

Teaching Undergraduate Nursing Courses via Videoconference: All that Glitters is not Gold

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Abstract

While videoconferencing is noted for facilitating access to education, it is also a technology that requires considerable management while classes delivered by videoconferencing demand extra pedagogical planning and support. In the following case study, the role of videoconferencing in delivering nursing research courses co-taught by two School of Nursing faculty at Laurentian University and taken by undergraduate nursing students at St. Lawrence College is described.

Résumé

TRANSLATION TO COME: While videoconferencing is noted for facilitating access to education, it is also a technology that requires considerable management while classes delivered by videoconferencing demand extra pedagogical planning and support. In the following case study, the role of videoconferencing in delivering nursing research courses co-taught by two School of Nursing faculty at Laurentian University and taken by undergraduate nursing students at St. Lawrence College is described

Introduction

Anderson (2008) has described videoconferencing as an educational technology that “overcomes many of the objections that people have to education that occurs anywhere beyond the face-to-face classroom. It overcomes the lack of interaction associated with correspondence study, it provides a richer repertoire of communication modes unlike computer conferencing and audioconferencing, and it allows teachers and students to engage in the types of classroom teaching and learning activities to which they are accustomed” (p. 112). Certainly, a tool with such promise, particularly in times of limited human resources and tight budgets, looks very shiny indeed. One must remember though that all that glitters is not gold.

While videoconferencing can be a powerful medium for facilitating access to education, it is also a technology that requires considerable management while classes delivered by videoconference demand extra

pedagogical planning. The success of educational videoconferencing depends very much on two variables: the teacher's and ideally the students' general comfort levels with technology, and the practice of instructional design with special consideration of the strengths and challenges of the technology. As one teacher has stated, "I think it takes a special person (teacher) to want to be in this type of teaching environmentThere is still very little information out there in terms of 'best practices'" (as cited in Anderson, 2008, p. 120). In the following case study, the role of videoconferencing in delivering nursing research courses co-taught by two School of Nursing faculty at Laurentian University and taken by undergraduate nursing students at St. Lawrence College is described.

General Background

The beginnings of videoconferencing can be traced back to 1964, when a device called the Picturephone was introduced at the World's Fair in New York. It was not until the 1980s and early 1990s, however, that videoconferencing became a popular tool in the business world. Since then, videoconferencing has more than made up for its slow start. Concurrent with the development of the Internet, videoconferencing hardware and software have evolved dramatically (<http://www.nefsis.com/Best-Video-Conferencing-Software/video-conferencing-history.html>)

Today videoconferencing is widely used in business. Multinational companies use it to communicate with international offices; smaller companies use videoconferencing to work with clients, suppliers, and stakeholders. Other organizations use videoconferencing systems to minimize travel and to carry out meetings cost effectively.

Videoconferencing has found unique opportunities in the health and education fields. One example of the tremendous potential of videoconferencing in enabling access to health services is telehealth. The Ontario Telemedicine Network, Canada's largest health network based on the use of videoconferencing, facilitates more than 3000 clinical consultations every month (<http://www.otn.ca>) as well as more of 300 administrative and educational sessions a month.

In the educational context, both elementary and secondary schools use videoconferencing to invite experts from remote locations to participate in classroom-based learning. By comparison, higher education including post-secondary education has embraced videoconferencing as a means of supporting distance education. In the case described in this paper, videoconferencing is used in the context of health education—that is to deliver courses in a nursing program.

A Case of Health, Education, and Technology: The Model

To understand the role of videoconferencing in this scenario, it is important to appreciate the collaboration that exists between Laurentian University and St. Lawrence College. The goal of this partnership is to make university-based nursing education accessible to students enrolled at Lawrence College located in Brockville, Cornwall, and Kingston, Ontario. This educational model is a strategic response to the tremendous need for nurses in Ontario and elsewhere. It is also a response to the baccalaureate to practice requirement for nurses instituted in Ontario in January 2005 (COUPN, 2000).

