



DISTANCE LEARNING

... For Educators, Trainers, and Leaders

*Special
Section*

*Technological
Innovation in
Health Care
Education*

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- ▲ Comments From the Editor
- ▲ Introduction to the Special Section
- ▲ Use of Blackboard Collaborate for Creation of a Video Course Library
- ▲ Lessons Learned From Developing and Implementing an Interactive End-of-Life Education Module Using Raptivity and iSpring
- ▲ Simulation as a Teaching Technology: A Brief History of its Use in Nursing Education
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DISTANCE LEARNING

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PURPOSE

Distance Learning, an official publication of the United States Distance Learning Association (USDLA), is sponsored by the USDLA, by the Fischler College of Education at Nova Southeastern University, and by Information Age Publishing. *Distance Learning* is published four times a year for leaders, practitioners, and decision makers in the fields of distance learning, e-learning, telecommunications, and related areas. It is a professional magazine with information for those who provide instruction to all types of learners, of all ages, using telecommunications technologies of all types. Articles are written by practitioners for practitioners with the intent of providing usable information and ideas for readers. Articles are accepted from authors with interesting and important information about the effective practice of distance teaching and learning.

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Comments From the Editor

Michael Simonson

Beginning with Volume 14 of *Distance Learning* journal, there will be a slight shift of focus; the journal will emphasize content related to distance education in the health professions. The expanded interest in telehealth and telemedicine is not intended to reduce the stress on traditional aspects of distance learning; rather, this new emphasis is to recognize the phenomenal impact of distance education has on the health professions.

Distance Learning journal also has a new sponsoring partner, the College of Health Care Sciences at Nova Southeastern University. To support this new partner, the journal has a new member of the editorial team, Eunice Luyegu, who will serve as college editor. Dr. Luyegu will write a peri-

odic column for the journal and will edit periodic issues of the journal that will concentrate on telemedicine and telehealth.

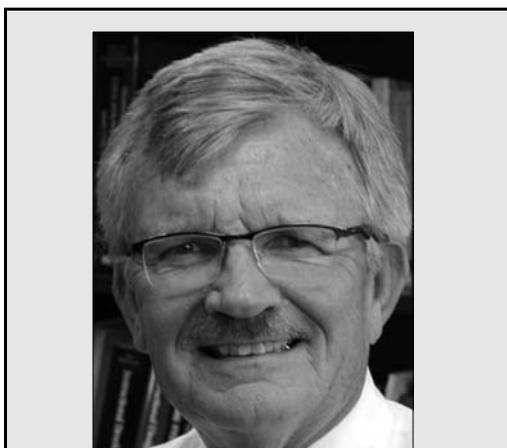
The members of the editorial team would also like to acknowledge the Fischler College of Education at Nova Southeastern University, which was a founding partner of *Distance Learning* journal. The Fischler College supported the journal for 13 years, and remains the home of the journal's editorial offices.

Distance education is a dynamic field that has evolved. *Distance Learning* journal has also evolved. In the journal's case, evolution means expansion, specifically an expansion into literature about the practice of telemedicine and telehealth.

Definitions of fields can help explain what is the appropriate literature for that field. The long-standing definition of distance education promoted by this journal is: "institutionally-based, formal education where the learning group is separated and where interactive telecommunications systems are used to connect learners, resources, and instructors."

Distance education has two components: distance teaching and distance learning. Articles about distance teaching and distance learning have been published in *Distance Learning* journal for 13 years, and this will continue.

Moreover, beginning with Volume 14, the 2017 volume year, *Distance Learning* journal will expand its editorial focus to include telemedicine/telehealth. Telemedicine is defined as: "the use of electronic information and communications technologies to provide and support health care when distance separates the participants" (Grisby & Sanders, 1998, p. 123). *Distance*



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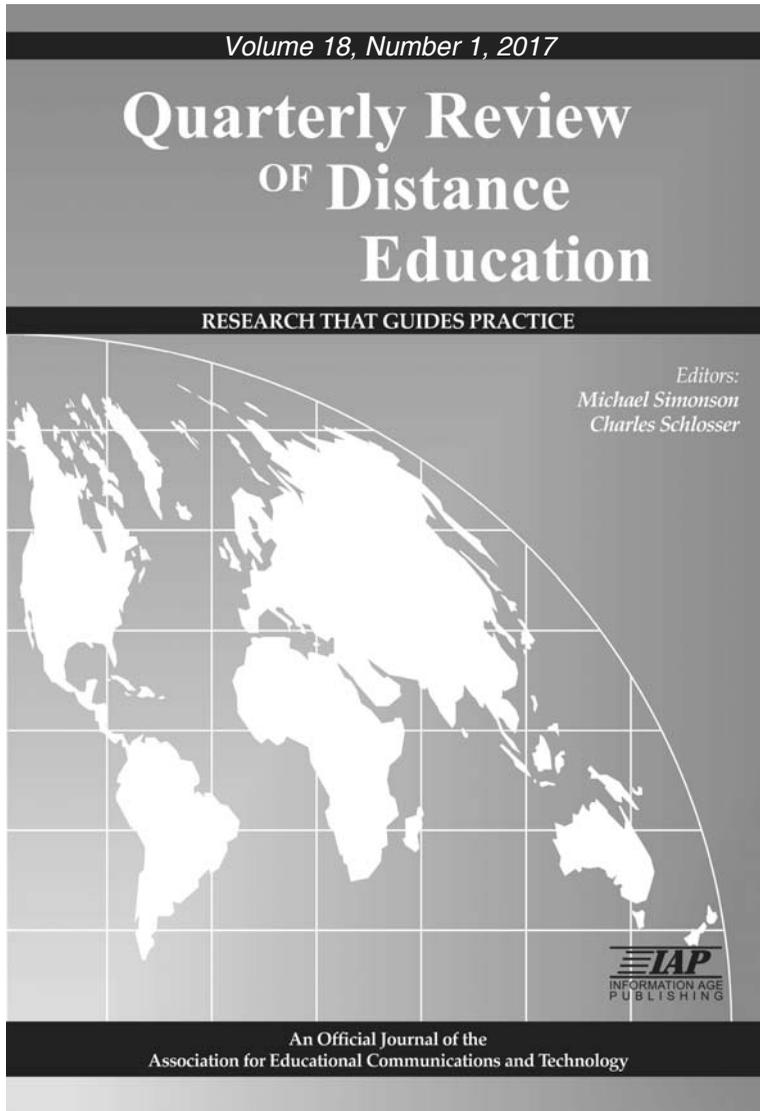
Learning journal will publish articles that reflect this definition, especially manuscripts that relate to distance teaching and learning in the health professions, a subset of telemedicine.

The members of the editorial team are enthusiastic about the expanded focus of the journal. Furthermore, *Distance Learning*

journal will continue to provide important information *from* practitioners *for* practitioners.

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Introduction to the Special Section

Khitam Azaiza, Guest Editor

In January 2016, the University of Miami's School of Nursing and Health Studies (UM-SONHS) launched a 1-day technology conference, "Technological Innovations in Health Care Education: Collaborations for Empowerment and Learning." The conference highlighted the use of innovative academic technologies in the classroom, in simulations, and in clinical settings. The articles in this section present the variety of technological innovation topics that were presented at the conference by UM-SONHS faculty members to their fellow faculty.

In "Use of Blackboard Collaborate for Creation of Video Course Library," Greta

Mitzova-Vladinov, Rossana Bizzio-Knott, Mary Hooshmand, Shayne Hauglum, and I offer an innovative way to use Blackboard Collaborate to record graduate student presentations and create a course library that provides a learning environment for students that promotes and values critical thinking, self-evaluation, and self-awareness.

Lessons learned from developing and implementing an interactive end-of-life education module using Raptivity and iSpring, by LaToya Lewis-Pierre and I, presents the development and implementation of an interactive end-of-life online module for undergraduate nursing students to create a more engaging learning environment and shares lessons learned from integrating the innovative technological applications (Raptivity and iSpring) and the benefits to educators.

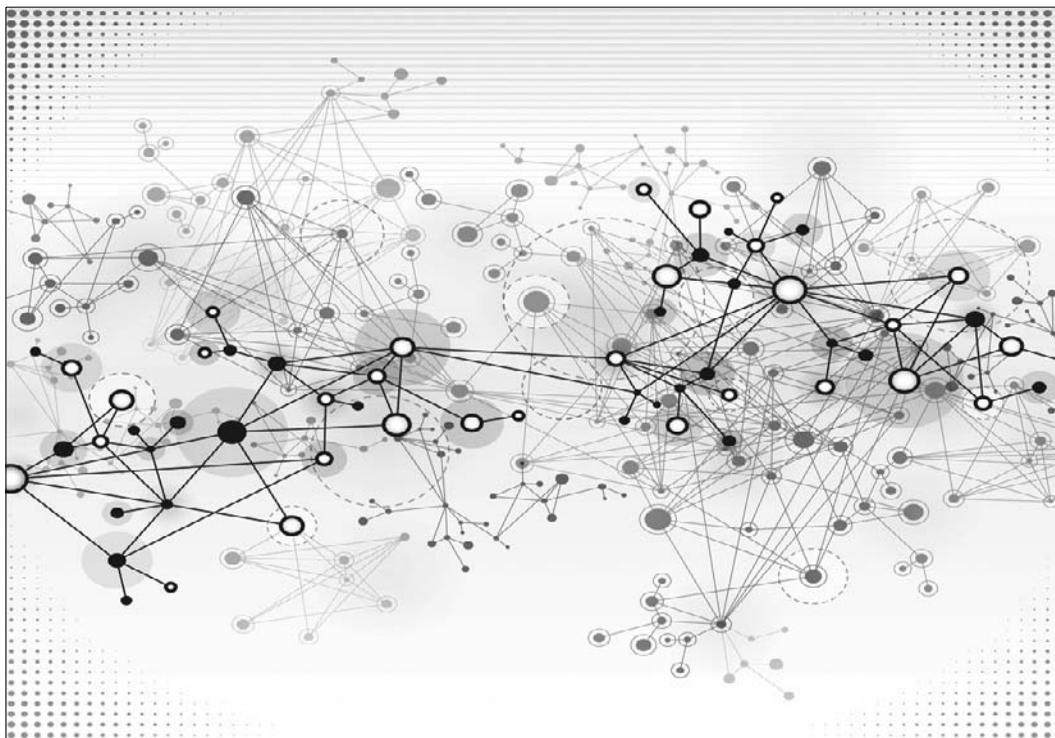
"Simulation as a Teaching Technology: A Brief History of its Use in Nursing Education, by Jill S Sanko, is a brief history of the various ways simulation-based education has been used in nursing education to provide realistic and practical practice environments for the purposes of educating and training the nursing workforce.

In "Flipping the Classroom Without Flipping out the Students: Working With an Instructional Designer in an Undergraduate Evidence-Based Nursing Practice Course, Yui Matsuda, Deborah Salani, and I describe the process of developing a flipped classroom approach for an undergraduate evidence-based nursing practice course and discuss lessons learned from the process and the evaluation data.



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TEACHING AND LEARNING AT A DISTANCE

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Use of Blackboard Collaborate for Creation of a Video Course Library

**Greta Mitzova-Vladinov, Rossana Bizzio-Knott,
Mary Hooshmand, Shayne Hauglum, and Khitam Aziza**

INTRODUCTION

Feedback is a central aspect of the assessment process of student learning in terms of elevating student performance and achievement (Gibbs & Simpson, 2004; Lunt & Curren, 2009). Feedback should relate to performance in terms of goals, criteria, and expected standards (Nicol & MacFarlane-Dick, 2006) and should also be timely, detailed, and specific. Furthermore, it should reinforce con-

tent and encourage self-reflection. Lack of timely and meaningful feedback on assignments and uncertainty regarding the workload assessment criteria and weight have been identified as major reasons why students leave higher education (Kirk & Greaves, 2009). According to the literature, evaluation process with video recording strengthens the students' self-esteem and self-confidence. Video feedback is unique



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because it allows course participants to look at themselves “from a distance,” thereby giving them a realistic picture of their own skills (Fukkink, Trienekens, & Kramer, 2011). This type of feedback has been demonstrated to have a more lasting impact on the students’ communication skills than conventional education such as lectures or textbook only (Nilsen & Baerheim, 2005). As highlighted by the evidence, it is vital to introduce this teaching and learning method to nurse anesthesia students as supplemental to the traditional faculty feedback and evaluation of students’ oral presentations to enhance understanding of the students’ individual strengths and weaknesses.

Several studies have established the efficacy of using constructive feedback by videotaping medical students’ interaction with a patient to teach and enhance their clinical and communication skills (Lane & Gottlieb 2004; Nilsen & Baerheim, 2005; Ozcakar et al., 2009; Paul, Dawson, Lanphear, & Cheema, 1998). Videotaped constructive feedback has been found to

enhance student communication skills when compared to conventional didactic method (Lane & Gottlieb 2004; Nilsen & Baerheim, 2005; Ozcakar et al., 2009; Paul et al., 1998). A study conducted by Lane and Gottlieb in 2004 found 74% of the medical students improved their interviewing skills after video review of their performance. In a prior study Paul et al. (1998) used three different types of feedback while videotaping student interviews, which consisted of self-critique as well as peer and instructors’ feedback. It was found that 73% of the study participants believed that self-observation influenced development of their clinical skills. In addition, this study found that self-critique and peer feedback increased students’ awareness of their strengths and weaknesses, thus providing an opportunity to improve their consultation knowledge and skills. The use of various feedback techniques has shown to improve students’ clinical skill; however, most students felt anxious during the video recording process. Nilsen and Baer-



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heim (2005) reported similar findings that the students have experienced a considerable amount of anxiety and apprehension before and during the videotaping course, resulting in a strong need for reassurance and a positive evaluation.

Recent studies have demonstrated the benefits of video-facilitated feedback in anesthesia and surgical simulation with improvement in nontechnical skills (Byrne et al., 2002; Savoldelli et al., 2006; Scherer et al., 2003). Byrne et al. (2002) examined the effect of video feedback on anesthesia residents' performance managing simulated anesthetic crisis in a multicenter study. They found shorter "median" time to solve a clinical problem after participants video-reviewed their own performances. Savoldelli et al. (2006) compared the educational efficacy of two types of feedback, oral and videotape-assisted oral feedback, with a no debriefing group during simulation with 42 anesthesia residents in a randomized control study. The authors demonstrated that the provision of oral feedback, either assisted or not assisted

with videotape review, resulted in significant improvement ($P < 0.005$) in participants' nontechnical skills. However, the study did not demonstrate a significant difference between the oral and video-assisted feedback groups. Scherer, Chang, Meredith, and Battistella (2003) reported significant improvement in behavior (compliance with trauma treatment algorithms use) after 1 month of videotape feedback of surgical residents during team trauma resuscitations simulation ($P < 0.05$) when compared to verbal feedback alone. Significant improvements were noted in airway, breathing, and blood pressure assessments ($P < 0.001$).

