Using Videos to Bring Lecture to the Online Classroom

by Gail D. Hughes

Abstract

Students' individual differences impact their learning experience. Reading the textbook, instructor notes, and emails may not provide all students with information in a way that meets their learning needs. Online students often say they miss traditional lectures; one option for providing these online is through video. The purpose of this paper is to share insights and lessons learned from making instructional videos for three online courses. Issues discussed are preparation, how many videos to record, video format/style, technical brief, and other tips.

Online Instruction

With the advent of online learning, distance learning is experiencing phenomenal growth. As early as 2004, online course enrollment exceeded even the predictions of the Center for Education Statistics more than ten times over by reaching 2.35 million (Allen & Seaman, 2005). The flexibility of both time and place allows a broader population to participate in higher education; especially adult learners. As a result, institutions of higher education are now offering an unprecedented number of online courses especially in the area of graduate education. Allen and Seaman found that, "Sixty-five percent of schools offering graduate face-to face courses also offer graduate courses online. Among all schools offering face-to-face Master's degree programs, 44% also offer Master's programs online" (p. 1).

Despite the popularity of online courses, concerns remain that students, professors, and institutions must continue to address. For example, online students may feel less connected with the instructor; experience greater insecurities in their learning; miss on-campus academic support; and feel isolated (Galusha, 2008). Both students and instructors find their traditional roles and responsibilities shifting as online learning becomes more learner-centered where the task of instructors is facilitating learning more so than transferring knowledge. Such changes are necessary for educators to maximize the potential of online learning; educators should challenge pedagogical assumptions and "create a pedagogical model or models that enable educators to capitalize on the potentials afforded by online learning technologies" (Norton & Hathaway, 2008, p. 476). Too often instructors design online courses with the goal of mimicking traditional courses; instead, instructors should choose the best strategies available and explore new instructional horizons beyond those of the traditional classroom (Battalio, 2007).

Learning Styles

To determine the preeminent online instructional strategies, educators should contemplate student learning styles (Allen, Bourhis, Burrell, & Mabry, 2002; Battalio, 2007). In the growing field on online instruction, educators have a wealth of instructional strategies to choose among and to make the best choices educators must continue to explore which strategies work best for different students in various courses. When Mehlenbacher, Miller, Covington, and Larsen (2000) compared two sections of an upper-level writing class (online and onsite) they found that learning style scores were related to grades for the online section but not the onsite. Specifically, online reflective learners scored higher than active learners and global higher than sequential indicating that "reflective learners who prefer solitary, quiet problem-solving as opposed to group discussion of problems, may have been more comfortable in the web course" (p. 191). The lower scores by active learners surprised the authors due to the interactive design of the website intended to favor active learners; as such the authors encouraged educators to ponder the meaning of activity online. Similarly, Aragon, Johnson, and Shaik (2002) found online students were more reflective and exhibited greater preference for abstract conceptualization than their onsite counterparts; however, controlling for student success factors negated the differences. Akdemir and Koszalka (2008) found no significant relationship between learning style and learner perception of learning outcomes or engagement. Small sample sizes and different measures of learning outcomes could explain the findings of significance in some studies while not in others. In a meta-analysis comparing student satisfaction of online and onsite classrooms, Allen, et al. (2002) found that a link between learning styles and students' satisfaction with online courses may exist yet the issue requires additional investigation.

Video Lectures

Students' interaction with the content in online courses is primarily through reading (textbooks, instructor notes, and/or webpages). Some courses may also offer interactive websites, audio files, or video lectures. One of the most commonly cited advantages of online instruction is the asynchronous nature of the content. Online students do not have to attend class at a specific time; instead, they may review the content when it is most convenient for them. Within the timeframe provided in the course, students may also control the pace of instruction. Course readings, audio files, and video lectures all allow students to pause, rewind, review, and reflect as they progress through the content. Additional advantages of audio files and video lectures include engagement of more areas of working memory, novelty, and a greater sense of knowing the instructor. Online students sometimes complain that the course is boring or that there is too much reading (Belcheir & Cucek, 2001); audio files and video lectures can provide additional learning options for these students and increase their motivation (Choi & Johnson, 2005). Not only are students more motivated, the use of audio and video components also

