum is subjected to constant review, learner outcomes and learner experiences will be monitored for each subject throughout the life of the curriculum. Whole programme and subject monitoring has been built into the implementation of the new model. Each semester, prior to each subjects offer, a committee reviews the content of the course, the relationship between course content and student outcomes and, where there have been identified issues in content level, duplication, coherence or student learning needs, adjustments to courses have been made in response. These adjustments are frequently immediate and the flexibility of the programme to accommodate these and involve all staff to consider structure, coherence and student progression in discussions has been a positive gain.

The progress of practicum and integration of new classroom based content with each week's clinical experience is reviewed monthly. Clinical learning is closely supervised by lecturer/clinicians who are an integral part of the teaching team.

There is no doubt that the strong links between theory and clinical learning are recognised and embraced. The student assessment strategies utilised have been varied and multifaceted. The cost in achieving the aims of the model to place every student in a closely supervised and assessed clinical learning situation concurrent with their classroom learning experiences are considerable. The new model involved the hiring of clinical teachers throughout the region. The education of these and other clinical staff to the new model of having long term and consistent student groups in place needed cooperation and adjustments by ward staff.

The complete rewrite of programme subjects to incorporate the stated objectives, integrate and marry clinical and theory content into each subject was time consuming and stressful. The constant review and implementation of transitional arrangements concurrent with a new curriculum was equally costly in terms of resources and staff stress. These costs will be balanced by student success and industry satisfaction and it will be these that will continue to be closely monitored.

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