Assessment of practice using the National Health Service Knowledge and Skills Framework

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ABSTRACT

Current difficulties in the assessment of practice of qualified nurses undertaking courses in critical care nursing are outlined and discussed. The evaluation and development of previously identified core competencies for intensive care nurses is discussed.The use of the National Health Service Knowledge and Skills Framework as a framework for the assessment of practice of nurses undertaking courses in intensive care nursing within one higher education Institution is presented and examined. The potential implications of these developments for practice and education are outlined.

Key words: Competence • Critical care • Knowledge and skills framework • Nurse education

INTRODUCTION

Prior to its dissolution in 2002, the English National Board (ENB) commissioned the University of Brighton to conduct a national consultation into the provision of critical care nurse education. One outcome of this project was the identification of 118 competencies reflecting the content of the ENB intensive care nursing (ENB 100) course (Scholes and Endacott, 2002). The areas of competency identified by Scholes and Endacott (2002) are summarized in Table 1. The School of Nursing at the University of Southampton adopted these competencies as a means of assessing the practice of students undertaking modules in intensive care nursing when these educational programmes were revalidated in 2002.

In March 2003, a working draft of the National Health Service (NHS) Knowledge and Skills Framework (KSF) was published by the Department of Health (Department of Health, 2003a). The KSF is an outcome-focused competency framework that has been developed to support implementation of the Agenda for Change (Department of Health, 2003b) pay restructuring within the NHS. Consequently, it will be used throughout the NHS to help identify staff training and education needs and to determine career progression. The Department of Health is currently discouraging the development of competency frameworks other than the NHS KSF (Department of Health, 2003a), and it was therefore considered timely to utilize the KSF as a framework whilst developing a competency assessment that would be used within an NHS context.

The initial aim of this project was to evaluate and develop the use of the Scholes and Endacott (2002) competencies within the assessment of practice of post-qualification students undertaking higher education courses in Critical Care nursing. Whilst this evaluation was being conducted, the working draft of the KSF was published (Department of Health, 2003a), and this informed future work in developing the competencies as a result of evaluation. The outcome of the project has been to map the Scholes and Endacott (2002) competencies against the KSF and to utilize the resulting framework of competencies as a means of assessing the practice of post-qualifying critical care nursing students.

The aim of this paper was to present this development within critical care nurse education. After a review of the key literature, the evaluation of the earlier assessment strategy at the University of Southampton is presented. The process and rationale for developing a pilot framework for assessment based upon the KSF is then described, before considering the development and validation of a final assessment strategy. Additional potential benefits and consequences of adopting this approach are also discussed.

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Table 1 Areas of competencies identified by Scholes and Endacott (2002)

1	Assessment
2	Airway management
3	Care of the ventilated patient
4	Care of the patient peri-/post-cardiac arrest
5	Care of the haemodynamically unstable patient
6	Care of the patient in renal failure
7	Care of the patient in liver failure
8	Care of the patient with an endocrine disorder
9	Care of the patient with neurological instability
10	Care of the nutritional needs of the critically ill patient
11	Care of the elimination needs of the critically ill patient
12	Care of the immobile patient
13	Care of the patient with wounds
14	Care of the intensive care environment and individual patient to meet infection control requirements
15	Care of the critically ill patient with regard to diagnostic techniques and investigations
16	Care of the pharmacological interventions required in the critically ill patient
17	Care of the patients need for sleep and rest
18	Care of the family

BACKGROUND

The assessment of competence to practice is problematic, and some authors have suggested that the concept of competence itself reflects an anti-educational mentality (Milligan, 1998; Watson, 2002) or leads to a fragmentation of practice (Redfern *et al*., 2002). The need for competency-based education within Critical Care has, however, been affirmed by the Department of Health (Department of Health, 2001; Department of Health, 2003a) as a means of assuring the quality of service provision. In addition, Critical Care competencies have been claimed to help promote an effective learning environment (Jeffrey, 2000) and to inform continuing professional development and curriculum development (Jones *et al*., 2002).

