A COUPLE OF YEARS AGO, PHYSICS PROFESSOR DEWEY DYKSTRA INCORPORATED ONLINE DISCUSSION GROUPS INTO SOME OF HIS COURSES TO ENCOURAGE STUDENTS TO INTERACT OUTSIDE OF THE CLASSROOM. WHILE BROWSING THEIR COMMENTS, HE NOTICED ONE STUDENT HAD BEEN ABSENT FROM THE CONVERSATION, AS WELL AS FROM CLASS.

EXCHANGING E-MAIL MESSAGES WITH HIM, DYKSTRA LEARNED THAT THE STUDENT HAD BEEN HAVING SOME DIFFICULTIES. BUT THE STUDENT ASSURED HIM HE WOULD BE BACK SOON AND CLOSED WITH, "THANKS FOR CARING."

"I've always cared," Dykstra says. "I just haven't always had the tools to track every student. Technology has made it possible to have this rather private conversation, and some students really respond to that."

Increasing numbers of Boise State faculty are utilizing new technology to reach out to students and enhance the learning experience.

"What we're trying to do is connect faculty with the tools that allow them to create the best possible learning environment for their students," says Susan Shadle, director of the Center for Teaching and Learning. "Technology is just a set of tools. It may make teaching more effective for small groups or large groups, improve communication, make documents available to students, allow for substantive discussion, encourage student response, make things paperless and efficient, help students and faculty reflect on their work, foster student collaboration or help faculty capture their lectures. It's never technology for technology's sake. It's all about teaching and learning."

Physical spaces

When the Center for Teaching and Learning opened three years ago inside the new Interactive Learning Center (ILC) — a building aptly named for its technology emphasis — it gave faculty a place to gather and grapple with all of the questions new technology poses. What can an application do that nothing else can? Does it open new doors to learning? How does it change the way class time is utilized?

The center and its Division of Academic Technologies evaluates new technologies and introduces them to faculty members through a steady offering of training sessions and hands-on assistance. And faculty are responding in increasing numbers.



Teach-

Physics professor Dewey Dykstra's students grasp introductory physics concepts with the aid of motion-sensing technology.

OCOLOGY • WHERE TEACHING MEETS TECHNOLOGY By Sherry Squires

0

"The whole concept of the Interactive Learning Center is not a common feature at universities," says Ben Hambelton, director for Academic Technologies. "Boise State is a leading institution in the Northwest at incorporating technology and intensive faculty training."

Campus also offers new places where students can put technology to work. Biology students can utilize a 3D visualization classroom in the ILC to view images on a larger and more detailed scale than ever before. Students recently used The Zone, a multi-media lab in the ILC, to create video tours of downtown Boise in a foreign language, focusing both on their speaking skills and visual communication. The Johnson Room in the Student Union Building was re-dedicated as a TeamSpot room this semester, allowing student collaborators to plug in their separate computers and share a single large screen where they can exchange work, share files or work together on a single file. These technology hotspots are found throughout campus, and Boise State's new buildings all are designed with available and emerging technologies in mind.

This access to an array of media helps students improve digital literacy skills that go far beyond cell phones and social media networks.

"Things are happening all the time to help us harness the devices our students already have in their hands and their attachment to technology," Shadle said. "We as a campus are starting to explore it and understand its power."

Today's bulletin board

One of the most widely used technologies at Boise State is Blackboard, a Web-based course management system. Long gone are the days of gathering around bulletin boards outside a professor's office. Blackboard enables instructors to share course materials, host discussion boards, conduct virtual chat, give online quizzes and more. Professors may supplement an on-campus class by posting their syllabi and handouts on their course sites, or conduct a class entirely through Blackboard.

"If a faculty member isn't using Blackboard, a student is likely to ask why," says Hambelton. "We've grown accustomed to learning and accessing information anytime, anywhere. That's the landscape we're in."

