

E-pedagogy: What Students Want

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Abstract: This study focused on a review of the literature concerning effective online practices and describes a professor's attempts to incorporate the practices while developing an online statistics course. Becoming a successful online instructor requires more than simply converting traditional lecture notes into an online session. While a text-based lesson is appropriate for some learners the current members of Generation V (You-Tube and video enthusiasts) require instructors to seek new ways to engage the student. This presentation discusses some inexpensive means to incorporate best practices into the development of an online course.

Introduction

In an effort to meet the demands of their students, universities are expanding their number of online offerings annually. According to Pace and Kelley (2006) during the 2001-2002 academic year, 56 percent of all 2- and 4-year colleges offered some form of distance education. That trend increased to nearly 90 percent just a few years later. This propensity to offer more courses online requires faculty to face new challenges. Many traditional faculty members have limited, if any, experience with online education. Being a successful online instructor requires more than simply converting traditional lecture notes into text and posting them on a learning management system. Kosak, Manning, Dobson, Rogerson, Cotnam, Colaric, et al. (2004) aptly note that "in order to be successful as an online instructor, faculty need to have some understanding of pedagogy as it relates to distance education." Faculty also need to be competent in using technology and aware of the variety of technologies that are available. While a text-based lesson may be appropriate for some learners the current members of Generation V (You-Tube and MTV enthusiasts) require faculty to seek new ways to engage the student. The purpose of this paper is to provide an overview of best practices suggested in the literature and discuss some of the free or inexpensive multimedia software that was used by the professor to enhance instruction while developing an online introductory statistics course.

Review of Literature

The primary challenges to developing a good online course have typically fallen into two categories, technology and instructor characteristics. Student characteristics have been cited as a third variable to affect the effectiveness of online courses (Dillon & Gunawardena, 1995; Leidner & Jarvenpa, 1993). The technology challenge has been dramatically reduced in recent years with the advent of proprietary learning management systems (LMS) such as Blackboard, WebCT, and Angel and open source systems such as Moodle. User-friendly software programs are available to augment instructional strategies. Many are free of charge or sell for a reasonable price. Such software could be used by a non-technical faculty member to develop his or her own modules for posting on the LMS.

A major obstacle, reported by a number of researchers, has been getting faculty to develop courses for online presentation, whether as a fully-online course or as a blended course (Pajo & Wallace, 2001; Lynch & Lynch, 2003). This resistance has been based on either technological ability, apprehension, or teaching style (Crooks, Yang, & Duemer, 2003; Webster & Hackley, 1997). McLean (2005) emphasized the need for professional development to help faculty understand that the use of technologies will serve to enhance their effectiveness as teachers, hence alleviating their fears. There is an indication that faculty are becoming more comfortable with

technology. Other researchers reported that faculty generally had positive feelings about the quality of their online courses. Students also have expressed satisfaction with the quality of the online courses (Orhan, 2008).

Another challenge to developing an effective online course is student characteristics. Research has found that students want their professors to use technology, but only if it is used well (Kvavik & Caruso, 2005). Some specific technology-use complaints expressed by students included professors filling PowerPoint slides with lots of verbiage and simply reading them verbatim; wasting class time fumbling with equipment and software; failing to moderate discussion boards; and not making good use of the LMS (King, 2007).

Student learning is supported by effective course design (Eastmond, 2000). The organization of an online course is very important and usually requires a considerable amount of time to design and develop (Smith, Ferguson, & Caris, 2003; Li & Akins, 2005). Simply converting lecture notes to a format that can be posted on a LMS may not constitute an effective course design. Some of the best practices for designing an online course include “thorough planning, communication between faculty and students, student to student interactions, respect for student diversity with regard to learning styles, collegial and individual activities that ensure high levels of time on task, the importance of prompt feedback, and the maintenance of high expectations” (Kosak, et al, 2004). Young (2006) identified seven items suggested by students that contributed to effective online teaching: adapting to student needs, providing meaningful examples, motivating students to do their best, facilitating the course effectively, delivering a valuable course, communicating effectively, and showing concern for student learning. Students in her study reported that the best courses were the ones in which instructors demanded high-quality work from the students.