A simplistic understanding of competence may suggest that competence could be determined through observing a practitioner complete one successful performance in a task. However, Eraut (1994) makes a distinction between assessment of performance and assessment of capability, and highlights that one successful performance is not necessarily an indicator of a student's future capability. Therefore, a need exists to assess not only the student's competence to practice 'now', but also in an 'alternative now' and possibly 'in an unknown future' (Phillips *et al*., 2000). Competence may therefore be defined as 'the *ability* to operate in the real world whatever the conditions' (Benner, 1982).

Assessors state that they have difficulty in distinguishing differing levels of practice (Phillips *et al*., 2000), and differentiating between 'levels' of competence may therefore be problematic. This is further complicated within the context of higher education where efforts to distinguish between levels of competence may translate into attempts to grade clinical practice (Ashworth *et al*., 1999). Historically, the majority of higher education institutions (HEIs) has rejected the notion of grading clinical practice (English National Board for Nursing Midwifery and Health Visiting, 1997).

Whilst acknowledging that there are difficulties in determining level of competence, it is equally important to avoid defining competence as a 'ceiling' of performance. Benner (1984) describes competence as only one stage in the continuum of skill acquisition from novice to expert and Eraut (1994) points out that a merely 'competent' professional may be damned with faint praise when contrasted with the expert one. It may therefore be argued that an adequate model of competent practice must allow students to demonstrate progression beyond the minimum required level.

Poor inter-rater reliability is recognized to be a problem in the assessment of competence (Redfern *et al*., 2002), and many assessors feel ill-prepared for their role (Phillips *et al*., 2000). In order to ensure reliability of assessment, it is therefore necessary to maintain regular training of and communication with assessors (Eraut, 1994; Redfern *et al*., 2002). Additionally, reliability of assessment may also be assured through the triangulation of student self-assessment, assessor verification and written records of diagnostic interviews (Bedford *et al*., 1993; Redfern *et al*., 2002).

Bench et al. (2003) have proposed recently a competence framework for critical care based upon the classification of patient care need. Table 2 illustrates the classification of patients levels of care according to their increasing critical care need (Department of Health, 2000). The Bench *et al*. (2003) model describes a trajectory of competence, classifying the skills required to care for a patient with level 3 needs as higher than those required to care for a patient with level 0 needs. It is not certain, however, that this reflects developing competence as it is experienced by the student, and the poor validity of models in which the first levels of performance represent activity which is no less complex than in higher levels has been highlighted by Bedford *et al*. (1993). In addition, by placing the skills of intensive care nurses at one end of a spectrum the model is open to accusations of elitism.

Many of the competencies identified by Scholes and Endacott (2002) may be considered to be educational rather than outcome-orientated competencies. Educational competencies have been defined as competencies

Table 2 Levels of critical care need from Department of Health (2000)

Level 0	Patients whose needs can be met through normal ward care in an acute hospital.
Level 1	Patients at risk of their condition deteriorating, or those recently relocated from higher levels of care, whose needs can be met on an acute ward with additional advice and support from the critical care team.
Level 2	Patients requiring more detailed observation or intervention including support for a single failing organ system or post-operative care and those 'stepping down' from higher levels of care
Level 3	Patients requiring advanced respiratory support alone or basic respiratory support together with support of at least two organ systems. This level includes all complex patients requiring support for multiorgan failure.

which have 'what people need to possess' as their focus (Department of Health, 2003a). Such models are contrasted with an outcome–standard-based model of competence which focuses on 'what people need to achieve' (Department of Health, 2003a).

EVALUATION OF CURRENT STRATEGY

Methods

The initial evaluation of the Scholes and Endacott (2002) competencies was undertaken by a small working group (CM, IL and EM (article authors)) representing a collaborative partnership between the higher education institution and practitioners within one hospital trust. Formal ethical approval was not sought for an evaluation that was an integral part of the ongoing processes of educational quality improvement. The aims and methods of the project were clearly explained to all students, none of whom declined to participate.

