Learning in Online and Desktop Video Conferencing Courses: Are Some Students Plugged In and Tuned Out?

Karen McFerrin, Ed.D.
College of Education
Northwestern State University (LA)
United States
mcferrin@nsula.edu

Paula Furr, Ed.D.
College of Liberal Arts
Northwestern State University (LA)
United States
furrp@nsula.edu

Abstract: According to research conducted in two studies examining incidental learning activity within a complex of asynchronous online courses and compressed desktop video courses at a mid-sized university, incidental learning outcomes not identified as part of the formal curriculum are evident. Learning to use technology and individual and group attitudes and behavioral patterns are two particular outcomes. The results of both studies illustrate the importance of incidental learning and of developing a learning environment that fosters positive outcomes. Theory and application concerning teaching and learning in online distance education courses and desktop video conferencing courses may differ. This paper compares and contrasts current online and DVC learning theory with observations and reflections of the researchers that show what may actually be happening with some students in today's distance education classrooms.

Introduction

A dichotomy may exist between theory and application concerning teaching and learning in online distance education courses and desktop video conferencing courses. According to research conducted in two studies examining incidental learning activity within a complex of asynchronous online courses and desktop video conferencing courses (DVC) at a mid-sized university (Furr 2000, McFerrin 1998), incidental learning outcomes not identified as part of the formal curriculum are evident. Learning to use technology and individual and group attitudes and behavioral patterns are two particular outcomes. The results of both studies illustrate the importance of incidental learning and of developing a learning environment that fosters positive outcomes.

Actual student observations uncovered specific student behaviors that produced a less than desirable classroom environment. Technology problems and lack of sufficient class interaction and participation cause students to become distracted from focusing on course content. While frustration levels in students in the DVC courses are higher than those in the online courses, elements of frustration exist in both. A comparison and contrast of current online and DVC learning theory with observations and reflections of the researchers show what may actually be happening with some students in today's distance education classrooms (Furr 2000, Hara & Kling 2000, Johnston 2000, Robertson 2000, Collins 1999, McFerrin 1998).

Asynchronous Online

The first study, titled "Incidental Learning in a Higher Education Asynchronous Online Distance Education Course" (McFerrin 1998), was designed to examine and describe the incidental learning activity of students in an asynchronous online course in a higher education setting. While literature concerning student performance and experiences in higher education online courses is available (Everett 1999, Neal 1997, Hites & Ewing 1996, Thomerson & Smith 1996, Jegede & Kirkwood 1994), little has been researched concerning incidental, or collateral, learning at the higher education

level (Ragsdale 1997, Mealman 1993). McFerrin's research was conducted with data collected from interviews, journals, observations, email messages, and online conferencing software postings of 22 members of three sections of a graduate-level asynchronous online distance education course at a mid-sized four-year university in the spring of 1998. Each graduate student was interviewed at the beginning of the semester and at the end of the semester. A late-semester questionnaire was sent to all participants. All email and conference postings were analyzed. Each was asked to keep a journal throughout the semester.

Two types of incidental learning outcomes occurred. The first developed from the students' learning to use the technology itself. Accessing the Internet, developing search skills, working within an online course, and using conferencing software were teamed with an increase in researching, writing, and word processing skills. The second type of incidental learning outcome centered on an improvement in certain areas of the students' personal development. An increase in time management ability, self-directive behavior, self-confidence, and self-discipline occurred. Students in the online course exhibited an increase in self-knowledge and a belief that more new goals can be set and successfully accomplished. All students obtained unplanned and unanticipated learning outcomes not identified as part of the formal curriculum.

The results of the study illustrated the importance of incidental learning in an asynchronous online course. When developing coursework for graduate students in a life-long learning field such as education, faculty and administrators must seek to develop a climate in which incidental learning is likely to occur. Both students and instructors must see the value of incidental learning to the student and must foster its development.

