Developing Asynchronous MBA Courses on the World Wide Web

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This article describes the use of the Internet and the World Wide Web for the asynchronous delivery of MBA coursework. The planning and implementation processes are described, as are resources used to implement content creation and design of the delivery system. A Web committee was created to appraise the need for consultants, set priorities for course development, recommend content design, recommend hardware and software for delivery and student access, and study security for examinations.

INTRODUCTION

Distance education is a concept that has been receiving increasing scrutiny by universities as the technologies to deliver it have improved (Mann, 1998; Olsen, 1992). Educational institutions' interests are prompted by the need to increase enrollment by expanding their territorial service areas, and by benefiting students with the opportunity to schedule classes that might not otherwise be possible because of distance from campus or work conflicts with the class time periods (Nixon, 1998; Phillips, 1998).

Some distance learning is synchronous, with students remote from the campus meeting simultaneously with a class in the campus. Other distance learning is asynchronous, where learning materials and activities are available whenever the student desires and does not require regularly scheduled class meetings.

The earliest form of distance education was by the correspondence course. Students would read the text and teaching materials provided, complete assignments and exams, and use the mail system for all communications with the instructor. Students worked on these studies whenever it was convenient, and progress was up to them. While it was flexible for the student, guidance and direction were only available through the postal service, so weeks could go by before a question was answered. History showed that only the determined student survived this process (Ashe, 1998). Further, faculty and administrators viewed the correspondence course as an expedient and low quality substitute for the classroom model.

As technology improved, the correspondence course gave way to live interactive courses made possible by two-way television connections. In these synchronous sessions, students gathered at remote, properly equipped sites and participated in a live class in progress at the campus (Hwang, Youn, Despande, & Sun, 1997).

With the advent of the Internet, the possibility of delivering courses to individual students around the world became a reality. Asynchronous learning was a prime feature, with learning on demand at whatever time was convenient and wherever a computer with a modem could be plugged into the phone lines. Pioneers in this teaching environment used the full multimedia capabilities of the Web (Kroder, 1998; Kubala, 1998; Riley, 1998).

In spite of technological developments, many educators still believe anything outside of the classroom is little more than a glorified correspondence course (Croy, 1998; Dasher-Alston, 1998). Proponents such as Graves (1998) say that the way to avoid the correspondence perception in asynchronous teaching is by using a software that encourages student and faculty collaboration in both virtual and real-time settings. Such software enables the Web to support team-sharing and professor-directed discussion using chat rooms, threaded discussions, video conferencing, and e-mail. These are the same procedures being rapidly adopted by business organizations (Uiterwijk, 1998).

The lure of the number of potential students on the Web and the wide availability of computer technology has caused a growing number of business schools to provide the MBA degree over the Web and attempt to achieve a quality level beyond that of any other remote delivery system (Gerencher, 1998). This article describes that process for the College of Business Administration at The University of Akron.

EARLY CONSIDERATIONS

The concept of a distance program using the Web started in December 1997 when the Dean of the College returned from an American Assembly of Collegiate Schools of Business (AACSB) conference where distance-learning prospects were discussed. He was convinced that many schools, including nearby competitive institutions would be introducing graduate courses on the Web, and he wanted to be at the forefront. He also felt that the same techniques used to deliver distance-learning content could be similarly applied to further enrich classroom-based classes.

The Dean also reasoned that developmental efforts by the faculty would expose them to the leading edge of communication technology, knowledge vital to a progressive business-teaching unit. While there was doubt in some faculty quarters,

many thought Web course development was a "win-win" strategy fully worth the efforts that would be expended. The Dean set a deadline of Fall 1998 for the introduction of the first courses.

ASSURING A QUALITY PRODUCT

Sustaining a quality program is the major mission of an MBA degree provider. Because our College is AACSB accredited, we had to satisfy its course guidelines, content requirements, and quality standards. The courses planned for the Web would have to be rigorously equivalent to their classroom based counterparts. All Web-based content would be subject to the same assessment programs in order to show that the desired learning had taken place.

New Courses or Modified Courses?

Within the College, early speculation of the faculty centered on how the quality of the courses would be judged, and more importantly by whom. Some members maintained that these Web efforts must be considered new courses in a curricular sense because of their unique delivery scheme. Others strongly disagreed by claiming that with identical texts, assignments, and related activities, the courses were virtually the same and only the delivery method differed.

The decision made would have much to say on how many layers of oversight applied to the content design. If "new course" labels were affixed to the Web content, the standard process would be followed.

- Courses would be developed into a proposal at the department level and submitted to the departmental curriculum committee.
- The department faculty would then be polled on the proposal.
- Once passed departmentally, the College Graduate Curriculum Committee would review the proposal.
- Approval there would send it to debate before the College's graduate faculty.
- If successful, the proposed course is sent to the university's graduate school that, in turn, asks for university-wide comment.

