

## **MY EXPERIENCES WITH E-LEARNING: MANAGING THE TECHNOLOGICAL JUGGERNAUT**

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Technological advancements have created a variety of opportunities in terms of course delivery. Technology can be added to, or even replace, the traditional classroom. The rapid expansion of courses and programs offered through the Internet, to me, resembles a juggernaut. In a pilot project, the graduate level Public Financial Management course was recently offered completely on-line in the Masters of Public Administration program at the University of Oklahoma. This article describes the course and my experiences in attempting to manage the technological juggernaut. It also presents outcomes and students' reactions as well as offering suggestions for on-line course delivery and comments about future directions.

**Technological advancements** in the last decade have turned us into an e-society: email, e-business and now e-learning. Advocates urge us to put technology to work in the classroom; really, the virtual classroom. This idea has received a mixed response from educators ranging from complete dismissal of the potential of computer-mediated learning to academic degree programs that are offered entirely on-line. For example, the University of Nebraska at Omaha Masters of Public Administration program. Educators at schools like UNO argue that technology based

instruction makes it possible to meet their mission of state-wide education where students live up to eight hours away from Omaha.

On-line delivery of courses grew rapidly in the late 1990's. The American Federation of Teachers reports that in just three years—from 1995 to 1998—the use of Internet-based courses grew from 22 percent of institutions to 60 percent (2000). Commonly cited advantages of e-learning are: resource access, user flexibility, individualized pace of learning, availability to wide geographic area, and higher and more equitable interaction (Stowers 1999). In two case studies, Mingus (1999) and Ebdon (1999) concur that important challenges in Internet-based instruction revolve around the importance of interaction, the student's individual work ethic, the personal characteristics of the participants, the ability to craft thoughtful responses, and the instructor's role. Rahm, Reed and Rydl characterize the issues of on-line learning as falling into three broad categories: faculty, student and administrative issues (1999). Included among these are intellectual property rights, learning approaches, student expectations, and technical and support responsibilities. Despite these concerns, they note that the learning environment can foster the advanced skills development typical of graduate programs through carefully devised content interaction. Weigel is more cautious (2000). He argues that e-learning merely furthers the accommodation of instruction and worries that we are not using technology appropriately. Instead of fostering discovery and discernment, we are merely designing on-line courses that foster content exposure and recall.

This article describes my experiences with the first on-line class in the University of Oklahoma's Masters of Public Administration (MPA) program. After giving some background information and descriptive detail about the course, the article presents student responses, challenges and strategies associated with this course delivery. It presents both strategic and tactical concerns and reviews the lessons learned. Finally, observations are made about the need to balance pragmatic considerations with a concern for pedagogy.

## **BACKGROUND**

The OU MPA program is currently offered at nine locations across the United States, and in a variety of formats included compressed

delivery. The bulk of the MPA student population (roughly 80 percent) do not take their classes at the Norman campus in the 16-week semester format. In addition, a large percentage of our students are military students who are subject to temporary deployment as well as permanent relocation. For this reason, these students desired virtual courses that allowed them to continue work towards degree completion no matter where in the world they were located.

In the Spring of 2002, the MPA program at OU began a pilot test of on-line course delivery. Internet-mediated courses were being considered at this time based on a convergence of factors. First, the university was encouraging the exploration of multi-method course delivery and was also providing technical and training support for web-based delivery. Second, offering on-line classes was thought to be a means to address emerging student needs. The last, and perhaps least compelling, reason for experimenting with on-line classes was to provide an innovative solution to on-campus space constraints arising from rapid increases in student enrollments.

For the pilot, the Public Administration faculty purposively selected courses thought to have content amenable to a web-based classroom setting. These classes were Public Financial Management (Spring 2002), Introduction to Public Administration (Fall 2002), and Research, Writing and Analysis for Public Administrators (Spring 2003). In each of these classes, it was thought that the content lent itself to self-directed learning based on hard concepts and the approximation of a right answer for the assignments. For example, in Public Financial Management certain standard ratios are calculated when analyzing a financial statement. So, the instructor could determine whether students were using the right numbers for the calculations. Further, there are specific criteria and rule of thumb guidelines that are generally accepted in interpreting the ratios. Although interpretation is more subjective, it was thought possible to convey details about the analysis in an in-direct format.

