

During 2002 and 2003, NCSBN surveyed new nurses about how they were educated and about their transition programs.

Evidence-Based Nursing Education for Regulation (EBNER)

Evidence-Based Elements	Sources	Level of Evidence
Adjunctive Teaching Methods		
Promote faculty-student interaction with online learning	Babenco-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; Babenco-Mould, 2004; Benner, 2004; Joubert et al., 2002; Murphy, 1995; Smith & Crawford, 2003; White, 2003	All Level II
Provide experiences for gaining confidence	Babenco-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		

tn2ir71ee2i2ateTwf2hf23.16 363.66 0.4804 10.38efBf2r8eTT2 dmtical thinking70.unl6252TjTT2

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.

References

- Angel, B. F., Duff y, M. & Belyea, M. (2000). An evidence-based project for evaluating strategies to improve knowledge acquisition and critical-thinking performance in nursing students. *Journal of Nursing Education*, 39, 219-228.
- Babenko-Mould, Y., Andrusyszyn, M. & Goldenberg, D. (2004). Effects of computer-based clinical conferencing on nursing students' self-efficacy. *Journal of Nursing Education*, 43

Greiner, A. C. & Knebel, E., (ed.) (2003). *Health Professions Education: A Bridge to Quality*. Washington DC: The National Academies Press.

Institute of Medicine. (2001). *Crossing the Quality Chasm*. Washington, DC: National Academies Press.

Issenberg, S. B., McGaghie, W. C., Petrusa, E. R., Gordon, D. L., & Scalese, R. J. (2005). Features and uses of high-fidelity medical simulations that lead to effective learning: A BEME systematic review. *Medical Teacher*, 27, 10-28.

Joubert, A., Vijoën, M. J., Venter, J. A. & Bester, C. J. (2002). Evaluation of the effect of a computerbased teaching programme (CBTP) on knowledge, problem-solving and learning approach. *Health Sa Gesondheid*, 7, 80-97.

Kenward, K. & Zhong, E. (2006). *Practice and Professional Issues: Transition*. Chicago: NCSBN.

Kohn, L.T., Corrigan, J. M., & Donaldson, M.S., (ed.) 1999). *To Err is Human: Building a Safer Health System*. Washington DC: The National Academies Press.

Kyrkjebø, J. M. & Hanestad, B. R. (2003). Personal improvement project in nursing education: Learning methods and tools for continuous quality improvement in nursing practice. [electronic version] *Journal of Advanced Nursing*, 41, 88-98.

Li, S. & Kenward, K. (2006). *Elements of Nursing Education*. Chicago: NCSBN.

MacIntosh, J., MacKay, E., Mallet-Boucher, M. & W. C., P. (2006). *High-fidelity medical simulations that lead to effective learning: A BEME systematic review*. Washington DC: The National Academies Press.