Desktop Video Conferencing

The second study, "The Occurrence of Incidental Learning in Higher Education Desktop Video Conferencing Classes: An Ethnographic Study" (Furr 2000), addressed learning in desktop video conferencing (DVC) courses, a relatively new delivery medium for college courses. This study examined the incidental learning within a complex of compressed desktop video courses at a mid-sized university. Although ample literature covers incorporating technology into the classroom (Russell 2000, Saba 1998, Moore & Kearsley 1996, Cuban 1986), little documents the experiences and perceptions of students and faculty in distance education courses (Johnston 2000, Jegede et al. 1999, McKee 1999, Biner & Dean 1997). Because DVC is a new technology, even less literature targets its effects on teaching and learning environments (Cifuentes et al. 1999, Merisotis & Phipps 1999, Thorpe 1998, Mize 1996).

The DVC study was structured to replicate McFerrin's 1998 examination of incidental learning in asynchronous, on-line college instruction. The researcher employed grounded theory to examine the experiences and perceptions of participants--faculty, students, and staff--in five desktop video conferencing courses offered spring 2000 through a synchronous audio and video delivery system that allowed students in eight rural sites to complete education courses. The researcher triangulated data from field observations, interviews, surveys, participants' journals, and course materials. Quantitative measures of participant satisfaction and content analysis of journals and course documents also were used.

Consistent with McFerrin's findings, the researcher discovered two types of incidental learning outcomes not identified as part of the formal curriculum: learning to use technology and individual and group attitudes and behavioral patterns. Factors that afforded positive experiences and perceptions were convenience and reduced driving time, informal class atmosphere, small classes, prior computer skills, access to a computer and the Internet, internal student traits, and instructor facility with technology and distance education pedagogy. Factors that diminished a positive experience were technical problems, insufficient administrative support, inadequate training, weak proctor system, and negative student behaviors.

Unlike McFerrin's study, Furr (2000) found a higher level of frustration among participants in the DVC courses. Of the 52 students polled at the semester's end, 48% said they would take another DVC course, 17% said "no," and 21% said the type of course offered would determine their decision. The remaining percentage of students either did not answer the question or said they were graduating. Of those willing to take another DVC course, convenience was the top-cited reason. They were also willing to forgive technical problems, believing "bugs would be fixed." Nonetheless, a sizable number of students reported either a negative or neutral stance regarding DVC.

> One graduate student commented: Today's class was very frustrating - just like all the other times. We could hardly hear [instructor x] and were having the usual technical difficulties. We only covered [one topic], and I was still confused after we finished it. I had typed a question in the chat box, but [instructor x] never saw it so it never got answered. And it takes forever to just get the class started. It seems like by the time we get everybody logged in and settled, the class is almost half over.

An undergraduate student said: Once they work the kinks out, it will be a great program, but I think the program is better suited for rural sites and better for nontraditional students. It's not so great for your typical undergraduate. I don't have any interaction with the teacher. Normally, you could see the teacher before or after class.

Faculty, students, and proctors shared with the researcher their frustration at the negative student behaviors that festered during the semester. One proctor, also a DVC student, said she had learned adults do not always behave like adults and that once instructors lost control of their classes, "they've lost it all." She said many students were frustrated with initial and ongoing technology problems and never got past the frustration, which they vented aloud in class. "It became ongoing and public and diminished a professor's authority and respect," one proctor said.

The researcher observed many students coming to and leaving classes at will, napping, surfing the Internet, playing games on the computer, sending and receiving e-mail, completing homework for other courses, calling on cell phones, inserting music CD's to listen to during class, badmouthing instructors, carrying on conversations totally unrelated to the course, and generally being completely off-track. One instructor noted that the array of technology available to students during class and the added focus and concentration needed for instructors to deliver a course and for students to process the content prompted students to go "mentally off-line."