### **CLASS PREPARATION AND DELIVERY**

When designing Internet-based courses, choices must be made about how and to what extent to apply technology. Stowers characterizes Internet-mediated learning as a continuum of activities in terms of

integrating technology resources into the course and enhancing the interactivity built into the course (1999). Using this model, my course had the highest degree of integration, as well as high interactivity. I treated the class as a port-the-classroom model (Weigel 2000). It was not envisioned as a new pedagogical approach, simply a way to use technology to present the class on the Internet rather than in a 16-week face-to-face learning environment.

The objectives of the Public Financial Management class are to introduce students to public financial management concepts, procedures, skills, and issues. At the end of the class, the student should have an understanding of the value of public financial management and have skills useful in managing public financial resources. The course considers: 1) Budget Development and Analysis, 2) Capital and Debt Management, 3) Financial Reporting, 4) Accounting and Auditing, and 5) Revenue Sources and Administration. Students in many of the OU graduate programs (PhD as well as Master's of Arts, International Relations, Human Relations, Economics, Social Work and Communication) could enroll in this class. However, in the Spring 2002 course the bulk of the students were MPA students. The class had 37 students enrolled. There were four different sections: Norman campus, continental United States, Pacific Rim, and Europe.

Around the equivalent of one-day's time was spent in setting up the class on Blackboard, the web based software program. This time is less than commonly experienced since I had previously attended college-sponsored summer training sessions. In addition, I had reviewed the Blackboard instructor's guide and tutorial CD and had attended a hands-on work session with the College Information Technology staff. In addition, prep time was minimized since I already had Powerpoint slides for each chapter of the book and had computer files with my lecture notes from the last time I had taught the course. The lecture notes were made available to the students with very little revision or editing. While I anticipated that students would have difficulty understanding my lecture shorthand which is more of an outline format with key points noted rather than a paragraph and sentence style narrative, I did not have any students ask for interpretation or clarification.

The class syllabus describing the weekly readings, assignments and activities was provided under the Course Materials tab. In addition, I marked due dates on the Class Calendar accessible in Blackboard to

each student. Additional details about the assignments and activities were also posted in the Assignments section of the course. Then, within one week of the assignments' due dates, I posted an announcement that would appear every time the student logged into Blackboard—whether to work on this or other courses.

Based on e-learning literature, when designing the course I paid particular attention to the issue of communicating with students. To foster learning, I decided to communicate frequently in a variety of forums. Included in these were:

1. Frequently posting information to the Course Announcements so that students had the sense that I was providing guidance on a nearly continuous basis
2. Utilizing of a discussion board for the entire class.
3. Requiring students to introduce themselves to all students on the class discussion board the first week of the course.
4. Creating separate discussion boards for each of five student discussion groups. Membership was designated by the instructor based on geographic proximity.
5. Hosting a real-time weekly chat session on the assigned readings. The text of the discussion was available to all students at any time by using the archives.
6. Sending email messages directly to each student to transmit additional details on assignments and to give individual grades and a detailed critique on assignments that were submitted.
7. Using email messages and the Announcements to make students aware of new material available on the class web-site.
8. Posting grades for the group discussion questions and individual assignments on the electronic grade book within three days of an assignment being completed.

9. Offering three optional face-to-face meetings in a classroom at the Norman campus the week before the individual assignments were due.

