ABSTRACT

Background: As nursing programs continue to expand online, innovative pedagogies that support online teaching and learning practices grounded in theoretical constructs are needed. Method: Video simulation scenarios and VoiceThread technology were used to create a model of online instruction that promotes active student participation and aligns with course objectives and content. Kolb’s experiential learning theory serves as the framework for this project. Results: The integration of multimedia in the course gave students a collaborative experience where they can apply their knowledge to the simulation scenarios. Inclusion of the vignettes was found to be effective in addressing specific areas of curriculum while stimulating student engagement. Conclusion: Increased use of online delivery for nursing education necessitates course designs that promote student interaction and foster community. Teaching and learning practices that include technologies and are supported by theoretical constructs promote best practices for online instruction. [J Nurs Educ. 2018;57(4):245-249.]

As more nursing programs move to online education, nurse educators are challenged with the rapid expansion of online technology while balancing instruction that engages students and aligns with curriculum (Stott & Mozer, 2016). Despite the growing trend in online instruction, limited attention has been given to effective teaching strategies that are specific to the online setting (Smith & Crowe, 2017). As nursing programs continue to expand online, innovative pedagogies that support online teaching and learning practices grounded in theoretical constructs are needed. Moreover, increased use of online delivery for the nursing education necessitates course designs that promote student interaction and foster community. Collaborative learning activities through the use of various technologies have been found to be effective in addressing specific areas of the curriculum, while promoting social presence (Fox, 2017).

The purpose of this project is to promote instructional teaching and learning practices through online engagement using learning management system (LMS) technologies that are supported by theoretical constructs in an online RN-to-Bachelor of Science in Nursing (BSN) program. The nurse educators in this project developed video-recorded simulation scenarios and used VoiceThread® (VT) technology to create a model of online instruction that promotes active student participation and aligns with course objectives and content. Kolb’s experiential learning theory (Kolb, 1984) serves as the theoretical framework for this project and is a learner-centered approach that focuses on the learner actively problem solving and contributing to the experience.

Background

Too often, online learning is static and content laden, with an overreliance on reading and writing tasks in the online classroom despite the availability of technologies that can be used to enhance social interactions and deliver different instructional modalities (Andrew, Ewens, & Maslin-Prothero, 2015; Stott & Mozer). The literature attests to effective online learning through pedagogical practices that stimulate active student engagement (Andrew et al., 2015; Stott & Mozer, 2016). To promote collaborative learning in an asynchronous environment, educators are finding value in audio and video technologies that create social presence (Fox, 2017; Guhde, 2010a; Miller & Metz, 2015). An example of this technology is VT, a cloud-based application that permits instructors and students to create interactive presentations that take advantage of technologies allowing for audio, video, and written
comments asynchronously (VoiceThread, 2017). For example, an instructor can upload a PowerPoint presentation into VT and add discussion questions within the presentation so that students are required to stop, reflect, and respond to specific content before moving forward; quizzes and videos can also be embedded into VT. VT technology is compatible with most LMS, allowing for seamless integration of technology with assignments while increasing social interaction by providing a human element with the use of multimedia to communicate emotions and thoughts. Online students can benefit from a collaborative modality where discussions and learning can be negotiated and challenged (Fox, 2017; Guhde, 2010a).

Although innovative approaches to online instructional designs are necessary, finding the right technological tool to support specific learning objectives can be difficult (Guhde, 2010a; Reeves & Reeves, 2008). For example, simulation has been widely accepted as a valuable teaching strategy for nursing students in the face-to-face setting (Jeffries, 2005). However, online simulation requires creative instructional designs and strategies to fully present complex scenarios that support both student engagement and course objectives. Teaching strategies that support complex issues rather than a single problem mirror real-world situations (Guhde, 2010b). Although research on online simulation is limited, studies on this topic have highlighted the effectiveness of video-recorded simulations for online students (Guhde, 2010a; Miller & Metz, 2015). Miller and Metz (2015) explored whether online clinical module videos would increase understanding of course content among dental students. The authors incorporated video simulation as part of the course’s weekly instructions and found that the videos enhanced student understanding of key clinical issues. To augment instruction in a traditional face-to-face setting, Guhde (2010a) used video simulation scenarios and online discussions to address specific skill sets as part of a physical assessment course. These examples demonstrate that simulation is feasible for the online classroom and can offer complex clinical situations similar to the face-to-face setting.

The Project: Online Simulations

Faculty teaching in the online courses ranged in age from 40 to 55 years, with most having limited online teaching skills at the onset of the online RN-to-BSN program. All faculty participated in extensive online professional development training prior to course deployment; institutional technology support on campus was available to the faculty. RN-to-BSN students ranged in age from 22 to 32 years; all were oriented to the LMS and the required technology prior to starting the online program. Use of the VT and LMS technology by both the students and the faculty was not a barrier.