involves more areas of working memory than reading and, thereby, increases retention (Allen, et al., 2002; Buckley & Smith, 2007; Choi & Johnson, 2005; Dusenbury, Hansen, & Giles, 2003; Kozma, 1991; Tempelman-Kluit, 2006). Furthermore, both audio and videos provide a more human connection between the student and instructor; as Reisetter and Borris (2004) stated, "We have often been surprised at how well our online students feel they know us through interaction with these materials and how appreciative they are of the efforts of the person they perceive behind the technology" (p. 288). Finally, video lectures offer the distinct advantage of the ability to model complex processes or procedures such as how to dissect a frog. The disadvantages of video lectures include video production time, technical difficulties, download speeds, students' inability to have questions answered in "real time," and the preference by some students for learning only through reading.

Purpose

Students' individual differences impact their learning experience. Learning theorists have long advocated the use of multiple modes of instruction to appeal to the diverse learning styles of students; however, many online courses offer only text-based instruction. Reading the textbook, instructor notes, and emails may not meet the learning needs of all students. The purpose of this paper is to share insights and lessons learned from making instructional videos for three online courses. Issues discussed are preparation, how many videos to record, video format/style, technical brief, and other tips.

Suggestions and Lessons Learned

Background

The suggestions and lessons learned presented here have emerged from teaching first traditional sections, then web-enhanced sections, and finally totally online sections of three graduate research and statistics courses for the past several years. In the totally online sections, the instructor delivered all course content via WebCT course shells. Additionally, the instructor offered question and answer sessions in the form of five optional, on-campus meetings. Because not all students were able to come to campus, new material was not presented during the on-campus meetings. The purpose of the on-campus meetings was to provide an option for face-to-face interactions with students who preferred asking questions in person; however, less than 25% of students attended the sessions.

In approaching the course, students were encouraged to first read each textbook chapter; then read the accompanying instructor note files; and, lastly, watch the video lecture for the chapter. To practice and apply their knowledge students were also asked to take online chapter practice quizzes; collaborate with their group members to complete group assignments; complete individual assignments; and, at appropriate times, take the multi-chapter tests (in the courses

that utilized chapter tests).

The Intimidation of Recording

The idea of recording video lectures may intimidate many professors due to anxiety over the quality of the finished product and over the substantial investment of time. The time required to record video lectures depends on the goals for the lectures and suggestions for making the process more time efficient are presented in subsequent sections. As for quality, a certain degree of professional quality is necessary yet students do not expect perfection from their professor's video lectures. In fact, a few students have commented that they enjoyed the occasional imperfections in my video lectures because the mistakes allowed students to see me as more human and it helped students' confidence levels to see even their professor make mistakes. For that matter, face-to-face lectures are never perfect so there is no reason to require perfection from video lectures. Of course mistakes that give misinformation or interruptions such as coughing, sneezing, or a ringing cell should be edited. Depending on how the recordings are made, these can be simple issues to correct; in my case, it was simply a matter of rewinding to the previous PowerPoint slide and recording the new slide again. It was my experience that once the artificial pressure to film the perfect lecture was replaced with the reality of simply sharing information with my students on camera, as I would in class, that the process become fulfilling rather than intimidating.

Technical Brief

The first step toward making an actual recording is to determine what software and equipment will best meet your needs. I was fortunate enough to have a video recording lab on campus; therefore, this was an easy step for me. While you may, or may not, have a recording lab on your campus the best place to begin is to determine what software, equipment, and support is available on your campus. Not only will this save you time and money, but also ensure that your final product works well with your campus' online course management system and that the videos are placed on the server that can best accommodate them. Through asking these questions you should also become acquainted with the persons on your campus who can best answer future questions and provide support. Other useful campus contacts to make are colleagues who have recorded video lectures and can provide you with suggestions and words of wisdom learned from their experiences.