While this democratic scrutiny process at the University has sure value, it is anything but expeditious. To get the initial courses approved in less than 2 years would be difficult. The College took the position that the Web versions were only content modifications to existing courses and that oversight should reside with the College. Ultimately, the Dean decided that the Operations Committee made up of deans and department heads would have oversight.

University Concerns Addressed

When word of the program spread across campus, a committee of the Faculty Senate notified the College administration that they were going to take the oversight role and provide judgment if the courses could be offered. It justified this unprecedented position by the "public" nature of Web content. The Senate saw itself as a sentinel and The

University of Akron's reputation was at stake. Soon thereafter, the Provost overruled this position and declared that the university Distance Learning Committee would be responsible. The committee chair requested the College to submit syllabi for each of the courses being developed and then meet to answer its questions. Fortunately, it turned out that the majority of the committee members had no interest in the content but were instead interested in our progress and methods.

CREATION OF THE WEB MBA COMMITTEE

Knowing the effort it would take to produce the initial courses and have them online in eight months, the Dean thought it best to create a committee with representatives from each College department. To plan and implement the program, an "experts" committee of Web knowledgeable professors from each department was selected and was headed by the Associate Dean. Its broad mission was to oversee the development and implementation of specialized Web content in each course, to recommend appropriate technology, and to find the proper way to administrate the program efficiently. Within the mission, a number of tasks were identified. Here, are some examples:

1. Appraise the need for consultants both inside and outside the University.
2. Determine the priorities for course development, and create a timeline for it.
3. Invite (recruit) interested faculty to design content and learning activities.
4. Investigate and recommend the best hardware system option to serve the program.
5. Establish the minimum hardware and software specifications for student participation.
6. Examine the available course management software from publishers and software vendors and select the appropriate system.
7. Determine how to guarantee examination security.

The following sections will elaborate how the Committee faced these decision areas and what it learned in the process.

CONSULTANTS

We were quite sure that we would be inviting a number of consultants to campus to give us advice. We did have one consultant visit, but discovered that vendors or publishers answered most of the questions that we had developed. Our questions on how to develop class materials were questions that we had to answer ourselves.

COURSE PRIORITY ISSUES

Many MBA programs are divided into three curricular modules: foundation courses on the primary functions of business, a common core of advanced coursework, and a group of courses providing concentration in certain specialties.

For our initial effort, the foundation courses were chosen for development. Entering MBA students, who do not have a business undergraduate degree, must complete eight

courses that cover the foundations of business practice including accounting, statistics, marketing, finance, management, computer techniques, government and business, and economics. Our charge was to have five or six courses ready for the Fall 1998. This was an ambitious objective, but we felt the survey-like nature of most of the introductory courses might help expedite the process.

COURSE DEVELOPMENT

Teams of at least two professors volunteered or were selected to develop each course. Each had, or was presently teaching the course. Teams worked with the departmental representative of the Web Committee who appraised them of learning enhancements, text packages, Web site identification and anything else that would ease the time pressure. Each developer would receive a faculty development grant as an incentive for creative and timely work. The payment would be made once the content "lectures" were finished and approved by the Operations Committee.

Without dictating how the text material should appear on the screen, it was vital that each content developer realize that this material had to be tightly controlled around objectives for each chapter or course segment to help compensate for the lack of direct professor contact (Burge, 1997). In-class lectures and discussions are not available to support the learning process. Materials must be highly structured and consistently presented. It was soon learned that few faculty developers had experience in this kind of material preparation. After some anxious meetings and missed deadlines, we were able to see some appropriate material and share it with all developers. This seemed to break the style logjam but we also had to deal with developers who did not have the first idea about creating HTML documents, or hyperlinks, or Internet site selection. Finally, the Committee had to review drafts to identify copyright problems or concerns. The use of another's materials in a fair use classroom setting is not acceptable on the Internet (Thomas, Saunder, Karen, & Counts, 1998). Developers insistent on using certain references, or articles, or materials were told to find the legal site where the materials reside and use an embedded hyperlink to that page in their lecture text.

While the Web MBA Committee envisioned all sorts of Internet enhancements through multimedia, it soon realized that the content had priority and that full use of the techniques available on the Web would not happen in the initial offerings. Each course would need yearly review for enhancement opportunities. As we learned of new possibilities, they could be assessed during the review session.