Faculty affiliated with a fully online RN-to-BSN program collaborated to create simulations for five of the program’s courses: Transcultural Nursing, Leadership and Management, Professional Nursing, Seminar, and Community Health Theory. Using standardized patients, the nursing simulation faculty produced brief 5 to 7-minute simulation vignettes using faculty-created scenario storylines. Each video-recorded vignette aligned with specific module objectives and was integrated into assignments and content that supports those objectives (Table). The completed simulation scenarios were integrated into VT utilizing MP4 digital formatting then were uploaded into the LMS by the faculty for asynchronous discussions. Faculty embedded content or posed questions via PowerPoint slides into the VT allowing for breaks in the video for reflection to the posed questions. Students could then use audio, video, or written format to respond to other students and faculty using the same VT slideshow asynchronously. The VT enhanced simulations captured three vital components of online instruction:

- Student to student.
- Student to content.
- Student to faculty interaction.

Experiential learning theory (Kolb, 1984) was integrated into the simulation scenario experience and supported student exposure to the following theory components:

- Concrete experience: The learner is actively engaged in an experience. Students experience the simulation scenarios in their courses through viewing the simulation videos.
- Reflective observation: A reflection occurs based upon observations during the experience. Students discussed what occurred in the simulation scenario as it related to course and module content.
- Abstract conceptualization: Thoughts are explored and new plans for action can be created. Questions about the scenarios guided the formation of new concepts and ideas.
- Active experimentation leads to new experiences. Student responses affirmed desired outcomes from the learning process.

Description of Simulation Scenarios

Professional Nursing Course

The simulation scenario for the professional nursing class involved patient-centered preoperative and postoperative cholecystectomy care for a war veteran with posttraumatic stress disorder (PTSD) and a history of alcohol and drug use. Students were sensitized to the veteran’s experience by first previewing a documentary on veterans’ experiences during a Baghdad mission (Pritchard, 2004). The vignette showed the patient during pre- and postoperative periods as nurses in the video faced issues regarding medication management, pain control, and psychosocial problems. Experiential learning theory called the Kolb cycle (Kolb, 1984) was applied to the simulation scenario:

- The concrete experience: Provided a patient report including situation, background, assessment, recommendation and Medication Administration Record information for both preoperative and postoperative situations through the simulation vignette based on the care of a patient with PTSD.
- The reflective observation: Aligned to module objective for the week and directed students to analyze and discuss professional competencies, and standards for providing patient-centered care for a patient with PTSD. Students were asked to answer questions and comment on pain and pain relief (secondary to ethanol and drug abuse), health literacy (secondary to diagnosis), hallucination (secondary to PTSD), postoperative education, and psychosocial intervention (secondary to homelessness).
- Abstract conceptualization: Occurred as students watched simulation scenarios and reflected on these questions: (a) What teaching, or discussion, might you have with the patient re-
regarding his or her surgery and health issues? (b) What are your concerns regarding pain medication, ethanol, and drug use for this patient? (c) What is your professional responsibility regarding this patient’s behavior and use of outside medications? (d) How can you provide patient centered care for this patient? (e) What safety concerns do you have for yourself and the patient? (f) What resources does this patient need? (g) How are you going to plan for this patient’s discharge?

- Students then provided evidence of active experimentation by recognizing how they would implement this knowledge into their current practice by responding to the following questions: (a) What did you learn from the simulation scenario?

(b) What did you learn from student responses regarding patient centered care that you can implement in your own practice?

Transcultural Nursing Course

The transcultural nursing class provided a cultural scenario using two standardized patients portraying a husband and wife who were Muslim. The opening scene shows the wife kneeling on the floor in her hospital room in prayer as her husband speaks with two nurses. As the scenario unfolds, the medical team is challenged to care for this family’s cultural needs, as well as provide medical care for the wife, who was experiencing

<table>
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<th>Course</th>
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<th>Reflective Observation</th>
<th>Abstract Conceptualization</th>
<th>Active Experimentation</th>
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<td>Example</td>
<td>Choose a scenario that meets course objectives</td>
<td>Identify the course objective that will guide the scenario.</td>
<td>Develop questions designed to elicit critical thinking regarding scenario leading to new concepts and ideas.</td>
<td>Develop questions designed to apply the new concepts and ideas.</td>
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<td>Leadership and management course</td>
<td>Medication error with root cause analysis</td>
<td>Evaluate various legal principles when acting in leading and managing roles in clinical practice settings. Analyze decision making when legal and ethical situations overlap.</td>
<td>What legal and ethical principles were or were not applied? Analyze the decision-making processes used in this situation. Do you agree with how the situation was handled?</td>
<td>What would you do differently? Apply the ANA Code of Ethics.</td>
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<td>Community health theory course</td>
<td>Pesticide poisoning–environmental health</td>
<td>Explain the influence of selected legislation acts in the United States on shaping current health services policy and practice. Analyze the trends and issues influencing health care economics and community health services delivery. Apply the ecological perspective to human and environmental relationships. Relate the effects of environmental hazards to human health.</td>
<td>What legislation supports environmental health? Analyze the impact of environmental exposures in our community. What services are available to vulnerable populations exposed to pesticide poisoning?</td>
<td>What recommendations could you offer?</td>
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<td>Seminar course</td>
<td>Uncontrolled diabetes, loss of primary caretaker</td>
<td>Recognize the patient, family, or population as the source of control and full partner in providing compassionate and coordinated care based on respect for human dignity, preferences, culture, and way of life.</td>
<td>Do you always recognize the patient and family as the source of control and full partner when providing care? Please explain your response. Based on the scenario, did the nurse show compassion? Respect for human dignity? Did he or she take into consideration preferences, culture, or way of life? Please explain how the nurse did or did not provide compassionate care.</td>
<td>What would you have done differently?</td>
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Note. ANA = American Nurses Association.
The concrete experience: Provided factual and cultural information regarding Islam as shared through the simulation vignette.

