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Clinical Instruction in Prelicensure Nursing Programs

National Council of State Boards of Nursing (NCSBN) Position Paper

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Executive Summary

Since the mission of the boards of nursing is to protect the public, the boards of nursing have the responsibility of making sure that new graduate nurses are prepared to practice safely. Therefore, the National Council of State Boards of Nursing (NCSBN) presents this Position Paper to provide guidance to the boards of nursing for evaluating the clinical experience component of prelicensure programs. NCSBN's Practice, Regulation and Education (PR&E) Committee members reviewed the available literature, surveyed the boards of nursing and nursing education organizations, sought stakeholder input, consulted with experts and participated in simulated experiences to provide the rationale for this Paper. The PR&E Committee members realize that there is the need for more research of clinical education in nursing. The recommendations, therefore, are based on the best available evidence at this point in time.

The PR&E Committee recommends the following positions:

- Prelicensure nursing educational experiences should be across the lifespan.
- Prelicensure nursing education programs shall include clinical experiences with actual patients; they might also include innovative teaching strategies that complement clinical experiences for entry into practice competency.
- Prelicensure clinical education should be supervised by qualified faculty who provide feedback and facilitate reflection.
- Faculty members retain the responsibility to demonstrate that programs have clinical experiences with actual patients that are sufficient to meet program outcomes.
- Additional research needs to be conducted on prelicensure nursing education and the development of clinical competency.

Premises

1. The mission of the boards of nursing is the protection of public health, safety and welfare.
2. Regulation criteria for nursing programs should reflect minimum requirements and be the least burdensome criteria consistent with public protection.

3. The curriculum in nursing education programs is faculty driven, reflective of the parent institution's mission and based on national standards.
4. Nursing is a practice discipline.
5. Program outcomes are consistent with the knowledge, skills and abilities required for safe and effective provision of nursing care.
6. Nursing programs prepare lifelong learners who practice in complex and dynamic environments.
7. Nursing faculty members facilitate the students' development of clinical judgment and critical thinking abilities necessary for safe and effective practice.
8. Prelicensure nursing education programs prepare nursing students for entry into practice as generalists.
9. Nursing regulation recognizes the value of evidence-based innovation in meeting nursing education program outcomes.

Definitions

1. Across the lifespan — An understanding of all phases of human life.
2. Competence — Competence is the application of knowledge and the interpersonal, decision-making and psychomotor skills expected for the practice role, within the context of public health, safety and welfare (Model Practice Act and Rules, NCSBN, 2004).
3. Clinical judgment — Clinical judgment is the application of the nurse's knowledge and experience in making decisions about client care (Model Practice Act and Rules, NCSBN, 2004).
4. Critical thinking — Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning or communication, as a guide to belief and action (Scriven & Paul, 2005).
5. Deliberate practice — Deliberate practice takes place with an engaged learner and involves repetitive performance of intended psychomotor or cognitive skills in a focused domain, coupled with (1) rigorous skills assessment that provides learners (2) specific, informative feedback, that results in increasingly (3) better skills performance, in a controlled setting (Issenberg et al., 2002).
6. Distance education — Distance learning incorporates teaching/learning strategies used to meet the learning needs of students, when the students and faculty are separated from each other (Adapted from the Model Practice Act and Rules, NCSBN, 2004).
7. Hands-on clinical instruction — Hands-on learning situations are those where students directly care for patients within the relevant setting. "Sufficient" hands-on clinical instruction means adequate time spent directly with patients under the supervision of a qualified faculty member, so that program outcomes are met.
8. Qualified nursing program faculty — Qualified faculty members in nursing programs are those who meet the board of nursing faculty qualifications for that state, as well as the qualifications for the parent institution.
9. Program outcomes (expected) — Expected program outcomes are specific, measurable indicators of program quality and effectiveness as reflected in both student and faculty outcomes. Evidence of program effectiveness is shown in the evaluation of actual outcomes in relation to expected outcomes (CCNE, 2003).
10. Simulation — Simulations are activities that mimic the reality of a clinical environment and are designed to demonstrate procedures, decision-making and critical thinking through techniques such as role-playing and the use of devices such as interactive videos or mannequins. A simulation may be very detailed and closely simulate reality, or it can be a grouping of components that are combined to provide some semblance of reality (Jeffries, 2005). However, simulation shall not take the place of clinical experiences with actual patients.
11. Situated cognition — Situated cognition is a learning theory that is based on the premise that learning is influenced by the situation in which it occurs. This theory of learning requires interaction by the learner and is most effective when it takes place in an authentic environment with learners working on real-world activities (Scheppke, 2004).