HARDWARE AND SOFTWARE SYSTEMS

A major consideration on the technical side involved the location of the computer that would host the courses. This computer would hold the entire course materials and software to be accessed by each registered student. The Committee had two alternatives. Our College had recently purchased a Web server that had the speed and capacity needed. If we used our server, we would have the control and convenience for updating material and revising class administration. When we discussed this idea with the University Webmaster, he had another view. He explained what a manpower effort

it would take for our College to manage the server and provide routine backup and maintenance. We would have to provide access on an everyday and 24-hour basis. The Webmaster also expressed doubts on one server's ability to support our College computer classrooms, laboratories, and the Web programs. Discussions with the College's computer laboratory director confirmed these views. Though we had the hardware, we did not have the staff or time needed to maintain it. The alternative was to use the University's server supported by the University Computer Center. Because the University had given a high priority to distance education and because we were the first College to be using the Web for program purposes, we were able to get a first-class commitment for support. The University needed Web experience and the administration saw in the College a good opportunity to learn.

Another hardware decision concerned the establishment of a minimum configuration for a student's computer. We initially felt a 486 system could handle their needs, but we were advised that systems this slow would be inadequate for multimedia activities. Eventually, the Pentium 133 was declared the minimum. Other hardware specifications included a 28 K modem, 16 megabytes or more of memory, a CD-ROM drive, a sound card, and speakers. We also expected the student to have a Windows 95 operating system and MS Office software. Netscape or Internet Explorer was to be used as the Web browser.

There was special reasoning surrounding the need for a CD-ROM drive. Because of bandwidth problems with slower computers, the Committee thought it wise to place any large file materials such as video files, databases, Web browsers, plug-ins, special players, etc. on a CD-ROM. The CD-ROM drive would assure faster access to text, graphics, and especially, video clips. The Web would be used for class notes, assignments, practice quizzes, communication, team activities, discussion groups, and activities that would change from term to term.

SOURCES FOR COURSE MANAGEMENT PROGRAMS

The task that consumed most of the Committee time early on involved the selection of a system platform or shell that would provide the structure for course material access and course administration. A public site was out of the question because course materials needed to be limited to the use of registered students. The Committee requested presentations from shell vendors and from textbook publishers who developed shells to support their authors' net materials. Both McGraw-Hill/Irwin and Prentice-Hall had the lead in platform development (MHLA and Real Education, respectively). In their presentations, the consideration for using the platform was the use of their textbooks in some or all of the Web classes. We wanted to avoid dictating textbook selection to each professor, but a brief canvas of the developers showed that we could probably accommodate the publisher's needs without difficulty.

Software developers also made formal presentations. Research had shown that firms such as Anlon, Real Education, Asymetrix, and Top Class were already serving universities in platform development (Uiterwijk, 1998). Although these products demanded licenses for each student, they were perceived by many as the true long-term solution for a platform. The continual struggle in using a publisher's proprietary system was expected to cause future problems. At the same time, these

publisher platforms felt user-friendly and there was support to use one of them for our initial shell.

The Committee decided to use McGraw-Hill/Irwin's MHLA for its ease of use, but that decision was overruled. Impressed by the power and function of the *Librarian* System offered by Asymetrix, two University units, a teaching support group called the New Media Center and another known as Information Services convinced the university administration to adopt it for all colleges.

The committee members agreed that *Librarian* was flexible and powerful but we believed it had the steepest learning curve. How could we find time to train developers in *Librarian* and yet have them spend every moment getting content prepared? Understanding our timeline concerns, the University assigned members of both the New Media Center and Information Services to perform the entire initial setup, implementation work, and training on *Librarian*. All we had to do was create the content and they would do the rest. This support has been critical in helping us refine our products, and meet our deadlines.

EXAMINATION SECURITY

No issue was more troubling to the Committee than examination security. We wanted to be sure that the person taking the examination was the person who was taking the course, and we did not want that person receiving help during the examination. A virtual university in Scotland had dealt with this by creating testing centers, and by assigning mentor-proctors to each student (Whittington & Sclater, 1998). We had no time for such a setup and no budget. Some programs were using Sylvan Learning Centers to administer exams (Ben & Marion, 1998), but how would these help us in China or other remote global locations? The problem has not been resolved globally. We decided to delay this by piloting the project locally. For the first year, we only registered students who could visit the campus on three separate occasions: an orientation before the term begins, a mid-term and final examination period. All examinations were held on Saturdays.

One exception was purposely made to evaluate remote testing. We enrolled a student in Honolulu, Hawaii in two courses in the Fall 1998. His mid-term examination in marketing was embedded in a private discussion thread and encrypted. At a pre-arranged time, the professor threaded in the password and set the timeline tightly. After testing, the student reported that the process heightened his nerves, but he did not mind the procedure. The professor was satisfied that the performance was legitimate. As the College has decided to promote these courses globally in the coming year, the Committee will have to package a variety of solutions. No single system that can handle all situations is yet on the horizon.