THE CONTEXT AND ASSIGNMENT

This case study describes an innovative use of the Blackboard Collaborate videoconferencing learning platform in a graduate senior level nurse anesthesia course at the University of Miami School of Nursing and Health Studies. As part of the course requirements, students are required to present to peers and faculty a clinical anesthesia topic covering the evidence-based recommendations for anesthesia management. Incorporating these videotaped student presentations support the course objective as it aims to strengthen both critical thinking and oral communication skills. By using such an approach, students are required to examine assigned health conditions in-depth as related to anesthesia practice and evaluate the current evidence-based approaches for best anesthetic management. The presentations are assigned as group projects and assist students in developing skills and strategies by fostering clear and concise professional verbal and writing communication. Ultimately the students improve their ability to critically evaluate scholarly sources and collaborate in a group setting. Throughout the process the assignment promotes digital literacy in the students through utilization of scholarly search engines and digital



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data evaluation so important in researching evidence-based recommendations.

COURSE DESIGN AND IMPLEMENTATION

During the semester, the student case presentations were recorded using Blackboard Collaborate learning platform. Students were required to examine in-depth the physiology and pathophysiology of a specifically assigned health condition as related to nurse anesthesia practice and evaluate the current evidence-based literature for best patient management during the perioperative period.

The presentations were assigned as a group project consisting of two to three students. The assignment had specific guidelines with a comprehensive evaluation guided by a rubric of eight specific questions. The questions were as follow: (a) adherence to deadlines; (b) technical quality of the presentation; (c) general knowledge base on the subject and content; (d) discussion of anesthesia implications and perioperative management; (e) integration of current trends and literature review on the subject for anesthesia management; (f) personal presentation; (g) group members participation and work integration; and (h) development and submission of a case scenario for online class discussion. All student presentations were video recorded using Blackboard Collaborate. The goal of the recordings was to create a library with students' presentations to access for self-critique and review after completion of the presentation (Figure 1 & Figure 2). The presentations were named and converted into videos using multimedia format MPEG4 (*.m4v, *.mp4) (Figure 3). A course library link was created in the course content in Blackboard, providing a connection to the stored videos. All videos were secured and accessible only by faculty assigned and students enrolled in the course. In addition, all students signed a talent-release form with the University of

Miami School of Nursing and Health Studies.

The overarching benefit of the recorded presentations library via Blackboard Collaborate was to provide both self-critique and peer and instructors' feedback. This is similar to the nurse anesthesia simulation scenarios debriefing process, with which faculty and students are familiar with: What is the experience? What went well? What can the student change/improve next time? The students' familiarity with the debriefing process was ideal in engaging the students throughout the video recorded video presentations.

Benefits of the library appear to include the availability to the students to review



Figure 1. Folder with student presentations library.

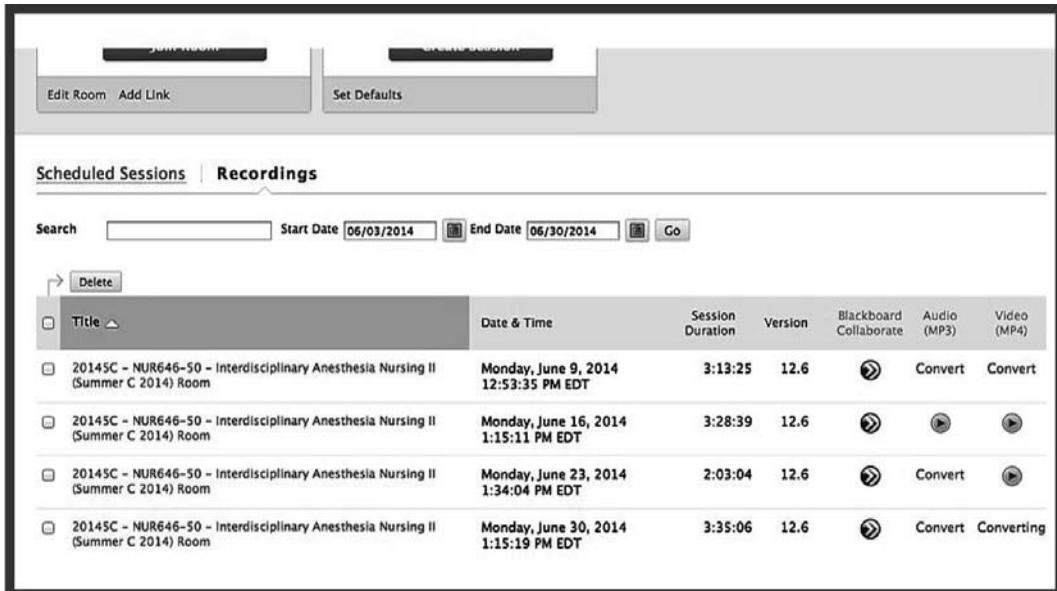


Figure 2. Contents of library.

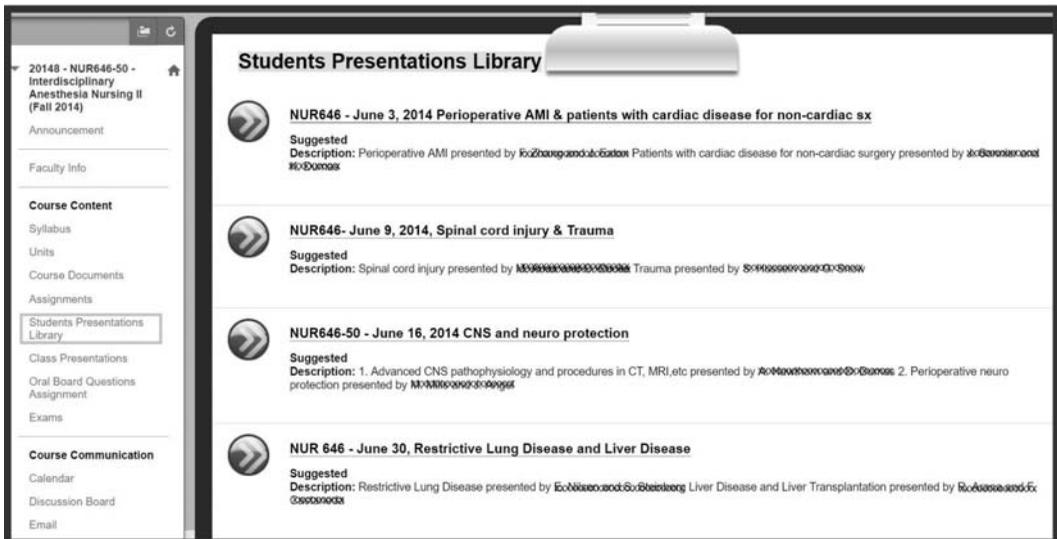


Figure 3. Converting presentations into video format.

previous presentations and study the material at their own convenience and pace. Interestingly, through faculty anecdotal accounts, the students after reviewing their recorded presentation appeared less likely to challenge their grade. An additional benefit, although not directly related to the student feedback, is the fac-

ulty can select and post presentations to provide an example for future classes when explaining the expectations, format, et cetera (Figure 4). In fact, building a student presentation library could be utilized as a remediation tool for a student who fell out-of-sequence with the program and required individual course enrollment.



Figure 4. References for new students.

FACULTY CHALLENGES AND SUGGESTIONS

Some of the challenges encountered in recording the students' presentations with Blackboard Collaborate were simple technical fixes such as assuring the "record" and "sound" was turned on during the recording. Some issues proved more challenging, such as discovering in the process of video conversion when the presentations were very long—over 60 minutes, and the conversion was taking up to one day. This could be prevented if faculty review Blackboard Collaborate suggestions and discuss in advance their course plan with an instructional designer. However, after the initial few presentations, running the Blackboard Collaborate recording was streamlined and much more convenient than utilizing conventional video recordings. Suggestions include scheduling academic technology instructional designer support in advance for the first few classes and ensuring that the software is current and updated.

CONCLUSION

It is the belief of the faculty that the video recording feedback could be used to pro-

vide the foundations for learner autonomy and to inform the learner on his or her actual state of learning or performance. It can be one of the methods to improve nurse anesthesia students' professional development, especially in the area of communication skills. By reviewing the video recordings of their presentations, the students could evaluate their own performance and develop awareness of their strength and weaknesses in the area of communication. The video recordings can be stored in a course library and can be accessed by the students at any time to review previous presentations and study the material at their own convenience and pace.

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Trends and Issues in Distance Education

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Developing and Implementing an Interactive End-of-Life Education Module Using Raptivity and Ispring

Lessons Learned

LaToya Lewis-Pierre and Khitam Azaiza

INTRODUCTION

The 21st century nurse is a forward-thinking individual who is expected to deliver holistic nursing care. Multigenerational learners are seek-

ing degrees and the new 'Net generation learner will reflect the majority of the workforce (Merrill, 2015; Worley, 2011). Thus, the integration of a multilevel interactive classroom is instrumental in facilitat-



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ing the student's knowledge acquisition phase. Prelicensure nursing students are expected to know and understand the multifaceted topic of end-of-life (EOL) care. Gillan, van der Riet, and Jeong (2014) reported that nursing students are not adequately prepared to provide care for a patient at the end of life. The online module using Raptivity and iSpring is part of an EOL study to evaluate the nursing students' attitudes toward providing care at the end of life. The module was designed for accelerated bachelor of science nursing students to integrate the key concepts related to caring for a patient and family at the end of life. This article will describe the development and implementation of an interactive end of life online module for second-semester students at a school of nursing in a 4-year university in southern Florida. In addition, the article will include the lessons learned from integrating the innovative technological applications and the benefits to educators.

Integrating technology into nursing can create a more engaging learning environment for nursing students (Huang & Chiu, 2015). Thus, future nurses are expected to be familiar with technology to provide care. In this technological age, educators must use technology as a tool to support future nurses (Worley, 2011). Hahn and Bartel (2014) lend support for the use of gaming in technology, which they conclude that it stimulates and promotes clinical decision making.

Technology is a valuable aid to augment clinical experiences and simulation nursing modalities. The Raptivity and iSpring learning modalities are groundbreaking tools to create engaging learning platforms. Raptivity e-learning program is a unique tool to create interactive learning experiences via a game-based forum ("Leading Interactive," 2011). Similarly, the iSpring tool allows the educator the creative ability to infuse various educational tools into one application and create a captivating learning environment. iSpring allows the educa-

tor to integrate power point technology in a novel way to present information, quizzes, and video in a fluid process ("Start Making," 2013). Both Raptivity and iSpring complement each other because both e-Learning applications allow the educator to create unique learning environments that captivate the learners.

DESIGNING AN ONLINE MODULE

To achieve effective e-learning, the needs of skilled instructional designer subject matter expert, along with technologies development tools are crucial (Miller, 2010). The school of nursing's instructional designer, a collaborator on this project, specializes in instructional technology and distance education. With this background, she was able to provide consultation on best practices for implementing the EOL modules as one unit in the second-semester adult health course. The instructor was the subject matter expert who identified essential topics to include in the EOL course. During the course design phase, the instructor collaborated with the instructional designer to delineate the appropriate content for the Raptivity and iSpring tools. The EOL unit consisted of modules that students completed outside of the classroom at their own pace. The content included of a variety of Web 2.0 technologies and sources such as YouTube videos, narrated PowerPoint presentations, and an interactive game-based introduction. The literature supports the notion that students are satisfied with online contents that were developed using narrated PowerPoint (Kumar, 2016). Using Raptivity was a valuable instructional delivery tool to create an interactive and engaging online module.

RAPTIVITY DEVELOPMENT

The instructor and the instructional designer made the decision to divide the content of the EOL units into four modules

based on the learning objectives for the unit, and include an interactive EOL introduction section. Raptivity was used to design and develop the introduction section. Raptivity is a template-based tool that allows developers to select and sequence templates, each with a different presentation objective (Miller, 2010). Raptivity has a robust library of prebuilt interaction templates that quickly helps developers to customize content and embed them into e-learning courses using a learning management system (LMS) (Landay, 2010).

A museum template was used where students can interact with the content and tour the museum rooms while listening to the instructor, or reading the narrated audio. The template was 3D and the format enabled the students to have a “walk through” museum experience. The museum template was customized into two rooms with four walls. For instance, Figure 1 depicts the different museum rooms in the online module. The headings

displayed in the rooms were beneficial for guiding the learner through the different EOL content areas. Each wall had a narrated image along with written script to meet all students’ learning style. The asynchronous e-learning environment, developed using the virtual Raptivity museum, allowed students to see the content independently and navigate in and out of the museum at their own pace. The combination of Raptivity and iSpring e-learning tools helped create an engaging instructional delivery method for the online EOL content. The iSpring software was used as a foundation for the online module, whereas Raptivity facilitated the creation of an interactive museum for the students to learn the end-of-life content.

INTEGRATING THE ISPRING TOOL

In order to use iSpring, the instructor completed the lecture voice-over narration using the PowerPoint software. iSpring is

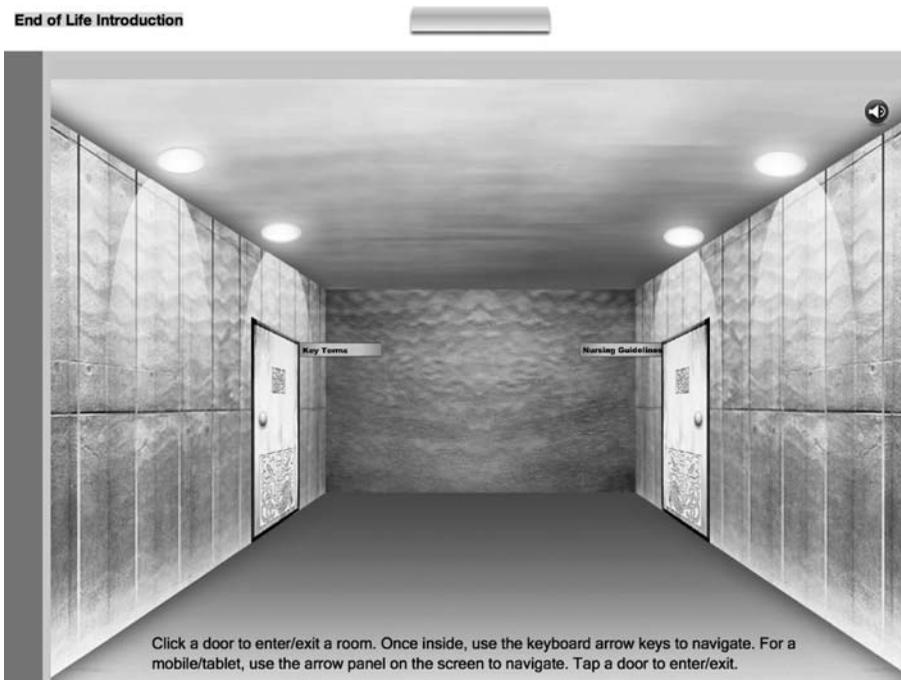


Figure 1. Museum rooms.

an authoring tool that enables users to develop interactive course content that can be published in Flash and/or html5 web-based deliverable content. A microphone with a headset was provided to the instructor to complete the recording. A cloud storage service called "BOX" was used to upload the completed recorded lectures, and access was given to the instructional designer. The use of low technologies to implement an online lecture such as PowerPoint software allowed the students to have control over the presentation. Students are able to navigate through the slides and jump from one slide to another (Marlin, 2016). Additionally, the instructor integrated a section called "test your knowledge" that included questions at the end of each PowerPoint (module) to reinforce learning, and one YouTube video was incorporated to enhance the understanding of the content.

