Evidence-Based Nursing Education for Regulation (EBNER)

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NCSBN Practice, Regulation and Education Committee

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Introduction

The National Council of State Boards of Nursing (NCSBN) is responsible for assisting its 59 Member Boards in meeting their mission of protecting the public through the regulation of safe nursing practice. Related to this mission of public protection, 57 of the 59 boards of nursing approve nursing programs in their states or territories in order to ensure that nursing is practiced by minimally-competent, licensed nurses within their authorized scope of practice.

The 1999 widely publicized Institute of Medicine (IOM) report (Kohn, Corrigan & Donaldson, 1999) on the problem of medical errors in health care and the 2003 IOM report (Greiner & Knebel, 2003) on the need to improve health care education suggest the importance of regulatory oversight of nursing education programs. Boards of nursing are governmental agencies that approve nursing programs, promulgating rules and regulations that address entry-into-practice standards that nursing programs must meet. If the programs fail to meet the boards' regulations, boards have the authority to sanction them, after allowing for a reasonable opportunity to comply with the standards. This differs from national nursing accreditation (accomplished through either the National League for Nursing Accrediting Commission or the Commission on Collegiate Nursing Education), which is a voluntary process (in most states) that addresses quality through a nongovernmental peer review process. If nursing programs do not meet national accreditation standards, the accreditors do not have the authority to close the programs. Therefore, national accreditation and state or territory approval processes have different objectives and methods. In many states the national nursing accreditors and the boards of nursing work together closely to prevent duplication of efforts.

Because the boards of nursing are mandated to approve nursing programs, the boards are interested in knowing the evidence-based elements of nursing education that are essential for preparing new nurses for safe entry-level practice. While boards' rules address minimum educational standards, they should also be fair and consistent. Further, boards have no interest in overburdening programs with needless requirements. Moreover, in this time of nursing and faculty shortages, the legislators are asking boards of nursing for evidence to support their rules and regulations. Therefore, NCSBN began to study evidence-based nursing education that will provide for safe and effective entry to practice.

Background

In 2000–2001 the boards began to ask NCSBN for evidence to support their educational rules and regulations. At the same time, the IOM was studying the problem of medical errors in health care and ways to improve the quality of the health care system (Kohn et al., 1999; Institute of Medicine, 2001). Therefore, in 2002 the Practice, Regulation and Education in Congruence (PERC) Committee, which was projecting future needs of the boards of nursing, recommended to the Board of Directors that NCSBN provide the boards with evidence to support their education rules and regulations.

During 2002 and 2003, NCSBN surveyed new nurses about how they were educated and about their transition programs. Simultaneously, employers were surveyed about their perception of the competence of new nurses. Also in 2003, the IOM (Greiner & Knebel, 2003) issued their report calling for an "overhaul" of health professions education (p. 1) and citing a lack of evidence-based teaching methods and curricula (p. 38). In response to this, NCSBN's Board of Directors charged the Practice, Regulation and Education (PR&E) Committee with developing EBNER.

The PR&E Committee conducted a systematic review of nursing education outcomes studies. The results are available on NCSBN's Web site on the Nursing Education page. There was a need for further evidence, so PR&E Committee members collaborated with investigators in NCSBN's Research Department to conduct the elements of nursing education study. This was a comprehensive, national study designed to describe the elements of nursing education, examine the relationship between perceived adequacy of preparation for practice and difficulty with client care assignments, and to identify the elements of education that lead to better preparation of new nurse graduates. See attachment A.1 for a report of the Executive Summary of this study.

In order to gain further insight into evidence-based nursing education for regulation (EBNER), PR&E held an Invitational Forum for approximately 30 people at the InterContinental Hotel in Chicago on Jan. 26, 2006. PR&E Committee members planned for a diverse, national representation of nursing and health care experts to attend this meeting, including people from practice, regulation, education; a nursing student; and a new nurse. Further, the PR&E Committee members held a Web cast on the EBNER findings for the boards of nursing. Data from NCSBN's past studies, the elements of nursing education study, and the literature were shared with these groups, stimulating discussion and sharing of ideas. The results of each of these activities created dialogue, which enriched the interpretation of the findings.