12. Supervised clinical instruction — The role of qualified nursing program faculty in facilitating student clinical learning (Adapted from the Model Practice Act and Rules, NCSBN, 2004).

Introduction

The Practice Regulation & Education (PR&E) Committee was charged with writing a Position Paper to provide guidance to boards of nursing for evaluating the clinical experience component of prelicensure nursing programs. Since the mission of the boards of nursing is to protect the public, boards have the responsibility of making sure that new graduates are prepared to practice safely. Recent discussion has focused on whether nursing educational programs leading to initial licensure can successfully educate nurses with alternative methodologies that take the place of traditional clinical experiences. In response to this concern, the 2004 Delegate Assembly passed the following resolution:

Resolved that NCSBN and its Member Boards support the necessity for inclusion of planned, structured, supervised clinical instruction across the life-span as essential to nursing education; and be it further resolved that the issue of ensuring clinical competence in prelicensure programs be referred to NCSBN's Practice Regulation and Education Committee to research and develop a position statement that provides guidance to nursing boards in evaluating whether entry-level nursing applicants have received sufficient hands-on, effective, supervised clinical nursing education to ensure safe nursing practice, in both traditional and alternative educational nursing programs utilizing distance learning, simulation laboratories and other technical innovations; and that the PR&E Committee shall report back at the 2005 Delegate Assembly.

The PR&E Committee engaged in the following activities in response to this charge:

- Reviewed the relevant literature, including systematic reviews of medical simulation, computer-assisted learning in undergraduate medical education and nursing education strategies.
- Surveyed all the boards of nursing.
- Surveyed nursing education organizations and reviewed their responses regarding comments on clinical education requirements in prelicensure nursing programs.
- Consulted with a renowned expert in simulation, Dr. William McGaghie from the Northwestern University Feinberg School of Medicine, about simulation.
- Participated in a facilitated, simulated experience at the Patient Safety Simulator Center at Northwestern University Feinberg School of Medicine.
- Engaged in dialogue with a simulation facilitator at the Patient Safety Simulator Center.
- Sought stakeholder input and reviewed the recent position statement by the American Organization of Nurse Executives (AONE), "Position Statement: Prelicensure Supervised Clinical Instruction."

The NCSBN Position Paper was presented at the May Board of Directors meeting, where it was unanimously approved.

Literature Review

Through other work being conducted by the PR&E Committee, it was determined that the online databases of CINAHL, Medline and ERIC be used with the keywords of: *education, nursing, teaching,* ***education research, learning methods, learning strategies, research-based education*** and ***outcomes of education***. These studies were evaluated for relevance for this position statement. The primary research on nursing clinical education research was limited. Specifically, there was no research on the outcomes of programs that exclusively use alternatives to clinical experiences.

The following is a focused review of relevant studies in clinical education on how students learn to practice safely in clinical situations. In order to be evidence-based this review includes either studies or systematic reviews (Mayer, 2004), though PR&E also included some relevant state-of-the-art reviews from nursing or health care literature.

Theoretical background

Dr. Patricia Benner is well known in the nursing community for her work over the past 21 years with the Dreyfus model of skill acquisition. Recently she has written about her studies in nursing using the Dreyfus model, in an article entitled "Using the Dreyfus model of skill acquisition to describe and interpret skill acquisition and clinical judgment in nursing practice and education" (Benner, 2004). The Dreyfus model is developmental and is based on experiential learning.