Once the recorded lectures were completed, the iSpring—authoring tool was used to compile the PowerPoint files into web-based modules. This content was uploaded to Blackboard, the school's learning management system. Furthermore, video and the Raptivity software were added to iSpring providing students a variety of mediums within the module. iSpring allows users to add quizzes, videos, and audio to the PowerPoint as well. Users who have been using iSpring are impressed with the quality of the program, and it is considerably less expensive than comparable products (Landay, 2010). After the development process, the instructor and instructional designer changed from the Blackboard edit mode to the student mode to view the final module. Transitioning into the student mode was beneficial toward viewing the module from the student's perspective and this pivotal step enabled the instructor and the designer the opportunity to verify that the module flowed in a good sequence without technical delays. Upon review, the module

flowed seamlessly and the implementation phase began.

IMPLEMENTATION PHASE

The Blackboard LMS was the course delivery platform chosen to introduce the modules to the students. All modules were part of a unit in the end-of-life course. The students completed the Frommelt Attitudes toward Care of the Dying pre/post survey developed by Frommelt (1991). Additional qualitative questions were included in the survey which was also downloaded into the Blackboard LMS system. Both the iSpring and Raptivity contents were embedded into the Blackboard LMS system and. The adaptive release function was used so students could access one module at a time. Students were instructed to create a pseudonym name to use when completing the pre/post survey. The students completed the presurvey before entering the museum. Once students entered the EOL introduction museum, they could see the instructions to navigate through the museum. See Figure 2.

In each module, students had the opportunity to download the PowerPoint document; however, they were not be able to proceed to the next module unless the previous module was completed. Each activity included listening to all audio for the slides as well as completing the "test your knowledge" questions with 100% accuracy. Figure 3 depicts an example of the "test your knowledge" question section created in iSpring. Upon completion of the modules and the scheduled simulation, students were asked to complete the post-survey. The students provided interesting responses about the survey.

STUDENT RESPONSES

Seventy-five students completed the pre/post survey with which included the qualitative questions. There were positive



Figure 2. Picture inside the museum.

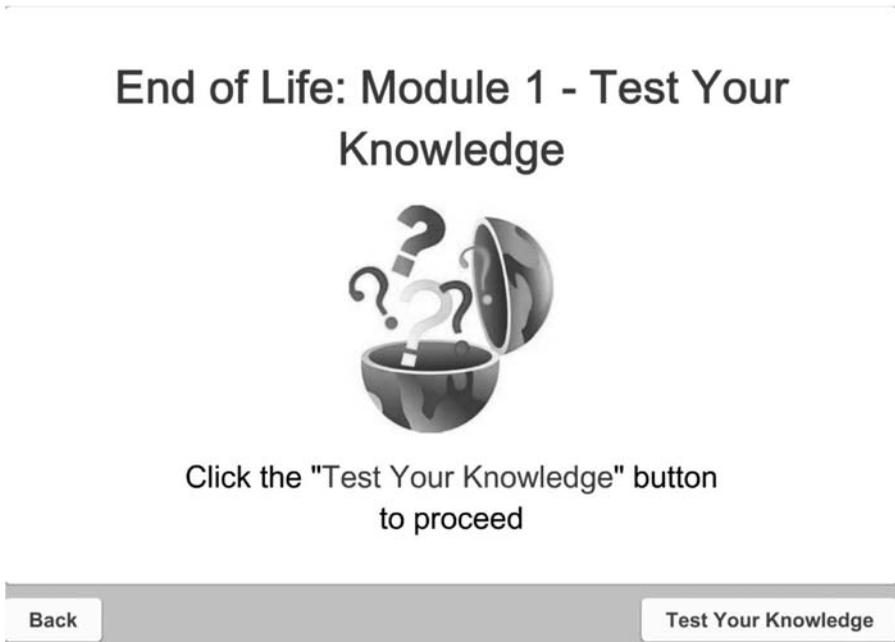


Figure 3. iSpring Test Your Knowledge section.

responses to the EOL module. As one participant stated, "It's important to have knowledge regarding the process of end of

life, to provide adequate care for the patient and education to support the family." Another participant mentioned, "I

don't see the end of life as something so negative now that I am more educated on it and know how to deal with it with my patients." A third participant noted after completing the module, "It has made me less fearful in caring for dying patients because I have more background of what I may be expected to do and what I could do in providing care." Both the iSpring and Raptivity interactive programs provided a unique experience to learn about EOL. The interactive software supported the inclusion of auditory and visual cues to promote student engagement.

LESSONS LEARNED

In this section, we will discuss the various lessons learned in this project, which included interdisciplinary collaboration, advantages of the instructors' expertise, matching the content and to the appropriate e-learning tool, benefits of module testing, and the time commitment. First, a collaborative relationship with an instructional designer and instructor is pivotal toward creating a seamless online learning module. Collaborating with an instructional designer who is knowledgeable about various interactive instructional modalities is beneficial toward facilitating the vision of the online learning module. The instructional designer in this study provided expertise in supporting and constructing the content to create a seamless flow of the EOL content.

Second, the instructor's familiarity with the topic is beneficial toward delineating the key concepts to integrate into different learning environments. Before embarking on the development of an online module, the instructor should distinguish which educational content is needed for the online environment and assess the needs of the target audience. Thus, many topics need to be eliminated to support the key concepts.

Third, viewing the interactive tools in advance is instrumental to matching the

content with the delivery modality. For instance, EOL would not match well with a "spin the wheel" template due to the nature of the content. The tone and theme of the educational content should correlate with the e-learning modality. Next, testing the online module is important to assess for any technological delays and the effectiveness of the content delivery. For instance, in the development stage of this module, it was important to allow the module to be viewed from the following operating systems: iOS, Android, and Windows. Assessing the feasibility in different operating systems is beneficial to promote feasibility of the online learning module and support the fluidity of the students entering and exiting the module. Finally, developing and implementing an interactive online module requires a significant time investment from development to dissemination. Although the interactive learning approach requires a time investment, the benefits of the learning modalities are exponential in supporting student learning.

CONCLUSION

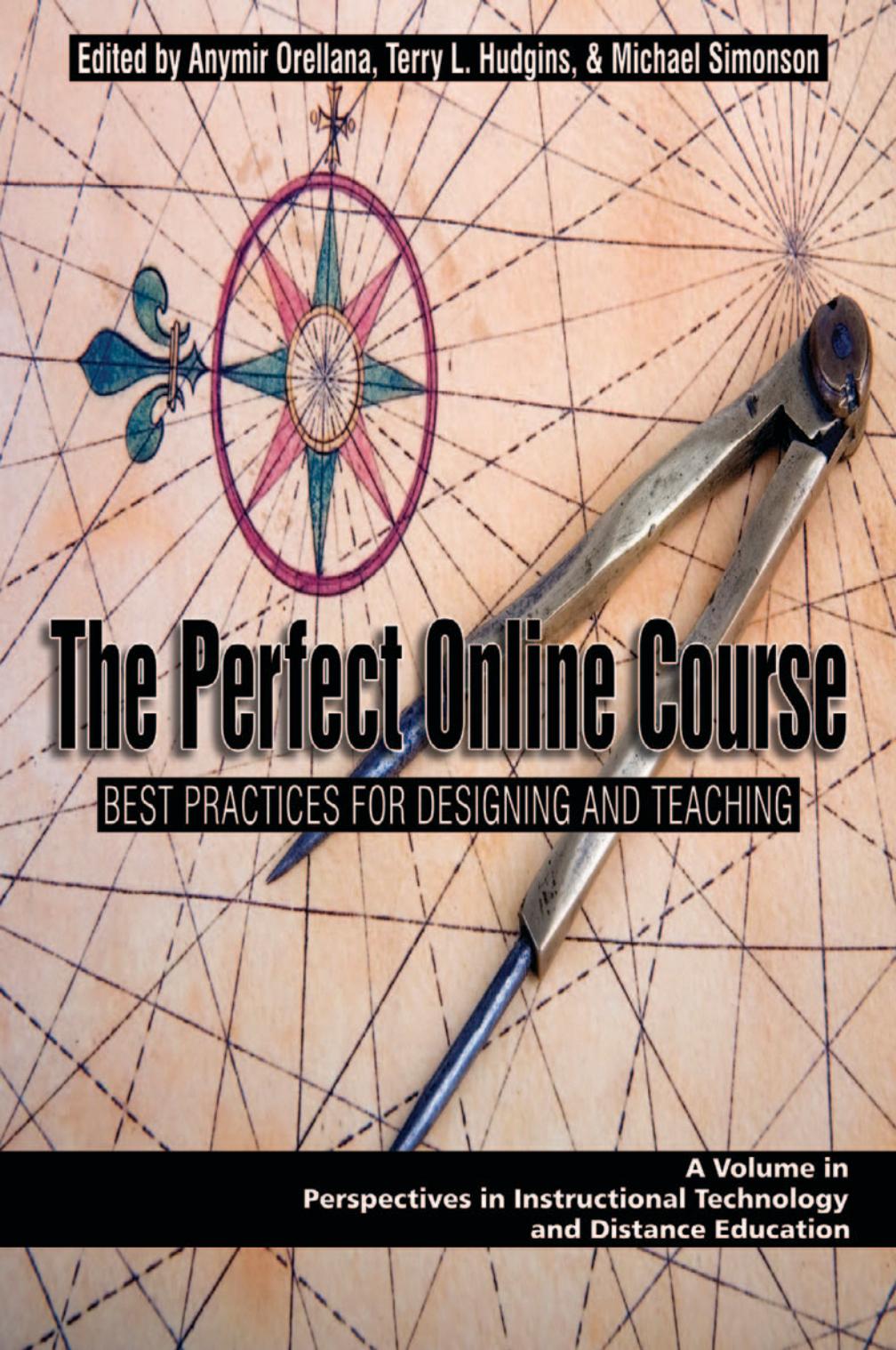
The article described the description of the development and implementation of interactive technological tools that are beneficial to educators seeking to use unique methods for instructional delivery. Furthermore, the article described lessons learned that are beneficial in creating an effective asynchronous online learning module. Nurse educators are expected to be at the forefront of innovative teaching and learning modalities. Interactive learning modalities create an innovative environment for facilitating nursing education. Embracing technology into the nursing curriculum creates exponential possibilities and opportunities to facilitate and create groundbreaking learning environments. Infusing Raptivity and iSpring into online learning environments are beneficial in promoting student engagement and stim-

ulating learning in a meaningful and engaging manner. Integrating iSpring and Raptivity technology facilitated the nursing students' ability to learn EOL content in an interactive environment and create a "walk through" educational experience. Students reported being more knowledgeable and aware of the nurse's role in caring for patient's and families at the end of life. Future research can be conducted using the Raptivity and iSpring programs with students in the upper semesters (third and fourth) at the university.

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The book cover features a historical nautical chart as a background. A prominent compass rose is centered, with a fleur-de-lis pointing left. A pair of metal dividers is positioned diagonally across the lower right portion of the chart. The chart's grid consists of solid and dashed lines representing latitude and longitude.

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Simulation as a Teaching Technology

A Brief History of its Use in Nursing Education

Jill S Sanko

INTRODUCTION TO SIMULATION

According to Gaba (2004), simulation is a technique rather than a technology that is able to provide realistic environments or practice proxies for the purposes of learning, training, and practice. Given its application in nursing education, and its current reliance on, and amalgamation with, sophisticated computer driven machinery the argument that simulation is also a technology can be

made. Simulation is effective at bringing to life representative clinical encounters in a safe educational setting where no harm can come to patients. It can—and has been—successfully applied for the teaching and training of novice learners as a way to introduce concepts or skills, as well as for seasoned providers to provide a safe environment where deliberate practice, mastery, and upkeep of skills can occur.

Simulation can be used for teaching or practicing both technical skills (insertion of intravenous catheters, or suturing for example) and nontechnical skills (communication and teamwork). A combination of full body, high and low technology simulators (mannequins designed to depict humans), body part or body system-specific task trainers (models of specific body areas or systems), standardized patients (actual humans who are trained to portray illnesses for the purpose of practice taking a health history or health assessment), and virtual reality can be used as part of a simulation-based education program.

Simulation training can be immersive, where environments are set up to mimic clinical settings. These are usually replete with working medical equipment, simulated or real medications, and high-technology computer driven simulators. The use of confederates portraying other healthcare providers or family members may also be incorporated into simulation



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encounters for the purposes of improving realism and or as scenario guides to keep learning on track (Sanko, Shekhter, Kyle, Benedetto, & Birnbach, 2013). Immersive simulation encounters allow learners to work through scripted scenarios with defined learning objectives. Alternatively, task-specific simulation encounters that utilize low-technology task trainers and usually no scripted scenario or confederate allow learners to work through complex or technically difficult skills for the purposes of practice and refinement. Hybrid techniques can also be applied (the combination of two simulation modalities [a standardized patient and a task trainer, or virtual reality and a task trainer]) to provide educational opportunities where both technical and nontechnical skills can be taught or practiced simultaneously. Simulation may further be used as a way to assess a learners' aptitude, and can provide a realistic platform to measure competence prior to clinical practice or graduation from a program of study.

Simulation uses experiential learning as a foundational principle (Kolb, 1984), but has welcomed new frameworks, with the NLN-Jeffries simulation framework being the most notable nursing theory developed in simulation-based education. This framework guides the design, implementation, and evaluation of simulation-based practices in nursing education (Jeffries, 2005). Simulation-based education tends to be carried out in three distinct phases beginning with prework or briefing, followed by a hands-on/psychomotor or immersive experience, and culminating with a debriefing (Aebersold & Tschannen, 2013). The use of a phased approach allows participants to have a conceptual introduction to a topic or skill, followed by an opportunity to anchor the concept through a realistic firsthand experience where psychomotor, cognitive, and affective domains of education are utilized, and ending in a debriefing session. Debriefing is typically guided by a content expert and

includes feedback, discussion, and time for learners to reflect on the experience. Simulation definitions and commonly used terminology are provided in Table 1.

SIMULATION IN NURSING EDUCATION: THE EARLY YEARS

STATIC MANNEQUINS AND TASK TRAINERS

Simulation as a teaching technology in nursing education has a long history spanning well over a century and a half. Some of the earliest published uses of simulation in nursing education date back to Florence Lees and Florence Nightingale (Stabler-Hass, 2012). The *Handbook for Hospital Sisters* by Florence Lees and Henry Acland (1874) describes the use of a "jointed skeleton" (p. 34) and models. The book also campaigns for the adoption of these in every school of nursing. Lees and Acland (1874) further describe the use of "mechanical dummies" and models of legs and arms for the purposes of teaching bandaging (p. 34). Florence Nightingale, the mother of infection control, not surprisingly used simulation in her demonstration of proper methods for infection prevention (Stabler-Hass, 2012). The use of body specific task trainers preceded the use of full body anatomical models. Published examples of pelvic models and pelvic "machines" used to train midwives can be found dating to the late 1700s (du Coudray, 1769).