- The reflective observation: Aligned to module objectives for the week and directed students to reflect on one's own beliefs and values as they relate to human dignity and professional practice in order to provide fair treatment in relation to race, ethnicity, spirituality, socioeconomic status, disability, citizenship, age, gender, and way of life. Students were asked to comment on and answer questions regarding this Muslim family in a hospital setting specific to care, communication, and cultural needs.

- Abstract conceptualization: Occurred as students watched simulation scenarios and reflected on these questions: (a) Tell me about cultural sensitive care; (b) What does culturally sensitive care mean to you?

- Students then provided evidence of active experimentation by recognizing how they would implement this knowledge into their current practice by responding to the following questions: (a) Did this simulation show culture sensitivity, if so, how? (b) If not, what would you have changed?

Project Evaluation

Student responses indicated that the simulation scenarios provided an appropriate level of complexity in a clinical setting that most students in the course had not previously experienced. For example, one student stated:

I like that it presented us with a situation that could have been tackled in many ways. It is nice to hear others’ thoughts on how to handle situations that I may not have thought of.

Another student reported:

Watching simulations, you can try and figure out what you would do that’s better or better understand why that happened the way it did. [With] this simulation, in short, I like the questions and [trying] to figure out the best way to work through the simulation.

Student discussions reflected an understanding of the presented concepts and application to practice as demonstrated by the following statements:

- By acknowledging and becoming aware of our cultural differences, we as nurses can ensure a positive nurse-to-patient relationship where we thoughtfully include our patient’s culture into their care.
- Culture competence and appreciation plays such a significant role in our jobs as nurses. Not only is it our job to care for our patients medically, but to acknowledge and incorporate their cultural and religious preferences into their nursing care.
- Areas for improvement suggested by students included more concrete feedback regarding responses. For example:
  I would like to know the answers to the simulation to know if my thinking was the correct rationale.
  Future simulation scenarios could include a listing of potential correct responses to the presented vignettes. Faculty using simulation scenarios learned that this project required substantial time to plan, create, and edit the material. In addition, faculty who were content experts were not necessarily comfortable with creating simulation scenarios and needed mentoring from faculty who had more experience with simulation. Therefore, it is important to consider having faculty team members who have expertise in simulation.

Discussion

Online courses should include activities and assignments that actively engage students with course content, peers, and their instructors for the student to assume an active role in their learning (Mastel-Smith, Post, & Lake, 2015). The reported lack of interaction in most online learning environments coupled with the limited use of appropriate technologies are areas that nurse educators should consider as they design their online courses. Alignment of course design, curriculum, and technology can be overwhelming; keeping pace with online industry standards and new technologies can result in course modifications that are content focused, rather than grounded in learning theories (Stott & Mozer, 2016). The use of technology in the classroom, including software packages and digital content, can facilitate student learning. However, effective teaching strategies require educators to be knowledgeable and selective about instructional content with consideration for pedagogical approaches that are founded in educational theory in order to support best teaching and learning practices (Goh, 2016). As technology use in the classroom advances, the use of digital instructional content to enhance student learning is an area for further study. Online courses have become the mainstay for most colleges and universities. Therefore, it is imperative that nurse educators consider pedagogies that support online learning, as well as their unique challenges in linking teaching and learning practices to theoretical constructs. Students are more likely to be successful when they are engaged and active participants in their learning (Andrew et al., 2015).

Conclusion

This project demonstrates the use of simulation scenarios as a method to encourage active student engagement and social interactions in an online environment. The inclusion of experiential learning (Kolb, 1984) through simulation scenarios provides faculty with a model for integration of content and pedagogy for best practice in the online environment. Social presence through audio, video, and written interactions is a critical part of creating a sense of community for the online classroom. Technology has the potential to enhance student learning by using interactive strategies, thereby engaging students in the learning process.

References


