

# Virtual Solutions

by Tricia Bisoux

Today's immersive virtual learning environments are a far cry from the online learning environments of the past. They have progressed beyond chat rooms and instant messaging—beyond even podcasts and MP3 downloads—to include video streams, wikis, and telepresence. Today's technology has taken at least some of the “distance” out of “distance education,” says Tracey Wilen-Daugenti, director of the Higher Education Practice in the International Business Services Group at Cisco Systems.

Since earning her master's and doctorate in business administration, Wilen-Daugenti has studied the use of technology in higher education and is now a visiting scholar in e-learning at Stanford University in California. In her recent book *.edu: Technology and Learning Environments in Higher Education*, Wilen-Daugenti discusses how schools can use technology to create new kinds of learning environments that incorporate greater levels of geographically distributed communication and collaboration.

“The lines are blurring between distance learning and face-to-face,” she says. “These technologies are solving the problem that distance learning has always had—they're closing the gap between people, creating a sense of presence and community.”

Two instructional technologists offer their perspectives on how new technologies will transform the classroom.



These trends have sparked the creation of a new profession: educational technology. IT experts who enter this field are trained to help professors assimilate new media into their courses. “It’s an emergent field,” says Tucker Harding, an educational technologist with the Center for New Media Teaching and Learning (CNMTL) at Columbia University in New York. “Educational technology is more than instructional design. It’s crossing over into curriculum development, where we’re concerned with identifying what actually contributes to the improvement of teaching and learning.”

If business schools want to learn how to use technology to design new, more collaborative educational experiences for their students, say Harding and Wilen-Daugenti, they don’t have to look far. They can just watch how corporations are using Web 2.0 applications and video collaboration tools to connect their own workforces. As these technologies continue to infiltrate the corporate environment, most companies won’t just hope that business schools assimilate these tools in their teaching—they’ll expect them to. That growing expectation promises to place new pressures on business educators to push ahead, try new approaches, and prepare students for the technological realities they’ll face in the years ahead.

### Tech Tools to Try

Business educators can now choose from an ever-expanding range of applications that have any number of possibilities for the classroom. Some next-generation communication and collaboration tools are available from companies like Cisco, Oracle, Microsoft, and Apple. Other tools—often with similar capabilities—are available on the Internet for free.

*Web conferencing and telepresence.* Live Web conferencing has been taken to the next level with new high-definition video conferencing systems. Products such as Polycom’s RealPresence and Cisco’s TelePresence are becoming increasingly popular among businesses. Telepresence allows individuals to meet at

a realistic-looking “conference table,” even if they’re half a world apart. “These systems create very realistic face-to-face interaction,” says Wilen-Daugenti. “It seems like you’re sitting across the table from each other. You can hear a soda open and see each other’s facial expressions.” Telepresence systems can help business schools connect to students, faculty, guest speakers, and experts, without the cost of travel.

*Online gaming.* Students also can participate in a variety of multiplayer virtual games targeted to business. For example, Animedia’s *Big Biz Tycoon* is available for the PC. LavaMind.com offers a suite of business and strategy simulation games, including Zapitalism!, Profitania, and Gazillionaire.

*Collaboration software.* Companies like Google and Cisco have developed suites of collaboration tools that support blogs, wikis, mash-ups, calendars, and e-mail, as well as shared documents and spreadsheets. Google offers online collaboration work applications such as Google Docs and



**Using Adobe Connect, Columbia University’s Center for New Media Teaching and Learning held its Global Classroom (at right), a live Web discussion that brought together more than 1,000 students and faculty from ten schools worldwide.**

“By creating a Twitter feed, a professor can keep a dialogue going with his students through their mobile devices.”

—Tracey Wilen-Daugenti, Stanford University

Spreadsheets, Google Video, and Google Talk, all of which allow users to share information over a secure connection. Cisco’s WebEx WebOffice also allows users to create shared online workspaces.

*YouTube, Skype, Flickr, Facebook, and Twitter.* The same popular Web sites that allow users to share images, video, and messages can be used to link students and other stakeholders of the business school, whether they’re in their homes or on the move.