The intention was to capture the perspectives of both students and their mentors on the assessment process, and therefore initial evaluation was conducted through the distribution of a questionnaire to both these groups. Whilst recognizing that more detailed responses may have been obtained through other methods such as semi-structured interviews, the resources for such approaches were not available. Questions were developed in relation to the key concepts identified in the above literature review and were subsequently examined for content by the working group in order to ensure that all potentially problematic issues relating to the assessment process were addressed. Two versions of the questionnaire were developed for both the students and their mentors, and the two versions of the questionnaire were matched for content in order to permit correlation of data from the student and mentor groups. Questionnaires were distributed to a convenience sample of seven students, who had undertaken the module from one clinical area, and to 26 mentors and other senior nurses involved in the assessment of these students.

In addition to information received through the questionnaire, the assessment documents of all 24 students in one cohort were examined to determine the number of competencies students were achieving, the number of staff involved in each student's assessment and the number of meetings held between students and their assessors.

Findings

Responses were obtained from seven students (100% response rate) and 11 assessors (42%). Key findings from the questionnaire are presented in Table 3.

Table 3 Key questionnaire findings

	Students ($n = 7$)			Mentors ($n = 11$)		
Key questionnaire findings	Yes	No	Other (unknown or unsure)	Yes	No	Other (unknown or unsure)
Did the competencies capture the depth and breadth of the discipline?	7 (100%)	0	0	6 (55%)	4 (36%)	1 (9%)
Did the assessments create opportunities for misunderstandings in the students' knowledge to be clarified?	6 (86%)	1 (14%)	0	10 (91%)	1 (9%)	0
Did the competency document clearly state to students and assessors the level of knowledge expected?	4 (57%)	3 (43%)	0	8 (55%)	2 (27%)	1 (18%)
Did the competency document allow assessment of fitness for practice?	6 (86%)	1 (14%)	0	7 (64%)	2 (18%)	2 (18%)
Did the assessments measure the student learning?	6 (86%)	1 (14%)	0	8 (73%)	2 (18%)	1 (9%)
Did the competency framework allow assessors to measure student's progression over time?	–	–	–	7 (64%)	3 (27%)	1 (9%)

Whilst 100% students agreed that the competencies captured the depth and breadth of the discipline, 45% of assessors responded 'no' or 'unsure' when asked whether they agreed with this statement. Other important findings were that 43% of students and 45% of assessors failed to agree (i.e. answered 'no' or 'unsure') that the competencies document clearly stated the level of knowledge expected, and that 36% assessors failed to agree that the competencies enabled them to judge whether students had progressed over time.

The questionnaire also highlighted key differences between the mentors and students perceptions of the assessment process. Only one student (14%) felt that they responded primarily by 'listing facts', whereas eight (73%) assessors felt that students did so. Significantly, whilst eight (73%) mentors assessed their students through a combination of direct observation of patient care and discussion, three mentors (27%) felt that students could be assessed through discussing the issues alone with no component of direct observation. No assessors made their judgements purely on the basis of observing students.

About 24 students in total completed the module and returned completed assessment of practice documents. Key findings from the audit of these documents are presented in Table 4 and highlight wide variations in student attainment (between 38 and 72 competencies achieved) and mentor involvement (students and mentor pairs had a range of between 1 and 23 meetings in total over the duration of the course).

DISCUSSION

Given the small sample size, generalization of these findings is not possible, although the survey does give a 'snapshot' of the way in which the assessment of practice was undertaken at this time, and suggested areas in which the assessment process could be improved. In particular, publication of the draft NHS KSF (Department of Health, 2003a) prompted the working group to consider whether the current assessment strategy could be improved through incorporating the KSF within the HEI assessment strategy. Consequently, the decision was taken to map the Scholes and Endacott (2002) competencies against the KSF for use as a framework for assessment within HEIs. In the following discussion, this work is considered in the light of themes, which emerged from the evaluation.

Developing the pilot framework

It was recognized that the initial work of mapping competencies against the KSF would not easily be achieved with a large group, and that consultation would be essential if practitioners were to have ownership of the final assessment framework. The staff in local intensive care units was therefore approached, and it was agreed that the working group (CM, IL and EM (article authors)) should undertake the initial work to develop a pilot framework. The experience of using this framework was then used to inform wider consultation in a final stage of development.

