FEATURES, LEARNING

Where in the world is my student?

By Craig Savoye
Special to The Christian Science Monitor

A couple of months ago, engineering graduate student Juan Gutierrez had a final presentation to make for a course, and he was nervous. But that was about the only typical thing going for him in his class.

Mr. Gutierrez is a globetrotting consultant for Cap Gemini Ernst & Young, and the course was part of a pioneering distance-learning program offered by the University of Wisconsin.

As it turned out, Gutierrez was in India, and on the day of his presentation he was scheduled to stay at a lodge in a tiger reserve in Rajasthan. Though he was assured that the lodge had phone service, when he got to his room, there was no phone. The management set him straight, pointing to the lone receiver right by the registration desk.

So as guests checked in and out of the hotel, Gutierrez managed to give his presentation to his professor and fellow students, most of whom were spread around the United States some 10,000 miles away, even as a National Geographic photographer bugged him to finish so that he could transmit his tiger pictures.

Gutierrez got an A-minus on the presentation - and no one was the wiser about his tiger tale until graduation in Madison last month.

Internet degree programs have been ballyhooed as the next evolutionary step in higher education virtually from the day Netscape brought the Web to the masses in 1995. Although that promise has gone largely unfulfilled, such programs may be starting to hit their stride.

This spring, 22 students, all full-time, mid-career professionals, were the first graduates from the University of Wisconsin's two-year Master of Engineering in Professional Practice (MEPP) program, a distance-learning effort conducted almost entirely over the Internet. Poised to have its third class start this fall, the program has put a premium on developing a way of learning that the professors felt would fully engage their far-flung students.

"The most common model [for people's perception] of distance learning is what I call a peephole into a classroom, where they have a digital camera in the back of a classroom and stream that stuff even real time or in recorded fashion," says Wayne Pferdehirt, a faculty associate at Wisconsin and one of the program masterminds. "We rejected that as inadequate education."

Indeed, MEPP, which was launched in the summer of 1999, appears to have matched or even exceeded
an on-campus experience, as evidenced by full attendance at graduation. Many of the students - in their 30s and 40s - not only attended, but also brought their parents and, in some cases, their children.

Oscar Lewis closely fit the description of full-time, mid-career engineering professional that the University of Wisconsin was targeting.

A senior technical consultant at Agilent Technologies outside of Chicago, Lewis earned his undergraduate degree in 1980. He had wanted an advanced degree for years, but with a family and career, he wasn't in a position to quit his job, pull up stakes, and relocate to Madison for two years. Night school wasn't practical either.

So Lewis, Gutierrez, and 20 classmates from all corners of the country and all manner of Fortune 500 companies, consulting firms, and government agencies, enrolled - and plunged into their first online course - which had nothing to do with engineering. It was all about Internet learning: becoming comfortable with the tools, and planning how to reorder their lives to accommodate 20 hours of study per week.

By the time they met in person in Madison at the end of the summer, they had begun to get to know one another through posted biographies and e-mail interaction. The one-week boot-up camp introduced them to one another and to faculty.

Over the next two years, they would have only one other week of face time.

They dispersed and began their two-courses-per-semester schedule. Assignments were highlighted by one hour of class each week per course, though each class was offered twice, typically during an evening and again in the morning. Technology was state of the art. During class, students would usually be connected via two phone lines, one for the computer and one for a headset to facilitate voice teleconferencing.

Students would log in from home, work, hotels, and airports. Gutierrez estimates that he was at home in Houston for a total of only two weeks over the course of the two-year program and says he "attended class" in 16 countries.

Sophisticated software allowed for professor and student presentations to be posted on a virtual whiteboard for all to see on their home or work computers. Any student could add to or edit any presentation. Messages could be sent electronically to the entire group or to a single student.

If a student had a problem during class, a technical expert was available to go offline with that student and fix the problem without disrupting class.

And occasional technical problems did crop up. As the class that graduated last month started their second year in fall 2000, a new first-year group was just beginning the program. Lewis recalls the time he was finishing an on-line class with one professor and expected to be transferred en masse with his classmates to another professor. But someone on campus threw the wrong switch and they were suddenly back in a first-year class.

The course has involved some counterintuitive lessons for educators. MEPP's technology allows everyone to be at the blackboard at the same time, for example. Discussions among students and between students and professors are all but continuous. Instead of trying to catch professors during the few hours a week they are in their campus offices, the program promises instructor response within 24
hours.

Indeed, it was often quicker than that, and others with the same question often joined in online, since the e-mails would typically be posted in an open forum. The result in some cases were discussions freed from the confines of a 50-minute class period, and in other cases the forums allowed all students to eavesdrop on, and benefit from, what in real life might be a one-on-one meeting behind the professor's closed office door.

Administrators were also able to recruit the best teachers from around the country. It wasn't unusual for William Ibbs, a professor of project management at the University of California at Berkeley, to teach an early-week class from California and a late-week class from Boston, where his wife lives.

Professor Ibbs quickly learned there is an art to Internet instruction. "When you are teaching in a conventional sense, you can read the faces of the students and know whether your message in getting across or if perhaps you have to amplify a bit more," he says. "You don't have that opportunity on the Internet. That has required me to change."

Among other adjustments, he kept a scorecard next to his computer to track ongoing student contributions, both verbally and electronically. If a student is silent for long, it typically indicates that the student is not grasping a concept. On the other hand, managing a student who dominates an online conversation can be tricky.

Students say one of the keys to the program's success was the administrators' awareness of the need for sheer humanity amid all the hardware. In addition to the first summer's week-long team-building exercise, there were little touches, like providing an online discussion forum that was purely social.

And there was Karen Al-Ashkar.

She became the students' eyes, ears, and legs on campus. Ms. Al-Ashkar is a PhD candidate in distance education who also has a master's degree in counseling. She was integral to the design of MEPP and is chair of the admissions committee. But the students also quickly dubbed her "MEPP mom."

She notes the sense of community the program fostered by the ability of cyberspace to blur social, economic, ethnic, and other divides.

One of the best examples of the effect in the recently graduated MEPP class was a student who had a disability from birth that precluded gripping a pen, forcing him to write using clunky computers from his earliest days in grade school.

His parents came up to me at commencement, says Al-Ashkar, "and his mother had tears in her eyes. She said he'd told them that for the first time in his entire academic life he felt like every other student. He wasn't singled out because he had to use special equipment."

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