Since I am merely a faculty member, not a technical expert, and it is not the purpose of this paper to endorse brands of software or equipment; readers should find other technical sources for this information. I have spoken with the experts on my campus and learned that with a newer laptop, affordable software, and minimal equipment it is now possible to record high-quality video lectures with the green-screen format from the comfort of your own home or office.

There are also programs that will allow you to capture your entire screen and record that to video; this feature is especially effective in modeling use of computer software such as the Statistical Package for the Social Sciences or SPSS.

Some other technical issues to consider are file ownership and usage. Different universities have different policies about ownership of course materials such as video lectures. Should you change universities, it is important for you to determine who owns the video lectures and this information may impact how you record the videos (equipment usage and such) from the beginning. As for usage, I was fortunate enough to our technical expert caution me before I loaded my videos onto the server for use. All my video lectures are password protected behind our course management software so that only students enrolled in my courses may view them. My first inclination was to make the files openly available so that all students could view them any time; then, I was informed that another colleague had done this and found their videos inappropriately altered and available on YouTube. All this to say that file ownership and usage are best determined before the files are recorded and published.

Preparation

Ideally, instructors would have the opportunity to teach a class face-to-face before recording video lectures for an online course. There is simply no substitute for teaching a course and having students ask questions during lectures to reveal to instructors the concepts (or steps in a process) which are the most difficult, confusing, or require additional background knowledge that not all students possess. Students can, of course, email questions in online courses; however, it is much better for the instructor to know the confusing lecture points prior to recording videos so that additional explanation can be provided on the recording instead of trying to fix these issues after the fact.

Lecture notes are essential for recording video lectures, even for instructors that may not use them for face-to-face lectures. The heightened importance of lecture notes comes from the need to more carefully control the time/length of the lecture. Both social interactions and the fact that students sitting in a classroom are a captive audience who cannot easily get up and leave allow for face-to-face lectures to last longer than video lectures. Without the dialogue that occurs in the classroom, students seem less willing to sit through video lectures of the same length. Well prepared lecture notes helps the instructor assure that the major content points are covered in a reasonable amount of time and minor content points are conveyed through other instructional methods. I also provide copies of my lecture notes to students and encourage them to print the notes and use those notes to guide their note taking as they watch the videos. Not only does this reinforce the information and encourage more students to take notes as they watch the videos, providing students with the printed information assists with certain disabilities and makes

the course more accessible.

How Many Videos Should I Record?

There are several factors that influence the appropriate number of video lectures to record including the instructors' goals, course structure, content, and learner characteristics. As was previously mentioned, while students may attend three hours of classroom lecture per week it is highly unlikely that students will sit and watch three hours worth of video lectures without feeling overwhelmed (Young, 2008). The instructor must decide if offering video lectures comparable to classroom lectures is even the desired goal. With so many online learning options available the structure of the online course may make providing only a few, brief video lectures on key topics a reasonable goal. In my graduate statistics course, it was necessary to provide video lectures for all chapters due to the nature of content and the students' characteristics. Because so much of the content is hierarchical in that students must master one topic before they can comprehend the next, it was difficult to decide which chapters could be omitted from video lectures. Furthermore, statistics anxiety may have led to an increased need for students to want the instructor to explain the material to them through lecture.

Whether an instructor decides to provide video lectures for each chapter or only a few, key videos it is advisable to begin by recording only a few key videos and add any additional videos at a later date. My first experience recording video lectures occurred while I was teaching the course face-to-face and preparing to teach the course online the following semester. Each week I gave the live lecture and then recorded the video lecture the following day. This began as an ideal situation until the videos came up in a discussion with my current students and they wanted the video lectures to view for classes that they had missed and for additional review of difficult topics. While I was happy to make the videos available to my current students, this added a tremendous amount of pressure in that the videos had to be posted every week and it was sometimes difficult to maintain that pace.