Blackboard allows the instructor to track student access and participation levels by area of the course, day, and time. Overall, the course had more than 49,500 hits. Forty-five percent of these were in the Group area. Access to the main content (including course and faculty information, course documents and assignments), communication (discussion boards and chat rooms), and student areas (check grades, send email, etc) were 35, 17 and 7 percent, respectively. The instructor was responsible for nearly 4,200 hits which mostly parallel the percentages listed above. The student hits ranged from a low of 293 to a high of 3,933 with an average of 1,354 hits per student enrolled to course completion. More than 20 percent of all hits were on Mondays which was the day group and individual assignments were due. Sunday and Wednesday each accounted for over 16 percent of hits. Tuesday and Friday were the days with the least frequent levels of access at around 10 percent. Surprisingly, these patterns do not hold at the individual student level. It appears that day of the week usage is determined more by the method that the groups used to prepare their discussion questions. The discussion questions were made available to the students on Wednesdays. Some groups got started that day, so Wednesday was their highest usage day. Other groups did not start working on the discussion question until Saturday, etc. For fun, I checked correlations between the number of accesses and the course grade. The correlation was .241 with  $p = .177$  (2-tailed).

From my perspective; the weekly chat sessions, email messages to each student, and the optional face-to-face meetings were the most valuable communication tools in the course. The student's also highly valued the face-to-face meetings, as described next.

### **GAUGING THE STUDENTS' REACTIONS**

At the final optional face-to-face meeting, students were asked to fill out the standard OU course evaluation form. Comments from the 20

students that completed the evaluation suggest that there were a variety of strong and weak points of the course.

### **Strong Points**

Readings and lecture were helpful  
 Can apply knowledge  
 Instructor's involvement  
 Instructor's coordination efforts  
 Instructor's knowledge/assistance  
 Quick turnaround on grading  
 Weekly chat sessions  
 Easy access to Blackboard  
 Optional class meetings

### **Weak Points**

Difficult subject matter  
 Didn't learn as much as in-class  
 Didn't get same level of attention  
 Missed in-class interaction  
 Assignment dates were changed  
 Treated as if regular class  
 Chat room discussions  
 Internet settings  
 Feeling disconnected with  
 prof/students

As you can see from this list, some were specific to the course being an Internet course. Others addressed the content of this particular class, and would be fairly typical responses for a course offered in the traditional format as well. When asked their overall opinion of the course, one student indicated that s/he would like to take another on-line course, while two specifically stated that they would not repeat the e-learning experience.

Besides the formal evaluation, I got other feedback from the course website, email messages, and students' direct comments. One area where students' raised a concern was the utilization of the discussion groups. In these, five or six students were assigned to work together to jointly answer the group discussion questions. They posted the group's response onto the class discussion board and I assigned a grade for each. For the group work, my role was basically as an eavesdropper, gauge the breadth and depth of the discussion as well as assessing the participation levels of each individual. In some of the discussion groups, I noticed comments to the effect that students felt micro-managed since the course grade was broken down into so many small components. This concern has some validity. In the classroom, I would better be able to gauge student participation and could verbally prompt those students in danger of

becoming free-riders. This was not possible in a virtual classroom. So, the small amount of the grade assigned to each group discussion question was designed as an incentive for participation. It also served to keep students active and engaged throughout the entire 16 weeks of the course.

The instructor solicited comments and suggestions at each of the optional face-to-face meetings. Anecdotal information from these suggests that students thought they learned a lot, but did not feel they had a good grasp of the material or a complete understanding of the concepts. Where they learned the most was in the face-to-face meetings, with many noting that they could not have done the assignments without these direct interactions.

### CHALLENGES IN DELIVERING THE COURSE

Teaching an on-line course challenges the instructor's ability to learn and adapt on the fly. The learning curve is fairly steep at the beginning of the course and then levels out. I suspect the trajectory towards mastery continues over multiple course deliveries. Ebdon describes a similar learning curve associated with determining how best to structure time for interaction when there is wide geographic diversity and a constrained level of resources (1999). Many other authors (see Stowers 1999) have noted similar challenges associated with an Internet-mediated course. My experiences with this course confirm what others have discovered. Six of these challenges are:

*Minimizing technological difficulties:* not all the participants' computers had the same minimum level of hardware and software. I used my home computer, and found that I could not use the whiteboard and Internet-screen function on the top part of virtual chat room. Also, I had to make all course materials available in both Microsoft and Corel software based on the students' computer software; connections to Blackboard required that the student have an Internet Service Provider or a modem to log into the OU computers. For many, the connection speed was low and bandwidths were small creating delays when trying to utilize the chat room function. Some military students who were on temporary assignment reported difficulty getting Internet access at remote foreign sites.