The working group mapped the original 118 competency statements (Scholes and Endacott, 2002) against the draft KSF. Each competency was examined and analysed, until consensus was reached regarding the dimensions and levels that were being described. At this stage, care was taken to ensure that no competencies were deleted or added. Once the KSF dimension and level of each competency had been determined, the competencies were grouped into themes such that statements within each theme were felt to represent student progression. Prior to piloting the resulting framework with students in 2004, training on the use of the new framework was provided to assessors through a series of assessors' workshops within each clinical area.

Given the requirements of Post-Registration Education and Practice (Nursing and Midwifery Council, 2004) and the need to promote a culture of life-long learning, the working party were concerned at the finding that assessors could not always determine whether students had progressed over time. It was therefore determined that any future model of assessment of practice should enable nurses to clearly demonstrate the professional development, which could be attributable to having undertaken a course of study.

It was noted in the audit of competency documents that some competencies were achieved markedly less frequently than others, suggesting that students and/or mentors were 'cherry-picking' the competencies to be achieved, whilst ignoring other aspects of critical

Table 4 The range of student and mentor involvement demonstrated by audit of competency documents

	Lowest	Highest
Number of competencies completed by each student (minimum = 30)	38	72
Number of mentor/student meetings held in total	1	23
Number of individuals involved in assessing each student	1	10

care nursing practice. Areas of intensive care nursing practice which are anecdotally recognized to be less 'popular' (e.g. infection control, care of patients with endocrine disorders) were less frequently addressed. In order to address this concern within the adopted assessment strategy, students are required to demonstrate defined levels of competence across a wide range of competencies rather than by demonstrating expertise in a narrowly defined range of competencies.

The KSF is expressly designed to support lifelong learning (Department of Health, 2004). The use of student self-assessment at the outset of the module, together with the use of the KSF as a framework for assessment within HEIs, enables students to demonstrate progression in terms which relate directly to their own personal development plan and to criteria for their career gateways. In this way, the programme of study may be better integrated with both the students' personal needs and the needs of clinical practice. It should be noted that the levels within the KSF refer to a widening of the scope of a practitioner's competence and do not represent a grading of practice. At any given level within the KSF, competence can be considered only either to have been achieved or not (Department of Health, 2003a).

Variations in student attainment and mentor involvement suggested a great potential for inconsistency and unreliability in assessment, and the levels within the KSF offered a means of clarifying the performance necessary to consider a competency to have been achieved. Clear generic level descriptors, such as those included within the KSF, have been recognized as a means of increasing reliability and validity (Redfern *et al*., 2002) and as staff gain familiarity with the KSF, it is likely that the reliability of assessment will increase commensurately, if HEIs assess their students against these known criteria.

The working group felt that a highly prescriptive approach such as the use of detailed answer guides would increase the reliability of the assessment at an unacceptable cost to its validity. Instead, exemplars were given in order to indicate the level of performance or knowledge that may typically be associated with a particular competence. The use of examples as performance criteria is also acknowledged to increase reliab ility (Redfern *et al*., 2002). This approach was felt to be the best fit between the competing demands of reliability (that all students be judged against the same standard) and validity (that each student will be performing in a unique and complex situation).

When mapped against the KSF framework, the original Scholes and Endacott (2002) competencies were found to represent competence across 10 dimensions of the draft KSF (Table 5). The pilot framework therefore contained 125 competency statements across 58 themes. Initial reports to the working party suggested that students and mentors were gaining familiarity with the KSF and found the new framework to be intuitively easy to understand and use.

Developing the final framework

The resulting framework was piloted with one cohort of between January 2004 and July 2004 in order to allow nurses in clinical areas to gain familiarity with the KSF and to enable consultation within individual units about how the framework could be improved. This informed the final stage of the project, between July and September 2004, when senior nurses from all stakeholder practice areas (five local intensive care units or combined critical care units) were invited to join an expert focus group, in order to refine and validate the pilot framework.