“Mobile learning is taking off, and business schools are using PDAs to deliver just-in-time learning. That emulates what’s happening in the corporate world,” says Wilen-Daugenti. Students can use tools like Skype to connect online via video phone calls. They can use Twitter to share links or short, quick text messages—or “tweets”—back and forth. “By creating a Twitter feed, a professor can keep a dialogue going with his students through their mobile devices,” she says.

### A Time to Experiment

Educational technologists at the Center for New Media Teaching and Learning are just beginning to understand the implications, consequences, and potential of new media technologies. The only way to develop best practices is to design learning experiences, set them in motion, and see what works and what doesn’t, says Harding.

One of CNMTL’s most ambitious experiments, the Global Classroom, was launched in January 2008. Described as an online “super site” at [cnmml.columbia.edu/projects/globalclassroom](http://cnmml.columbia.edu/projects/globalclassroom), the Global Classroom focuses on sustainable development and features a variety of relevant resources, which students use to prepare for weekly live, interactive Web-based discussions. During each discussion, students can type in and send their questions. As the presenter speaks, he can read the questions and choose which ones to answer.

To make the Global Classroom work, CNMTL uses Adobe Connect, a program that allows people to communicate via online messages and even see each other as the video lecture is broadcast. During its first run, the class connected more than 1,000 students from ten universities.

The Center spent a year preparing for the program’s launch; it began its second offering of online courses in September 2008. “It’s challenging to get everyone coordinated and choose times that accommodate all the different time zones—we don’t want people to have to get up at four in the morning to attend the lecture,” says Harding. Some participating schools also have had bandwidth problems because they didn’t have the infrastructure in place. To reach these areas, the CNMTL broadcasts the audio of the lecture over a land line via conference call. That way, if the bandwidth fails, students will still be able to hear and participate.

There is still a long way to go before online experiences can match the capabilities of face-to-face instruction, says Harding. But a virtual classroom offers something that the traditional physical classroom cannot—truly global reach. Using online technologies, educators can bring hundreds, even thousands, of people from different backgrounds together to engage in a common, live discourse. They can work together to solve problems, Harding says.

“Using these tools is about more than just convenience,” he says. “We want students to feel



“With the Global Consortium, someone working in Latin America is in the same course as someone working in Africa’s Millennium Village.”

— Tucker Harding, Columbia University

as if they are all part of a single classroom. With something like the Global Classroom, someone working in Latin America is in the same course as someone working in Africa’s Millennium Village. They don’t just talk to each other about obstacles they faced in the past; they can talk about the obstacles they faced that very day.”

**A Worldwide Conversation**

Harding and Wilen-Daugenti agree that no matter which

tools faculty choose to bring into the classroom, they will need solid tech support to use them effectively, whether it’s from a student helper or a full-blown tech-support office. But they add that it’s even more important that faculty shift the way they *think* about technology.

“Once class starts, so many professors tell students, ‘Close the laptops, turn off the wireless.’ But that’s because they haven’t changed their pedagogy,” Wilen-Daugenti argues. “Instead, they could integrate these devices into the class-

**A Model for the 21st-Century Classroom**

*Using the latest technology and smart course design, Duke educators work to make online executive education platforms more interactive and effective than ever before.*

by Raymond Smith

A computer services company in Hyderabad, India, wanted to develop a training program for its 3,000 employees. Like so many firms, the company wanted an e-learning program that reduced or eliminated its travel costs, kept its managers on the job, and did not compromise educational quality.

With that challenge in mind, the company asked Duke University’s Fuqua School of Business in Durham, North Carolina, to develop its managerial excellence program. Delivered 100 percent virtually, the program is based on Duke’s Multi-Modal Executive Learning (MMEL) experience. The MMEL incorporates interactive learning, promotes dialogue between the professor and the participants, and increases the relevance of the content by keeping students in their

jobs where they can immediately apply what they’ve learned.