Thorough planning is essential to effective course design. Course navigation is a concern expressed by students. Instructors sometimes place large quantities of information on the LMS in such a manner that it is difficult for students to navigate through the material. Expecting students to absorb too much information in a short period of time contributes to memory overload, which makes learning difficult. Most instructors realize that the typical attention span of an uninvolved listener is 15-20 minutes, therefore, it is recommended that the online instructor develop smaller modules or “chunks” to purposely limit the amount of information provided at one time (Johnson & Aragon, 2003; King, 2007). For example, instructors should break their lectures into ten- to fifteen-minute segments. This allows the student to concentrate and absorb the material in one sitting before moving on to the next segment.

The course should be organized so that students can move quickly to a desired location. It is easy for students to get lost on a site that has extensive layers of content distributed over multiple locations. To avoid this pitfall it is recommended that materials be organized in a linear fashion with as few layers as possible. Students appreciated instructors whose course was well organized and carefully structured (Young, 2006). Courses do not have to be elaborate structures. In fact, simplicity is preferred. The “keep it simple” principle allows the instructor to stay focused on the core matters of the course without getting sidetracked by the inclusion of superficially appealing computer-enhanced graphics, animation, and the like (Little, Titarenko, & Bergelson, 2005).

Communication between faculty and students is essential for an effective online course. Students want instructors to clarify expectations for the course and to have the material arranged in an orderly, easily-navigated manner (Brescia, Miller, Ibrahim, & Murry, 2004). The course syllabus should be detailed and explain the importance of participation and the expected amount, quality, and frequency of participation. Because of the reliance on text-based communication in an online class, every aspect of the course should be laid out in meticulous detail. Directions for every assignment have to be spelled out in a logical way (Smith, Ferguson, & Caris, 2003). Students cannot be expected to “know” the expectations of the instructor unless they are clearly communicated (Lauron, 2008). Examples of good and bad work should be available to illustrate the expectations.

Perhaps the most important aspect of teaching an online course is for the instructor to establish an online presence by going online regularly. Quick response to student questions, timely evaluation of submitted work, and occasional contributions to student discussions help establish this presence. The goal is for the instructor to be perceived as a real person who is interested in teaching the student (Johnson & Aragon, 2003; Wallace, 2003). In an online environment, students have a tendency to expect the instructor to be available 24/7 to provide feedback (Hillstock, 2005). While 24/7 isn’t practical, it is a good practice to establish “office hours” when the instructor will be available so students don’t feel neglected if they don’t receive a response within a certain period of time. For example, if the instructor does not plan to regularly check email or the LMS for submissions on weekends that should be noted in the syllabus.

Student to student interaction in online courses has been the topic of research recently. Students enrolled in online classes have the same social needs as students enrolled in traditional classes. They want to know the other students and become acquainted (Koontz, Li, & Compura, 2006). Students enrolled in a fully online class can suffer from alienation and isolation due to their physical separation. Careful course design that ensures student interaction is essential to counteract these negative influences (Thurston, 2005). If the course is not designed purposefully to

involve social interaction the course can be painfully dull for the students (Li & Akins, 2005). Several researchers have found that the greater the interactivity in an online course, the more the students were satisfied and the more they learn (Little, Titarenko, & Bergelson, 2005). Ivankova and Stick (2005) reported that their study reinforced the belief that virtual classrooms provide greater opportunities for meaningful and extensive communication among participants than has generally been found in a traditional classroom. Communication and interaction are among the keys to learning. When students work in relationships in which each individual depends upon others within the group, a number of benefits have been observed. They achieve more individually, they make a greater effort to achieve, they experience greater social support, and they report feelings of greater self-esteem than they do in competitive and individual settings (Lauron, 2008).

