

Using Videoconferencing to Establish and Maintain a Social Presence in Online Learning Environments

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Introduction

For 30 years, the educational administration program faculty at Fort Hays State University (FHSU) followed a traditional face-to-face (F2F) on campus approach to course delivery. During the spring of 2002, the program faculty began to include the FHSU Virtual College's full motion Interactive Television (ITV) to extend the program beyond campus boundaries. Faculty transmitted the newly integrated instructional format to six broadcasting sites scattered throughout western Kansas, including a site on campus where course content originated. During the summer months, faculty continued to teach classes F2F on the FHSU campus.

Beginning in 2004, faculty began an extensive review of the educational administration program and the 12 courses it contained (Dale et al. 2007). A key element of the process was our commitment as faculty to reflect upon our own individual technology needs. After reviewing current literature, faculty focused on connecting theory and action to transform the program by identifying and integrating technology that would lead to improving learning and instruction. Through research and dialogue, faculty discovered that the following concerns needed to be part of the revised educational administration program:

- Essential technology content woven throughout the program;

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- Flexible scheduling and individualized instruction for students;
- All courses infused with real-world problem solving;
- Program decisions based on current research;
- Faculty-student communication through alternative delivery modes;
- State and national leadership standards integrated into every course (Dale et al. 2007).

Dale et al., further reported, "A faculty development plan was designed that included a heavy emphasis in technology awareness, implementation, and integration. Program faculty decided to thread technology throughout each core course of the program so that the technology related to specific course content and application would be taught and applied within the appropriate course" (p. 45). In August, 2006 faculty instituted a blended approach to course delivery incorporating ITV and Blackboard (Bb) a sophisticated, yet easy-to-use, online course platform that provides asynchronous communication opportunities through a variety of tools, including announcements, discussion board, virtual classroom, and e-mail.

Throughout the program review process, faculty continuously reviewed other online tools that could further enhance our instruction. The faculty investigated the use of podcasting, Articulate Presenter, DyKnow, and social websites such as Classroom 2.0 and Wikispaces. Even though these technology tools were useful for on-line instruction, faculty realized the socialization and personal F2F exchanges that were such a vital component of our F2F instruction were quickly becoming non-existent. As a result, faculty-student relationships were being held together asynchronously by emails, telephone calls, instant messaging, and the occasional workshop.

Within the research, faculty discovered John Naisbitt's 1982 concept of 'high tech, high touch' was very true. Naisbitt said that even in a world of technology, people still long for personal, human contact. In fact Spitzer (2001) mimicked his sentiments as he pointed out that the 'high touch' is often de-emphasized in favor of the 'high tech' in online distance learning, and argues that "until those enamored of the hardware and software acknowledge the importance of human intervention, the full promise [of web-based distance learning] will not be realized" (p. 55).

Still searching for technology that could help build and maintain relationships; the authors began to investigate desktop videoconferencing (DVC) as possible means to personalize instruction. DVC programs such as GoToMeeting, Marratech, FlashMeeting and Elluminate were reviewed. Marratech was originally selected, but was discontinued when the pricing structure changed after its purchase by Google, and it became less cost effective for program use. FM and Elluminate are free programs. The main difference between the two is that with Elluminate only one person is visible at a time, but with FM as many 25 participants can see and hear one another. The authors stated using FM on a trial basis during the 2007 spring semester to broadcast instruction to students. By that time, all but two program courses had made the complete transformation from F2F to the 100% online format. In June 2007, all courses officially moved from F2F to online, making the entire educational administration program available globally.

History of Videoconferencing

Videoconferencing evolved through the years as people tried various forms of technology in an attempt to connect with one another. In 1927, Bell Telephone Laboratories designed the first two-way television as an adjunct to the telephone (Ives, 1930) Bell Labs transmitted live television images of Herbert Hoover, future U.S. president, over telephone lines from Washington D.C. to Manhattan, NY (Badger, et al 2001). In 1964, at the World's Fair in New York City, videoconferencing was introduced for the first time as the future replacement of the standard telephone ("An industry retrospective: Videoconferencing history" n.d.).

Videoconferencing hit the commercial market in 1982, but it was too expensive to make widespread adoption possible until the 1990s. At that time technical advances in Internet Protocol (IP) allowed more resources to choose from and were less expensive (Badger, et al. 2001; Evans, n.d.; "An industry retrospective: Video conferencing history," n.d.). In 1991, IBM created the first PC-based videoconferencing system, PicTel (Wilkerson 2004). Cornell University's development team released CU-SeeMe v1.0 in 1998 with color video that could function on both PC and Macintosh computer operating systems. However, its peer-to-peer connection methodology limited applications to classrooms, and training facilities required all users to be on the same network ("An industry retrospective: Video conferencing history," n.d.).

In 2001, videoconferencing (VC) was getting attention from vertical industries that saw its potential. The first transatlantic 'telesurgery,' videoconference took place as a U.S. surgeon controlled a robot overseas to perform gall bladder surgery. To date it was the most compelling, non-business use of video conferencing and brought VC to the attention of medical practitioners and the public throughout the world (Wilkerson 2004).

By 2003, high-speed broadband Internet access became generally accessible at a very practical cost and was available in nearly every region of the country. Concurrently, the expense of video-capture and display devices diminished. Technology as a whole was more affordable, and with the availability of user-friendly free software from leading instant messages service providers, videoconferencing became more appealing to the consumer for both business and personal use.