A final issue concerning the number of videos to record is a more practical issue of future editing. Not only are full-length chapter videos more difficult for students to watch and result in larger files that take longer to download; they make editing more difficult. As an instructor updates their course and adds new content and/or more current examples, a full-length chapter video would have to be entirely redone. However, if the instructor instead records several shorter videos by topic within each chapter then reworking the shorter videos takes much less time.

Video Format/Style

There appear to be two common formats or styles for recording video lectures both illustrated by the nightly television newscasts; that

of the news anchor and of the weather person. Some instructors may favor the style of the news anchor sitting behind a desk (or in front of the camera) and simply talking to the audience with few, if any, visual aids. Other instructors favor the weather format and choose to utilize a green-screen displaying visual aids that are referred to while speaking. The choice of format is driven by personal style, comfort level with the formats, and content. The majority of my colleagues who teach other courses prefer the news anchor format and feel that it works very well for their lectures. Personally, I was not comfortable sitting still and simply talking to the camera. When I lecture I like to move around and incorporate a certain amount of energy into my speech. Furthermore, my content necessitates the use of numerous visual aids (charts, graphs, equations, and demonstrations of statistical program use) so the content favors the green-screen format. With the green-screen format, I prepared PowerPoint presentations that appeared on camera as if they were on the screen behind me. I then stood in front of the screen and lectured the same way that I would in front of any other digital screen. The PowerPoint presentations served the dual purposes mentioned previously of having prepared notes to structure the lecture and providing note-files to students to assist with and encourage note taking.

Instructors should also incorporate a few personal touches into the video lectures. When teaching a course face-to-face interpersonal interactions occur naturally with students and instructors routinely discussing course assignments, content, and aspects about themselves. Yet in online classrooms students are separated by distance and do not share the same physical space so the informal classroom conversations do not occur and online students also appreciate feeling a connection to their instructor. One small way of accomplishing this is by choosing photographs (conference, vacation, campus, etc.) for background shots in the videos and sharing the meaning of the photo with your audience. Of course humor and stories of personal experience with the content are helpful in all lectures, yet, the importance of these aspects may be heightened in the online learning environment where the physical separation can cause feelings of alienation and isolation (Galusha, 2008; Hurt, 2008).

Other Tips

Again, dispel the notion that your video lectures must be perfect. Students do not expect that you have an editing staff and simply appreciate the connection that is provided through the videos and the information that is presented. Of course mistakes that you cannot live with will occur as you are recording, so plan for edits as you work. As you record your videos, pause between slides (or at other natural breaks) so there is place to break in to without disrupting the flow of the video. This can be accomplished by either fading yourself out of the frame so that only the text appears or simply stepping off camera. Then when you need to rewind the recording and record over a mistake you can start at the point where you are not on the screen

and simply have the same text appear on screen and begin recording again from that point. The suggestion to record short video segments rather than chapter-length videos also makes any necessary edits easier. Finally, you may save yourself some edits with this last tip. While references to the great weather or wishing students a happy new year might add some of the personal touches mentioned above; absolutely avoid references to the weather, dates, current events, chapter numbers, and page numbers. The beautiful spring day you are referring to while you are recording your video would seem particularly out of place if students are viewing the video during a winter snow storm and textbook information may change with new editions.

Conclusion

While recording video lectures remains a substantial investment of time and effort, with smart planning the advantages more than justify the expenditures. For students, the videos provide both an additional learning option and a connection with the instructor. Recent students have commented on the advantages to their learning such as, "The different points of view available to help enhance and explain a topic…the instructor going over sample problems step by step allowed me to follow along and see how things are done." Other students stated that, "The lecture videos helped me feel like I was in an actual course with an actual instructor teaching it. Without them, I would have felt like I had just picked up a review book from Hastings or somewhere. I wouldn't have felt like I was in school." While these comments indicate that some students view video lectures as advantageous, empirical studies should be conducted to measure any actual impacts. Other very practical advantages of videos are that they can be reused each semester and can be updated a few at a time. Finally, the endeavor can begin with only a few, brief videos for a single course.

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