Benner writes that nursing requires both ***techné*** and ***phronesis***. Techné is defined as explicit knowledge that can be captured from procedural or scientific knowledge. For techné, Benner gives the example of providing clear parameters and guidelines to students for determining fluid balance. At this stage the learner cannot rely on previous experience, so the student must be given safe, clear directions on how to proceed. For adequately teaching techné the nursing program must provide for specific situated learning in the clinical situation, though students would benefit from previous simulated experiences.

Phronesis, on the other hand, is more complex; it is a reasoned practice employed by expert clinicians through experiential learning, where the nurse is continually improving her or his practice. According to Benner, the integrated, rapid response is the hallmark of phronesis (Benner, 2004, p. 196). Benner (2004, p. 197) gives a complex example of phronesis where the nurse made some rapid decisions when the patient developed a carotid hemorrhage. Phronesis is learned in the authentic situation with patients and feedback from experts.

Dr. Benner's stages of skill acquisition include the "novice," or the period in the nursing program when students have no experiential background on which to base their approach or their understanding of the clinical situation; "advanced beginner" or new graduate; "competent" or one to two years in practice; "proficiency," a transitional stage on the way to expertise; and "expertise," which involves practical wisdom or phronesis. For the purpose of this position statement, the focus is on the stages of the novice and advanced beginner. In the novice stage the nursing instructor carefully selects patients that are stable and predictable. As with the earlier discussion of techné, Benner (2004) suggests that the novice operates from the perspective of inflexible, rule-governed behavior. Benner (2004, p. 191) states, "Skills that are performed easily on a mannequin in a skills lab require adaptation and communication and reassurance skills when performed on a range of patients who may be calm or highly anxious." Qualified faculty provides coaching, feedback and reflection throughout the nursing education program. As graduation approaches, students are expected to function at the "advanced beginner" stage of skill acquisition. Newly licensed graduates, who function as advanced beginners, have a heightened awareness of feedback and they frequently experience anxiety and excessive fatigue (Benner, 2004).

Closely linked to Benner's work with the Dreyfus model is Ericcson's (2004) sentinel review of deliberate practice. Ericcson (2004, p. S74) analyzes deliberate practice in this review, which he defines as practice that must be designed to improve specific aspects of performance that can easily be integrated into one's practice. The concept of deliberate practice would support learning nursing skills and even critical thinking and judgment, in sophisticated simulation centers or in a controlled environment with mentor guided feedback. However, it also would require that the student or practitioner become engaged in deliberate practice with patients in the representative context (the clinical setting) with a master teacher who can give excellent feedback. Deliberate practice also means that clinical teaching should be designed to improve specific aspects of performance, thus providing students with specific expected outcomes.

There is further support for clinical learning from the Situated Cognition theory, which is a theory of learning that is based on the premise that all learning is influenced by the situation where it occurs (Scheppke, 2004). This is an emerging theory that has been studied in education, anthropology, sociology, cognitive science and psychology. Situated cognition theory represents a shift in some of the traditional psychological theories of learning to view learning as emergent and social (Lave & Wenger, 1991). While health professions have not yet formally studied this theory, it is highly relevant to this profession. The goal of Situated Cognition, according to Scheppke (2004), is to help the student develop higher-level thinking and reasoning skills, which are an integral part of nursing. This research has focused on the importance of the faculty in bringing the student to an authentic environment (the real world) to learn. Applying the principles of Situated Cognition theory, student nurses must practice in authentic situations.

The role of the teacher in the Situated Cognition theory is that of a facilitator. The clinical teacher models effective strategies in an authentic environment, serving as a coach by providing feedback and advice. The assessment of students in this theory focuses on the process of learning as well as the product, so that portfolios are often one method of evaluation (Scheppke, 2004). Because learning is a social experience, teachers often create "learning communities" where the students can exchange ideas and provide feedback to each other (Lave & Wenger, 1991).

Studies with students and faculty

White (2003) studied how 17 fourth-year nursing students learned clinical decision-making, using a qualitative study design. This study identified five components that are associated with clinical decision-making, including: gaining confidence in their skills, gaining comfort in self as a nurse, building relationships with staff, connecting with patients and

understanding the clinical picture. These components require deliberate practice within the authentic environment, which is essential to teaching nursing students.

