Synchronous Versus Asynchronous Online Courses: An Introduction for Perioperative Nurses Returning To School

Denise Jackson, MSN, RN, CNS-BC, CNOR, CRNFA [a,b,*]

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Key Points

- Obtaining a BSN or MSN has become an important factor in advancement for perioperative nurses.
- Nursing Schools are helping to provide access to higher education by offering an online format.

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In October 2010, the Institute of Medicine (IOM) released its landmark report - *The Future of Nursing: Leading Change, Advancing Health.*[1] As a result of this report, the profession of nursing has come together in an unprecedented and collaborative effort to move the recommendations made in the report forward. The four key messages of the report are:

- Nurses should practice to the full extent of their education and training
- Nurses should achieve higher levels of education and training through an improved education system that promotes seamless academic progression
- Nurses should be full partners, with physicians and other health professionals, in redesigning health care in the United States
- Effective workforce planning and policy making require better data collection and an improved information infrastructure.[1]

The 8 recommendations of the report are:

- Remove scope-of-practice barriers
- Expand opportunities for nurses to lead and diffuse collaborative improvement efforts
- Implement nurse residency programs
- Increase the proportion of nurses with a baccalaureate degree to 80 percent by 2020
- Double the number of nurses with a doctorate by 2020
- Ensure that nurses engage in lifelong learning
- Prepare and enable nurses to lead change to advance health

- Build an infrastructure for the collection of analysis of interprofessional health care workforce data.[1]

With regulatory agencies' intensified focus on quality, safety, access to care, and cost containment, it is more important than ever to ensure that the perioperative nurses of tomorrow are equipped with the knowledge and skills necessary to positively affect patient outcomes. It is also important that the perioperative nurses of today remain competent, are lifelong learners, and are equipped to be nursing leaders by obtaining higher levels of education. Health care reform and the IOM report have generated a renewed focus on nursing education. This focus has resulted in a concentrated effort by nursing educators to find ways to facilitate seamless progression from 1 academic level to the next for all nurses.

The interest in obtaining a bachelor's or master's degree has never been greater for perioperative nurses. However, having an interest is often the stopping point for many nurses who want to advance their education because they are unable and possibly even unwilling to leave the operating room setting to pursue their education goals. Demanding work schedules that offer little flexibility, financial constraints, family obligations, and an individual's physical location (with no proximity to a university) are all potential barriers for perioperative nurses.[2] Schools of nursing are providing much needed access to higher education by developing new curriculum or by converting their current programs and delivering in an online format.[2, 3] With this shift to online course delivery, perioperative nurses have been given a key to open doors that will take them to higher levels of education without taking them out of the operating room.

For the experienced nurse looking to return to school, the terms used to describe technology and delivery methods of curriculum can seem almost like a foreign language. The task of deciding which type of distance education program in which to enroll can be arduous. Selecting a program that best fits the busy schedule of perioperative nurses can be easier when there is an understanding of common terminology and options for course delivery.

Distance Education

Distance education has been defined as any learning environment in which the student or learner is in a different location than the instructor.[4] There are different methods of course delivery under the broadly defined term *distance education*. Examples of early distance education are correspondence courses and independent, self-directed study projects.   In correspondence courses, the exchange of educational materials such as the course syllabus with guidelines for meeting specific academic objectives, completed student assignments and instructor feed back occurs via postal service, fax, email or telephone. Examinations are administered to the student by a proctor located near the student's home.   Correspondence courses are self-paced, and may or may not be tied to academic semesters with specific deadlines for completion.[4] Independent, self-directed study projects are negotiated and arranged between a student and a faculty member. The student selects the topic to study and formulates learning objectives. Together, the student and faculty identify learning resources, determine how the objectives will be met and agree upon how learning will be evaluated. This

information as well as how much credit will be awarded for successful completion of the study are put in a learning contract signed by the student and faculty.[5]

Some courses utilize technology to enhance the learning experience by putting course materials online for students to access but they still have a traditional *face-to-face* component in which the student and instructor are physically present in the same location. These courses are referred to as *blended* or *hybrid* classes.[4] Over the last decade, major advances in technology and communications have provided universities and colleges with the capability to transform traditional *face-to-face* academic courses, and even entire degree programs into offerings that are Web based, delivered online, and take place in a virtual classroom.

Online course delivery is often divided into two distinct methods: asynchronous and synchronous. Understanding the differences between these two delivery methods is an important first step in selecting how to proceed with advancing one's educational goals. Each method has its own benefits and challenges, uses different techniques for students and faculty to communicate and interact. Each method requires different technological skills for both the instructor and the student.

Synchronous Online Courses

Synchronous online courses are web-based. They are similar to traditional *face-to-face* course delivery methods because the teacher and the learner are in the same virtual classroom at the same time. Physical presence is not required, but virtual presence is. Common methods utilized to be *present* in class are webinars, audio/video conferencing with and without whiteboards, chat rooms and instant messaging.