The early 1900s introduced perhaps the most famous initial full-body mannequin, Mrs. Chase. Mrs. Chase was introduced in 1910 and was described as a full-body, static mannequin with realistic structures including jointed hips, elbows, and knees (Herrmann, 1981). The mannequin was modeled after its creator, Martha Chase (Herrmann, 1981). Chase, of Pawtucket Rhode Island, was a children's doll maker who was asked by Lauder Sutherland, the principal of the Hartford Hospital Training School, to make an adult-sized mannequin

Table 1. Simulation Terminology

Term	Description
Clinical scenario	<ul style="list-style-type: none"> The plan of an expected and potential course of events for a simulated clinical experience.*
Confederate	<ul style="list-style-type: none"> An individual(s) who, during the course of the clinical scenario, provides assistance locating and/or troubleshooting equipment. This individual(s) may provide support for participants in the form of “help available,” such as, “nurse in charge,” and/or to provide information about the manikin that is not available in other ways, such as, <i>temperature, color change</i>, and/or to provide additional realism by playing the role of a relative or a staff member (Australian Society for Simulation in Healthcare).** An individual other than the patient who is scripted in a simulation to provide realism, additional challenges or additional information for the learner e.g., <i>paramedic, receptionist, family member, laboratory technician</i> (Victorian Simulated Patient Network).**
Debriefing	<ul style="list-style-type: none"> An activity that follows a simulation experience and that is led by a facilitator.*
Facilitator	<ul style="list-style-type: none"> An individual who guides and supports participants toward understanding and achieving objectives.*
Fidelity	<ul style="list-style-type: none"> Believability, or the degree to which a simulated experience approaches reality; as fidelity increases, realism increases.*
High-fidelity simulations	<ul style="list-style-type: none"> Term often used to refer to the broad range of full-body manikins that have the ability to mimic, at a very high level, human body functions.** Also known as a high complexity simulator. Other types of simulators can also be considered high-fidelity, and that fidelity (realism) has other characteristics beyond a particular type of simulator.
Hybrid-simulation	<ul style="list-style-type: none"> The union of two or more modalities of simulation with the aim of providing a more realistic experience.**
Low-fidelity simulations	<ul style="list-style-type: none"> Not needing to be controlled or programmed externally for the learner to participate (Palaganas, Maxworthy, Epps, & Mancini, 2015); examples include case studies, role playing, or task trainers used to support students or professionals in learning a clinical situation or practice (adapted from NLN-SIRC, 2013).**
Prebriefing	<ul style="list-style-type: none"> An information or orientation session held prior to the start of a simulation activity in which instructions or preparatory information is given to the participants. The purpose of the prebriefing is to set the stage for a scenario, and assist participants in achieving scenario objectives.**
Realism	<ul style="list-style-type: none"> The quality or fact of representing a person, thing, or situation accurately in a way true to life; this enables participants to act “as if” the situation or problem was real. Refers to the physical characteristics of the activity, semantical aspects of the activity (theories and conceptual relations—if A happens then B occurs), and/or the phenomenal aspects of the activity (emotions, beliefs, and thoughts experienced).**
Task-trainers	<ul style="list-style-type: none"> A device designed to train in just the key elements of the procedure or skill being learned, such as lumbar puncture, chest tube insertion, central line insertion or part of a total system, for example, ECG simulator (Center for Immersive and Simulation Based Learning [CISL] & Levine et al).** A model that represents a part or region of the human body such as an arm, or an abdomen. Such devices may use mechanical or electronic interfaces to teach and give feedback on manual skills such as IV insertion, ultrasound scanning, suturing, et cetera. Generally used to support procedural skills training; however they can be used in conjunction with other learning technologies to create integrated clinical situations (ASSH).**
In-situ simulation	<ul style="list-style-type: none"> This refers to bringing the simulation (and simulator) to the site where the learner is practicing. This could occur in an ER trauma bay or surgical suite.

*These definitions are directly from the INACSL Standards of Best Practice: Simulation (Kardong-Edgren et al., 2011, pp. S4–S5)

**These definitions are directly from the SSH Simulation Dictionary (Lopreiato et al., 2016).

for her use in training nurses at Hartford Hospital. She had become tired of using straw filled “dummies” to train her students and welcomed the new addition of an adult-sized mannequin to train them and allow for the practice skills learned in the classroom (Nehring, Lashley, & Ellis, 2002). In 1914 Mrs. Chase created “Arabella,” an upgraded version of the mannequin that allowed student nurses to practice arm injections (Weir, 2012). Although the name “Arabella” never stuck, with the help of a number of further makeovers and updates, Mrs. Chase was used well into the 1950s for training student nurses, and could be found in use in research settings to study the effects of accidents on the human body as recently as the 1970s (Herrmann, 2008).

SIMULATION LABORATORIES

Full-scale simulation labs in schools of nursing emerged in the mid-1930s. The first published description of a simulation lab comes from the Indiana University Training School for Nurses. The description depicts the use of mannequins for the purposes of teaching students to give injections in a dedicated “skills” lab space (Davis, 1932). By the 1970s there were the first efforts to pull together the leaders of nursing skills labs to share knowledge and engage in a dialogue (International Nursing Association for Clinical Simulation and Learning, 2015). These first collaborative efforts led to some of the first nursing-focused “simulation” meetings and would eventually lead to the development of the International Nursing Association for Clinical Simulation and Learning (INACSL).

In 1995 the organization (Health Education Media Association) held the first National Conference on Nursing Skills labs, which was held biannually until 2009 (INACSL, 2015). In 2002 the organization was named INACSL (INACSL, 2015). Today INACSL has a robust membership of over 1500 nurse simulationists from around the

world. They also hold an annual meeting focused on simulation-based education in nursing. Thanks in part to these early leaders, simulation/skills labs are now nearly ubiquitous in schools of nursing in the United States. The simulation labs found in nursing schools today are state-of-the-art centers ranging in size from a single room to a full-scale multifloor hospital and encompass a variety of high- and low-technology simulators, and dedicated staff.

HUMAN PATIENT SIMULATORS

Human patient simulators were adopted for use in nursing education around the mid-1990s (Nehring & Lashley, 2004). Although they had already been in use in medical education for nearly 3 decades, nursing did not incorporate them into practice till much later. These high-technology computer controlled simulators were first introduced in the late 1960s, with SimOne being the first of its kind.

SimOne was developed at the University of Southern California and was described as lifelike in appearance, featuring plastic skin and configured as a male patient lying on an operating-room table (Abrahamson, 1997). His left arm was able to receive injections of intravenous fluids, while his right was able to generate a blood pressure (Abrahamson, 1997). SimOne also breathed, had a heartbeat, as well as temporal and carotid pulses that synchronized with his blood pressure and heart rate (Abrahamson, 1997). Another notable early computer-controlled simulator was “Harvey.” Although not able to really be called a full-body simulator because he did not have full arms and legs, Harvey was invented to teach cardiology. Harvey was developed at the University of Miami by Michael Gordon and was introduced in 1968. Harvey’s features included physical findings related to the cardiopulmonary system (Cooper & Taqueti, 2004). A unique feature of Harvey was the inclusion of an accompanying curriculum.

MODERN-DAY SIMULATION IN NURSING

Despite its early use, simulation only became widely used and accepted as an effective teaching modality in nursing education in the last 2 decades (Aebersold & Tschannen, 2013). This modern trend began on heels of the landmark Institute of Medicine Report (Kohn, Corrigan, & Donaldson, 1999) *To Err is Human*, which reported that more than 90,000 deaths each year were attributed to preventable medical error.

Nursing literature in the late 1990s began to describe the use of more sophisticated simulators, standardized patients for health assessment practice, and the development of comprehensive simulation-based programs in an effort to improve safety in healthcare (Nickerson, & Pollard, 2010). In an effort to respond to the issues noted in the 1999 Institute of Medicine report simulation programs of the early 2000s focused on error mitigation, critical thinking, crisis management, and professional competencies such as communication and teamwork (Nickerson & Pollard, 2010). Nursing, like medicine, began to look to other high-reliability organizations and learn from their use of simulation.

The aviation industry discovered years before healthcare that simulation is uniquely suited for crisis management and team-based training. The era of primarily team-based healthcare delivery and a seemingly pandemic medical error rate has helped to bring more focus on the use of simulation to bridge the gap between theory and practice (Cioffi, 2001), as well as a way to provide much-needed interdisciplinary and multidisciplinary training. Interprofessional education endeavors, usually with a simulation component, are becoming requirements of healthcare education, and the 2011 interprofessional collaborative practice competencies are helping to provide benchmarks for education in this area (Interprofessional Education Collaborative Expert Panel, 2011).

These insights and discoveries have led the path for more interprofessional education and a broadening use of simulation-based education.

The full adoption of simulation in nursing education was a slow process, with a 2004 survey (Nehring & Lashley, 2004) finding that simulation was still very much in a developmental phase, with simulation faculty still learning to use the equipment and figuring out how to integrate it into the curriculum. By 2008, however, things seemed to have picked up “steam,” with boards of nursing beginning to change regulations to allow simulation to be counted as substitution for clinical hours (Nehring, 2008). Following on this survey, a 2010 National Council of State Boards of Nursing national survey of simulation use in nursing education found that simulation was used by 87% of the responding schools ($N = 1,060$) of nursing, with over half of these reporting using simulation in at least five clinical courses (Hayden, 2010). More recent publications and recommendations from leading educational organizations continued to further support the use of simulation-based education throughout the first decade of the 21st century (Cooke, & O'Brien, 2010; Benner, Sutphen, Leonard, & Day, 2010).

Today simulation in nursing education includes the use of a variety of modalities that have been incorporated into nursing curricula including, anatomical models, task trainers, role playing, games, computer-assisted instruction, standardized patients, virtual reality, and both low- and high-fidelity simulators (Gore, Van Gele, Revert, & Mebrire, 2012; Nehring & Lashley, 2009).

The educational paradigm of “do one, see one, teach one” no longer pervades nursing education; rather, “see one, practice many, do one” is the rule of the day. Despite simulation’s widespread use and acceptance in prelicensure education, a gap still exists in the adoption of simulation for the purposes of skill development

among practicing nurses (Aebersold & Tschannen, 2013). However, given the current focus on patient safety and the growing evidence that simulation has patient outcome benefits, it is likely that this gap will close in the near future. Overall, the growth of simulation has been explosive. The number of organizations, publications, and resources presently available is a testament to the pervasive and upward use and demand of simulation in nursing education. In 2001 at the first International Meeting for Simulation in Healthcare there were about 150 people in attendance; however, in 2016 there were over 3,000. The 2016 meeting not only had a record number of attendees, but over 325 courses were taught by 750 faculty. From an economic perspective, simulation is estimated to be a \$1.5 billion industry, with projected growth to over \$2 billion by 2020 (Sanko, 2016). Even with an estimated startup cost of close to \$880,000 for a simulation center and average fixed costs of nearly \$400,000 (McIntosh, Macario, Flanagan, & Gaba, 2007) annually, programs are growing. The costs seem to be at least anecdotally worth the efforts and some argue the value unquestionable (National Council of State Boards of Nursing, 2009).

Technological advances and reductions in the costs of simulators can in part be attributed to by the rising demand for these educational adjunctive modalities. Simulation equipment has become more attainable as its use in education has grown. Moreover, innovation is giving rise to less expensive and more realistic models for use. The “high-fidelity” mannequin of today does not always mean high technology. While smaller and smaller computers have allowed high-technology simulators to more closely approximate real patients, low-technology mannequins made from synthetic tissues are providing realistic alternatives for learning anatomy and invasive procedures. The availability of simulated durable and large-scale medical equipment has also grown exponentially.

The evidence is in the number of vendors displaying their products at the most recent International Meeting for Simulation in Healthcare. Over 98 companies displayed products ranging from simulated medication to large scale computer run simulators.

Educational opportunities for those wishing to be trained to carry out simulation-based education have increased in number as well. Centers like the Center for Medical Simulation and the WISER Center have been offering courses to prepare educators to carry out high quality simulation-based education for over a decade. Today, they are far from the only ones; organizations, institutions, universities, and industry leaders now offer courses worldwide. These courses can vary from several-hour online webinars to multiyear degree- or certificate-awarding programs, with many offered by major universities.

Further evidence of the growth of simulation is in the movement toward certification of educators, accreditation of centers, and the publication of standards of practice. The Society for Simulation in Healthcare offers certification for both simulation educators (basic and advanced) and technicians. Additionally, the Society for Simulation in Healthcare is one of the few organizations offering accreditation of simulation centers.

The International Nursing Association for Clinical Simulation and Learning spearheaded the publication of the standards of best practice for simulation-based education. These standards are widely used to guide practice and have been adopted by many other organizations. The standards provide evidence-based guidelines for simulation-based education and are designed to advance the science of simulation.

Peer-reviewed publications devoted to simulation in healthcare disciplines are also growing. Since 2014 the number of journals focused on simulation in healthcare has doubled. There are also a number

of textbooks dedicated to simulation. An Amazon search for healthcare simulation books identified 576 books available. In addition to publications as a forum for dissemination of research and knowledge there are scientific conferences worldwide focused on simulation in healthcare. Online resources are increasing and provide yet another a place where information can be shared and obtained. The use of social media including LinkedIn, Facebook, and organizational mailing list servers, blogs, and online communities are also contributing to the world wide sharing of ideas around the use of simulation.

THE FUTURE

The future of healthcare simulation and the use of simulation in nursing education seem to be limitless. New landmark studies such as the one conducted by the National Council of State Boards of Nursing that provided the first evidence demonstrating that high quality simulation can safely replace up to 50% of clinical hours with no untoward effects to learning outcomes (Hayden et al., 2014) is helping to pave the way for new and more varied use of simulation in nursing education. Consumers of healthcare and healthcare education know about simulation and have come to expect it as part of educational course work. Schools and hospitals are responding to the demand. Nursing schools are expanding the use of simulation and building bigger and better centers to carry out not only simulation-based education but also research. New technologies such as augmented reality will further change simulation-based education. Continued innovation will surely spur new curricular programing and fuel new and unexplored benefits and impacts of learning using simulation. It is hard to predict exactly what simulation-based education will look like in a decade; no one could have predicted it would be where it is today.

Despite all of its advancement, availability, and successes, a gap still exists in proving that simulation makes a difference at patients' bedsides where the efforts of education and training make the most difference. The discipline continues to struggle with demonstrating unequivocal evidence of its effectiveness (Lapkin, Levett-Jones, Bellchambers, & Fernandez, 2010). The number of confounding factors and human variability make doing such research challenging. A small number of studies have successfully demonstrated the positive impacts of simulation training on patient outcomes (Riley et al., 2011; Zendejas et al., 2011); however, a 2013 systematic review of the literature showed that the pooled results of 50 studies exploring the impact of simulation training on patient outcomes demonstrated only small to moderate patient benefits (Zendejas, Brydges, Wang, & Cook, 2013). Further, these studies have primarily focused on physician training rather than nurse training.

SUMMARY

Simulation as a pedagogic approach is not fully developed (Moule, 2011); therefore, nurse scientists and educators will need to continue to expand on and contribute to what is known about the impacts of simulation-based training on both learning and patient outcomes. Anecdotally, those who use simulation as a teaching technique/technology believe in its ability to develop safer practitioners with stronger critical thinking skills and improved competence and confidence, but will continue to need to defend its use until the research evidence catches up to the anecdotal sentiment. Certainly, patients—as do airline passengers—feel safer knowing time has been spent in the simulation lab, and perhaps that is all that is required.