FUTURE CONCERNS

We realized from the onset that these courses and the Web program as a whole were a "work in progress." It would likely take several iterations before we could optimize the on-line experience. The students from the Fall 1998 classes have undergone a significant debriefing to learn the good and the bad of their experience. Similarly, the Web professors were carefully interviewed on their suggestions for improved delivery. The Web Commit-

tee has also "brainstormed" for problems yet to be encountered. Here then is a summary of shared concerns.

What is the Profile of a Successful Online Student?

From exit interviews it is simple to conclude that all students will not be successful in self-training demanded by this format. The best performers showed strong organization skills, ability to set routines and stick to them, and patience not to let technology problems upset them (Linn, 1996; Luk, 1998; Stefanov, Stoyanove, & Nikolove, 1998). Some can teach themselves, while others seemed lost without professor guidance (handholding) on a near continuous basis. What we need is a metric that would audit the prospective student's capabilities and give some prediction of success. Perhaps there is a measurement scale from the days of correspondence courses that could be updated. This investigation is ongoing.

Matching Student Expectations

While the faculty went to some effort to explain the experimental nature of the program to the students, we knew that a unique learning environment was likely to produce a variety of impressions or expectations. Because virtually all of the registered students were from the Northeastern Ohio area, the dominant benefit was convenience. To full-time students, the Web courses enabled scheduling of heavier hourly loads than would have been otherwise possible. For the part-time student, the Web meant relief from racing from work to the campus, or more freedom to schedule business travel. One woman knowing she needed a surgery requiring a long recuperation was still able to continue her studies. The potential benefits were pretty clear. Our concern was if the actual experience over-shadowed the benefit.

To no surprise, there were a wide variety of impressions offered at the end of term. Those expecting thrilling multimedia journeys were disappointed that development efforts had not extended that far. Others struggled throughout the semester with time management problems. They were unable to create the study routines that would keep them in step with the class.

Courses dealing with more abstract (Statistics) or skill-driven content were much more frustrating to students. They were more anxious to have questions answered immediately as in the classroom. They sought more illustration/demonstration than was possible in asynchronous circumstances. Although most students encountered some technology-related difficulties, few expressed any lingering distress over the circumstances. Interruptions were short with suggested solutions coming quickly.

In comparison with classroom-based classes, the online experience suffered most in personal communication. E-mail and threaded discussions could not compensate for spontaneous discussion or anecdotal remarks by professors during a lecture (Giani & Martone, 1998). Some professors experimented with audio streaming during the semester, and those students able to stream the files found them to be a favorable addition. Developments in video streaming (conferencing) are on the horizon and will be watched carefully.

Despite these listed challenges, the student overall reaction was positive on their course experience. Though in stark contrast with typical classes, students found the benefits outweighing the weaknesses.

Offering a Full MBA Program Online

As explained earlier, only the foundation courses have been introduced online. Students with undergraduate degrees in business do not take these courses unless their earlier studies are very dated. So while the so-called foundation courses gave us a simpler entry to Web development, we have to confront some harder curricular issues in the near future.

Two key questions emerge. Can the current Internet technologies satisfy the needs of faculty who want team-taught, interdisciplinary courses with heavy collaborative student involvement? If they determine that is not likely to happen under strict quality assurance standards, does it make sense to offer only part of the degree requirements online? Some faculty argue that courses concerned with complex case analysis, or deeper quantitative investigations will never be satisfactory without creating a virtual, real-time classroom experience. If true, would not this make a global offering of an entire MBA program impossible because of time zone restrictions?

Such questions have prompted the Web Committee to consider that core and concentration courses may have to be built from the ground up with non-classroom delivery standards as the structure. These issues have yet to be resolved, and will occupy the faculty time in the months to come.

What is a Fair Class Size Online?

Professors in an online course commonly report that communication and course management demand heavy time commitments over and above the classroom-based class. Use of e-mail, file transfers, and the like can create a continuous stream of class duties that impinge upon research and service activities. Faculty members are concerned that administrators see the Web as an unlimited-size classroom, an elegant solution to crowded or scarce facilities. It appears that data must be systematically collected that will help establish equitable course limits for future online efforts.

Ramifications of a Global Program

There are two attractions brought by Internet learning to global students. For complete program offerings, the degree could be attained, of course, without changing residence. For MBA programs that demand some resident campus instruction, the Web could still shorten US residency by allowing the international student to complete the introductory courses while in their home country. The economies are clear and there will be a sincere market for online courses.

As already noted, the global nature raises serious security issues in student evaluation. While no one solution is complete, a combination of different partnerships for proctoring activity is available in most areas. Faculty members are also looking at alternative assessment methods that are not examination-driven. Possibly, workstations may soon be able to physically verify the operator.

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