You Can Go to Class in Your **PAJAMAS**

Or, One Reason to Take a Course via e-Learning
Are we entering a new era in teaching and learning via the Internet? See what the Marshall School is doing to explore this virtual classroom frontier.

- Learning can take many forms. Early on, distance learning meant taking courses by mail, but this was slow and solitary—very unlike the immediacy of a classroom lecture with its give-and-take between the professor and students. With the invention of television and later the VCR, distance learning meant that students could observe lectures in a classroom, but opportunities for interaction were still very limited. The lack of personal contact with the professor and fellow students is a real disadvantage of these methods that inhibits learning.

However, there are advantages with these older types of distance learning and with e-learning in general: By design, they free the student from the constraints of geography and often they free the student from the constraints of time as well. That is, students can take classes at schools far away from home at times most convenient to their schedule. If you are so inclined, you can go to “class” in your pajamas!

Today, with the advent of widespread internet access, new types of e-learning are possible in forms that both allow for student freedom from the physical classroom and that actually promote greater and more personal student interaction with professors. While most people associate the internet with browsing websites and sending email, the key to these new types of e-learning is something internet techies call “voice over IP.”

What voice over IP allows people to do is to converse over the internet while sharing files, presentations, programs and exchanging email. As I will explain below, this opens up a whole new realm to e-learning, allowing students and professors to come together in a virtual classroom sitting at their computers, even though those computers may be miles and miles apart.

**Learning Statistics at a Distance**

In early 2002, the Marshall School of Business selected Applied Managerial Statistics, a core course that every student in the MBA curriculum must take, to test as part of an e-learning pilot program. With the help of experts in the e-learning office of Marshall’s Academic Information Services, I set about designing an internet-based course based on: (1) a website with complete notes, exercises, and quizzes for every lecture, and (2) on-line lectures and office hours using virtual classroom technology.

**The Course Website**

The course website consisted of detailed notes for every class, including animated graphics and interactive exercises, a class syllabus and quizzes. Students were assigned one or two “modules,” each module corresponding to a class, every week. The course also had a regular textbook with reading assignments, and the website material was designed to complement and illuminate the textbook material, much the way a classroom lecture would.

Via Blackboard, students were required to take an on-line quiz for each module. The quizzes could be taken any time up until Sunday midnight of the week the module was assigned. This design allowed students to take the quizzes any time they felt ready, even weeks before the module was due, but also motivated students to keep up with the class. Blackboard even automatically graded the quizzes so students received immediate feedback on their performance.

Blackboard also facilitated the posting of announcements for the course, general course information, homework assignments and, though we did not use it for this class, it has features for on-line discussion forums. Students’ homework was submitted electronically to the class teaching assistant via Blackboard, who graded it and then returned the assignments electronically.

**On-line Lectures and Office Hours**

If e-learning was just based on course material posted on a website and/or the exchange of email, then it would really be nothing more than an electronic equivalent of a mail order course and textbook. The internet really comes alive as a new form of learning with a virtual classroom that facilitates the delivery of live, interactive lectures on-line. In our Applied Managerial Statistics class, we tried out two different packages, both of which allowed the professor and the students to converse over the internet while looking at graphics and other course materials.

What is this like? Imagine sitting in front of your computer wearing a set of headphones with a built-in microphone. On the screen of your computer is a graphic, perhaps a PowerPoint slide,
and in your headphones you can hear me lecturing. As the lecture proceeds, I flip the slides just like I would in class. I can also use the computer cursor to point at parts of the graphic and I can even write on the slide or a whiteboard on the screen. In this way, it is much like being in class...except for all you know I might be lecturing in my pajamas!

Where e-learning starts to differ from the classroom is in its immediacy. Unlike the experience of sitting in a large classroom listening to a lecture, this is more like having the professor sitting next to you personally explaining the material. There are none of the typical classroom distractions (though this forum can take more discipline since the variety of non-classroom distractions is only limited by the participant’s creativity and imagination).

Since students are on-line, they can also email each other with questions during the lecture, and some of the software packages even had instant messaging features built in that facilitated sideline discussions between students and between student and professor. This allows students to ask questions and carry on discussions related to the class without interrupting the rest of the class or the lecture. Of course, students could also ask questions within the lecture, much like they would have in a class by raising a hand, via the push of a button and then speaking when called upon. Finally, one of the software packages even recorded the lectures so that students could play them over again as desired.

Course Performance
As a pilot course, the size of the class was limited. Ultimately, 17 students joined the class, both from the Orange County and LA campuses. They spanned the range of experiences and abilities typical of a Marshall MBA.PM class.

