Reaction Brief

International Videoconferencing: A Reaction to Burke et al.

Dale O. Ritzel

In this issue of the *American Journal of Health Education*, Burke et al.[1] provide a case review of an international videoconference between a U.S. and a German university. As a person who has been involved in many videoconferencing situations, as well as more than 10 travel/study courses to Germany (through cooperation with Dr. Robert J. McDermott, University of South Florida; Dr. Sandra Vamos, Simon Fraser University, British Columbia, Canada; Dr. Klaus Klein, University of Cologne, Cologne, Germany; Dr. Robert M. Weiler, University of Florida, and others, I have discovered and embraced the benefits of linking concepts of public health education between two or more remote sites. In this reaction brief, I will try to provide further insight about the benefits of distance learning and videoconferencing.

The authors highlighted the benefits and opportunities of international videoconferencing as well as the relevant limitations. Videoconferencing is an interactive tool that incorporates audio, video, computing, and communications technologies to allow people in different locations to collaborate face-to-face, in real time, and share all types of information including data, documents, sound and picture. In essence, videoconferencing removes the barrier of distance that separates us. A videoconference allows one to take part in live video/audio presentations and discussions, etc. between two or more settings in nearby or remote places around the world. I have taught videoconferencing classes at Southern Illinois University-Carbondale to different locations and gotten to know both the benefits and challenges.

Live videoconferences have lots of advantages over other multimedia resources, such as video recordings or television presentations, but the main benefit is that they are interactive, allowing participants to talk face-to-face with someone else in "real time," but in a different location.[2] This situation is great for gaining high levels of engagement from students without the expense and inconvenience of travel.

The benefits of videoconferencing are numerous. Videoconferencing saves travel time and money. It urges participants to reach decisions that may not come as easily in a face-to-face meeting. And it gives participants the chance to see others' body language, facial expressions and other nonverbal cues which are important factors in such activities as sales or board meetings. Videoconference meetings are most successful when the participants have met before, and when they meet on a regular basis. It also can be used to deploy employee training in a lecture format that is both creative and interactive for greater learning and retention. Also, because attendees must see the speaker, they will stay focused on the speaker's presentation.

Telecommuters benefit from videoconferencing because they are able to live where they want and still get their job done through computer and videoconferencing. When videoconferencing is used in the classroom, remote students are able to interact with each other and the instructor, or with guest speakers, and the conferencing technology can transport the students to virtual field trips and connect them with other videoconferencing participants at other locations. Videoconferencing is accepting of students' various learning styles and conferencing presentations hold students' interest through video clips, graphics and animations of hard-to-access locations like nuclear power plants, laboratories or volcanic islands. For greater interaction, electronic whiteboards can be used while host PCs share documents and scan photos.

Videoconferencing plays the role of helping participants communicate fully with remote participants and it gives access to participants who are limited by their physical location. This technology connects groups with their ideas, and it is beneficial for a company's bottom line, or a university's education goals.[3]

Videoconferencing is an exciting technology for education. Teachers and students are

Dale O. Ritzel is a professor and director Emeritus in the Health Education/Safety Center, Southern Illinois University Carbondale, Carbondale IL 62901; E-mail: dritzel@siu.edu.

able to see each other, share documents and discuss topics together in a situation similar to a traditional classroom setting. The main difference is that teachers and students may be in different states or even countries.

Videoconferencing increases efficiency by:

• Saving travel time and expenses

• Increasing an instructor's audience

• Maintaining the ability for interaction between teachers and students

Many schools are currently using videoconferencing systems for a variety of purposes, including:

• Traditional coursework

• Connecting with guest speakers and experts

• Multi-university projects and collaborations

• Enabling teachers to share information and team-up with teachers in remote sites

• Virtual field trips to public health departments, museums, worksites, environmental sites, institutions, and other interesting locations that are geographically distant from the university

As the technology improves, university faculties will see more of the benefits of using this technology. As we see the price of travel and fuel increase, videoconferencing technology will become more important.[4]

Videoconferencing is not without its disadvantages. Months may be required to enable videoconferencing capability within a large university; this time may include that required for designing the network and installing videoconferencing equipment. Initial equipment costs are higher than if an outside service organization is used.

