

THE 2011 CDW-G 21st CENTURY CAMPUS REPORT

Higher education institutions increase interactive technology offerings to meet student demand.

Executive Summary

Technology can empower faculty and students to make the education process more interactive, collaborative, hands-on and mobile. If implemented correctly, technology fosters a more effective learning environment that helps students develop the necessary 21st century skills they need to succeed in college and their future careers.

For the fourth straight year, CDW-G has surveyed 1,200 college students, faculty and IT administrators to examine the current role of technology in higher education. And for the first time, higher education administrators have also been surveyed to get their perspective. The 2011 survey results, titled *21st Century Campus Report*, explore what higher education institutions are doing right with technology and points out some of the challenges that are preventing further technology adoption.

This white paper explains the report's key findings and provides recommendations on how higher education can further enhance the use of technology throughout their campuses.

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Key Findings

1. Students say campus technology is an important factor in choosing their colleges.

In 2011, 87 percent of current college students say technology offerings were important when selecting their colleges, a 24-point increase from the previous year when 63 percent of students felt the same way.

The next crop of college students has even higher expectations. In 2011, 92 percent of high school students view campus technology as important to their college selection process, the survey found.

Students say they find technology-rich classrooms more engaging and that technology provides them faster access to educational content and resources, allowing them to learn more quickly and collaboratively. "It puts me in charge of my own learning and enables better interaction with my classmates, which can lead to better understanding of the course material," says one student who was surveyed.

2. College administrators agree technology is important, but they place other priorities first.

While 98 percent of college administrators say learning and mastering technology skills will improve students' educational and career opportunities, they rank attracting and retaining students and addressing funding shortfalls as higher priorities over technology.

In fact, when asked what their top two priorities are for the 2011–2012 school year, just 22 percent said using technology to enhance student learning and only 12 percent said improving and enhancing information technology on campus. In contrast, 60 percent of administrators prioritized attracting and retaining students and 50 percent viewed addressing budget shortfalls as their top priority.

The result is a disconnect between administrators' priorities and what students want, which is technology.

Administrator and student priorities, however, are not mutually exclusive. In fact, universities can highlight their technology investments as a differentiator and as a way to recruit and retain students, the study concludes.

Frank Ganis, a principal for the Gilfus Education Group, an independent consulting firm, agrees. With colleges facing budget shortfalls and competition for students, it's critical for universities to embrace new technologies, he says.

"We know technology helps in attracting and recruiting students, and if colleges don't embrace those technologies – while others are – then they are in peril and will be behind everyone else," Ganis says.

3. Educational technology use grows year over year. Campus technology also improves year over year.

Faculty members are increasingly incorporating technology into the learning process. In 2011, 31 percent of students say they use technology every day as a learning tool in class, compared with 19 percent in 2010. And despite the administrator-technology disconnect, an increasing number of colleges and universities say they have up-to-date technology.

In 2011, 23 percent of IT staffers rate their institution's technology as cutting edge, up from 9 percent in 2010. In that time, IT administrators who say their technology needs to be or could be refreshed has dropped from 44 percent in 2010 to 29 percent in 2011.

4. Because faculty still struggle with technology, professional development is key to successful technology integration.

Students, faculty and campus administrators say the biggest challenge to campus technology adoption is the fact that faculty don't have the technology skills to take advantage of it. To meet students' expectations, colleges need to improve professional development opportunities for faculty. (See *Campus Technology Challenges* on page 3 for tips on how to improve faculty training).

What's Working With Technology on Campus

Here are three important trends that expand on the key findings.

1. Institutions are keeping students connected to the Internet and campus network.

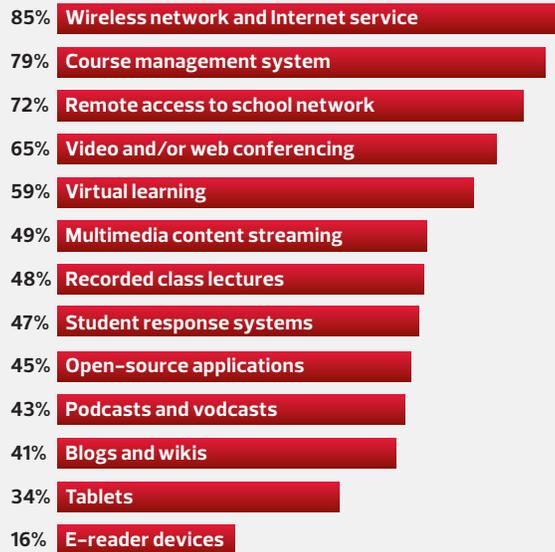
Faculty and students rank wireless networks as the most essential technology for a 21st century classroom. And today, 85 percent of IT staffers say their institutions offer Wi-Fi access.

Other tech tools that have seen widespread adoption are directly related to network access and the ability of students and faculty to communicate, collaborate and access course content remotely. Today, 79 percent of IT staffers say they provide access to course materials through course management systems, 72 percent offer remote access to the school network and 65 percent provide video or web conferencing tools.

2. New tools are expanding learning options. After Wi-Fi networks, faculty and students rank digital content and virtual learning as the most essential technologies for a 21st century classroom. Digital content includes electronic textbooks and other online class materials, such as PDF documents and class notes.

Campus Tools Offered Today

IT staffers were asked which of the following tools and capabilities do their institutions offer and support today.