The course was 10 weeks long, just like all the other Marshall MBA.PM classes. We physically met in a classroom four times (once at the very start of class, once during the second half of class, and twice for review sessions prior to the exams), and we held weekly on-line lectures and office hours.

As is discussed in more detail below, in general the students enjoyed the on-line experience. Perhaps most interestingly, student performance on the course’s exams was statistically indistinguishable from their peers in the traditional course, providing some indication that the on-line course taught the material as effectively as the in-class version.

My Opinion of Learning Over the Internet
As an instructor, I found the new medium surprisingly effective and was able to transition to it with only a small

The Virtual Classroom
While the name is decidedly futuristic, virtual classroom systems stem from a trio of familiar elements: teleconferencing, the internet and education. Virtual classroom systems are a new communications tool that allow people connected via networked computers to look at the same materials and talk to one another (via voice over IP)—all in real time.

Virtual classrooms facilitate wide-ranging types of interaction. The session leader can share virtually any computer-based material with the attendees, be it an Excel spreadsheet, PowerPoint slide or website. Most systems allow the professor to have whiteboard capabilities, thus letting students see notes appear on the materials while hearing their professor lecture, just as if they were sitting in the same classroom. If used, webcams allow students to see the professor, or in smaller settings, to see one another.

Students can ask questions by raising their virtual hand and speaking when called upon, or they can instant-message the professor at any time. At the professor’s discretion, participants can speak freely to one another or exchange text messages during class. A professor can even send students to virtual break-out rooms, where students can converse and share materials, and then return to make presentations to the rest of the class. Between scheduled course meetings, students can hold study groups online or review the previous lecture, since sessions are archived and available for viewing on demand.

During a typical online class meeting, the professor has the core lecture material—such as PowerPoint slides—already prepared and uploaded. As the lecture progresses, the professors can easily poll the class to check for understanding levels and for whether the pace is too fast or too slow. If a student has a particularly involved question, the professor can hand over control so the student can use the whiteboard, circle the portion of the professor’s graph in question, or pull in other relevant materials. In return, for example, the professor can open up new files on the fly to show the class how a particular result came to be.

For more information about Marshall’s eLearning team, please go to http://www.marshall.usc.edu/web/eLearning.cfm.
change in my teaching style. Concepts that were frequently difficult to explain in the classroom seemed to be much easier to explain on-line—for reasons that I cannot explain!

The hardest thing to get used to was the lack of non-verbal feedback from the students. Not being able to see the students meant it could be difficult to gauge whether the students were following as the material was progressing and if my presentation was clear.

The software had various ways to compensate for the lack of feedback, though. One neat feature was an instant poll, where I could ask whether a particular concept or explanation was clear and the students could vote "yes" or "no." If there were enough "no" votes, I would know to rephrase or reiterate. Another nice feature of the software is that many of the buttons where the students could signal me if I needed to speed up or slow down the pace of the lecture.

One of the greatest challenges for me was the multi-tasking aspect of the medium. While lecturing, I was often watching or trying to respond to instant messages while simultaneously manipulating the lecture materials or writing on the whiteboard. Depending on the software, this could sometimes be quite a challenge, though I imagine that younger students and instructors would find such multi-tasking both natural and appealing.

What Did Students Think of the Course?
Feedback from the students on the whole was quite positive. Some of their class evaluation comments directly addressed the strengths of an on-line course:

"Overall I had an excellent experience with the online format."

"I enjoyed not having to sit in class. I also enjoyed the freedom to learn at my own pace and the ability to review e-lectures over and over."

"I enjoyed the ability to fit the class into my schedule!"

Of course, everything was not necessarily peaches-and-cream with this new e-learning medium. Students did express a desire for greater person-to-person interaction both between themselves and with me. Also, there were a few of the usual frustrating technological issues that arise with incompatibilities between personal computer hardware and software—which, thanks to the e-Learning group and Academic Information Services, were handled expeditiously and expertly. However, none of these are insurmountable issues for the long-term viability of the medium. And certainly none stood in the way of a fun and effective Applied Managerial Statistics class.

Is This the Future of the MBA Classroom?
Yes, for at least some types of courses and curricula, without a doubt, in my opinion. Internet bandwidth will only increase in the future, facilitating the wider broadcast of video as well as voice. The software will continue to improve with experience as the medium grows. And the MTV generation will find this type of instruction as natural as sitting in a classroom.

That the USC Marshall School is working at the cutting-edge of this technology means that someday soon you may be able to take a refresher course or participate in an executive education session from anywhere in the world.

Oh, and by the way, I really didn't lecture in my pajamas.

Above are shown two sample screen shots from actual courses taught at Marshall: Marketing Fundamentals, right; and Applied Managerial Statistics, a course taught by the author.

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