Progressive Assessment and Competency Evaluation Framework for Integrating Simulation in Nurse Practitioner Education

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ABSTRACT

Competencies for nurse practitioner students have been published with the goal of preparing graduates who are ready to meet the challenges of an increasingly complex health care system. Standardized preclinical assessment of graduate-level competencies have been suggested as a means to optimize the student experience in clinical rotations and maximize the preceptor’s time toward preparing students for the transition to independent practice. The main objectives of this study are to describe progressive assessment and competency evaluation as an integral framework for integration of simulation in graduate-level curriculum and present the feasibility and challenges to consider during implementation of Progressive Assessment and Competency Evaluation-directed simulations.

Keywords: clinical, competencies, nurse practitioner students, preceptors, simulation

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Nurse practitioner (NP) education has evolved over the past decade with nationally based competencies published by the American Association of Colleges of Nursing,\(^1\) National League of Nursing,\(^2\) National Organization of Nurse Practitioner Faculties,\(^3,4\) as well as other specialty organizations. These competencies were written to level programmatic outcomes across institutions and prepare a workforce empowered to meet the challenges of an increasingly complex health care system while also providing graduates with the capacity to practice within the full scope of their educational preparation.\(^5\) With the expectation that NP students demonstrate nationally based competencies prior to graduation, new approaches are necessary for assessing clinical knowledge and skills along the educational trajectory. The main objectives of this study are to describe progressive assessment and competency evaluation (PACE) as an integral framework that may be used by graduate nurse faculty to conceptualize the integration of simulation in graduate-level curriculum and discuss the feasibility and challenges to consider during implementation of PACE-directed simulations.

QUALITY ASSESSMENT AND REVIEW OF GRADUATE NURSING CURRICULUM

Quality assessment and curriculum improvement has become a significant topic in higher education because it strives to maximize effectiveness and efficiency in attaining the intended education outcomes by ensuring that each educational activity contributes to achieving them.\(^6\) An important aspect of the curriculum improvement process is that each learning activity and the resources required to make it successful has budget implications. This is a particularly important consideration for state-funded institutions, which are under increasing pressure to demonstrate cost containment and sustainability. Through the curriculum quality assessment and review process,

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nursing programs can address the cost to run an NP program while providing evidence of high-quality education that leads to graduates who are effective and safe to practice as well as leaders prepared to address the challenges of our increasingly complex health care system. The quality assessment and review process for the program described in this article was the beginning of a series of decisions to strengthen and enhance the efficiency in which our NP students were meeting the learning goals and outcomes of the program. An assessment plan of formative and summative evaluations were put in place to ensure that graduates of the program attained the knowledge, skills, attitudes, and values described in the program outcomes.

**CHALLENGE OF PRELOADING WHILE ENHANCING PSYCHOMOTOR SKILL DEVELOPMENT**

Historically, NP programs across the nation have struggled with the challenges of having to preload foundational knowledge, level learning objectives throughout the curriculum, and apply appropriate sequencing of didactic and clinical courses while remaining competitive in terms of the cost and time commitment for students. Ultimately, the assessment plan, through formative and summative evaluation, should address these aspects by measuring how each component of the curriculum contributes to the established competencies and program outcomes. A particular challenge for nurse educators, as well as other health care disciplines, is ensuring that the psychomotor and problem-solving skills required for safe and high-quality provision of care are achieved along the educational trajectory.

Didactic courses are an essential part of the students’ learning process and can be intertwined with active learning strategies, such as case studies and objective structured clinical examinations that require psychomotor and problem-solving skills. Yet, even when these pedagogies are implemented, the transition to practice is often difficult. This is particularly true when there is a heavy reliance on the clinical rotation as the only venue for students to translate theory and didactic knowledge into context-specific practice situations. Experiential variability is an inherent part of the clinical rotation, ranging from the diversity of diagnoses that students are exposed to, differences in preceptor time, and ability to proactively assess and address student deficiencies, to incongruence in the opportunities to interact with diverse patient populations and perform complete health assessments and a variety of clinical procedures. Thus, reliance on the clinical rotation as the only means of summative evaluation can lead to detrimental amounts of variation in student learning, poorer performance in the clinical setting, and less frequent attainment of programmatic outcomes.

Another challenge when education programs rely heavily on clinical rotations is that, although a minimum number of student clinical practice hours has been set nationally at 500 hours for the master’s and 1,000 hours for the doctor of nursing practice, there is a lack of evidence on the number of clinical practice hours required to establish competency. Because competency is not based on the number of clinical hours achieved, evaluations of clinical performance and mastery of core- and specialty-based competencies are left to individual institutions that educate NPs.

**ONE POTENTIAL SOLUTION: STANDARDIZED PRECLINICAL ASSESSMENTS**

Given the limited number of clinical practice hours, variation in student preparation, and a decreasing number of clinical sites, there has been a call for standardized preclinical preparation. This may entail study demonstration of core and selected specialty competencies prior to starting the clinical experience. Although simulations have been used more often as a pedagogy for teaching and learning psychomotor skills and clinical judgment, they can also be designed as a preclinical assessments, or evaluations of readiness to attend clinical rotations. A preclinical simulation assessment can provide an opportunity to demonstrate and receive feedback on the student’s ability to integrate professionalism and psychomotor skills, problem solving, critical thinking, and documentation. In addition, it provides a means for the faculty to evaluate the student’s ability to apply knowledge of physical assessment, prescribing, communication, and patient/family teaching, as well as quality improvement, evaluation of ethical dilemmas, and leadership. Preclinical assessments of clinical skills can help to ensure that students are prepared to enter the clinical setting, use the clinical...
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