Although not complete, the history of videoconferencing exemplifies just how far the technology has come since its debut. Breaking through nearly every obstacle, videoconferencing will likely continue to develop until it becomes a fundamental part of organizational and personal life. As the technology endures additional adaptations, it will indubitably become more inexpensive and ultimately a foundational resource tool of distance education programs.

Significance of Videoconferencing to Higher Education

Higher education began to appreciate the benefits of videoconferencing in 2003 ("An industry retrospective: Video conferencing history" n.d.; Wilkerson 2004). Universities and colleges globally began to incorporate videoconferencing into their distance learning programs to enhance classes with more interactive F2F simulated environments. In 2004, videoconferencing companies continued refining their applications and fine-tuned them for more reliable performance and usability. During the same year, WiredRed Software became the first company to enable ten or more participants to conduct videoconference sessions simultaneously (WiredRed's one-click web & video conferencing via Microsoft Office 2005). During the 2006-

07 academic year, 61% of U.S. higher education institutions offered online courses and of those institutions, and 75% utilized some form of synchronous computer-based media, including videoconferencing to facilitate live online instruction at a distance (Parsad & Lewis, 2008).

Videoconferencing Strategies Used in Educational Administration Courses

In order to have successful videoconferences, it is vital to inform students as to their function and responsibilities. Video conferencing requires planning, coordination, training, and testing for the technology and instruction to integrate well, in order to minimize instructor and student stress levels. The authors accomplished this by including information in course syllabi, Bb announcements, e-mails, and dialogue with students during the first two or three videoconferences.

One of the authors conducted videoconferences every week, presenting lectures, facilitating discussions filled with inquiry and discourse while supplementing the lectures with Blackboard discussion boards and e-mails. A second method is a variation of the first, where videoconferences take place occasionally, rather than weekly, while conducting the remaining classes through Blackboard, thus combining synchronous and asynchronous learning. This was the method selected by the other instructor.

The authors employed a third method, known as an ad-hoc videoconference, which involved guest speakers for one or two classes in a semester. Guest speakers would speak on a particular topic and then entertain questions from the students. The guest speaker could easily sit next to one of the instructors or be granted access to the videoconference from a location of their choosing.

In order to engage all students in discussion, build a social presence, and avoid the 'passivity' of some, the authors used a variety of strategies and interactive activities such as:

- Calling on individual students by name, with questions in order to ensure participation by all;
- Discouraging individual students from monopolizing class discussion;
- During the first videoconference, establishing rules, guidelines, and standards for videoconferencing conduct;
- Reviewing class session playbacks to identify students who were experiencing technology difficulties or were not actively participating;
- Following up videoconference meetings with one-on-one phone discussions, videoconference calls via programs such as Skype and ooVoo, and e-mails to support and encourage student involvement.

The Importance of 'Social Presence' in the Online Learning Environment

Developing a social presence has become an important component of the authors' instruction in the FHSU educational administration program. Traditional learning communities thrive on relationships formed through F2F interactions, as students usually come from a particular geographic region or locale. However, geographic boundaries have become secondary in importance as communication technology makes it easier to share information and maintain relationships across physical distance (Kimery, 2006). Concerns surrounding the lack of physical presence in the online learning environment have led researchers to investigate the concept of

'presence' when learning online (Garrison & Cleveland-Innes, 2005). Early work focused on social presence and the idea of participation and belonging (Garrison, 2006). Social presence is a factor that contributes to building a community of learners and must be one of the first components established to initiate learning online (Aragon, 2003).

Many have defined social presence differently when applying social presence theory to Internet-based interactions. Gunawardena (1995) states social presence as "...the degree to which a person is perceived as a 'real person' in mediated communication" (p. 151). Tu and Mclsaac (2002) defined social presence as "...a measure of the feeling of community that a learner experiences in an online environment" (p. 131). Garrison, Anderson, and Archer (2000) defined social presence "...as the ability of participants in the Community of Inquiry to project their personal characteristics into the community, thereby presenting themselves to the other participants as 'real people'" (p. 89).

In a series of studies on the effects of different media and activities on trust, Zheng et al. (2002) demonstrated that social presence, even if carried out online, significantly increases people's trust in each other. Bos et al. (2002) demonstrated that richer media—such as face-to-face, video/audio-mediated communication—leads to higher trust levels than media with lower bandwidth such as text chat. When more than one participant is involved in an educational interaction, there is the potential to produce this social presence: the sense of being together with others and having a sense of engagement with them (Biocca, Harms, & Gregg 2001). Videoconferencing involves 'social presence,' which is "the degree to which individuals perceive intimacy, immediacy, and their particular role in a relationship" (Belderrain 2006, p. 149).

Conclusions

Successful operation of videoconferencing technology for interactive learning demands preparation and scheduling. Well-organized strategies for interaction assist faculty in meeting individual student needs and developing the 'social presence' necessary to facilitate quality online learning. Organizations can be proactive by offering this innovative technology as a way to build relationships (Badger, et al., 2001).

The transition of the FHSU educational administration program to a fully online program has been a valuable learning experience for faculty and students. The 'evolution' of the program has been from traditional on campus F2F instruction, to ITV, to Bb, social networks such as Classroom 2.0, to videoconferencing programs, which provide instant one on one or small group chat and/or video communication. Data collection on student satisfaction is ongoing and the authors are growing in their willingness to take risks with new technologies that enhance teaching and learning. The use of videoconferencing to make the learning environment as transparent as possible can be a valuable 'social presence' tool as educators seek to build and maintain quality relationships with students.

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