Webinars

Webinars are presented in real time and use a combination of telephone conferencing for listening to the presenter and an Internet connection for viewing the presentation. Many newer computers come from the factory equipped with Voice over Internet Protocol (VoIP) and the capability to stream the audio portion over the Internet allowing the user to hear the lecture on their computer rather than dialing in to the conference via telephone.[6] Webinars can be interactive. They may also be unidirectional, in other words the lecturer presents and the participants listen.

In large groups, presenters may select the option to mute the microphones or phone lines of the students while they are presenting. This is helpful to ensure that outside noises from the attendees' phone lines do not distract other students from listening to the presentation. If the groups are smaller, two-way audio may be left open so listeners can ask questions.

Another way to communicate during webinars is through instant messaging. Attendees can type their comments/questions in a designated chat box and then send them to the presenter's computer screen. The presenter has the option to address the questions privately through instant messaging, or ideally will read the question out loud and provide an answer so the entire class can benefit from receiving the information.

Video Conferencing

Video Conferencing occurs in real time and is therefore used in synchronous online class delivery. Live, *face-to-face* interaction occurs between the instructor and the students using personal computers with web cameras, microphones and speakers. There are numerous options available for video conferencing software and Internet-based tools,[7] such as *Adobe ConnectPro, GoToMeeting,* or *ReadyTalk*. Video conferencing can incorporate the use of white boards that have an interactive space where text, multimedia, web pages and applications can be shared between students and faculty.[6] Video conferencing can also be used to conduct virtual office hours where students can make appointments to have private sessions with the course instructor. Video conferencing promotes a sense of connectedness for students and it can be a mechanism for interaction between students, instructors and course content.[2] Because video conferencing requires all participants to be online at the same time, it can be a challenging to schedule a conference at a time that is convenient for everyone particularly when course participants live in different time zones or work different shifts.[2]

Chat Rooms

Chat Rooms with instant messaging are another synchronous method of communication. Conversations are typed in real time allowing for immediate response and feedback between students and instructors who are online at the same time.
 With chat rooms, the ability to participate and contribute to the conversation in a timely fashion can be hampered if a participant is a slow typist. By the time a message is typed and sent, the conversation may well have moved on to another topic.[2]

<u>*Asynchronous Courses*</u>

Asynchronous courses are also web based similar to synchronous courses. However, students' participation occurs at a time and place that is convenient for them and does not require them to be online a specific time/day. The instructor determines the completion deadlines for the graded activities. Communication is time delayed, for example a required discussion may have a week for the dialogue among students before it is closed. This type of course delivery is well suited to meet the needs of perioperative nurses who are working full time and do not have the time to travel to an onsite course. The often-chaotic schedules in the operating room can make it difficult for perioperative nurses to commit to being present in a virtual classroom at a specific time or on a specific day. Common methods of communication in asynchronous courses are email, electronic bulletin boards and threaded discussion forums, webcasts, and blogs.

Email

The use of email can promote a sense of connectedness between students and the instructor.[6] It is a convenient way to communicate when students are accessing email at various times throughout the day and night because of their location or work schedules. In small classes,

email communication is easy to monitor. In addition to being used as a means of communication, it can be used to share course documents and other learning resources such as links to videos and websites. A disadvantage to using email is that with large classes, it can be time consuming and overwhelming to keep up with reading and responding to large volumes of emails. This is especially the case for the instructor. When emails are not answered quickly, students can become frustrated and even disengaged so setting parameters for response time allows both the student and instructor have a consistent expectation.[2] Another possible disadvantage with email occurs because the intended tone and inflection can be lost in text only communication so there are increased opportunities for misunderstanding of meaning.

Threaded Discussion

Threaded discussion forums are a common means of communication in asynchronous online courses.[6] Typically, the instructor will initiate a discussion forum for the class by posting a topic and criteria intended to guide the student responses. Within the forum, threads, or topics for discussion, can be started either by the instructor or the students who will then post their responses within the appropriate thread. Threads helps keep discussions somewhat organized for both the instructor and the students. Discussion forums can promote dialogue among students that might not occur during real time class discussions. Discussion forums are utilized to engage students in creative and critical thinking and writing about course content and other related topics.[8] They are designed to create a sense of community, connection, and social interaction among students.[6] Students have more time to reflect on the topic, formulate their answers, and edit them before responding because discussion forums are asynchronous [5]. (**Fig 1**).[3] This can be especially beneficial for shy students and for international students who need to first translate the discussion into their own language prior to posting a response.