The confidence component in the clinical setting, as well as gaining comfort in one's role as a nurse, has been mentioned by other studies as being important when learning from the clinical context (Benner, 2004; Bjørk & Kirkvold, 1999; Yates, Cunningham, Moyle & Wollin, 1997). Yet, there is a paucity of studies on relating these clinical decision-making components with improved outcomes of learning in the clinical setting. Many agree that lack of confidence and anxiety can interfere with student learning in the clinical setting (Benner, 2004; Yates et al., 1997). Therefore, Yates et al. (1997), in Australia, conducted evaluation research on a peer mentorship program that was used to prepare students for learning in the clinical setting. The mentorship program consisted of five group sessions with first year students (four to seven volunteers per mentor) meeting with second year students. The mentors were identified by faculty members using set criteria and the mentors attended a six-hour orientation session to teach them about the role. Evaluation of the program was comprehensive, with pre- and post-program questionnaires, a focus group interview, review of peer mentors' journals and a statistical analysis of the differences in clinical performance (from clinical instructor ratings) between the 55 protégés and 55 randomly selected students who weren't in the program. While they found no significant differences between the mentored group and the control group related to the clinical instructor ratings, they did find from qualitative data that the protégés and mentors reported increased confidence and decreased anxiety before entering the clinical setting because of this program. The first-year students also reported that the mentorship experience helped them to understand the importance of integrating theory and practice before they began to practice with actual patients. While there were limitations of this pilot study, such as the selection effects (because the protégés were volunteers), the evidence showed benefits in increasing confidence levels and it is worthy of future investigation.

The components of building relationships with staff and connecting with patients are particularly important in light of the Institute of Medicine's Report on education in the health professions. This highly regarded Report identifies working within an interdisciplinary team and patient-centered care as two essential competencies for all members of the health care team (Greiner & Knebel, 2003). The other essential competencies identified by the IOM Report are evidence-based practice, quality improvement approaches and informatics. The Report particularly criticizes health care educators for not teaching students in health care professions how to work within interdisciplinary teams. The Report laments the fact that in many education settings the health professionals are socialized in isolation and the Report stresses the importance of cooperation and coordination in caring for patients. NCSBN has found that when newly licensed nurses did not work effectively within a health care team or did not know when and how to call a patient's physician, they were more likely to report being involved in patient errors (Smith & Crawford, 2003). This finding provides evidence that working within an interdisciplinary team is important for patient safety.

Angel, Duffey & Belyea (2000) studied critical thinking performance in nursing students, related to White's (2003) clinical decision-making component of understanding the clinical picture. In this longitudinal, quasi-experimental design with 142 junior nursing students, they used two interventions (structured versus non-structured health pattern assessment) to study learning outcomes in two areas: acquisition of knowledge and development of critical thinking skills. Their results showed that the characteristics of their learners (e.g., age or previous degree) affected which teaching strategy was more effective. Age and a previous degree did not influence changes in critical thinking or the knowledge score. However, the results did show that the younger learners tended to have better outcomes with the more structured approach, while the older learners improved more with the unstructured approach. Students without previous degrees tended, as well, to benefit more from the unstructured approach to the health assessment assignment. Most importantly, though, this study clearly provides evidence that a learner's knowledge and critical-thinking improve after a semester of faculty-supervised clinical experiences. This evidence suggests that clinical experience with actual patients improves nursing practice.

In Norway Bjørk & Kirkvold (1999) videotaped three sessions of four newly graduated nurses over a one-year period while they performed two nursing skills. This study clearly showed the importance of feedback and reflection in order for new nurses to improve their practice. By the third filming the four nurses had practiced for eight to 14 months and had accumulated about 25 experiences with both skills. While there was some improvement, there were many omissions and faults with their performances. Often the nurses were working in isolated situations so that to receive feedback and then to reflect, they'd have to seek guidance on their own. New nurses are often reluctant to seek guidance from experienced nurses, partly because of the pace in clinical nursing. Though the study focused on graduate nurses, the study supports the need for qualified faculty members to provide students with feedback so that they can reflect on their performances and ultimately improve.