Discussion

The focus of this paper is to describe a professor's attempts to incorporate recommended practices gleaned from the literature while developing an online statistics course. The professor had no experience with online education prior to his employment as an assistant professor of educational leadership. He was relatively technology-savvy, having acquired a minor in computer science as an undergraduate student, so he was not resistant to the proposal by the department chair to develop online classes. One of the fully online courses was an introductory statistics and research class that was required of all graduate education majors.

After reviewing the literature, and using past experience as a math teacher, it was determined that a purely text-based approach would not be the most effective means to promote learning in a subject that most students dreaded. Math professors have generally been resistant to utilizing an asynchronous online format because of the nature of their teaching style and the perceived difficulty in duplicating that style online. A variety of free or relatively inexpensive programs are available that could be used by non-technical faculty members to make online presentations that mimic to some extent the dynamics of a face-to-face classroom. An excellent overview of some multimedia presentation software is provided by Pace and Kelley (2006) so only the technology utilized by the professor will be mentioned here.

Blackboard 8 was the LMS platform utilized by the university. That made it relatively easy to post the multimedia presentations for student use. There was no need to learn HTML or other website-building programs to create an individual course web site.

The course design was linear with specific deadlines for students to submit work. A syllabus was provided by the department but was expanded by the instructor to include specific details about requirements, due dates, grading procedures, etc. An on-line calendar was included that listed required readings and assignments by date so students would have a quick-reference site. Even though deadlines were given, students were able to move through the course faster if they chose to do so. Materials remained on the site after the deadline so students could review them as frequently as desired. The syllabus, calendar, and procedures were available to the students at the beginning of the course so students would know the expectations of the instructor.

To help build social interaction each student was required to construct a personal home page on Blackboard which included an autobiography and picture. Students were to review each others' home pages. Students self-formed groups to complete a research project that was due during the last week of the course. Group size varied depending upon the number of students in the course but did not exceed four individuals per group.

A forum was created called The Mud Room where students could anonymously post questions about any topic that was not clear to them. The instructor informed the students that no grade was assigned to any material in the Mud Room, thus encouraging students to post a question or to reply to questions posed by fellow students. Since posts could be anonymous, except to the instructor, students felt more comfortable posting either a question or a reply.

The "home" page that students first saw when they logged into the course on the LMS was kept very simple and basic to enhance navigation to course content. There was no clutter or fancy graphics to distract from the main purpose of the page. Students could click on the appropriate tab to go to the desired content. Once they arrived at the content page they would either see files to be downloaded and viewed, or folders containing more files. The student never had to do more than four mouse clicks to get to any file. For example, from the home page the student could click on the Assignments tab, then on the Lesson One folder, then on the Videos folder, then on the video file to access the information. The design was kept as simple as possible to avoid confusion and navigation errors.

Instructor-generated videos were used extensively in the course. Several relatively easy-to-use programs are available to generate “video” presentations. PowerPoint or some other programs have the capability to produce narrated voice-over screen capture videos. These may include transitions, animations, on-screen digital ink annotations or “talking head” video. Pace and Kelley (2006) state that research indicates that the use of voice-over narration adds substantial interest and instructional value to asynchronous presentations and that adding video to an audio slide presentation did not improve learning or learner satisfaction. Students appear to be more interested in seeing the material being presented than seeing the instructor present the material. The professor did not use “talking heads” in his video presentations. Students reported that they enjoyed having the material available in a video format and that it greatly increased their understanding of the reading material. They especially liked being able to access the videos throughout the class to review the material.

The videos were produced entirely by the professor and were fairly basic with no bells or whistles. The production equipment consisted of a desktop computer, microphone headset, flatbed scanner, digital tablet, a digital camera, and DV video camera. Software used included Microsoft’s PowerPoint, Excel, and Word, Adobe Photoshop, Windows Media Player, Windows Movie Maker, and Camtasia Studio, a relatively inexpensive but good program with more sophisticated editing capabilities than Microsoft’s Windows Media Encoder and Producer. Camtasia Studio seemed to be quite intuitive and only required a little time to learn the basics of the program.