For first time users of discussion forums, it is helpful to know the instructor's expectations or *rules* for posting.   Examples of posting *rules* or guidelines include:
- Minimum/maximum number of required posts per forum or thread
- Deadline for posting first response
- Deadline for posting last response (date forum closes)
- Minimum/maximum words per post
- Requirements for citing references
- Requirements and criteria for replying to other students posts
- Criteria for defining a post as *substantial*
- How the forum will be graded

A Discussion Grading Rubric is located in **Fig. 2** and addresses how one instructor addresses the guidelines for all graded discussions in her course.

A disadvantage of discussion forums is that successful dialogue and interaction is dependent on all students' timely participation. If posting parameters are not well established and adhered to, students may wait until the last minute to enter a post, which then makes it difficult for other students to reply. Some students find it inconvenient to have return to the

website several times throughout the duration of the forum but it is necessary if responding to other classmate's posts is required.[6]

As a student new to discussion boards, it is helpful to understand the faculty's role in discussion forums. Early on, students may become frustrated that the instructor does not reply to their posts or confirm that their answers are correct. Students may think the instructor is not paying attention or following the conversation when in fact they are delaying their responses in order to provide more students with the opportunity to post their comments first. To encourage participation, instructors may intentionally ask thought provoking questions that do not have just one correct answer. Instructors monitor discussions, identify areas of agreement and disagreement and help students find common ground on divergent issues. They may encourage and recognize a student's contributions to a forum without confirming whether their response is correct.[9] This can be difficult for students who are concrete thinkers and desire affirmation that their answers are right or wrong. It may be helpful for these students to know that the goal of threaded discussion forums is to help students engage in activities that promote critical thinking, collaborative learning, and reflective writing as opposed to simply soliciting correct answers to straightforward questions.[9]

Blogs

Blogs are like discussion forums except access to them expands beyond the environment of a Learning Management System (LMS) such as *Blackboard, Angel or Moodle*. Blogs are web based and are available for viewing and comment by anyone with access to the blogger's Uniform Resource Locator (URL). In a personal journal-like format, students can post their thoughts, opinions, ideas, and knowledge about a topic of interest and anyone viewing the blog can post a responding comment. Blogging empowers students to learn by expressing themselves through writing, and because access to the student's blog are available to a broader public forum (not constrained to just their classmates) they may experience global citizenship beyond the classroom.[9]

Wikis

Dawley[6] quotes wiki founder, Ward Cunningham's definition of wikis as "a collection of Web pages which can be edited by anyone, at any time, from anywhere." One of the more well-known wikis is *Wikipedia*[10]. Another site is the *WikiWikiWeb*[11] that allows wiki participants to engage and add to content about wikis. The key disadvantage to wiki use is that it is constantly changing and isn't peer reviewed. However, it can serve as an excellent tool for student group work and a LMS such as *Blackboard* offers a wiki course tool that faculty may choose to use within their course.

Webcasts

Webcasts are similar to webinars but students are not required to be online at any given time. Webcasts are presentations that are recorded and then made available for students to access at a time that is convenient for them. Webcasts can replace lectures done by course faculty.

These may take the format of voice over *PowerPoint* or capturing videos in software such as *Captivate* or *Camtasia*.

Enrollment Planning

Perioperative nurses who are considering enrolling in an online class for the first time may want to assess their readiness to transition from more traditional face-to-face classroom settings. A student will want to assess whether they possess some of the key characteristics of successful online students[2]: A successful online student will (be):

- A highly motivated, independent, and active learner
- Manage time wisely and be well organized
- Self-motivated and self-disciplined and will take responsibility for their learning
- Willing to adapt to new ways of learning and accept that quality learning can take place outside of the traditional classroom
- Willing to share work, personal experiences, and expertise by working in groups and teams
- Skilled in written communication, and be willing to speak up to voice an opinion
- Willing to take constructive criticism from faculty and fellow students
- Willing to participate in activities that promote reflection, critical thinking, and decision making
- Willing to commit 4-12 or more hours of study time a week per class[2]

Technology and Skills

Online classes are technology dependent; therefore, it is critical that students have access to a personal computer with dependable Internet service. Utilizing a work computer may be an option but due to security reasons, many health care institutions limit employees full access to the World Wide Web. They may prohibit employees from downloading large files or receiving emailed attachments, all of which are necessary in online courses. In addition to having access to computer and to the Internet, certain technological skills will be required to be successful in an online class. [2] Theses skills include:

- Keyboarding skills
- Basic to intermediate word processing skills (for example Microsoft® Word[TM])
- Basic ability to use presentation software (for example Microsoft® PowerPoint[TM])
- Ability to send, receive and manage email
- Ability to attach files to email and open attachments in email
- Basic digital file management skills
- Utilize search engines to find websites and information on the world wide web

- Ability to upload and download files
- Basic use of printer skills[2]

A perioperative nurse contemplating their readiness to enroll in an online class may also find the websites listed after the references helpful.

