Clinical Simulation in Nursing (2018) 22, 26-31

Clinical Simulation in Nursing

www.elsevier.com/locate/ecsn

Review Article

Virtual Simulations in Online Nursing Education: Align With Quality Matters

Kathleen Huun, PhD*

Indiana State University, Department of Baccalaureate Nursing Completion, Terre Haute, IN, USA 47809

KEY WORDS
nursing education;
online learning;
quality matters;
virtual simulation;
quality assurance

Abstract: Simulation has become commonplace yet must be expanded for distance/online nursing students. Evidence-based simulation entities (e-simulations, video simulation, and telepresence simulation) provide asynchronous and synchronous options. For quality assurance, the selected modality is best when aligned with Quality Matters (QM™) standards in the form of component design standards for ease of student and faculty use. A variety of simulation modalities are reviewed for component (simulation) design to provide high-quality simulation aligned with course design, delivery, and objectives for online/distance nursing students.

Cite this article:
Huun, K. (2018, September). Virtual simulations in online nursing education: Align with quality matters. *Clinical Simulation in Nursing, 22*, 26-31. https://doi.org/10.1016/j.ecns.2018.07.002.

Current Norms: Simulation and Online Learning

Simulation learning activities within specific space and time restraints have become commonplace in face-to-face campus-based nursing school environments. As experiential learning, ''simulation has the potential to change the face of nursing education as it opens doors for students to experience today's complex and challenging patients and it enhances their critical thinking skills'' (Davis, Kimble, & Gunby, 2014, p. 149).

The distinct advantage of simulation is that it is an authentic, realistic, safe practice environment where the student can in fact ''do no harm.'' And, within this process of learning, the student may engage in deliberate practice, ''a systematic, recursive approach to developing mastery of the representative tasks of a domain'' (Chee, 2014, p. 250). Likewise, technical simulation modes often allow for repeatability for enhancing one's performance or revising an undesirable consequence. To culminate a simulation process, debriefing and/or feedback is customary to ensure student perceptions are correct and guard against errors in an actual clinical practice setting.

Simulation, as an established synchronous learning modality, via a simulation laboratory, has been very limited for the online distance nursing student. Thus, this

Funding: This work was supported by the Academic Affairs High Impact Project Grant (2017), Capital Equipment Grant (2016), AHEC Grant (2014), and the Rural Health Innovation Collaborative (RHIC) Simulation Center.

Conflicts of Interest: The authors declare no conflicts of interest to disclose.

Permissions: Permissions granted for use of company/product names (added below).

* Corresponding author: kathleen.huun@indstate.edu (K. Huun).

1876-1399/$ - see front matter
https://doi.org/10.1016/j.ecns.2018.07.002

advantageous learning strategy, simulation, should become an equal opportunity for online distance nursing students via synchronous and asynchronous virtual access and delivery.

Online learning is and has been on the rise for more than a decade. According to Snyder, deBrey and Dillow (2018), 29.8% of undergraduate students were enrolled in an online course as of fall 2015 (p. 475). Of these, 14.4% were taking online courses exclusively (Snyder et al., 2018, p. 475). Nursing, despite being a discipline that routinely requires face-to-face interaction because of clinical requirements, has pushed forward seeking opportunity in the online, cyberspace continuum as a format for educating nurses. For the most part, this has generally been in graduate-level programs and degree completion programs. Many other prelicensure nursing programs offer hybrid courses, whereas few innovative programs are completely online.

Key Points

- Simulation, an advantageous learning strategy, and the unquestionable attributes of virtual simulation entities warrant their use in online undergraduate nursing education.
- The choice of virtual simulations should be directed and evaluated by an alignment to QM™ standards in the form of component standards to ensure student success and preserve faculty resources.
- Educators are responsible to assess, evaluate, and research the impact of virtual simulation modalities.

The rise in exploitation of online education has fostered the development of best practice standards for content delivery. Most notably, a nonprofit quality assurance organization, Quality Matters (QM), developed an instrument in the form of a rubric that is used to ensure if online course designs meet standards that have been set to enhance student success in a virtual classroom. The QM™ rubric is based on best practices regarding effective online learning and provides a set of eight general standards and 43 specific standards used to align and assess the quality of an online course and its components (Quality Matters, 2018). Thus, this rubric should be used as a resource to thoughtfully incorporate simulation technologies into online medical-surgical nursing courses.

Defining a Void

Aligned with the need for simulation for online distance nursing students is a call from the National League of Nursing (NLN) Vision (2012). This directive expresses a priority for research in nursing education to study "the use and cost-effectiveness of technologies (e.g., online, simulation, telehealth) to expand capacity in nursing education" (NLN Board, 2012, p. 3). Although there is research regarding the use of virtual technologies (e-simulation, video simulation, telepresence simulation) in nursing education (Bogossian, Cooper, Cant, Porter, & Forbes, 2015; Cant & Cooper, 2014; Foronda et al., 2017; Rudolph et al., 2017), there is a void regarding a specific process for selection, integration, and implementation of various simulation modalities into existing online nursing courses. Therefore, the purpose of this review is to present a plausible framework, based on QM, to aid in the selection and integration of a variety of virtual simulation modes to promote online student success and faculty satisfaction.

Selection of Simulation Resources: Accentuating the Positive

Creativity, collaboration, continuity, cost-effectiveness, and conservation of faculty time drove the initial selection and review of the various simulation resources. However, the final choice, integration and implementation of simulation modalities, were based on accentuating positive essential as geared to facilitate student success and reflect faculty endorsement.

Accentuating the positives, it is requisite that a simulation modality be interactive and stimulating for learners and provides a foundation of continued exploration. Simulations must also enable controlled and structured outcomes with the inherent ability to align with course content and objectives. Likewise, there must be risk-free, trial and error learning within a real-life scenario with feedback through prompts or debriefing. The virtual nature of the simulations should allow for wide availability, time flexibility, single- or multiple-user interaction, and self-pacing. Ease of use and secure access are also important details for positive virtual simulations. Limited expenditure of teaching resources and cost-effectiveness of virtual simulations are important essentials as well.

In review of simulation entities, a close match to the positive essentials was the ultimate goal for selection. In addition, it was a requisite that selected means of simulation addressed pertinent student learning needs (e.g., head-to-toe assessment, intravenous insertion). As such, four specific simulation entities that "accentuate the positive" have been established and incorporated into a sequence of online medical-surgical clinical courses. These simulation modalities include a situational e-simulation (Shadow Health® Assessment), a technical e-simulation (mySmartHealthcare®), staged video simulation, and robotic telepresence (Double Robotics) simulation. Table 1 outlines the "fit" of each simulation component in relation to their positive attributes.

Once a determination had been made on the chosen simulation resources, a review of all situational e-simulations