*Developing the ability to operate in a virtual environment.* Student competencies were a consideration in course delivery. In addition to being able to navigate around Blackboard, the student had to be able to do on-line research. Each of the individual assignments required students to research outside academic and professional sources as part of their analysis. Many students were not familiar with the OU Library's on-line resources. I was able to provide this information fairly easily in the chat room and in the optional face-to-face meetings.

*Deciding the proper placement of course materials in Blackboard:* I posted analysis tips for each of the individual assignments after the optional face-to-face meetings for those students that could not attend. While I considered this to be a Course Documents item, many students were trying to find this information in the Assignments section. In the end, I decided to also post the information as an Announcement to make sure students could find it.

*Facilitating student and instructor communication with far-flung students:* This class had students in the Middle East, Europe, and across the United States. This created a problem with discussion group real time meetings since there could be up to an eight hour time difference. The continuous availability of the discussion boards and archived chat room sessions were extremely helpful in overcoming this challenge.

*Maintaining momentum and keeping students' interest:* This class was offered in the spring semester. After the week off for spring break, I noted a decay in student participation that lasted through the end of the semester. I anticipated this decay and scheduled a group discussion question and individual assignment to be due after spring break. However, it was more difficult to overcome end-of-semester fatigue than what has been experienced in the traditional classroom.

*Managing the time commitment:* The academic literature has consistently suggested that, relative to a traditional format, instructors for on-line courses can expect large increases in prep time, but scholars also note that prep time will level out with future deliveries. I did spend more time in course development, but it was not excessive. Further, common wisdom also holds that the time devoted to the course, week

by week, will be around three times more than in the traditional format. This was not my experience. Instead, it was more like one to two times the normal workload. During course development, I made strategic choices that were designed to limit the amount of time I would have to spend on the course during the semester. For example, the discussion questions were not addressed by the class as a whole. Instead, I had small discussion groups create their own responses and post them to the class discussion board. I would definitely repeat this tactic.

*Assessing mastery of class content:* To determine student participation and learning, I employed a variety of evaluation tools including group discussion questions, end of chapter questions, short answer essays, and major analytical assignments. The class grades reflect similar levels of learning with past classes; however, communication with students suggests conceptual confusion and uncertainty about mastery (alleviated by optional face-to-face class meetings and posting of analytical tips before each major assignment). Even when students did turn in the right answers, they were not sure how they got there or expressed surprise that they were right. Another complication was that the groups wanted to be able to work together on individual assignments. While I was glad to see that a supportive environment had developed within the groups, I found it difficult to monitor and control the level of collaboration. Since this same scenario can arise in the traditional class format, I did not take any extraordinary measures to detect and combat this activity.

### **STRATEGIES FOR ON-LINE COURSE DELIVERY**

Having survived the first experience, what will I do differently the next time I offer this course as an Internet-mediated course? First, I will continue utilizing groups for the discussion questions. There were five discussion groups and I was amazed that each group chose a different discussion method, including face-to-face meetings on campus, communicating via email messages, simultaneously posting thoughts to the group discussion board, using the group chat room for real-time conversations, and assigning one student as scribe for each question then having the scribe post a draft response. Other group members then read and commented. The scribe then finalized the group response

and posted it to the class discussion board. In the future, I must address questions regarding the proper level of control. While I think monitoring is important, I also want to foster individual graduate student responsibility.