Each competency within the framework was discussed by the focus group, and the themes clarified. Consensus was reached that the competencies within each theme represented student progression and accurately reflected the appropriate level of knowledge or skill within the KSF. Elements of some competency

Table 5 Knowledge and skills framework dimensions (from working draft March 2003)

Core dimensions	
1	Communication
2	Personal and people development
3	Health, safety and security
4	Service development
5	Quality
6	Equality, diversity and rights
Specific dimensions	
7	Assessment of health and well-being needs
8	Addressing individuals health and well-being needs
9	Partnership
10	Leadership

statements were deleted where repetition was evident, and some new competency statements were drafted to ensure that all levels of competence were described within each theme. Content validity of the resulting framework was assured through seeking consensus within this expert group.

The problems inherent in relying upon 'fact-listing' as a means of assessment were highlighted in the initial evaluation exercise. These findings demonstrate a weakness in educational models of competence that do not consider how this knowledge is utilized, and this problem was addressed through the work of the group who ensured that the final competency statements were re-framed to reflect outcome focused rather than purely educational competencies. The focus group identified exemplars to further clarify the knowledge or skill associated with a particular competency or standard of performance.

The final version of the framework identified 50 themes, across 10 KSF dimensions. In Table 6, sample competencies from the original Scholes and Endacott (2002) work are contrasted with those in the final KSF-based framework.

Future developments

This work was undertaken using the Working Draft of the KSF, which was published in March 2003. Recently, a final version of the KSF has been published (Department of Health, 2004), and it is recognized that this will necessitate some revision of the currently used framework. Nevertheless, some potential consequences of using the KSF within the context of higher education may be identified from this initial work.

Using the KSF to track the developing competencies of all critical care staff at all stages of their development will be possible with a single portfolio. By developing such a portfolio in partnership between practice areas and HEIs, the duplication involved in requiring staff to demonstrate one set of competencies in practice and another to meet the criteria of local HEIs would be avoided. A single portfolio of critical care competencies based upon the KSF could be an aid to personal development through identifying levels of competence required at specified career points. This could include specifying the competencies required on completion of induction to critical care areas or the identification of formal module entry criteria for HEI's.

Adoption of the KSF as a means of assessment by HEIs will necessitate meaningful collaboration with practitioners, managers and practice-based educators in order to experience these benefits. Use of the framework may represent a shared understanding of the world, acknowledged as being a significant factor in developing a joint sense of ownership over educational provision in both practitioners and educationalists (Blackwell and Preece, 2002). Further collaboration may increase the responsiveness of educators to service needs as identifying the knowledge and skills required by practitioners could inform curriculum review and design, particularly with reference to evolving new roles in health care.

CONCLUSIONS

Given that no formal evaluation has yet been completed, any conclusions must be presented tentatively. However, the use of the KSF within the assessment of practice in post-qualifying nurse education could have far reaching effects in increasing the responsiveness of HEIs to service needs. A shared framework will enable both educationalists and practitioners to evaluate staff roles and training needs and facilitate collaboration in developing appropriate educational programmes. Although it is acknowledged that its use in the context of post-registration education has not yet been evaluated, it is suggested that the use of the KSF offers the potential to address

Table 6 Sample competencies

SAMPLE COMPETENCIES FROM SCHOLES AND ENDACOTT'S (2002) THEME 'CARE OF THE VENTILATED PATIENT'			
Comprehensively assess the ventilated patient Examines the indications and care of a patient receiving ventilatory therapies including safe and accurate recordings of ventilator observations and alarm settings			
SAMPLE COMPETENCIES WITHIN THE DRAFT KSF FRAMEWORK – 'ASSESSMENT OF HEALTH AND WELL-BEING NEEDS'			
Level 1	Level 2	Level 3	Level 4
Performs routine respiratory assessment tasks	Recognizes significant abnormal findings of respiratory assessment	Analyses a range of information to effectively monitor the ventilated the patient	Analyses a wide variety of information to effectively monitor the ventilated patient with complex needs
E.g. Safely and accurately records ventilator observations and alarm settings	*E.g.* Recognize the inadequately ventilated patient Recognizes normal breath sounds	*E.g.* ABG analysis. Identifies readiness for weaning Identifies abnormal breath sounds	*E.g.* Measurement/interpretation of auto-PEEP

some key weaknesses with current models of the assessment of practice. Locally, the implementation of this initiative has furthered an ongoing collaborative process of reviewing critical care educational provision, and it is anticipated that this will provide mutual benefits in the future.

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