Just a click away

More and more, Boise State students find that clickers dot their classroom landscapes. About 45 faculty members already are using the hand-held devices that, with the click of a button, allow students to submit instant feedback that's displayed for the class to see. All general classroom computers are set up to receive information from clickers and they're one of the fastest growing technologies at Boise State. It's easy to see why, says psychology professor Eric Landrum.

"I've used clickers in classes of 35 and of 250 students, and in all cases they increase interaction," he says. "Shy students can't hide. Clickers are the digital equivalent of having their voice heard."

Clickers let students immediately weigh in on classroom presentations.



Things are happening all the time to help us harness the devices our students already have in their hands and their attachment to technology ... we as a campus are starting to really explore it and understand its power.

Immediate feedback to impromptu quizzes also ensures that his class understands a concept before he moves on to another, allowing for a solid foundation and fewer surprises at test time. Clicker responses have even led him to redesign a course or two.

Hands-on learning

Besides having their hands on clickers, Boise State students are benefitting from a number of cutting-edge technologies that bring textbook concepts to life.

When the Norco Building opened in January, it included a stateof-the-art lab where nursing students practice treatments on simulation mannequins. The lifelike robotic patients have heart rates, breath sounds and responsive eyes. Technicians operate them from a control room with a wireless tablet, giving students an unmatched patient simulation.

In the Music Department, professor Wallis Bratt utilizes composi-



tion software to help aspiring musicians hear their original works as a full orchestra would play them and spot any problems they might have with instrumental range or technical difficulties with instruments. And Dykstra uses motion detectors in his introductory physical science classes to teach physics concepts to non-science majors.

"The technology enables us to engage students' minds in powerful ways not otherwise possible," Dykstra says.

Shrinking distances

Boise State is taking advantage of Internet technology to reach a rapidly growing off-campus student body. About a quarter of Boise State's current students are enrolled in at least one online course and an increasing number of departments are developing full online degrees. The university's eight existing degrees include a master's degree in Instructional & Performance Technology that's been online for several years.

For her online courses in that program, associate professor Seung Youn (Yonnie) Chyung uploads materials on a weekly schedule. Students download them and have a week to complete the activities. Chyung includes a short video lecture, some computer-based practice and voiceover slides.

Those who haven't experienced online courses in a while might assume they amount to independent study.

"One difference in the online world is that there's no such thing as classroom hours, so how and when we connect is up to us," Chyung says. "But structure is no less important. We may use all kinds of technology and fancy stuff but we know that it has to be combined with personal interaction."

Forging New Directions

Boise State's Department of Educational Technology is on the cusp of new Internet-based technologies. They teach and conduct teacher education research on EdTech Island, an online three-dimensional teaching and learning environment within the virtual world Second Life. Teachers log in and participate using avatars. EdTech Island draws thousands of users from around the world and Boise State's EdTech faculty use the site to teach five different graduate courses and support a multi-partner professional organization simulation called CAVE.

Idaho alone has more than 20,000 K-12 students who take at least one online class and there are more than a million of them nationally. Boise State was the first university in the country to develop a program for training K-12 teachers to teach online.

Endless possibilities

Merely months ago, students or researchers would have had to travel to England to view Oxford's vast reserves of early English literature. Not so today. Libraries around the world are increasingly involved in creating digital collections of unique materials. And Albertsons Library is making a growing array of them available to Boise State students, faculty and the community. From photos to original sources, digital collections stretch the possibilities for research and student projects.

Boise State also is part of a substantial movement in higher education to make coursework and faculty expertise available online through sites like iTunesU. They make it easier to find, share and use content for educational purposes. In addition, Boise State can be found on YouTube, Facebook and Twitter and a number of its faculty members are bloggers.

Those leading the technology charge say the result is a learning environment not restricted by physical location or hours, and on-campus learning that takes on a whole new dimension.

"Used appropriately, technology does not create a barrier between the teacher and the learner," Shadle says. "Instead it can clearly accentuate relationships and learning, and that's what we're out to do."