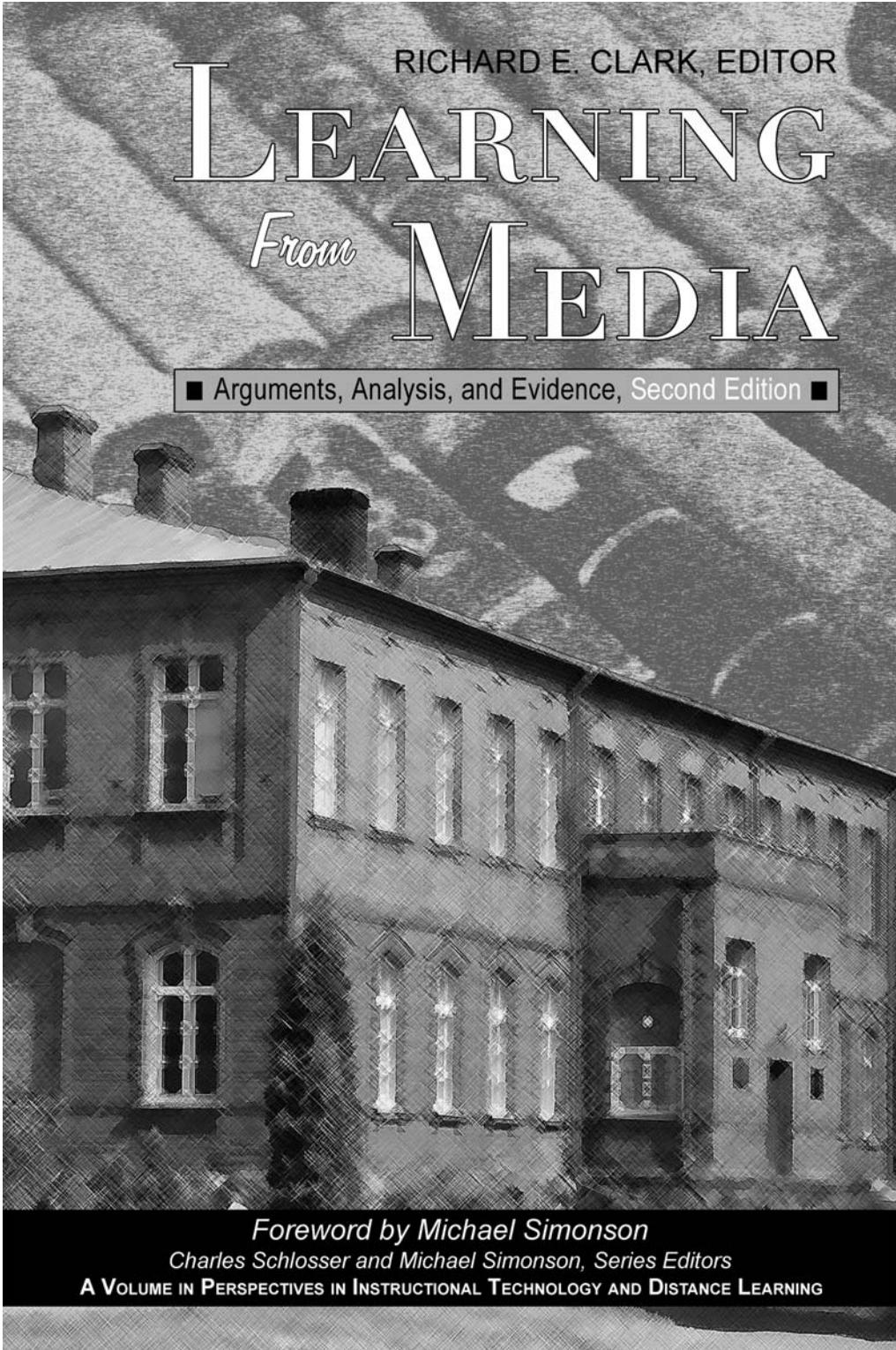
As time is a testament, these first humble beginnings led the way for more ambitious goals and current knowledge;

continued efforts will give way to new uses and discoveries. The old psychomotor skills laboratories filled with simple task trainers and static mannequins paved the way for the modern-day large-scale simulation centers teeming with computer-run mannequins depicting multiple age groups, races, and genders. Without these early innovators and collaborators nursing education may look quite different today. Given the increasing pressures in the healthcare system and increasing technological advances in healthcare, it is likely that simulation will gain further popularity and wider adoption (Moule, 2011). With the foundation set and quick commercialization of new technologies, as well as a global community of simulationists, the next decade is sure to be filled with exciting advancements that will benefit students and patients alike.

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Flipping the Classroom Without Flipping Out the Students

Working With an Instructional Designer in an Undergraduate Evidence-Based Nursing Practice Course

Yui Matsuda, Khitam Azaiza, and Deborah Salani

INTRODUCTION

Obtaining and keeping the interest of college students requires a variety of innovative teaching strategies. An example of a creative teaching strategy includes the usage of the flipped classroom approach. This approach

has gained increased attention as a way to promote active learning, which encourages students to use problem-solving and multiple senses in their learning and to apply the knowledge they gain (Bergmann & Sams, 2014). The flipped classroom is a pedagogical model that utilizes technology



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to move the classroom lectures to “pre-class” work, therefore using the class time for interactive learning. Students learn course content independently by reading, listening to a recorded lecture, or reviewing an assigned video outside of class (Herreid & Schiller, 2013). Hence, teachers who implement the flipped classroom approach expect students to take ownership of their learning by completing the necessary “preclass work” outside of the classroom, with classroom time utilized to develop critical thinking skills through reviewing case scenarios, group discussions, student presentations, and evidence-based journal reviews. The flipped classroom approach promotes active student engagement rather than passive reception of lecture content (Hawks, 2014). Teaching approaches that go beyond the traditional lecture format are considered the most effective in engaging students and promoting learning (Ferrerri & O’Connor, 2013).

The flipped classroom approach has been used in nursing education to promote

active learning. Researchers report different types of evaluation data, from students’ satisfaction to course grades and evaluation. Among those, a study reporting course grades has shown an increase in exam scores with a flipped classroom (Missildine, Fountain, Summers, & Gosselin, 2013). However, rigorous research on this method of teaching is limited (Presti, 2016), as is literature on the best teaching practices of this method. The purpose of this paper is to describe the process of developing a flipped classroom approach for an undergraduate evidence-based nursing practice course and discuss lessons learned from the process and the evaluation data. The process involves a subject matter expert (instructor) and an instructional designer.

HISTORY OF THE FLIPPED CLASSROOM

The pioneer of the flipped classroom approach is Harvard professor Eric Mazur, who in the late 1990s utilized a strategy called peer instruction, which involved having his physics students complete pre-class work so that they could interact with one another and engage with the professor during class (Crouch & Mazur, 2001). In 2007, Bergmann and Sams, two high school chemistry teachers, also developed the flipped classroom approach as an alternative learning experience for student athletes who were unable to attend class while competing (Hawks, 2014). This innovative approach allows the students to review the content prior to class, so that when they actually attend class they may review what they learned and seek clarification if necessary; the teacher also assists the students by bridging the gap between what they reviewed and actual case situations. This teaching method encourages the students to develop strong critical thinking skills.



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THEORETICAL FRAMEWORKS

The flipped classroom includes components of both behavioral and constructivist learning theories (Hawks, 2014). The behavioristic principles support faculty design and control over a structured learning environment, a teacher centered approach. In contrast, the constructivists believe that learners build knowledge in order to make sense of their personal experiences and that they are active in finding meaning, a student centered approach (Billings & Halsted, 2012). According to constructivist theory, students are engaged and take ownership of their learning. The flipped classroom's behavioral principles include the "preclass" work (outside of the classroom), while constructivism principles include the teacher helping students use their personal experiences to make sense of new knowledge and promote deeper learning.

NURSING EDUCATION AND THE FLIPPED CLASSROOM

Geist, Larimore, Rawisz, and Sager (2015) evaluated the difference in content knowledge gained when comparing the traditional classroom to the flipped classroom. The researchers used a pretest-posttest nonequivalent control group quasi-experimental quantitative design ($n = 86$). Two cohorts in a baccalaureate nursing program received two different pedagogical approaches for a pharmacology course. Analysis revealed that students who experienced the flipped classroom approach had significantly higher unit exam scores. However, performance on the final exam did not reveal a significant difference. The researchers concluded that the knowledge increase on unit exam scores and the students' favorable responses support the use of the flipped classroom.

Missildine et al. (2013) examined the effects of a flipped classroom and innovative learning activities on academic success

and nursing student satisfaction. The researchers utilized a quasi-experimental design ($n = 589$) to compare three different approaches to learning: traditional lecture only (LO), lecture and lecture capture backup (LLC), and the flipped classroom approach including lecture capture with innovative classroom activities (LCI). Examination scores were higher for the flipped classroom LCI group ($M = 81.89$, $SD = 5.02$) than for both groups (the LLC group [$M = 80.70$, $SD = 4.25$; $p = 0.003$], and LO group [$M = 79.79$, $SD = 4.51$; $p < 0.0001$]). Nursing students were less satisfied with the flipped classroom method than with either of the other methods ($p < 0.001$).

In response to students who expressed a lack of engagement in their coursework, Critz and Knight (2013) utilized the flipped classroom approach for two classes of graduate students ($n = 20$) taking a pediatric course in the Family Nurse Practitioner program. In an effort to energize and engage the students, the flipped classroom approach was utilized. The teachers developed 11 preclass modules consisting of short prerecorded PowerPoint lectures, videos, and reading assignments from at least four recent peer reviewed journals. Students were expected to complete the "preclass" assignments and take a 10-question quiz on the information. These quizzes were composed of application questions; correct answers and feedback were available for all questions following the completion of the quiz. At the end of two semesters, the researchers surveyed the students about their satisfaction with the flipped classroom approach. The researchers developed an anonymous 10-item online survey utilizing Survey Monkey. Test items were rated using a 5-point Likert scale ranging from 1 (*being extremely worthwhile*) to 5 (*being not at all worthwhile*). Students were provided additional space for comments. Responses from the 20 participants indicated that 60% felt the material covered was extremely worthwhile,

whereas 40% reported it was very worthwhile. Students commented that they found both the evidence-based articles and the short narrated lectures useful (Critz & Knight, 2013).

Harrington, Bosch, Schoofs, and Beel-Bates (2015) compared learning outcomes of the two pedagogies as measured quantitatively through exam questions, quiz scores, and course grades. Baccalaureate nursing students ($n = 82$) were randomly assigned to either the flipped classroom or traditional classroom. The researchers concluded that there were no statistically significant differences between groups in outcomes measures between the two pedagogies. Additionally, the equivalence interval results suggest that the innovative flipped classroom approach was equally effective for student learning (Harrington et al., 2015).

The literature presents mixed findings on students' satisfaction and exam scores. The flipped classroom approach may be effective in promoting student engagement. Although exam scores may be higher with using flipped classroom, some students reported less satisfaction with this approach. The challenges with utilizing the flipped classroom approach is that students are accustomed to having an instructor-centered approach and are not used to having to prepare prior to class time to actively participate. Hence, this may be the reason that students report less satisfaction with the flipped classroom approach. To enhance the benefit of the flipped classroom approach, a culture change must take place for both instructors and students.

STEPS WHEN USING FLIPPED CLASSROOM IN NURSING EDUCATION

GETTING THE STUDENTS READY FOR THE FLIPPED CLASSROOM APPROACH

Prior to the implementation of the flipped classroom, it is imperative to edu-

cate the students about the new learning format and why it is being utilized (Hawks, 2014). During the initial course overview class, teachers must prepare the students for a shift in the learning culture; this may be accomplished verbally in class as well as by providing the students with a written handout explaining the new teaching strategy (Schlairet, Green, & Benton, 2014). Students are often more open to change if given an explanation about the utility of the change and how it will benefit them. Some students may resist this new teaching strategy because they are accustomed to passive learning. This novel approach requires the students to take a more active role in the learning process, and to complete the "preclass" work so that class time may be used to promote student-teacher interaction, student-student interaction, and critical thinking with the application of new knowledge. Any suggestions or feedback received from the students should be taken into account in fine tuning existing flipped classroom content and developing new material.

REQUIRED PRECLASS WORK

The flipped classroom approach also requires teachers to shift paradigms, transitioning from the traditional comfort zone of performing lectures to preparing preclass work and case scenarios for discussion and fostering critical thinking skills. According to Schwartz (2014), teachers must appreciate that preclass work is initially labor intense; however, the benefits of increased learning will pay off over time. The flipped classroom approach is a student-centered learning environment in which the personal responsibility of learning has shifted from the teacher to the student (Schwartz, 2014). Teachers must prepare each class with the learning objectives and preclass learning content at least a week or two before the actual class. Preclass activities may include voiceover PowerPoint presentations, assigned readings from course textbooks or journals, online

videos, and web links. Short quizzes should be incorporated into the preclass content so that students can assess their knowledge; these quizzes also add an element of accountability to ensure the students are focusing on the specific content covered (Hawks, 2014). Students who complete the assigned preclass assignments are better prepared to participate in the classroom activities and may begin to apply the knowledge gained (Schwartz, 2014).

CLASSROOM ACTIVITIES

During the in-class activities, the role of the teacher changes from being the conveyor of content to the class facilitator (Schwartz, 2014). The role of the teacher is to promote class discussion of the content reviewed by moderating individual or group discussions, incorporating case studies/clinical scenarios, and reviewing an evidence-based journal or research article on a current practice change. These engaging activities allow the students to apply the knowledge they have acquired and to develop stronger critical thinking skills, which are essential in nursing practice.

METHOD

RATIONALE FOR FLIPPED CLASSROOM IN EVIDENCE-BASED NURSING PRACTICE COURSE

The instructor (first author) was seeking ways to actively engage students in a classroom and was eager to try a new method of teaching. Through learning about flipped classrooms at conferences and from her personal experiences as a student, she decided to apply this approach when she taught an evidence-based nursing practice course. This required course was for accelerated undergraduate nursing students (second degree nursing students who complete the nursing program in three semesters). In this course, students learn about the process of evidence-based

nursing practice and the basics of quantitative and qualitative research, and they gain skills to critique research articles. The instructor identified the need to incorporate a flipped classroom approach because unlike most nursing courses, this course does not have a clinical component and thus does not include the opportunities for students to apply knowledge that they have learned provided by courses with clinicals. Although there is no clinical component providing the opportunity to apply course content, knowledge and application of evidence-based practice is nonetheless essential for bachelor of science in nursing prepared nurses, as it is one of the competency areas in the Quality and Safety Education for Nurses project (2014). In addition, employers increasingly expect that new bachelor of science in nursing graduates provide evidence-based care to their patients.

PREPARATION PROCESS

The collaboration with the school's instructional designer was critical to the preparation process. In order to develop an innovative learning strategy, it is essential to have the subject matter expert and a skilled instructional designer who knows how to best utilize current technologies (Miller, 2010). The instructional designer has specialization in instructional technology and distance education. Thus, the instructional designer provided guidance on best practices of implementing flipped classroom approach in a health education environment.