The Use of the Evidence-Based Elements of Nursing Education

The evidence-based elements of nursing education are those characteristics of the curriculum, faculty and teaching methodologies that have been associated with significantly better learning outcomes. PR&E Committee members identified from the published literature, past NCSBN research, and NCSBN's elements of nursing education study, the evidence-based elements of nursing education. Each element is documented by a source(s) and its level of research. Level I research provides the strongest support. This level of research includes properly conducted randomized controlled trials, systematic reviews or meta-analyses. Level II research is the next strongest level, including quasi-experimental, correlational, descriptive, survey, evaluation and qualitative designs. Level III research, while providing value to professional standards, is the weakest level of research, and it includes expert opinions or consensus statements. The search process for this systematic review did not identify any Level III research, most likely because it only included published research. In the future, PR&E might consider adding unpublished research to the systematic review, which would include some Level III evidence. PR&E's systematic review of nursing education outcomes (available on the NCSBN Web site) provides information on each study's citation, sample, comparison studied, procedures, key results, strengths and weaknesses, and implications for boards. The NCSBN research briefs describing past research and the elements of nursing education study are available from NCSBN upon request.

These evidence-based elements of nursing education will be reviewed each year by the PR&E Committee members, and they will change as more outcomes data in nursing education become available. Similarly, PR&E's systematic review of nursing education outcomes is an evolving review that will be updated yearly by the PR&E Committee members and will use the methodology described in that document.

The following table outlines these evidence-based elements of nursing education, categorizes them, and cites the studies and levels of research that support them. Each educational element should be carefully considered for the level of support and the number of sources supporting it.

It must again be noted that this is a beginning inquiry of the available evidence of nursing education outcomes. Future educational research on nursing education outcomes, and NCSBN's own work, will continue to provide boards with further evidence to support their approval processes.

Evidence-Based Nursing Education for Regulation (EBNER)

Evidence-Based Elements	Sources	Level of Evidence
Adjunctive Teaching Methods		
Promote faculty-student interaction with online learning	Babenko-Mould, Y., Andrusyszyn, M. & Goldenberg, D., 2004; Buckley, 2003; MacIntosh, MacKay, Mallet-Boucher, & Wiggins, 2002	All Level II
Facilitate learning simulation	Issenberg, McGaghie, Petrusa, Gordon & Scalese, 2005	Level I
Combine online strategies with traditional strategies	Greenhalgh, 2001 Joubert ,Vijoen & Bester, 2002	Level I Level II
Assimilation to the Role of Nursing		
Provide experiences for relationship-building with professionals	Li & Kenward, 2006; Smith & Crawford, 2003; White, 2003	All Level II
Provide experiences for students to gain comfort in nursing role	Benner, 2004; White, 2003	All Level II
Provide experiences for students to work effectively in a team	Li & Kenward, 2006; Smith & Crawford, 2003	All Level II
Provide transition programs	Kenward & Zhong, 2006; Li & Kenward, 2006	All Level II
Deliberate Practice with Actual Patients		
Provide experiences for relationship-building with patients	White, 2003	Level II
Provide clinical experiences with actual patients	Angel, Duffy, Belyea, 2000; Babenko-Mould, 2004; Benner, 2004; Joubert et al., 2002; Murphy, 1995; Smith & Crawford, 2003; White, 2003	All Level II
Provide experiences for gaining confidence	Babenko-Mould, et al., 2004; White, 2003; Yates, Moyle & Wollin, 1997	All Level II
Provide opportunities for reflection	Benner, 2004; Bjørk & Kirkevold, 1999; Platzer, Blake & Ashford, 2000	All Level II
Provide feedback	Benner, 2004; Bjørk & Kirkevold, 1999	All Level II
Faculty-Student Relationships		
Faculty teach clinical and didactic courses	Li & Kenward, 2006	Level II
Faculty are available to demonstrate and assist with skills in clinical activities	Li & Kenward, 2006	Level II
Faculty assist with classroom projects	Kyrkjebø & Hanestad, 2003; Li & Kenward, 2006	All Level II
Faculty are available to answer questions during clinical and didactic activities	Li & Kenward; MacIntosh et al., 2002	All Level II
Faculty provide current information	Li & Kenward, 2006	Level II
Teaching Methodologies		
Integrate critical thinking into the curriculum	Girot, 1995; Li & Kenward, 2006	All Level II
Use critical thinking strategies	Li & Kenward, 2006; Simmons, Lanuza, Fonteyn, Hicks, & Holm; Li & Kenward, 2006; Smith and Crawford, 2003; White, 2003	All Level II
Integrate evidence-based practice into the curriculum	Li & Kenward, 2006	Level II
Integrate information technology into the curriculum	Li & Kenward, 2006	Level II
Integrate pathophysiology into the curriculum	Li & Kenward, 2006	Level II
Teach population courses separately	Li & Kenward, 2006	Level II
Require students to demonstrate skills before performing them on patients	Li & Kenward, 2006	Level II