**‘Place and Space’**

Duke based MMEL on a platform called “Place and Space,” a model the school has been using since 1996. “Place” refers to the physical classroom, and “space” refers to the virtual learning environment, where geographically distributed teams learn together via the Internet. The platform draws heavily from research that shows that adults learn best when they are a part of a community of learners. Adults, research shows, want to influence the learning process, learn at their own pace, and have ample opportunities to link theory directly to real-life challenges.

The success of virtual learning, however, depends on making sure everyone—from the educator, to participants, to a company’s

senior leadership—contributes to the experience. Therefore, Duke requires all students in its MMEL programs to sign Learning Action Plans at the beginning, middle, and end of each program. “Calls to action” embedded within these contracts require students to work with their teams to solve existing real-world problems. These calls to action challenge their assumptions about how they interact with others and how they approach the problems they face in the work environment.

**Interactive by Design**

MMEL relies heavily on live Web conferences, delivered by companies such as Centra and Interwise. Company training programs often begin with a Web conference that brings students virtually “face-to-face” with their instructor, provides them with an overview of the courses, shows

them how to access course materials, and describes how they can engage with the materials. It also informs students of what is expected of them in their roles as learners.


After the initial Web conference, students at the computer services company take four courses: Managing People, Implementing Strategy, Managing Resources, and Managing Change. Each course consists of six 25- to 40-minute video podcasts, which are playable on iPhones, video iPods, desktops, or laptops, and are reusable for future cohorts of students. These podcasts challenge students to apply the new models discussed in the video to a current or past work experience.

Once students have applied these models, they attend more live Web conferences where they share what happened with the educator and their peers.

room by having students Google concepts or share ideas. If students are instant messaging with the professor, they'll be less inclined to be instant messaging with someone else."

New tools for virtual and collaborative learning also can help professors craft richer experiences for students, inside and outside the classroom. They can build learning communities that include more people, over greater distances, with a wider range of experiences. When educators bring that kind of collective knowledge to a problem, Harding says, they can

increase a student's understanding of that problem tenfold.

"If we can find ways to include more students in these conversations, we can address their problems in a more systematic way," he adds. "Everyone's understanding of the challenges we face, all over the world, can be improved." Such worldwide conversations give virtual learning great potential not just to teach, he emphasizes, but to improve the human condition. That fact alone makes it a mode of delivery worth exploring to the fullest. 



Together, they reflect on the significance of what they've learned and make plans to adapt their practice in the future. The conferences are similar to breakout sessions in a traditional, face-to-face program. When the technology is available, these live meetings can be held via a telepresence system.

Wikis and discussion boards offer students the opportunity to connect to each other regularly for collaboration. Online games and computer simulations allow students to play

out business scenarios to test new models. Articles, videos, and cases are available to students in a virtual program library.

In addition, the Fuqua School is currently experimenting with three-dimensional virtual worlds such as Second Life and Proton-Media's Protosphere, where students can interact with their classmates via their own virtual characters, or avatars.

**Act Virtually,  
Think Differently**

With so many virtual tools at

their disposal, educators can think much differently about program design. They can customize courses to meet different needs, achieve various learning outcomes, and match methods of educational delivery to different learning styles. For example, extroverts may learn best in chat rooms and virtual environments, while introverts can thrive using asynchronous tools such as wikis and podcasts. Faculty, too, can customize virtual delivery to their preferred teaching styles.

So far, this model has been delivered to 200 managers at the Indian company. Some managers report that they actually prefer virtual learning to traditional face-to-face programs. They find the podcasts and Web conferences useful, and they appreciate that they can learn on the job at their own pace, be more creative with the materials, and use the method of delivery that best suits their strengths.

In today's business climate, where it's important for companies to keep costs low and productivity high, offering high-touch virtual executive education makes sense for businesses and business schools alike. Luckily, online education no longer needs to be "distance" education. Truly interactive virtual programs bring educators and students together, from anywhere in the world, in virtual spaces for live educational experiences. It's a model that makes sense for busy managers and executives—and for the business schools that train them.

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