SNEAK AWAY TO THE ICTCM AND DON'T CANCEL CLASS

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Miami University Middletown is one of two regional campuses of Miami University, Oxford, Ohio. The regional campuses concentrate on the first two years of a liberal arts degree and in offering many 2- and 4-year technical degrees.

In particular, our Engineering Tech Department has articulation agreements with many state community colleges. In these agreements, we provide the liberal education and higher-level engineering requirements to allow 2-year community college students to complete a 4-year tech degree through Miami. These community colleges are spread throughout the state, and the students in this program tend to be place-bound (jobs, families, etc.)

I teach STA 301, a calculus-based statistics course, in this program. STA 301 is a Miami Plan Thematic Sequence course. As such, it is open to any university student who wishes to fulfill the University-required thematic sequence by taking the math-stat sequence of calculus, discrete math and statistics. The University requires, among others, that such courses stress higher-order thinking and reasoning skills. It is a required course for non-math majors that need calculus-based statistics.

Because this course is part of the Engineering Tech program, I must offer it as an evening class using some kind of distance equipment. In the past, I used video-conferencing equipment to hook up to the various community college campuses for a one-night-a-week class which lasted nearly 3 hours. Besides my own exhaustion, I'm sure that the students could not get much from such long lectures. Using group work was not an easy option. The video equipment allows easy access to only one or two off-sites at a time. I typically have students on at least 5 different campuses, with the possibility of having students at over 10 sites each term.

During the 2005 academic year, a group from Miami Middletown applied for a grant from the Ohio Learning Network (http://www.oln.org). Through this state-supported organization, our campus received a grant to investigate on-line learning modules. I became part of a team to develop on-line modules for the STA 301 course. On my team were a technology expert, Andrea Han, and a student that needed to take STA 301 for his degree program, Gabe Campbell.

Andrea Han and I met to discuss the problems I has with the course; I told her of my desire to have all of the lectures on-line to relieve the students and me of the dreadful,

weekly, 3-hour video conference. She reviewed many software options, some quite expensive, to find one that was capable of providing video (for calculator demonstrations), lecture (for using PowerPoint-type displays and vide/audio), and screen capture capabilities (for demonstrating computer software packages). We chose Microsoft Producer for its ease, price, and functionality.

During the remainder of the academic year, I developed over 50 mini-lecture Producer files for use in STA 301. I revised the template Blackboard Course Management site for the course to give the students ease of access to the course and its organization. I studied and implemented as many good teaching practices for on-line courses as I was able. Gabe Campbell tested all the lectures, taking the course as an independent study, to give me feedback to the effectiveness and quality of the files.

I piloted a sprint version of the course in the Summer of 2005, and I offered it as a regular, on-line course in the Fall of 2005 and Spring of 2006.

I found that I had to think very differently about course delivery. I have always been a chalk-and-blackboard type of lecturer. I had no PowerPoint slides for the course, and there were none provided from the textbook company. I was also used to organizing a 50-minute class period. I realized that students are engaged for 50 minutes because we hold them hostage in class. When they are working through lectures or activities on their own, I believe that they will lose interest after about 10 or 15 minutes. So I tried to organize the material and lectures in smaller chunks with natural break times.

I also believed that a teacher "presence" is important. When practical, I included a small video of me, giving the lecture, off to the side of the PowerPoint slides. I think that the students find the lectures to be more personable because of this inclusion. When they email me, they are very friendly, as if they have met me and know me.

Emailing is an important factor in the success of the course. I respond to emails very frequently. Homework is graded each week, and feedback is emailed to the student. In addition, I send batch emails to the class at least once each week. Students have responded that the email communication is one of the very good aspects of the course. I believe that this communication has been encouraged and successful because of the Producer file options that I chose.

Microsoft Producer is a free download from http://www.microsoft.com/Producer. You will need a current version of PowerPoint already, but students only need Internet Explorer to view the files. I copied my files to CD, so the students do not need to be connected to the internet to view the files.

