

TEXAS BOARD OF NURSING
3.8.6.a. EDUCATION GUIDELINE
Simulation in Prelicensure Nursing Education

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Introduction:

Clinical learning experiences are an essential part of nursing education because they provide an opportunity for students to apply nursing theory to practice, to meet clinical objectives, and to progress through the program of study to become a safe, competent nurse. The definition for clinical learning experiences for both vocational and professional nursing education programs in Texas describes a variety of practice activities and settings that promote growth in clinical competence and clinical judgment in the cognitive, psychomotor, and affective domains.

The definition in Rules 214.2(10) and 215.2(10) states that *Clinical learning experiences are **faculty-planned and guided** learning activities designed to assist students to meet the stated program and course outcomes and to safely **apply knowledge and skills** when providing nursing care to clients across the life span as appropriate to the role expectations of the graduates. These experiences occur in actual patient care clinical learning situations and in associated clinical conferences; in nursing skills and computer laboratories; and in simulated clinical settings, including high-fidelity, where the activities involve using planned objectives in a realistic patient scenario guided by trained faculty and followed by debriefing and evaluation of student performance. The clinical settings for faculty-supervised hands-on patient care include a variety of affiliating agencies or clinical practice settings, including, but not limited to: acute care and rehabilitation facilities; primary care settings; extended care facilities (long-term care and nursing homes); residential care settings; respite or day care facilities; community or public health agencies; and other settings where actual patients receive nursing care.*

The use of high-fidelity simulation in nursing education has increased over the past 10 years due to limited clinical sites available to nursing programs, the growing faculty shortages, and patient safety initiatives that limit student involvement. Though simulation takes many forms, the more technologically-adept simulation allows the closest replication for a real-life nurse-patient interaction. For years, nursing faculty questioned the amount of clinical time that could be carried out in the simulation lab without negative effects on student preparation for practice. The NCSBN National Simulation Study conducted from 2011 to 2013 studied the effectiveness of simulation as a substitute for patient care with actual patients. The results of the study provided evidence that substituting high-fidelity simulation for up to 50% of traditional clinical hours produced comparable educational outcomes and clinical competences in new graduates (Hayden, Smiley, Alexander, Kardong-Edgren, & Jeffries, 2014).

Any learning activity that places the student in the nurse role with an opportunity to practice nursing competence at any level may be considered a type of simulation. Usually simulation is categorized into low, moderate, or high-fidelity, with the level of fidelity referring to how close the experience matches reality in patient care.

Low fidelity simulation is used to build knowledge and is the least reality-based. It includes the use of case studies, role-playing, computer based simulation scenarios, task trainers or static manikins.

Moderate fidelity simulation is used to build competence and involves the use of more technologically sophisticated manikins or models with basic physiologic responses such heart sounds, pulses, and breathing.

High fidelity simulation is most realistic and is used to build performance and nursing interventions. Manikins replicate the anatomy and physiology of real people that may talk and respond to the nursing student, allowing the student to develop communication and judgment skills. The high-fidelity laboratory setting mimics the clinical setting and helps prepare the students for actual clinical experiences with patients. High fidelity simulations facilitate practicing a situation or scenario involving skills and clinical judgment.

Criteria for Effective High-Fidelity Simulation

- Faculty are trained in simulation pedagogy.
- There is an adequate number of faculty to support the modality.
- Faculty are trained in debriefing and have the clinical expertise to evaluate a clinical scenario.
- Resources are available to provide equipment and supplies and create a realistic scenario.
- Adequate dedicated staff members and resources are provided to maintain quality. (Hayden et al., 2014).

Limitations on Simulation

Rules 214.10(e)(3) and 215.10(e)(3) require:

When a high-fidelity simulation laboratory is used to meet clinical learning objectives, the faculty shall be trained in planning and guiding the experience and in debriefing and evaluating students. Programs may use up to 50% simulation activities in each clinical course.

This requirement ensures that programs will include adequate hands-on clinical practice with actual patients in each content area to prepare the nursing students for safe, competent nursing care in different settings. Programs are encouraged to take advantage of a variety of learning experiences (including skills labs, role-playing, case-studies, computer scenarios, standardized patients, and simulation labs) to help students gain skills and a level of confidence before they are assigned to provide care for actual patients. Board rules do not specify the number of hours required for clinical practice, but expect the faculty to determine the time needed to meet the program and clinical objectives through quality experiences. The goal for all types of clinical learning experiences should be centered on the quality of the experiences rather than the amount of time devoted to them, though there is great value in repetition of clinical skills.

Ratio of Simulation Hours to Clinical Hours

A common question is, “What is the ratio for determining the amount of time used in simulation that equals an hour of hands-on clinical time?” The NCSBN national simulation study used a 1:1 ratio (one hour of simulation equals one hour of hands-on practice). Smiley (2019) compared responses from a 2017 survey of 902 RN and LPN/LVN programs with the 1,060 responses from the 2010 survey of undergraduate programs’ use of simulation (Hayden, 2010). Almost 80% of both types of programs in the 2017 survey used a 1:1 ratio of simulation clinical hours.

NCSBN Simulation Guidelines

In 2015 a panel of experts met in Chicago to evaluate the data gathered through the national simulation study, information in previous studies, and the standards from the International Nursing Association for Clinical Simulation and Learning, to develop a national simulation guideline for prelicensure nursing programs. The guideline provides sets of checklists related to faculty preparation and program preparation based upon the following principles:

1. *There is commitment on the part of the school for the simulation program.*
2. *The program has appropriate facilities for conducting simulation*
3. *The program has the educational and technological resources and equipment to meet the intended objectives.*
4. *Lead faculty and simulation laboratory personnel are qualified to conduct simulation.*
5. *Faculty are prepared to lead simulation.*
6. *The program has an understanding of policies and processes that are a part of the simulation experience (Alexander et al., 2015).*

The guideline includes a list of valuable resources.

Conclusion:

The Board recognizes that simulation can be an effective teaching method to prepare students for clinical practice when used in combination with traditional skills lab practice and direct patient care experiences.

Statements from the American Association of Colleges of Nursing (AACN) and the National League for Nursing (NLN) validate their acceptance of simulation as a supportive teaching strategy for prelicensure nursing programs. The Commission on Collegiate Nursing Education (CCNE), AACN’s autonomous accrediting arm, encourages innovative practices, including the use of simulation, so long as there are also direct-care clinical practice experiences (all experiences cannot be replaced by simulation) (AACN, 2017).

NLN states their position on simulation: *Simulation has been increasingly adopted as a teaching methodology in nursing education and staff development learning environments, and is rapidly gaining common ground as a standard teaching strategy. Simulation is valued for its ability to provide realistic, context-rich experiential learning in a safe environment. From standardized patients, to low and high fidelity mannequins, and now the virtual world (e.g. vSim), each context provides a slightly unique perspective and can facilitate learning and evaluation of patient care situations along the continuum of care (NLN, 2020).*

References and Suggested Readings

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