Videos were content-oriented and were from two to eighteen minutes in length. Keeping the videos short and covering only one concept ensured the typical student attention span was not surpassed and content overload was avoided. A second purpose of short videos was to create a smaller size video file, enabling faster downloads. All videos were saved in the Windows Media video (WMV) format that could be viewed using Windows Media Player that was available to all students. Videos were placed on the LMS as a downloadable file so students without fast internet access at home would have the opportunity to download the files onto a storage medium such as a flash drive from another location and view it at their convenience.

Camtasia Studio allows the user to produce narrated and annotated presentations from PowerPoint and to capture and record live screen elements including mouse movements, clicks, transitions, etc. The professor found it to be an especially useful tool for recording demonstrations on how to use Excel and SPSS for statistical analysis and to record demonstrations on how to conduct an online library search at the university. The producer portion of the program allows users to edit video, audio and image files. In addition, numerous special effects such as underlining, highlighting, draw boxes and arrows are available that can be used to add interest to the presentation.

A typical production would typically consist of creating several video clips, editing them, and finally pasting them together to create a single file. For example, a digital video camera was used to shoot an outdoor scene that was used to make a ten-second introduction to the video. A PowerPoint presentation covering the material was captured on video using Camtasia. Throughout the PowerPoint presentation blank slides were used where other materials would be inserted. That made it easier to locate the insertion point when editing the video. To mimic a whiteboard an inexpensive digital tablet was used. Camtasia was used to capture the live screen images. As the instructor wrote notes freehanded Camtasia would capture the image as a video file that could be incorporated into the final draft. A flatbed scanner was used to copy and save images as JPEG files that could be inserted into the video. To demonstrate how to use SPSS or Excel for a particular function, the instructor would use the Camtasia screen-capture ability to create a brief, narrated video clip. Once all the lesson components were created, splicing and editing were done until the instructor was satisfied with the final product.

As part of the university requirement students were asked to anonymously evaluate the instructor and the course. Feedback was provided to the instructor after final grades were posted. The average rating given for the instructor was 4.80 out of a possible 5 and the rating given for the course was 4.67. All students rated the course and the instructor with either a 4 or a 5. Several students submitted written comments on the evaluation form expressing satisfaction with the course. Some of the comments were as follows:

“I really enjoyed this class... I really liked it when he did the videos for each chapter. He broke it down so that we were able to understand it step by step”

“The organization of the video’s that were given to explain the respective information was very helpful. This course has been the best on-line class I have ever taken.”

“He is always available, and goes to great lengths to answer questions, e-mails, etc. for his students.”

“He is very prompt with replies to concerns and questions regardless of the time or day. I had to call on a Saturday and he was very understanding.”

“Dr. XXX responded quickly and efficiently to all emails that I sent to him which was a huge help when studying for quizzes. His videos are clear and provide step-by-step instructions on how to do the assignments.”

Conclusion

The amount of work involved in creating a quality online course usually exceeds that required to create a traditional face-to-face class. Several researchers have found that online courses are labor intensive (Sieber, 2005; Conceicao, 2006). As more courses are offered fully online it is imperative that instructors understand e-pedagogy and utilize a variety of multimedia formats available to them. An instructor teaching an online class such as statistics often finds it is not easy to convey the information in text only. Utilizing multimedia can help overcome the typical shortcomings of text-based online courses, such as lack of body language, eye contact, and tone of voice. The experiences of the author mirrored the findings of prior researchers. Students want a professor who uses multimedia effectively, who establishes social interaction among students, who has a well-designed online format, who has an online presence, and who is available to students. As more instructors migrate their courses to an online delivery format attention should be given to what students want.

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