Summary

There is a renewed national focus on advancing the education levels of all nurses. Universities and colleges now offer online nursing courses and degree programs which makes access to higher levels of education better than ever for perioperative nurses who want to return to school yet continue to work in the operating room. An understanding of the personal characteristics and technological skills required for successful online learning will guide the decision making process when considering the different delivery methods of nursing education. In addition to the traditional or face-to-face classroom setting, perioperative nurses have the option to enroll in a hybrid or blended course that may use either or both synchronous and asynchronous content delivery methods within the online course. Knowing the different requirements and characteristics of these delivery methods will assist the perioperative nurse to select the type of course that will best suit their personal lifestyle, learning style, accommodate their professional schedules, and meet their educational needs.

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Further Readings

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Figure 1: Threaded Discussion Example

Figure courtesy of Dr. Joy Don Baker

Figure 2 Discussion Grading Rubric
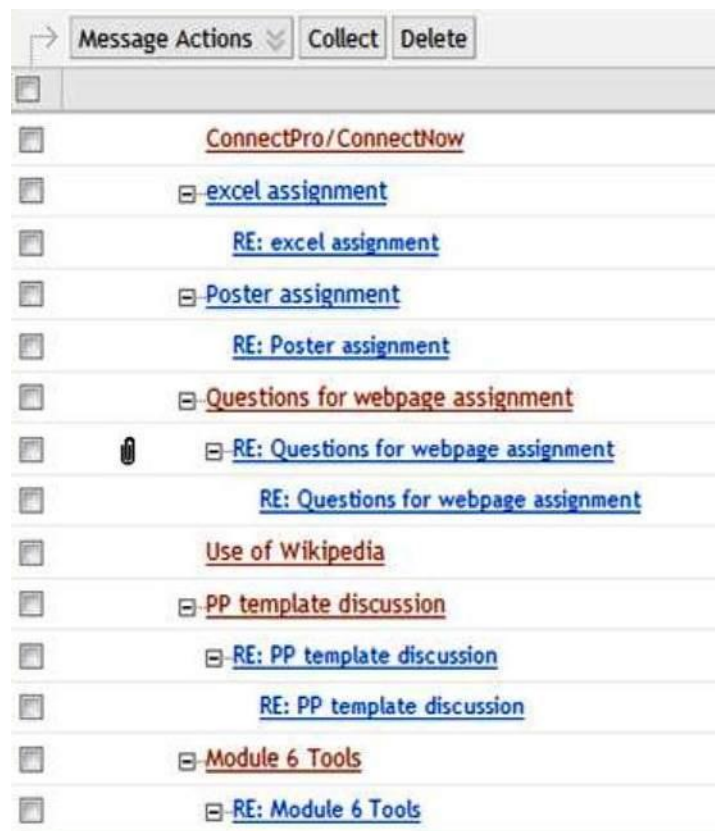
Figure Courtesy of Dr. Joy Don Baker

A	B	C	D	E	F
Discussion Grading Rubric				**Name:**	
Possible %	**Discussion Criteria**	**Satisfactory**	**Needs Improvement**	**Poor**	**Score**
30%	**Support from Literature**	Postings grounded in literature and includes more than two different reference citations per discussion board. **(22-30 points)**	Postings grounded in literture and include only 1 reference citation **(17 points)**	No citations **(0 points)**	
30%	**Personal & Professional insights**	Contributes unique perspectives or insights gleaned from personal experience or examples from health care field demonstrating applied course knowledge stimulating peer comments. **(26-30 points)**	Demonstrates perspectives but does not or minimum demonstration of applied course knowledge **(23-25 points)**	Post does not reflect personal response or demonstrate applied course knowledge. **(0-22 points)**	
14%	**Organization**	Presents information in logical, meaningful, and understandable sequence **(13-14 points)**	Required information is present. Information is sometimes unclear and difficult to follow. **(11-12 points)**	Posting is not relevant to discussion questions. Information often is unclear and difficult to follow **(0-10 points)**	
13%	**Grammar & Syntax, APA**	APA, Grammar, spelling and/or punctuation accurate, or with minimal errors **(12-13 points)**	A few errors in APA, grammar, spelling, and syntax are noted. **(10-11 points)**	APA, Grammar, spelling and/or punctuation contain multiple errors. **(0-9 points)**	
13%	**Timeliness & Interactive Dialogue**	Provides initial posts early and responds often. Actively stimulates discussion and promotes and enhances peer dialogue with friqent responses to peers. Engages in substantive dialogue in each discussion board. Posts early and often allowing opportunity for peer dialogue. **(12-13 points)**	Provides initial post on time. Meets minimum requirements for substantive responses. **(10-11 points)**	Does not actively engage or respond to peers. Reacts defensively to feedback and/or questions. And/or, posts late or not at all. **(0-9 points)**	
100%				**Total Score**	**0.00**