The suggestions received included the following: (1) given that much preparation is required for in-class activities to meet the learning objectives (Carvalho & McCandless, 2014), pilot a flipped classroom approach with one unit as opposed to the entire course (Steed, 2012); (2) Because some units are particularly important and application of concepts is critical, select one of these units for the flipped classroom to

emphasize these concepts (Carvalho & McCandless, 2014); (3) Preclass modules should be divided into manageable and meaningful small sections; (4) Integrate audiovisual sources such as YouTube videos or TED talks to deliver content in multisensory manner; (5) Develop pre- and postquizzes to test students' knowledge so that knowledge acquisition can be observed; (6) Add practice questions after each module to provide students the opportunity to apply the learned knowledge immediately; (7) Because students may not be used to complete preclass online modules, provide clear student expectations including specific and detailed instructions for the preclass online modules; (8) Consider the usage of low-cost technology such as PowerPoint voice-over. The literature showed that developing an interactive learning modules using PowerPoint is valuable, and students' satisfaction was high (Kumar, 2016).

IMPLEMENTATION PROCESS FOR EVIDENCE-BASED NURSING PRACTICE COURSE

The instructor decided to utilize a flipped classroom approach with one of two lectures on quantitative research (causality, quantitative research design, validity, sampling method, and data collection methods).

The instructor, along with the instructional designer, decided to divide the content into five sections based on the learning objectives. Then the instructor recorded her PowerPoint lecture slides with voice-over narration, including the scripts in the slide comments. In this way, students who are visual learners can read and listen to the content. A microphone with headset was provided to the instructor so she could complete the recording. She recorded the slide directly from the PowerPoint. A cloud storage application called BOX was used to upload the completed recorded lectures, allowing the

instructional designer access. Implementing an online lecture utilizing a PowerPoint with voice over provides students with control over the presentation; students can navigate through the slides and jump from one slide to another. Furthermore, the narrated PowerPoint is easy to modify and maintain (Marlin, 2016).

The instructor also created 10-item pre- and postquizzes (using the same questions) and included practice questions at the end of each PowerPoint module to reinforce learning. Two YouTube videos were used to aid in reinforcing understanding of the content. Once the recorded lectures were completed, the instructional designer converted the PowerPoint files to HTML 5 web-deliverable modules using the iSpring suite (authoring tool). iSpring is a software program that enables nonprogrammers to design and develop course content. It is a plugin to enhance a PowerPoint file's functionality. iSpring allows users to incorporate quizzes, videos, and audio into the PowerPoint and publish the file in flash and/or html5 format. iSpring includes simple learning management system integrations, is easy to use, and has impressive reviews (Landay, 2010). The Blackboard learning management system was used to deliver the modules to the students. All modules were a part of a unit in the course. The unit is designed based on adaptive release, in which students must first access first the unit overview, learning objectives, to do list, required reading, and a pre quiz. Once students complete the prequiz, then they will have access to the modules introduction (voice over). In order for students to proceed with the following module, they need to complete the practice questions within each recorded module. Once students complete the last module, they must complete a post quiz to reinforce learning. An evaluation survey followed the post quiz to gather students' feedback about their flipped classroom approach in order to improve the program.

PRECLASS MODULE INSTRUCTIONS

The instructor told students about the flipped classroom on the first day of class when she reviewed the syllabus. Because students were expected to complete preclass online modules, which differed from the expectation in other classes, she introduced this assignment at the beginning of the course. The preclass online modules were available to students 1 week before the flipped classroom lecture day. Students accessed them via Blackboard, and each module was embedded into a specific course unit within Blackboard. At the start of the unit, instructions and table of contents were displayed. *The instructor and the instructional designer restricted the modules so that only one module was accessible at a time because each module builds on the previous module, so completing them in order was determined to be important. The modules were further restricted so that students must listen to the current slide before moving to the next. Students received 1 point toward the final grade by completing pre- and postquizzes, all five modules, and a brief survey. Students were asked to score more than 80 out of 100 on the postquizzes (multiple attempts were allowed).*

IN-CLASS ACTIVITIES

In class, the instructor sought questions regarding the preclass online modules first. The objective of the quantitative research module is to be able to critique research articles using the learned knowledge. As a class, we went over the article critique sheet and critiqued a research article that students read for their previous assignment. Then they were divided into groups to work on their final project, which was to critique four articles, summarize the findings, and present a poster. The instructor and her teaching assistant were available to answer any questions.

EVALUATION

The percentage of preclass module completion as well as pre and post quiz scores was monitored via Blackboard gradebook. Students completed two brief surveys, one right after they completed the preclass online modules and the other at the end of the semester (approximately 6 weeks after the flipped classroom). The first survey was to rate the overall quality and perception of conduciveness with this learning style, comment on strengths and areas of improvement, and identify technical difficulties. The end of the semester survey asked students to reflect on the flipped classroom after all the course contents were covered. Questions were about perception of the flipped classroom effectiveness, preference for future learning, and any other final comments about the flipped classroom. The survey contained both quantitative (e.g., rate the effectiveness with 1–5 Likert scale) and qualitative questions (open-ended comments section). Descriptive statistics were obtained from the quantitative questions, and qualitative questions were analyzed using content analysis (Hsieh & Shannon, 2005). In particular, a conventional content analysis (data-based) approach was used as the authors aim to allow the data emerge and come up with the main themes.

RESULTS

Out of 73 students, 72 completed the preclass modules (completion rate: 99%). The mean score for prequizzes was 67.46 ($n = 71$; $SD = 31.66$), and the mean score for post quizzes was 97.78 ($n = 72$; $SD = 5.62$). During the first survey, 85% of the students found the preclass modules to be good/very good or had a neutral response. Seventy-nine percent of the students either strongly agreed/agreed or were neutral in their opinions that the preclass online modules were conducive to their learning. Forty-five percent of students

mentioned technical difficulties during completing the modules. At the end of the semester survey, 82% of the students rated a flipped classroom approach as either very effective/effective or neutral. Forty-three percent preferred this method of learning for their future courses, and 29% indicated that they had no preference (see Table 1). For the qualitative questions, students overall liked the clear and concise presentations and examples provided in the modules. Some students liked that they were able to complete the modules at their own pace, while others thought it was difficult to find their own time to complete them as their schedule was packed with classes and clinicals. Some students liked the innovative learning approach, while others preferred a traditional in-class lecture style. Other major comments included technical problems, wanting to download PowerPoint slides, and desiring a way to listen/complete the modules faster than the given speed.

DISCUSSION

This study described the process of creating and evaluating data of a flipped classroom approach used in an undergraduate evidence-based nursing practice course. The preclass online modules had a high completion rate, and students scored as instructed on the postquizzes (over 80%). Students identified several strengths and areas of improvement that were highly connected. The authors discuss each point by providing the context and integrating their perspectives. Then, they provide perspectives on developing and executing the flipped classroom.

STUDENTS' PERSPECTIVES

Students liked the flexibility of completing the modules at their own pace, time, and place of choice. However, these students were enrolled in an accelerated undergraduate nursing program in which students complete the program in three semesters. They took 21 credits in the summer semester during which they com-

Table 1. Survey Results

Survey Questions	Answer Choices	Percentage
• Survey administered immediately after the preclass online modules	Very good/good	51
	Neither good or bad	34
• How do you rate the overall quality of the module?	Really bad/bad	12
	Missing	3
	Strongly agree/agree	54
• Was online format conducive to your learning?	Neither agree or disagree	25
	Strongly disagree/disagree	21
	Yes	45
• Was there a technical difficulty completing the modules?	No	55
	Very effective/effective	50
• Survey administered at the end of the semester	Neutral	32
	Very ineffective/ineffective	18
	Yes	43
• How would you perceive the effectiveness of learning using the flipped classroom approach compared to a traditional classroom approach?	No	27
	Does not matter	29
	Yes	43
• Would you prefer to have more flipped classrooms integrated into your course work?	No	27
	Does not matter	29

pleted the evidence-based nursing practice course. Therefore, they needed to manage their time effectively to complete the pre-class online modules. Even though the instructor announced the flipped classroom and its expectation on the first day of the class to provide a rationale and mentally prepare the students, they perceived that it was difficult to find time to complete the modules.

Resistance to a new method of learning has been identified as a barrier to a flipped classroom approach, as students are accustomed to a traditional lecture style (Schwartz, 2014; Simpson & Richards, 2015). There are several strategies to mitigate such resistance. One is to flip the entire course, which forces students to operate under different expectations, including the completion of work prior to the class meetings. Another strategy is to incorporate the flipped classroom into a hybrid course (combination of online and face to face instruction). Critz and Knight (2013) found that students did not perceive the preclass modules as burdensome because preclass coursework was expected for this type of pedagogy. The third strategy is to implement the flipped classroom with nursing students in traditional programs. They may perceive less burden from the preclass modules as their schedules tend to be more flexible. The last strategy is to change the norm of classroom by incorporating the flipped classroom in every course, even though it requires the commitment of instructors and the school as a whole.

The instructional designer pointed out the importance of detailed preclass module instruction. Some students stated that they would have liked to download the module PowerPoint slides to review the materials. There was instruction on how to do so under the written introduction of the preclass modules, and the instructor demonstrated how to download the PowerPoint slides in class. Details may have been lost for some students, despite multiple

attempts to communicate the message. In addition, a narration transcript in the sidebar of each module was displayed for students who prefer reading rather than just listening. Including a function to listen with different speeds (faster or slower) would accommodate different students' learning preferences.

AUTHORS' PERSPECTIVES

The flipped classroom does require advance preparation of voice-over PowerPoint slides, evaluation materials, and in-class activities. The instructor initiated the preparation and discussion with the instructional designer the semester before the flipped classroom to provide adequate time to compile and prepare the materials, and to troubleshoot. As advised by the instructional designer, the instructor started with one flipped classroom session. This was a good approach on the instructor's end, accounting for the preparation involved in it.

The instructional designer and the instructor tested the modules; however, there were technical issues. There was a system glitch between the two platforms (iSpring and Blackboard) that the instructional designer and the instructor were not aware of; there were delays with *iSpring* communicating with Blackboard after students completed each module and its practice questions. Therefore, Blackboard's adaptive release function did not get activated and thus did not show the next module to complete. In the future, the solution would be to not rely on *iSpring* to trigger Blackboard function; rather, the practice questions should be built using the test tool in Blackboard, and the modules will include only content requiring students to check a preview box when finished reviewing the content that would trigger adaptive release. This process allows students to proceed to the next item of the unit content. Allowing additional time to test the modules and troubleshoot

would be one of the solutions to avoid technology-related problems.

Even though advance planning is needed to create a flipped classroom for the first time (Hawks, 2014), the preclass online modules can be used in subsequent semesters. Therefore, if an instructor teaches the same course, he or she can reuse the material (Everly, 2013; Schwartz, 2014). It is important for the class activities to be directly applicable to the contents learned in the preclass online modules. The instructor went over a sample article in class and gave time for students to work on the group final project, which included critique of chosen articles that employed quantitative research concepts learned in the preclass online modules. The downside of this structure was that some groups were at the point to critique their articles, but others were not ready to do so as they needed additional time to search for the articles. Retrospectively, it would have been most effective to have a group in-class assignment in which students critiqued a piece of a sample article and discussed their findings in class.

The evidence-based nursing practice course was required in the program, yet does not have a standardized test (e.g., Health Education Systems, Inc., Assessment Technology Inc.), or exams, and half of the course grade came from individual short writing assignments. Therefore, students may not have perceived this course as a priority for advanced preparation. Given that context, the flipped classroom preclass online modules allowed them to immerse themselves into the content before class time. Although it was small, students had an incentive to complete the preclass online modules, which created opportunities for learning that otherwise did not occur for the busy students.

LIMITATION

There are several limitations identified in this study. This was the first time the

instructor taught the evidence-based nursing practice course; therefore, there are no comparison data with the traditional lecture format that she could have used. The main instructor implemented a flipped classroom for the first time. There are several things that she needs to work on before launching the online modules, including a mechanism to resolve technical difficulties, which would allow her to troubleshoot faster, as well as creating more focused in-class activities. It has been a steep learning curve; however, the instructor believes that she should continue working on the flipped classroom to improve students' learning experiences rather than relying on traditional lecture style learning.

CONCLUSION

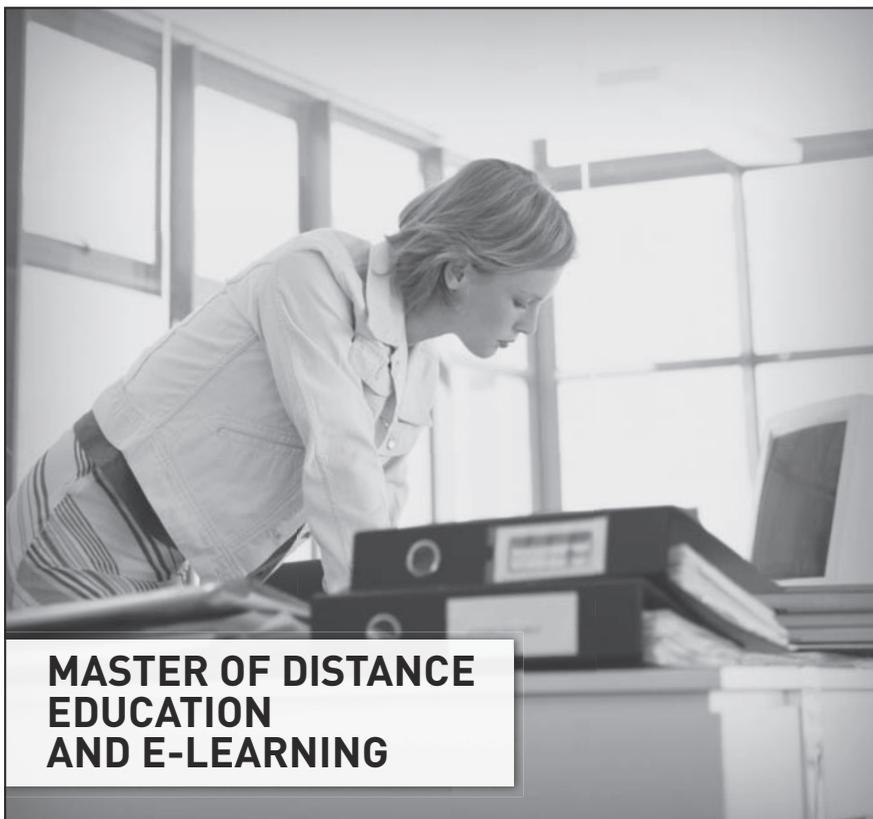
Even though there are areas requiring improvement, students were able to complete what was expected for the course for the most part. The need for advanced planning is inevitable; however, the preclass online modules are reusable, and thus, this advanced planning and preparation has a long-term pay off. With the use of technology, instructors can create a learning environment that accommodates different students' learning speed and styles. Above all, the flipped classroom approach allows students to focus on the application of the course material, be an active learner, and take ownership of their learning. If more instructors use the flipped classroom approach, students would be accustomed to its expectations. It is the instructors' responsibility to create an active learning environment by incorporating innovative teaching strategies such as the flipped classroom. In this way, the culture of higher education learning will shift to integrate active learning approaches.

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Development and Deployment of Distance Delivery Degrees

A Collegial Conversation

Autumn M. Dodge, Tess M. Dussling, and John D. Beach

INTRODUCTION

Today, more and more universities are adding online degree programs to their offerings. Based on a recent study, “more than one in four students (28%) now take at least one distance education course” (Allen, Seaman, Poulin, & Straut, 2016). This means an increasing number of instructors in higher education are being expected to deliver instruction via distance learning. Depending on age

and educational background, instructors may have varying experience, expertise, or interest in distance teaching. However, since distance learning is financially lucrative to institutions of higher education and is desirable to busy students with jobs, families, or who do not want to commute to campus, distance learning is probably not slowing down anytime soon. That said, distance learning approaches, programs, and platforms are nowhere near uniform.