The DVC study's results illustrated the importance of incidental learning in a desktop video conferencing course and of developing a learning environment that fosters positive outcomes. If a positive outcome is to occur, then DVC requires substantial technical training and support, administrative support for faculty, and a strong proctor system. Importantly, educators must continue to refine the pedagogy of effective teaching and learning with DVC. It is not an intuitively easy system to operate while simultaneously delivering course content, promoting student participation, managing student behavior, and troubleshooting technical problems.

As with any program, ongoing local evaluative studies that monitor participants' experiences and perceptions are critical if a DVC's program is to succeed, improve, and be sustained. Erhmann (1998) defined the technology of a program as its "hardware, software, and social technology" (p. 2). He emphasized the importance of knowing "what is happening right here, right now, this year, with these people" (p. 3). Fulk, Schmitz, and Steinfield (1990) constructed a Social Influence Model of technology use that considered influences such as work group norms and co-worker and supervisor attitudes and behaviors that positively or negatively influence attitudes, media use, and choices. Fulk (1993) proposed that an organization's members could be expected to develop coordinated patterns of behavior based on observations of each other's behaviors, the consequences of behaviors, and emotional reactions. Detecting those patterns, whether faculty, student, or staff, is crucial to avoid falling into the trap of the "rapture of technology" and failing to assess how different learners use technology differently with different and sometimes unexpected results (Ehrmann 1998).

Similarities and Differences

The two studies highlighted similarities that existed between these particular asynchronous online and synchronous DVC courses, including the:

1. Need for students to be self-disciplined, self-motivated, and patient
2. Variance in computer skills and technology accessibility that existed among the students
3. Use of email for communication between student and instructor
4. Compulsiveness of students
5. Unrealistic expectations of students
6. Lingering technology frustration
7. Vulnerability of at risk students
8. Lack of driving time and expense devoted to travel
9. Newness and niftiness of the technology
10. Expense to operate courses successfully
11. Smaller size of the classes
12. Lack of University-wide system for student evaluation

Key differences noted between asynchronous online and synchronous DVC courses included the following:

1. In a text-based online course, students tend to be more careful in their comments about other students, the course, and the instructor. In a DVC course students at remote sites can informally converse among themselves, with negative behaviors and comments often going unchecked. A strong proctor system, particularly with younger or more immature students, is key for DVC.

2. In a DVC course, negative individual attitudes and behaviors can affect an entire group, with an instructor unable to monitor individual and group behaviors simultaneously. Classroom management issues and strategies become accentuated in DVC courses.
3. In an asynchronous course, students understand the "transactional distance" between themselves and the instructor and do not expect immediate, real-time feedback. A DVC course gives students the illusion of one-to-one contact with the instructor and active participation. When a student's electronic raised hand or comment in the chat box goes unnoticed or unacknowledged for even a brief time, students tend more easily to disengage from class.
4. Students in online classes are accustomed to and expect a primarily text-based system, whereas the camera and monitor in a DVC class prompt in students a "TV" attitude. However, current DVC technology with its small video window and jerky transmission often relegates faculty and other students to tiny, out-of-focus talking heads. Boredom and disengagement again can result if students are not themselves focused, motivated, and disciplined.
5. A DVC system requires more technical support during class for both the instructor and students at remote sites. While an online class can weather downtime, a DVC course cannot. A DVC course requires more faculty technical training and preparation for technical contingencies.
6. In an online course, students can choose the time, pace, and duration of their course interaction. In a DVC course, the hours are set just as in a traditional course. Being tethered to a computer for two to three hours and staring at a computer screen can be physically tiring and boring, conditions ripe for frustration and disengagement. For DVC courses, changing activities and frequent breaks are key.

Conclusion

The two studies highlighted the differences and similarities in learning and teaching environments fostered by the two different delivery systems. Both researchers have years of experience as students, educators, developers, and researchers of distance education courses Although "good teaching" has many universal tenets, the notion that faculty or students can seamlessly transfer from the traditional classroom to varied electronic formats should be dispelled. These findings underscore the importance of specific faculty development, curriculum planning, and administrative support for distinct electronic venues.

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