Platzer, Blake & Ashford (2000) likewise studied reflective practice in two cohorts of students in England for more than two years, via a qualitative study methodology using audio-recorded interviews and categorizing the themes that emerged. Students involved in reflective practice reported significant development of their critical thinking ability, greater autonomy in decision-making and more self-confidence to question the status quo and make their own judgments. Engaging in reflective practice was instrumental in assisting them to relate their theoretical knowledge to practice. Similarly, Joubert, Viljoen, Venter, & Bester (2002) report in their study of 120 nursing students that immediate feedback can increase student application of knowledge in the clinical setting. It is clear from studies that the themes of immediate feedback and the opportunity to reflect in the context of practice are essential for the development of entry into clinical practice competencies.

Online and simulation teaching methods.

A recent systematic review on simulations in medicine shows that, while research on simulations needs improvement in terms of rigor and quality, simulations in health care are educationally effective and simulation-based education complements medical education in patient care settings (Issenberg, McGaghie, Petrusa, Gordon & Scalese, 2005). In their rigorous systematic review of the literature, Issenberg et al. (2005) originally identified 670 articles, with 109 surviving after their use of four screening criteria. The following are the best available evidence, to date, on how simulations can enhance learning:

- Providing feedback (47% of articles)
- Repetitive practice (39% of articles)
- Curriculum integration (25% of articles)
- Range of difficulty level (14% of articles)
- Multiple learning strategies (10% of articles)
- Capture clinical variation (10% of articles)
- Controlled environment (9% of articles)
- Individualized learning (9% of articles)
- Defined outcomes (6% of articles)
- Simulator validity (3% of articles)

Similarly, Nehring, Ellis & Lashley (2001) describe the use of human patient-simulators in nursing education as an excellent tool to measure competency in the application of knowledge and technical skills. Debriefing, or feedback to the students, is as essential for simulation as it is for instruction in the clinical setting. Nehring et al. (2001) describe the advantages of simulation, based on the literature, as being able to:

- Visualize and observe the physiological effects on the human body;
- Observe effects of medications;
- Practice in a safe environment, seeing the consequences when wrong decisions are made;
- Enhance prior learning;
- Improve student confidence, decision-making and critical thinking;
- Provide opportunities for self-study;
- Utilize structured experiences;
- Involve undergraduate and graduate students;
- Allow for the evaluation of the students' competencies.

The disadvantages may include:

- Students feel inadequate in handling critical incidents ;

- Students focus on the incident and not the total picture;
- Students sense the artificiality;
- Cost;
- Only small numbers of students can practice at once;
- Faculty time and training.

There is some research that has shown that clinical performance improved with students who were educated with simulators (Steadman, Oyesola, Levin, Miller & Larson, 1999). Further research is needed on simulation in nursing education and on other innovative teaching strategies.

Greenhalgh (2001) conducted a systematic review of computer-assisted learning with medical students. The author identified 200 potentially relevant studies from the databases and terms he used, though only 12 met his criteria of being prospective, randomized studies of medical students, with objective, predefined criteria. He found that the results with using online education were mixed, but generally positive. Greenhalgh (2001) concluded that computer-assisted teaching should be employed by senior (not junior) faculty members, because it needs to be conceptually integrated with other forms of learning. Yet, younger faculty members are often more computer savvy than older, more experienced faculty. Therefore, currently these inexperienced faculty members are frequently the ones in an institution who teach computer-assisted learning. A barrier that was identified was the ability to engage learners with this methodology. It was strongly recommended that this method of teaching be used with other traditional methods of teaching, and not by itself.