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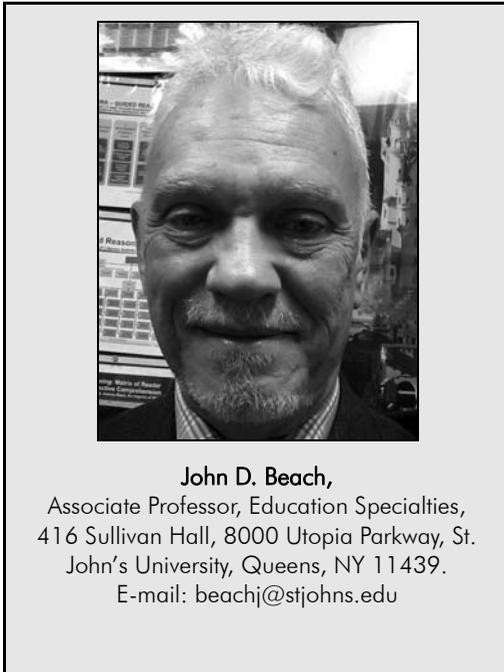
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Approaches to distance education pedagogy, while “best practices” certainly are asserted, vary similarly. This article draws from ongoing collegial conversations among the three of us as we teach in a new online PhD program housed in a well-established brick-and-mortar university. We begin by providing brief backgrounds on ourselves as instructors. We then share four major topics we have discussed across the past year that are relevant to ongoing conversations about distance learning in higher education. We offer recommendations and pose questions for readers to discuss with colleagues.

THE INSTRUCTORS

The three of us currently work together as faculty in a small literacy program, which has just launched a new online PhD program and also offers some online master’s courses. John has been at our institution since 2004. Autumn joined in 2015, with Tess following in 2016. Organic discussion between the three of us turned into pedagogical reflection we thought worth sharing.



TESS

Tess has over a decade of teaching experience, ranging from early elementary school to graduate students. However, this year is her first experience as an online instructor. Aware that different methods of instruction would need to be applied to the online learning environment, Tess designed a new online class, which she is currently teaching to doctoral students. Through this process she is learning that while the technology in an online class is important, it is the instructor who must use the technology creatively and effectively.

AUTUMN

Autumn has 6 years’ experience teaching online courses at various institutions. As a graduate teaching assistant, she taught master’s classes in an online MA program in curriculum and instruction where course shells were premade, including PowerPoints from prior instructors. Limited revision was required. In her first 2 years as an assistant professor she developed two completely new online master’s courses that were part of an otherwise traditional face-to-face program. Now, she is developing and teaching new courses at the doctoral level.

JOHN

John has been teaching online graduate courses for over 9 years. He has developed three master’s degree courses and one doctoral degree online course in literacy education. These courses range from the language foundations of literacy, to teaching literacy in elementary schools, to literacy coaching, and an overview of research methods and current research initiatives for doctoral students. While practicum courses may not work well in an online environment, most other courses in a program do. John would like to convert his children’s literature course for online delivery.

CONVERSATIONS ABOUT ONLINE PEDAGOGY

In any instructional context whether face to face, online, or hybrid, a number of factors are present: course content, assessments, pedagogy, and students' learning outcomes. We share our insights and recommendations below.

TOPIC 1: JOHN DISCUSSES HOW WE EFFECTIVELY CONVEY CONTENT TO OUR STUDENTS

Distance education presents new challenges. In our courses, we use textbooks, scholarly articles, and web resources. Our approaches to content delivery vary. In our discussions about course content and how we present it in our classes, we have two main methods. Both Tess and Autumn make weekly videos that introduce the module and explain the week's assignments and due dates. Autumn also creates "advance organizers for reading" videos in which she explains the purpose of each reading how they connect to the week's overarching topic. She then provides guiding essential questions to consider for the readings.

I spend a significant amount of time creating in-depth PowerPoints to present concepts, including theory, history of the field, and research on "best practice." I keep PowerPoints engaging by including cartoons and references to popular culture. For example, on the topic of experimental research I use analogies from "Frankenstein." I also offer a parallel between the nine circles of hell in Dante's *Inferno* to the progression of stages through a doctoral program; students always enjoy humor (see Figure 1). I also include animations, musical clips, and SmartArt to provoke thinking. My course offers a sweeping overview of the history of the literacy field, literacy theories, literacy research methodologies, and more. I feel that PowerPoints provide students with a structured and scaffolded presentation of this informa-

tion, which may be helpful for students who lack foundational knowledge or who might otherwise experience cognitive overload. I try to use readings to provide more depth and alternative views to the core concepts in the slides and I include some slides that ask students to consider and respond to questions about the assigned readings. Although I find PowerPoints useful for instruction, Autumn and Tess do not use them in their online classes. With the discussion forums as pivotal parts of their classes, they worry that students will focus more on the slides than the readings when making their postings.

Take-Away Thoughts. Even if we as instructors are attached to one mode of content delivery, it is important for us to push ourselves beyond our comfort zones. Although Tess and Autumn both provide scripts to accompany their videos, some students may benefit from having a PowerPoint or Prezi that more concretely lays out video content. My use of popular culture to deliver content offers insights about research-based teaching practices. For example, making connections between students' out-of-school interests increases in-school engagement (e.g., Hull & Schultz, 2002). Cognition research shows that instruction with analogies pushes students beyond surface-level understanding (e.g., Newby, Ertmer, & Stepich, 1995).

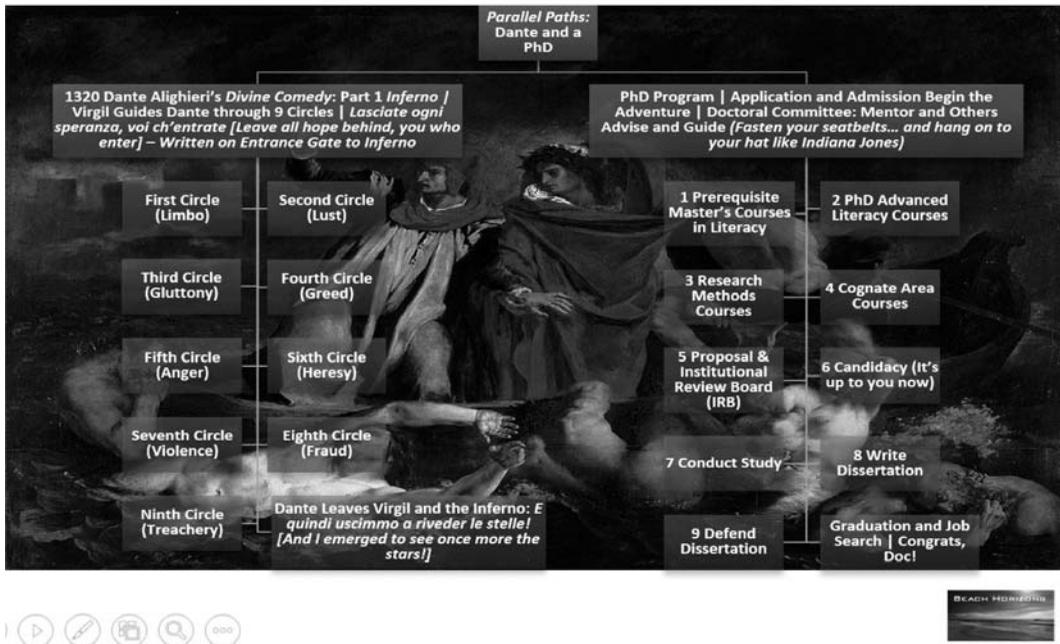
Questions to Consider. What could you do to push yourself out of your online content delivery comfort zone? Can you make stronger connections with your students through popular culture analogies to course content?

TOPIC 2: TESS DISCUSSES HOW WE CREATE ASSIGNMENTS AND GRADE IN AN ONLINE COURSE

We found that when designing assignments, we all think about our goals for student learning and the students' prior background knowledge on the topic. Additionally, we all use multiple assessment

THE PATH TO THE PHD (AND A PARALLEL WITH DANTE'S INFERNO)

THOSE WITH A DARKER SENSE OF HUMOR MAY APPRECIATE THE PARALLEL THAT CAME TO ME ONE DREARY MIDNIGHT...



Note: Painting in the background of John's slide is "The Barque of Dante" by Eugène Delacroix (1922).

Figure 1. Example of John's PowerPoint slide incorporating analogy in pedagogy.

types to get the best picture of student learning. Autumn and John use quizzes as objective measures to monitor learning and hold students accountable for required readings. Although conducted slightly differently, the preparation for and participation in discussion forums is a weekly component in both Autumn's and my classes. I assign students to act as the facilitators who are in charge of creating open-ended questions and who act as moderators throughout the discussion to help keep the conversation relevant to the readings. At the end of the weekly discussion, these facilitators write a paper to synthesize and summarize the main points of the discussion. Autumn develops prompts for discussions, ensuring the posted questions require more than content compre-

hension. Students must be able to analyze, apply knowledge, and pose questions. John takes a slightly different approach. In addition to threaded conversations with classmates, John has students reply to journal prompts (viewed only by him) that generate thinking through writing.

Due to the asynchronous nature of distance learning, assignments and grading are powerful tools for communicating with students. Autumn and John both allow students multiple opportunities to grow through corrective feedback. Autumn considers her paper grading to be incremental, meaning students are graded throughout every step of the paper for appropriate progress and correct content. John allows his students two opportunities to take each quiz and only counts the higher score. In

terms of grading the discussions, Autumn and I both look for depth and analysis of the topic.

Take-Away Thoughts. Discussion forums are typically the meat of online courses across degrees and subject areas. To avoid redundancy and increase student motivation, instructors need to find ways to encourage more constructivist and innovative methods to facilitate discussion. For example, our university offers VoiceThread, a technology that allows students to post short, self-created video clips in response to discussion content. Students and instructors can then respond to each other in video format. While we have not yet taken advantage of this innovative technology, we have decided to experiment with it in the next year.

Questions to Consider. What additional technology resources are available through your university's distance learning platform (e.g., Blackboard, Moodle)? Are there training opportunities for these technologies? What other roles could students take on in discussions that make them active agents of meaning-making?

TOPIC 3: TESS DISCUSSES THE "BEST PRACTICES" THAT GUIDE OUR INSTRUCTION

When we hear "best practices," we immediately begin to think "best" for whom? There simply is no one, best approach for teaching everything. The same concept often needs to be conveyed by different means. This can get a little tricky in an online course where you may not know your students' learning abilities as well you would in a face-to-face class (at least in the beginning of the semester).

That said, all of us situate our best practices in the organizational structure of our course and through open communication with students. In terms of organization, we ensure that our modules follow predictable formats. It is important that students know what to expect and where to find the

required materials. Knowing that an online class has to be much more explicit than a face-to-face class, we clearly lay out module descriptions, objectives, readings, learning activities, and assignments. If the layout of the class is intuitive, students can navigate each module easily. I consider the student-led discussion assignment described above to be a "best practice" because it is supported by a constructivist learning approach (see the work of John Dewey and Lev Vygotsky), which helps students actively construct knowledge, examine topics from different perspectives, and have the unique opportunity to lead a discussion (Milman, 2014).

During our conversations together we have also discussed questions and concerns about "best practices." For example, I wonder whether I should include more "traditional lectures." However, both Autumn and I worry that with more "lectures," students will not be as inclined to do all of the readings. Since we do not typically lecture in our in-person courses, we have not taken up that pedagogy online.

Another quandary is whether to use sample or model assignments. This is commonly thought of as a best practice and students often request samples from prior classes. We believe that there are pros and cons to providing models. Pros are that students feel confident about assignment expectations and can use the model as a scaffold as they compose their own work. However, especially since we teach at the graduate level, we see notable cons to providing models. We believe part of the merit of graduate work is the innovation and legwork required for independent scholarly writing. The research articles we have students read weekly should themselves serve as models.

Take-Away Thoughts. We believe that our conversations about best practices are some of the most fruitful we have. Research shows that observing each other's teaching results in improved pedagogy (e.g., O'Keefe, Lecouteur, Miller, &

McGowan, 2009). Indeed, sharing activities inspires us and helps us unpack questions about best practices. In face-to-face contexts, such conversations often stem from colleagues observing each other's classes and providing constructive feedback to improve teaching. However, we wonder how such approaches could be replicated in online contexts.

Questions to Consider. How do you facilitate conversations among your colleagues about online teaching? Would it be beneficial for a colleague to act as a student in your class for a week in order to provide you feedback?

TOPIC 4: AUTUMN DISCUSSES LEARNER ATTRIBUTES AND OUTCOMES

Another point of discussion that we have had is about who our students are, their backgrounds, and how to best facilitate their positive learning outcomes. John has noticed that he has to learn more about students' backgrounds before starting, since there are often career-change students who may not have previous education coursework. This changes the amount of foundational content he has to teach. One shared approach we all have is asking students in the beginning of class about their background knowledge on the topic and areas of expertise. Tess and I both have students post introductory biographies in their first discussion forum as a means of getting acquainted with their peers. In this introduction we ask them to provide information about their professional and educational background, and their goals for the class. We also ask students to share something "fun" about themselves. We both follow suit, thus modeling our expectations for their introductory posts. For example, I share pictures of my dogs (see Figure 2).

We attempt to reach all learners by offering a variety of assignments and content delivery modalities. These range from John's use of journals (a space for one-on-one communication about course content),

discussion forums where we each scaffold in different ways, major written papers or projects, quizzes, and smaller assignments (e.g., article reflections). We also try to take students' time into consideration. Knowing that many of the same students are in our classes, we offset assignment due dates.

We also know that ensuring student engagement and motivation is an essential component of successful learning. We each take actions to bolster engagement and motivation through direct communication. For example, Tess regularly sends short e-mails to individual students to highlight work they did that was particularly good or to comment on significant progress. I provide in-depth feedback to students on scaffolded steps of assignments to encourage students and show them I value incremental progress. John keeps in close contact with students to discuss their grades and let them know of upcoming due dates in order to avoid having them fall behind.

Take-Away Thoughts. Communication about improving learner outcomes benefits both students and faculty members. Programmatic curriculum mapping regarding assignments, student communication and long-term goals, and ways to make a welcoming online learning environment can strengthen the entire program (Darling-Hammond, 2006). Despite being informal, our conversations together have certainly helped us think about assignments and online learners in new ways. For example, I added quizzes this semester for the first time. Another take-away from these conversations is possibilities for creating synchronous spaces for building communities of learners. Required weekly synchronous group video chats (we use WebEx) may improve motivation and help bridge the distance learning social divide.

Questions to Consider. What logistical problems and solutions are there for synchronous meetings in online courses? How

Tidbits about me: To know me is to know that I my dogs are my life. Up until I moved here last June, I had the love of my life, my soulmate Dozer D., my Boxer who I had from the time he was 8 weeks old. He died too young at 5 1/2 from lymphoma. But he is forever in my heart. His little buddy is still with me though — her name is Eva but often goes by her nickname Piggles (also Piggleton, Piggstein). She's a mystery breed (i.e., mutt!). She's my constant and stalwart companion and almost any time that I'm not spending doing stuff for work here at St. John's I'm spending with her at the park or on walks. She is obsessed with her various tennis balls and is a fiend for the Chuck-It launcher (she also adores anything that squeaks). I also have a black cat named Kittis who's a bit of a "whippersnapper" — he and Eva play together and are a complete hoot. Other things — I grew up acting in our school musicals and I adore listening to musicals. My favorites are Chorus Line, The Fantasticks, Jesus Christ Superstar, Man of LaMancha, and Wicked. In the car I usually don't listen to music — National Public Radio is constantly on and I listen to it obsessively on my phone throughout the day, too. I'm a bit of a politics junkie. You want political updates? You got it!