Second, I want to slightly reconfigure the weekly on-line chat format. During the semester, I would lecture first then ask questions to initiate participant discussion. When there was about 15 minutes left, I would open up the discussion for any questions and free form discussion on any topic. What I learned is that the instructor should be careful not to talk too much and to avoid too much one-on-one dialogue. The other participants quickly lose interest and sign off. Instead, I want to make sure to give other students time to respond and broaden the discussion topic to bring other students back in. Also, I found out it is necessary to be specific in terms of who I was responding to. In future course deliveries, I want to bring in public budget and finance guests who are experts on the week's topic. This will help to go beyond the course readings into practical applications. As noted in the students' comments, and based on my review of the chat session transcripts, discussion of current applications really spurred student discussion and prompted the non-participating chat room watchers to get involved.

Some logistical challenges remain. I found that it is vital to get students' email addresses as early as possible and send them a detailed description of where to find information on the course website and about using Blackboard. Another logistical concern is whether to grade on-screen or to print out each document. Since I was going to print a hard copy, students needed specific details regarding document settings (margins, line spacing, font size, page numbering, etc.) and which software programs I had. By doing this, I could have them compress the document to avoid printing out so many pages. Believe me, with 37 students turning in three 5-page assignments and a 10-12 page final, you need to use every trick in the book to reduce the number of printed pages—or else request a budget increase for more printer toner cartridges!

Another strategy I will employ is to structure my virtual office hours to assure fairly rapid response times to guard against the course becoming all-consuming. Students' time tolerance is dramatically shortened in the on-line class format. What worked well was to acknowledge receipt of emails and attachments as soon as possible and then give the students a timeframe for my response. If they knew it would take two days to reply or to grade an assignment, they were

much more relaxed in terms of hearing back from the instructor. Also, I was sure to notify students if I anticipated any computer down times or if there were times that I simply was not available. Next time, my new strategy will be to designate one day off a week. During this day, I will not check my email or the course web page. I think this will encourage them to take a day off as well, and may overcome the end of semester fatigue issue.

A final issue is the timing of assignments. My strategy was to have them turn things in periodically to keep some momentum. But, when creating the next course calendar, I want to be careful to make sure that I have scheduled time for grading and feedback to the students before the next assignment is submitted.

### **THE FUTURE OF E-LEARNING**

I share the reservations of other faculty members concerning the ability to adapt other courses in the MPA curriculum to the web-based delivery format. The primary reason for skepticism is that the content of the other courses is such that although the student can individually come up with the right answer, they may not fully appreciate the nuances of the topic. The live classroom format and face-to-face interaction between the students and the instructor provides the opportunity to discuss a topic in depth and immediately react to what has been said by others. For topics that are more theory based and have fewer practical applications than the three in the pilot test, the facilitated, in-class discussion really drives home the various dimensions uncovered during mutual intellectual exploration. Consider a topic like the role of administrative ethics in the American democratic, juridical system. For graduate level learners, who are expected to stretch beyond memorization and regurgitation to engage the material, I have deep reservations about the efficacy of e-learning. The quantity of material covered can be replicated in the on-line setting, but the quality of learning seems to me to be missing. Just like when reading a novel or watching a movie with a subtle and complex plot, the deepest level of appreciation comes when you discuss your reactions, perceptions and interpretations with others. Certainly there are ways to foster this discussion in a virtual environment,

but my experience suggests that it is hard to engage all students simultaneously and in more than a superficial way.

Like Stowers, I am still wrestling with questions such as which courses are best suited to this form of delivery, what is the appropriate didactic approach, and how much of a course should be Internet-mediated (1999). Beyond my skepticism regarding the potential of e-learning from a qualitative perspective, I am cautious since the incentive system is not yet there to develop on-line courses using a separate and distinct pedagogical approach that changes the expectations, roles and relationships (Weigel 2000). To date, it appears that the best applications of Internet-mediated learning are experiential and based on practical applications. However, I'm also pragmatic. Neither the traditional classroom setting, nor the e-learning format has to be mutually exclusive. More than ever before, our learners today are comfortable with me-centered technological applications. Now the task is to merge what works in the class room with the best application of technology to enhance the learning experience. Is this a new pedagogy? That remains to be seen. What can be done now is to continue the paradigmatic transition from transmitting information to facilitating knowledge development.

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