Other Evidence

The PR&E Committee worked with the NCSBN Director of Research to construct an online survey that was sent to all 60 boards of nursing and the LPN and RN nursing educational organizations: American Association of Colleges of Nursing (AACN), Commission on Collegiate Nursing Education (CCNE), National League for Nursing (NLN), National League for Nursing Accrediting Commission (NLNAC), National Organization of Associate Degree Nurses (N-OADN), National Association of Practical Nurse Education & Service (NAPNES) and National Federation of Licensed Practical Nurses (NFLPN). This electronic survey was sent out January 26, 2005. A total of 36 boards of nursing replied to the survey, though not all of the boards replied to every question. A majority of the boards of nursing replying to the survey defined clinical experiences as “hands-on” nursing experiences. The boards tended to require higher faculty qualifications for classroom teaching than for simulation or clinical teaching. While many boards say that “supervised” clinical experience is defined as a clinical instructor being physically present, a majority of the boards that responded do not define that term. Of the 31 boards that answered the question asking whether students should practice on actual patients, 28 said yes, while three said no. The boards responded that nursing is a practice discipline in which safety is involved, and that students cannot learn critical thinking without practicing with actual patients. Similarly, when asked whether students can achieve their objectives in a nursing program without supervised clinical experiences, 27 said no and four said yes. A large majority of the boards of nursing favored clinical experiences in prelicensure programs to be across the lifespan. Of the 31 boards answering this question, 27 thought the experiences should be across the lifespan, while 4 said that wasn’t important. Therefore, it is clear that a large majority of the respondents think that direct care of patients across the lifespan is essential in a nursing program.

Yet, there is variability on how structured the boards of nursing should be in requiring clinical experiences with actual patients. Of the 28 answering the question on whether predetermined hours should be required, the results were more variable. While 17 said yes, 11 said no. The nursing boards, by a large majority (19 of the 30 comments), replied that the measure they use to demonstrate clinical competency of new graduates is graduation from an approved nursing program. In other words, the boards of nursing say that their approving a nursing program means presuming that when students graduate they will be clinically competent.

When asked about the future of education, the boards’ responses addressed two major issues: increasing use of technology for teaching clinical experiences and making the most of clinical sites and learning centers. The boards of nursing predicted that there would be more clinical education using simulation, clinical laboratories and online learning. Because of the shrinking number of clinical sites that are available, the boards anticipated that there would be enhanced and smarter use of clinical sites by the nursing programs, as well as sharing of sophisticated simulation centers. One

board stated, that the nursing programs and boards of nursing "…will need to focus on the quality and not the number of hours."

Some of the boards predicted an increase in the use of preceptors, along with partnership agreements between practice and education so that more clinical agency nurses would assist in the education of students. One board stated that this would require competency updates on faculty members. Yet, an increased use of preceptors clearly concerned some boards. One board stated, "I don't think this speaks well for the profession, to be predominantly apprentice learning rather than being exposed to research-based clinical education." Other boards predicted the future would bring more postgraduate internship or residency programs for newly graduated nurses.

The nursing education organizations did not all respond (two out of five responded) to the electronic questionnaire; those that did respond did so mainly with comments. One nursing education organization commented that the clinical nursing literature focuses on competent performance and student-centered learning in nursing programs, moving away from rigid parameters. Another organization stated "…it is our responsibility to offer educational opportunities for our members that encourage innovative teaching strategies, including exploration of clinical settings and experiences." None of the nursing educational organizations responded to the question about whether nursing programs should have clinical experiences where students work with actual patients. When commenting about the future of nursing clinical education, one organization responded that their members have difficulty finding acute care settings for pediatrics, obstetrics and psychiatry, and the programs are exploring alternative experiences. The organizations lamented the decreased availability of clinical sites for nursing programs and one organization worried that the nursing shortage would mean less acceptable staffing on units, thus not providing students with optimal clinical experiences. Another organization predicted that there would be alternative approaches to teaching clinical application to nursing students because of the nursing faculty shortage, including an increased use of part-time faculty members and more simulated experiences.