To use Producer, you will need at least a computer microphone for audio files and at most a digital video camera for the clearest video. Many of my mini-lectures were recorded with a fairly cheap web cam. Because of the small size of the video display, a high-end quality digital camera was not necessary. When I videoed the calculator demonstrations, the digital video camera was necessary for quality display.

The Producer software opens with a file wizard to lead you through the process of constructing a file. Use of similar Microsoft products will reduce the stress for the first time user. But it is an easy program to use. I had tech support from Andrea Han for the first file; she watched and answered questions for the next two. I then no longer needed her assistance.

Student responses to this online experience have been extremely positive. Although many students may prefer a face-to-face, traditional lecture, they all appreciated the convenience of the course delivery through these Producer learning modules. The video buttons in the files allow the students to pause, rewind or fast-forward the lecture. A PowerPoint outline on the screen allows the student to "click" to any slide immediately. Students may pause to think about a concept or work a problem on their own. Although I'm not sure how significant the results are, the grades in the fall online course were much better than in the videoconferencing courses of the past. My own belief is that the students don't miss any of the lectures now because they can listen at their own convenience, rewinding when necessary.

For future course, I envision continuing to improve the Producer files. I am compiling more information to include in the course topic modules in Blackboard and I hope to engage the students in cooperative learning opportunities.

Here are comments given in a confidential student survey of the course. The students responded through a confidential Blackboard site to another faculty member during the Fall Semester.

- "I think the main strength of this course is the flexibility. I can listen to the lecture whenever I get time . . . . if the [instructor] is going too fast, or I don't understand something, I can just pause the lecture and look something up."
- "[The online format] allows me to take better notes based on the information given on the cd's and at my own pace."
- "A course like this are going to present issues that can't really be addressed by the teacher such as . . . finding myself waiting to the last minute to work on them because I have 5 other . . . courses. . . . I'm always up late and not being able to actively participate often leaves me falling asleep and having to continuously rewind the cd's (rewind button is a great strength."
- "The main strength of the course is . . . Dr. Fisher's dedication to answer[ing] questions. It seems as if she [is] capable of responding to emails at any time of day. As a 'distance student' I know how important it is to be able to email a question and get a response in a timely manner . . . . It's nice to be able to answers to questions on a Saturday night when your weekend is ruined by studying."
- "Maybe assign the extra problems [problems the instructor has already worked out and explained] and post the answers and explanations so that if the student feels he/she needs more practice they could simply work the extra problems. I know we can do these on our own, but just having the answers in the back of the book is extremely frustrating when you cannot come up with [the] answer that the book has provided."

- "Post the answers to the even questions a little sooner and post a few example problems for each section already worked out. That way even when having the answer is still not helping you, you could look at an example problem and see what you're doing wrong."
- "[The format] helps me because I can listen to [the lectures] as many times as I want to. If I do not fully understand something the first time, I can listen to it again. Repetition is the key to learning . . . . In regular classes you can only hear the professor say things once . . . . I feel I am learning the material just as well as I would if I attended the class weekly in front of a professor, in not better."
- "This is definitely the way to go if you are a strong independent worker. Myself, I need hints from time to time, but with the instructor constantly responding to emails and posted messages, it really helps."
- "The biggest strength of this class is that [the instructor] provides the material in a way that is easy to understand. Usually in one module she will show you the ideas and theory and in another she shows how to work a few example problems."
- "Statistics generally deals with collections and analyses of data that apply to real life. That is why most of the problems are word type of problems which most students don't like . . . . I would like to see problems from the statistics book on the exams . . . . if that would happen then, probably, everybody would pass the class with an A."
- "I have had a few distance/online classes and none of them so far have been this active in communication . . . . The less communication/contact in a class the less people want to put time into it. This is not the case with this class."
- "I like a challenge, but I don't like the headaches that come with her questions [that are worded in a challenging way]."
- "The test questions are a bit more confusing than the book problems, but I am sure this is done on purpose to force students to utilize critical thinking."
- "I would opt for an online course over that of an in-class setting, if this type of media was provided . . . "
- "The book could be improved or a different [one] used. I use the text books from [statistics course in another college] to figure out some of the homework in this course."