For the most part, the St. Lawrence College students take their courses with teachers in face-to-face classes occurring on the three campuses. In the case of the two upper year research courses described here, a distance-based model is used. This model includes videoconferencing and a web-based learning site for group of students; the teachers for the courses teach out of Sudbury, Ontario.

The Experience

Beginning September 2009, three-hour classes were conducted weekly by two faculty from Laurentian University's School of Nursing faculty to about 100 third-year university students in videoconferencing-equipped classrooms located in Brockville, Cornwall, and Kingston. The groups varied in size with approximately 60 students at the Kingston location. Videoconferencing was selected as the primary learning modality in contrast with other technologies so that the students would be able to see, hear, and otherwise interact with their professors located in Sudbury.

The first course taken by the students ran from September to December 2009; the second from January to April 2010. The first course focuses on the philosophical and theoretical underpinnings of nursing inquiry (research). The second examines qualitative and quantitative research designs and methods and cultivates the students' expertise as research consumers.

Support for the Laurentian faculty and the St. Lawrence students was provided by on-site facilitators at the remote locations. In addition to receiving and posting materials in the on-line course site, the facilitators organized small group activities during classes, met with students as required, and graded assignments.

The Laurentian faculty varied in their experience with videoconferencing. One faculty member had worked in telehealth and, hence, was generally comfortable with videoconferencing technology. This faculty member also has significant expertise in distance education, having worked as an instructional designer in the university's Centre for

Continuing Education. The other faculty member had no prior experience with videoconferencing but is very comfortable with technology. She has valuable experience as an online teacher and learner and tends to be an early adopter of educational technologies.

Between the two courses, there were four on-site facilitators, with two of the four facilitating in both courses. These teachers had worked with videoconferencing before. The other teachers were part-time teachers, one with some videoconferencing experience and the last with no videoconferencing experience.

The teaching and learning experiences were characterized by variable success. Some of this variability was due to technical matters beyond all control. In other cases, the success or weakness of the session was due to pedagogical issues related to the content and/or specific learning strategies.

In the next section of the paper, the good, the bad and the ugly of teaching via videoconferencing are described. As appropriate, details of specific events are provided as important context as well as important lessons learned. While the emphasis in these reflections is the faculty experience, some observations are also included relative to the student experience. As well, some of the comments are comparative in nature since the Laurentian faculty who taught these courses by VC taught them at the same time in the face-to-face setting in Sudbury.

- In some ways, the teacher must 'unlearn' face-to-face teaching strategies. Many of the techniques of face-to-face classes simply do not work in the VC-based classroom. In the case of the two research courses, it was a hard earned lesson that video clips from the Internet do not work well through videoconferencing. Hence, while YouTube videoclips worked beautifully in the face-to-face classes, they were a dismal disaster in the VC classes.
- Planning is paramount. Let there be no debate about it: VC classes take a great deal more preparation time than face-to-face classes, especially three-hour classes. (As an aside, videoconferencing was not designed for long classes. Still, more and more, it is being used for extended classes.) While some teacher and learning experts may question the value of PowerPoint in general, the didactic talk complemented by a well prepared PowerPoint does work well as an instructional strategy in the VC classroom. However, extra care is required in the preparation of the PowerPoint since compression affects what the receiver (the student) sees at the remote site. Font size, colour, animations, and quantity of text on a single slide are all serious considerations. Then there is the reality that students ideally should have copies of the slides to follow during class

which means getting them to the facilitators a couple of days ahead of time. A person never knows when the Mr. Murphy of the technology world will come to call. If though the student have notes, there is some hope that things can be salvaged.