The American Organization of Nurse Executives (AONE) disseminated the following position statement, regarding supervised clinical experiences in nursing programs, in September 2004:

Position Statement: Prelicensure Supervised Clinical Instruction

AONE firmly believes that solutions to the nursing shortage require innovation and creative approaches to education, practice and the delivery of systems of care. We strongly support efforts to address the shortage that align with the guiding principles that have been developed by the AONE Board to describe the future work of the nurse. Such initiatives are critical to our ability to secure a competent, professional workforce that can deliver safe, quality care to populations in our communities.

AONE also believes that the education programs for the nurses of the future will require a balance of didactic content and supervised clinical instruction. Although innovative approaches may be developed, it is the position of AONE that all prelicensure nursing education programs must contain structured and supervised clinical instruction and that the clinical instruction must be provided by appropriately prepared registered nurses.

Simulation experience

Dr. William McGaghie, Professor at the Northwestern University Feinberg School of Medicine and a renowned expert on simulation, consulted with the PR&E Committee about simulation and Committee members participated in a simulation session at Northwestern's Patient Simulator Center. The group learned that simulation is a complement to clinical experience, and it's valuable because it incorporates deliberate practice, as discussed by Ericcson (2004). Simulation provides self-paced education with outcomes that are safe for everyone. Educators do not need the most expensive simulation devices in order to teach clinical practices. Sometimes very simple devices can be quite valuable. When used correctly, the students can learn how to improve their practice. While simulation technology works well and helps a great deal with clinical practice, Dr. McGaghie stressed that simulation is not a substitute for, but a complement to, supervised clinical practice. When students experience good simulation before their clinical experiences, they develop a sense of self-confidence, which was identified in the literature review as being important. This is a methodology that not only teaches excellent individual performance, but it enhances team performances. Working in a team was discussed in the literature review as being essential for nurses. Feedback is the key to both in simulation and in supervised clinical experiences.

It was clear that the faculty teaching simulation must be trained in this methodology in order to engage the students and to give excellent feedback. The cost of simulation not only means the initial investment, but there is ongoing maintenance

and training. High fidelity simulation centers (providing authentic situations) are not universally affordable. It was estimated that Northwestern University Medical School spends about $1,000 per each hour of simulation education. Therefore, nursing programs might choose to collaborate with other health care educators in order to maintain a sophisticated simulation center or choose to purchase less sophisticated equipment.

Conclusion

Because the mission of the boards of nursing is to protect the public, the boards asked for guidance with evaluating prelicensure nursing programs that do not provide experiences with actual patients. Therefore, the NCSBN Practice, Regulation and Education Committee, using various methodologies, studied clinical education. Premises were identified and terms were defined. The theoretical literature supported situated learning and practicing deliberately in the authentic situation, along with the need for specific educational goals. The nursing literature particularly addressed the importance of feedback and reflection in learning to think critically and to assist with improving students' confidence levels. Building interdisciplinary relationships was identified as important for nurses, and this competency is learned best contextually. The online and simulation literature supported the complementary use of these methodologies for teaching prelicensure nursing students, though they cannot take the place of actual patient care. The survey results showed that boards of nursing strongly support clinical experiences with actual patients across the lifespan, but they are more divided as to requiring specific hours. The nursing education organizations did not address the question of whether it is essential for prelicensure nursing students to practice with actual patients, though their comments were similar to those from the boards of nursing when asked about the future of clinical education in nursing. One nursing organization (AONE) took the position that nursing programs should provide structured, supervised clinical instruction. Meetings with renowned simulation experts stressed that deliberate, controlled practice with simulators is an important asset for clinical learning, but that it cannot take the place of learning in the authentic setting.

Recommendations

It is the position of NCSBN that:

- Prelicensure nursing educational experiences should be across the lifespan.
- Prelicensure nursing education programs shall include clinical experiences with actual patients; they might also include innovative teaching strategies that complement clinical experiences for entry into practice competency.
- Prelicensure clinical education should be supervised by qualified faculty who provide feedback and facilitate reflection.
- Faculty members retain the responsibility to demonstrate that programs have clinical experiences with actual patients that are sufficient to meet program outcomes.
- Additional research needs to be conducted on prelicensure nursing education and the development of clinical competency.

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