Using conference rooms for videoconferences makes sense from a facilities' perspective but this can cause video systems to be underutilized. Normally, most meetings and conference rooms at universities are used for local business without a need to communicate with other facilities or locations. Therefore, video equipment investment can be stranded during every day normal use of conference rooms for local meetings.

Many universities assign a central staff member to run a videoconference network without considering the needs of each remote site. Videoconferencing requires at least two locations, each with its own system, network, conference or meeting room and operating instructions. Each location, therefore, normally should have a skilled operator of video systems to assist users in getting a conference started and keeping it running.

Today, few universities are willing to expend the funds to ensure each end-point is staffed with a skilled technician and so this skill deficit can cause conference failures in some locations, particularly those that turn systems off daily or reboot frequently. Industry manufacturers understand this common problem and are providing software tools and remote management capability with the latest videoconference equipment to allow for remote management of systems. Therefore, a well-run network requires either skilled personnel at each end-point or some form of remote management to ensure systems operate well. Some combination of both is usually required to attain high levels of video network up-time.[5]

Simultaneous videoconferencing among three or more remote points is possible by means of a Multipoint Control Unit (MCU). A university can establish conference calls among three or more people for converged voice, video and data conferences. Often referred to as a bridge, an MCU can provide audio-only services or any combination of audio, video and data, depending on the capabilities of each participant's terminal. This is a bridge that interconnects calls from several sources (in a similar way to the well-known audio conference call). All parties call the network ID number of the MCU unit or the MCU unit can also call the parties.

Recently, I was involved with a videoconference where university faculty members were performing reviews for the Higher Education for Development (HED) and USAID program on Africa-U.S. Higher Education Initiative Planning grants for health. The university faculty members were from three U.S. universities and the University of Zambia, Africa. All members of the panel were connected to each other and the staff from HED and USAID via telephone and the Internet via www.meetingconnect.net. We were able to share documents and evaluations, view a spreadsheet with our composite results, collaborate and come to consensus, and see the remote participants without the need to leave our office. A big factor in the increase was the emergence in the recent years of high-definition (HD) videoconferencing. HD images are much clearer than those from standard-definition technology, with nine times the number of pixels in a display.

The key to any distance learning/videoconferencing course or presentation is the planning and implementation that takes place before the actual event. The current example provided some of the planning that both East Carolina University and Freie Universität in Germany used to accomplish successful videoconferencing. I liked that they discussed some of the changes that they had to make between the first and second videoconferences.

From my experience and that of others, I would like to suggest the following tips for readers considering videoconferencing with international sites:

• Students from the countries involved in the videoconferencing should have a comprehensive understanding of the culture of the country with which they will be interacting. Instructors should exchange information about the governmental, cultural, economic, political and demographic features of their respective countries.

• Students should have specific assignments given, developed and completed prior to the actual videoconferencing. For example, the students can develop a paper on some public health topic relating to their own country or one of the other participating countries.

• Have students from each country develop a joint paper and presentation. Develop a list of public health topics that are pertinent to each country. Place one or more student from each country/university involved into a group and have each group select a health topic. Students

can develop brief (e.g., 15-20 minute) oral presentations on these health topics.

• Have the students and instructors maintain contact with each other after the videoconferencing sessions. Make plans to explore future public health topics by videoconferencing or by actual travel/study trips to the participating countries and universities.

Videoconferencing with faculty and students from another country will help in understanding the culture and other features of that country. The next logical step is participating in a travel study course. A record 241,791 U.S. students went abroad for academic credit in 2006-07.[6] Tell your students that there is lot of potential inherent career benefits. First, potential employers will be impressed by students who have a unique perspective, not only another society, but on their own as well. Having had an overseas study experience shows an employer that a student is motivated, inquisitive and willing to try new things; all appealing qualities in an employee. People who study abroad tend to be willing to take risks, are able to solve problems under unique circumstances, and are able to overcome the fear of the unknown.

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