- A general tip: the delivery experience, even on a good day with the technology, is very different. There is a need to continuously request feedback about a number of things: can they hear me? Do they understand the concept I'm presenting? The teacher must be brave, especially when the body language of the students suggests, "I want to be anywhere else but here." Don't forget the two courses described in this paper are research courses delivered to undergraduates.
- On one hand, VC classes are about advance preparation. On the other, the professor needs to make last minute changes, adjust the pace of discussion/lecture, and improvise if equipment isn't working properly or a visual provided isn't easily viewed. On one occasion, the students who had just finished a small group activity found themselves pressing hand drawn theoretical models up to the camera so their classmates 200 kilometres away could see their work. While not exactly high tech, it did work. (Better, of course, would have been an Elmo or document camera but, if not available, it's all about improvisation and humour.)
- The professor must learn to deal with the strange feeling of sitting alone and talking to a television set! While one of the two Laurentian professors "used to think" she would have like a career in broadcasting, she doesn't think so anymore. In this case, the teachers did not have students with them at the host site. When there are students at the host site, there can be danger that the teacher will pay more attention to those in the classroom with him or her and less to those at the remote site(s). Contrarily, it is very difficult to gauge how things are going when all students are at a distance.
- Teachers need to become accustomed to little visual feedback. After all, he or she will be able to see only see a portion of the room and a limited number of students. In the case of the three St. Lawrence College sites, room size and shape also played a role. Although there were some 60 students at Kingston, the teachers only saw maybe 12-15 students.
- Microphones microphones!! Regrettably, technical difficulties and particularly sound difficulties were all too common. While no one likes bad visuals, if the sound is a problem, everyone might as well go home. On many occasions, the teachers had to readjust the

class at the last minute to accommodate for audio problems.

Although all classes were supported by technical experts, again, unpredictability was predictable.

- Other technical recommendations include larger screens and wide angle lens cameras that capture more of the room. The capacity to tape a session would also be helpful so that, if a site misses a session because of technology, the students could follow up with the tape.
- As all teachers know, it is very difficult to conduct a class with little feedback from students and/or not being able to see them. One needs to be willing to try various strategies to overcome feelings of isolation and to keep the interest and attention of the students. Such strategies include continuing to look into the camera (even though the person might want to look elsewhere) and ensuring a lot of 'face' time rather than 'slide' time. Conducting the class with a deliberate mix of 'lecture' and discussion prompted by good questions is essential.
- A plus in this situation was that the Laurentian professors could draw on the experience and expertise of the facilitators to enrich discussion. Their help in "taking the interest and understanding temperature" of the students was very valuable.
- The on-site facilitators were integral to group work and completion of marking at the three individual sites. Without the facilitators, small group sessions would have been next to impossible.
- On one occasion, one of the Laurentian professors visited the sites. The value of this cannot be over emphasized. Whenever a face-to-face visit or class can be managed, "go for it." The relationship gains are huge as are the effects on learning. Increased interaction and buy-in for the VC learning experience are the outcomes.
- Are two heads better than one? Not necessarily in videoconferencing. At times, the two Laurentian teachers co-taught the same class. In fact, this created a disjointed effect for the students. Generally, things went better when there was one teacher for a class. Similarly, one might think that more students through more sites might lead to greater interaction. Not always the case. In fact, it is very difficult to create and sustain interaction among multiple sites.

Final Thoughts

In closing, what is the right recipe for effective teaching via videoconferencing? While there are no foolproof strategies, a person should put some insurance in place by way of fastidious instructional

design principles and practices and then cross his or her fingers. Stated another way, VC teaching is all about advance planning and multifaceted support—support that is technical, pedagogical, and human. Strong technical support is a must at all times; access to persons and resources to assist the teacher in adjusting his or her teaching approaches and access to persons who, in a moral support way, will encourage the teacher when he or she is convinced the class has gone terribly wrong are also vital.

As for takeaway messages, Clark (1994, 2000) suggests that it is the application, design, and ways that a technology is used that determine its educational value; educational value is certainly not about simple acquisition or even the use of technology. A more specific message is that teaching through videoconferencing is hard work. As for the teachers from Laurentian University, will they teach by videoconference again? They are thinking about it.

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