Discussion

The evidence-based elements for nursing education were categorized into five areas: adjunctive teaching methods, assimilation to the role of nursing, deliberate practice with actual patients, faculty-student relationships and teaching methodologies.

Two of the three elements in the adjunctive teaching methods section, using simulation and combining online strategies with traditional strategies, were supported by the highest level of research. The research strongly supports using simulation. Currently, NCSBN is studying the role of simulation in nursing education. Given the evidence for faculty-student relationships in traditional learning, it is not surprising that faculty interaction is an important aspect of online

learning as well. Programs using online teaching strategies should evaluate whether or not they provide enough faculty interaction for their students.

The evidence suggests that new nurses must become assimilated to their role in nursing. A well designed transition program, particularly when specialty content is taught, is supported by NCSBN research. NCSBN is currently conducting further research into the transition of new nurses to practice. When nurses have been taught to work effectively in a team, they have significant less difficulty with their work. For example, the evidence supported providing students with experiences where they are allowed to delegate tasks and supervise the work of others. Building relationships with professionals was another important element in this section. This includes students having the opportunity learn when and how to call a physician. The evidence supports allowing students time to gain comfort in their role as a nurse, for example with coaching or mentoring by qualified faculty or preceptors.

See NCSBN's position paper on clinical experiences in prelicensure programs (available on the NCSBN Web site) where the importance of students having deliberate practice with actual patients is discussed in detail. Providing opportunities for reflection is especially important, as is providing accurate feedback. Faculty members who are qualified to teach nursing students have the background to provide this deliberate practice.

NCSBN's elements studies, and a few other studies, demonstrate the importance of faculty interactions with students. This section shows the importance of having qualified faculty members teaching nursing students and suggests that faculty members should be knowledgeable in education strategies. Further, this evidence also suggests that nursing programs should have a good ratio of full-time faculty, who teach clinical and didactic courses, to part-time and adjunct faculty members.

There were some interesting evidence-based teaching methodologies identified in this work. Better outcomes were identified when evidence-based practice, information technology, pathophysiology and critical thinking are integrated into the curriculum. The evidence also supports teaching population courses, such as pediatrics, women's health, psychiatric and mental health, critical care, and medical-surgical nursing, as separate courses. Requiring students to demonstrate skills prior to performing them was identified as an evidence-based element of education. This result again addresses the value of simulation in nursing education.

Conclusions

The identification of evidence-based nursing education is an ongoing journey for the PR&E Committee at NCSBN. Since the EBNER will be updated yearly, boards of nursing will have the most current evidence to support their current rules and regulations and to promulgate new rules and regulations. Further, as part of their strategic initiatives, NCSBN will continue to conduct studies to provide evidence for nursing education.

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