Eva



Dozer



Kittis

Figure 2. Example from Autumn's "instructor bio" sharing about herself to make connections with students.

does your department create coherence across courses? What types of information should faculty members know about each other's courses?

learning pedagogy and continued pondering of questions of best practice. The questions we pose here are ones we are still pondering ourselves.

CLOSING THOUGHTS

We believe that the four topics of conversation above are central tenets to all teaching, but they warrant particular attention as many of us in academia enter the world of distance education. Across institutions, the degree of organization for online programs, time spent among faculty discussing online curriculum, approaches to course design and pedagogy, and background of online learners, certainly varies. The conversations among us that were the spark of inspiration for this paper began as sporadic chats between offices and then grew to prolonged conversations as we crammed around Tess's desk in her office. Over a short span of time we realized that these conversations greatly enriched our thinking about our online courses. We hope that by sharing our conversations we can prompt others' thinking about distance

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How Can Online Instructors Better Support Their Students?

Natalie B. Milman

As director of a graduate online program taught 100% online, determining how to better support our students is important. It entails not only being very familiar with the support services available on campus and via a distance, as well as seeking ways to inform

and connect students with those supports, but also learning from our students and others about what we can do to foster a more positive learning experience. There is considerable research about how to support online students, such as offering orientation (Ali & Leeds, 2009), having a strong instructor presence (Garrison, Anderson, & Archer, 2001), designing engaging learning activities (Ma, Han, Yang, & Cheng, 2015), among many more factors (Hart, 2012). However, there are some things that one does not typically find in articles, books, or professional development for teaching online. Below are a few tips that I have found useful to my online teaching and student support.



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1. **Help students recognize and address conflict and disagreements.** In most of my courses, I require some type of collaborative work. Yet, I am not always made aware when group members have disagreements or simply do not get along. Although I am not an expert in conflict resolution, it is critical to touch base with students working collaboratively to ensure that they are getting along, being supportive, and

also working through any challenges. It is also critical to make oneself available to talk to group members. Although this may be challenging considering everyone's work schedules and different time zones, if it is at all possible, communication in real time can help address challenges students experience.

2. **Seek ways to connect with and motivate students.** It can be challenging to connect with and motivate students one never meets or sees. However, there are many ways to connect with and motivate students, ranging from direct e-mail communications and phone/conference calls to simple, short, and casual videos of the instructor giving students a pep talk. Some instructors hold regular office hours. In our program, we have found it best to schedule calls or meetings when it is convenient for our students, as well as to reach out to them to remind them we are available. Occasionally we have students who feel like they are imposing on our time. It is important to emphasize that this is our job: to support our students! Questions are always welcome!
3. **Provide specific, constructive, yet critical feedback for improvement.** We know that providing feedback is very important to the learning process. However, broad comments, even positive ones such as "Great job!" do not help students understand their strengths or weaknesses. It is important to provide specific feedback in addition to recommending they seek help from others (e.g., a writing center) if/when needed.
4. **Show students you care.** There are many ways in which an instructor can demonstrate that s/he cares. One can contact students who are ill (or who have an ill family member) to inquire how they are doing. If a student experiences a loss or has/adopts a child or is

married, one can send a card or e-greeting.

5. **Ask students to communicate.** Asking students to communicate with you if/when anything impedes their ability to complete work is very important. I always emphasize the importance of communicating before something happens (if feasible) rather than after the fact. This does not mean that students will receive a "pass" to turn in work late. However, as I emphasize to my students, it shows that one cares and takes one's education seriously.
6. **Spell out and model your expectations.** This is a recommendation you will find in nearly any resource for online instructors. However, it cannot be emphasized enough. Not only does providing clear expectations help ensure students know what to expect/produce, but it should also result in fewer questions about an assignment. For instance, if you are unclear about the expectations for an assignment—you may receive an e-mail from most of the students in your course—that can create a lot of unnecessary work, as well as create student confusion and frustration! Modeling one's expectations helps, too. For instance, if I expect students to participate in a certain way in online discussions, I ensure that I do the same.
7. **Ask for students' feedback to improve instructions/assignments/etc.** Occasionally my instructions need further explanation and assignments need revision (or to be eliminated). There are both formal and informal ways to solicit feedback from students, including course evaluations at the end of the term. When students ask questions about assignments, I often ask them how I might better describe the expectations and/or instructions. I also like to ask how students their thoughts about the benefits and challenges of assignments.

8. **Put yourself in their shoes.** As instructors, it is easy to forget what it was like to be a new learner years after completing a program, participating in a course with people one has never met, using technology tools one has never used before, and/or juggling the demands of work, family, and school. Yet, this is often what our students are experiencing when they participate in online learning.

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TIPS FOR STUDENT SUCCESS

1. HELP STUDENT RECOGNIZE AND ADDRESS CONFLICT AND DISAGREEMENTS,
2. SEEK WAYS TO CONNECT WITH AND MOTIVATE STUDENTS,
3. PROVIDE SPECIFIC, CONSTRUCTIVE, YET CRITICAL FEEDBACK FOR IMPROVEMENT,
4. SHOW STUDENTS YOU CARE,
5. ASK STUDENTS TO COMMUNICATE,
6. SPELL OUT AND MODEL YOUR EXPECTATIONS,
7. ASK FOR STUDENTS' FEEDBACK, AND
8. PUT YOURSELF IN THEIR SHOES.

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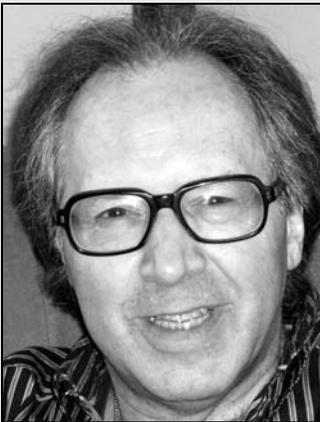
Errol Craig Sull

The year 2017 is alive and well with distance learning hither and yon, and its complexities, the great variety in instructor backgrounds, a myriad of differences in schools' guidelines and emphases, and a plethora of student demographics equate to ongoing challenges, obstacles, quandaries, and difficulties that need resolution and closure. I won't have definitive solutions for each of these, but I'll continue to try my best in giving you suggestions that will improve

your instructional efforts. Please: continue to write me so many in the United States and abroad can benefit from your concerns. Meanwhile, this issue's selections, and my responses ...

I was in an online facultywide meeting, and the provost spoke for a few minutes. He discussed a new program that sounded exciting, and I would like to write him, indicating as much, also volunteering to help out when it is launched (it has to do with student retention, and I have some ideas that might be an asset). He ended very politely, but never invited anyone to contact him. What would be my best course of action?

It can be so tempting to "reach out and touch someone," especially if that someone is a college provost, president, or other senior administrative official. But we must be careful that it doesn't appear we are breaking the so-called chain of command; we don't want our direct supervisor to feel slighted or—worse—become upset with us. And this can become an especially complex problem when you were never invited to contact the person, such as you mentioned. The smart approach is to ask your supervisor if it is okay for you to write the provost; your supervisor may say it is fine or may know something you don't that makes contact at this time not the right thing to do. This gives your supervisor the (right) impression you "play by the



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rules,” but are also eager to become even more involved in your school. And if the contact does take place the provost will know your name and enthusiasm, always two good things!

Thanks so much for all the great info over the years, Errol, and Happy New Year! I do have one problem—more of an annoyance, really—and thought you might have some suggestions. One of my students has become somewhat attached to me, sending me e-mails just to say hello and let me know what’s going on in her life. This also extends to IMs, phone calls, and texting (which I have been using for a few years to foster better communication with my students). What complicates this is she seldom mentions anything relating to class—and I am male! I have been polite, not wanting to cause any waves with the student, but this is getting out of hand, and I don’t want it to affect my job. What can I do?

I appreciate your kind words; it’s always heartening to know my efforts are helpful to others. Now ... the situation you mention is by no means uncommon, and most schools with online courses have guidelines to handle this kind of problem. (Be sure to check with your supervisor—you don’t want to overlook the guidelines if they exist.) It is well known that students can become enamored with their professors—especially online, given the asynchronous environment of this learning (students believe they are “invisible,” and thus it is easier to communicate with a professor)—for a variety of reasons. Most common, however, is the caring and always-available authority figure that most instructors appear to be. Also, they can be counted on for correspondence responses that are friendly and positive. Together, these ingredients make for a perfect storm of what you describe: a constant bombardment of non-class-related correspondence from one student.

The first step you must always take is to make your supervisor aware, including

sending all communication that has occurred—including yours (you always want to appear “above board,” but you also want to protect yourself in the event of student backlash). Remain polite, as you have, but in an e-mail to the student (better than a text or IM as it is easier to forward to your supervisor) explain how much you appreciate her enthusiasm for the class (not for you!), but there are so many students you must limit any communication to course-related items. If this does not stop her, then again contact your supervisor: he or she may need to contact the student. (Note: do not call the student: [a] no matter how good your intentions the student may perceive a call as a personal interest on your part, never good; [b] there is no record of the phone call, and you do want to a record of as much correspondence as possible with the student.)

I’m new to online teaching (this is only my second semester), and most of my background is as an accountant (which continues to be my main profession). Although I am teaching college freshmen basic math, my only previous teaching experience was as a volunteer for a citywide math program focusing on underachieving junior college students. Being hired to teach a subject in which I am knowledgeable is exciting and motivating, but also a challenge, as I want my teaching to be interesting and meaningful to my students; I want to keep them engaged; and I want their overall experience in my classroom to be a successful one. I certainly know the course material, but how do I become a really good distance learning math teacher? Thanks in advance for any help you can give me.

Welcome, welcome, welcome to distance learning—it is a great career; as you have no doubt discovered, the efforts you put in are more than rewarded by what your students gain! As for your question, wow: books—including mine—have been written on the subject, but I’ll offer you the most important tenets that lead to success-

ful online learning. There is much more than what I offer here, but these are great starters. (And if you do need more input don't hesitate to drop me an e-mail.)

The suggestions: (1) Be enthusiastic—it's catching, and students are more prone to be engaged. (2) Be timely in all correspondence; allow no more than 24 hours for responses to students. They need to know you are interested and care. (3) Be a constant presence; students may be taking an online course, but you are what allows it to breathe. (4) Relate all subject material and assignment feedback to "the real world." Students need to know they are not taking a course/studying a subject that is only important for X number of weeks and a final grade, but rather extends into and is of use in the employment scene. (5) Give assignment feedback that is positive and motivating; this spurs on students to improve and to embrace assignments. (6) Use your profession. You teach math, so give examples of its use from your experience; share math puzzles and cartoons; and offer current news that relates the math—all of this makes the subject more interesting and important.

Well, I've read your columns, and they've proved useful, Errol, but I never expected to write you for assistance! My online teaching experience equates to 11 years, all with the same school, on a part-time basis, in the discipline of history. I teach at a rather traditional school in that little of the syllabus discusses the importance of my subject beyond the years and genre of history I teach, early 19th century American, and we were never encouraged to go beyond these parameters. Because it was the school's

approach I always went along with this, and, quite frankly, I need the job. But a new president has come on board, and one of her approaches is to encourage us to (in her words) "extend your course subject beyond the classroom." This is exhilarating, and I have some ideas on how to do this, but could your experience help me out?

Let me start out with a simple statement: I'm happy to help you! It's great when any school—online or face-to-face—has a specific dictum of showing students the importance and relevance of a course subject beyond the class. As for American history—specifically, 19th century—it can easily be related to its impact on society, culture, politics, and economics (showing specific examples), and introducing the various connections to these subjects that has led into the 21st century. Also, bring in the arts (dance, literature, movies, theater, music, songs, etc.), fads, and criminal justice: all have been impacted by history or had an impact on history, and all have found their way into shaping today's arts, fads, and criminal justice. Finally, ask your students for input—what in 19th century America stands out for them and/or have them pick one "item" they can trace to either an important result in America or the world. (And by the way: I peeked at the Internet, and it offers a nice variety of activities, puzzles, strategies, and games related to teaching 19th century American history!)

Remember: Nouns say so much by themselves, but calling in the help of adjectives and adverbs really enhances their efforts!

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model, a rubric, or a formula to help the organization decide what is the right amount of distance education for it?

Most would agree that in almost any training or education organization there are some elements that should be delivered at a distance, and it is likely that few if any organizations should do everything online. So, somewhere between 1% and 99% is the correct amount of distance education.

Is this a topic that needs discussion, and perhaps research? This journal would love to publish information about the “too much/too little” quandary.

And finally, quandary is a state of perplexity or uncertainty, especially as to what to do, a dilemma. As William Blake said, “You never know what is enough unless you know what is more than enough.”

How Much Distance Education is Too Much Distance Education?

Michael Simonson

There may be a tendency among distance educators to advocate for an increase in the amount of instruction that is offered at a distance—to attempt to offer all courses, most programs, and many degrees at a distance. All

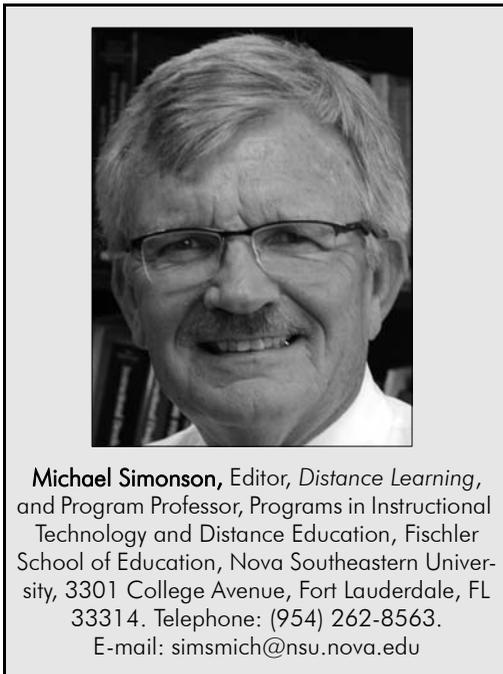
with little or no rationale for this movement toward totality.

There was a time when distance-delivered instruction was a relatively insignificant percentage of all teaching being offered. To most distance educators it has been refreshing to see virtual schooling, online learning, and e-learning move from the periphery to the mainstream, and for learners at all levels from K–12 schools to corporate training to ask, is this offered online? Most readers of this journal would probably say if the course is not offered online, then it ought to be.

Is this the right approach to take? Is distance-delivered instruction of all courses at all levels the ultimate goal of the field? Alternatively, is there a “tipping point,” a point of critical mass, or an edge of practicality? Is there research on how much is too much, or rather, how much is just enough?

Certainly, there is no simple formula that determines what amount of any type of instruction is too much, or not enough; mission statements, client characteristics, geographic limitations, and finances play a determining role. However, what if a group of researchers could develop a

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