Faculty and IT staff are also increasingly seeing value in mobile devices as learning tools, such as e-readers, media tablets and smartphones. In fact, when IT staffers were asked about essential classroom technologies, 44 percent said smartphones, 40 percent said tablets and 31 percent said e-readers.

At Pepperdine University, in Malibu, Calif., most students brought only notebook computers to class in the past, but now they bring multiple devices, such as tablets and smartphones, campus IT leaders say.

"Students nowadays are learning and collaborating in very different ways and mobile computing is playing a big part," says Jonathan See, Pepperdine's interim CIO. "Whether it's through a smartphone, tablet or laptop, students and staff want the freedom to have anywhere, anytime access."

To meet these needs, the university is providing more digital content to students. Through a course management system, students can access course syllabi, reading materials and links to videos from their professors, says Tom Hoover, Pepperdine's director of instructional technology support. Students communicate with their professors, check their grades and take online quizzes. Pepperdine's library also has a digital repository of university archives.

Paine College, in Augusta, Ga., is also providing support for mobile devices and digital content. The campus bookstore sells electronic textbooks and e-reader devices and tablets. Faculty and students can also download a mobile app on their

smartphones to access the campus course management system, says Michael Hicks, Paine's director of information technology services.

"It gives students the mobility to be at home or on vacation and they can access their courses online and communicate with their classmates and professors through a chat session," he says.

3. Virtual learning support and use is increasing. Virtual learning, which includes online and distance learning courses, delivers education to students regardless of where professors and students are located. Today, 65 percent of students have taken online courses. IT staffers report that three-quarters of campuses support virtual and distance learning, 68 percent support video conferencing and 61 percent support lecture capture.

The survey found that virtual learning has several main benefits: It provides increased flexibility to take classes and allows professional adults to take classes while working full-time. It also increases the variety of classes students can take and gives them the opportunity to learn from a broader variety of faculty.

Paine College, which is upgrading its classrooms with new interactive whiteboards, student response systems and other 21st century technologies, has begun to invest in high-definition video conferencing and lecture capture technology. In January 2012, the college also expects to offer its first online courses.

Video conferencing allows speakers worldwide to communicate live with students without having to travel to campus. It also allows students to collaborate remotely with students at other universities, Hicks says. Lecture capture, which offers audio and video of professor lectures, is important because it allows students to review lectures to make sure they understand concepts and it allows students to catch up if they miss class, he continues.

Lecture capture also allows professors to transform their classes from traditional lectures to more interactive discussions, Pepperdine's Hoover says.

Campus Technology Challenges

Three issues are holding campus technology adoption back.

1. Faculty lack the necessary tech skills and many training programs are ineffective. According to faculty, 81 percent of institutions are providing technology-specific professional development. Yet, as previously mentioned, the biggest challenge to campus technology integration is faculty's lack of technology knowledge. Simply put, existing training programs are failing to properly train instructors.

Professional Development

Faculty were asked how their institutions currently provided professional development.



To improve training, faculty members polled say colleges need to provide training that is discipline specific. Training faculty with a general approach is not as helpful because it doesn't apply to their disciplines. Faculty also recommend that campuses have tech-savvy faculty teach their peers. The report found that all too often, people who don't actually use technology in the classroom are training them.

In fact, during the fall 2011 semester, Pepperdine University is hosting a one-day technology conference, where faculty will discuss their strategies and successes in incorporating technology in their classrooms.

"Having professors teach their peers is the key," Hoover says. "It's not just an IT person up there. It's one of their peers, so it breaks down barriers. The faculty members are not as intimidated and are more open to learning. They think, 'My colleagues are doing it, so why can't I do that too?'"

2. IT staff and college administrators are not on the same page. Administrators place less importance on key classroom technologies, such as digital content, off-campus network access, virtual learning, and notebook and mobile computing devices. For example, 76 percent of IT staffers say digital content is essential, but only 66 percent of administrators feel the same way.

One way to bridge that gap is to regularly survey the campus community on their technology needs and share those results with administrators. That's been Pepperdine University's strategy and it helps tech projects get funded there.

For example, a few years ago, Pepperdine's students gave the campus Wi-Fi network bad reviews. The IT department presented this data to university administrators and received \$850,000 to upgrade wireless access.

"Students tell us exactly what they want and we can go to the administration and say, 'These are the projects you should prioritize.' The data collection makes our job easier," Hoover says.

3. Digital content utilization is lagging because of cost concerns. Today, 72 percent of faculty and 66 percent of students say digital content is essential, but only a small percentage of colleges offer it. According to IT staffers polled, 15 percent of schools are using digital content, 13 percent are considering it and 41 percent are considering a combined environment of print textbooks and digital content.

The main barrier to adoption is cost. Students, faculty and IT staff are concerned about the cost of digital textbook devices, such as e-readers and tablets. But they also recognize that once a device is acquired, buying electronic textbooks could be cheaper than purchasing print textbooks.

When asked for a solution to this dilemma, students, faculty and IT staff say campuses should give students the option of purchasing print textbooks or e-readers or tablets, but don't make one or the other mandatory.

Recommendations

Here are four recommendations to build a technology-rich 21st century campus.

1. Consider the students. Today's students want technology that gives them access to campus anytime, anywhere. Consider current and incoming students' expectations for campus technology and make meeting those expectations a priority. The *21st Century Campus Report* survey tool may prove helpful in collecting student feedback.

A link for the survey tool and access to the full report can be found at: CDWG.com/21stCenturyCampus

2. Keep technology current. Higher education institutions should plan and budget for the technology refresh cycle, so technology is up to date and working at full capacity. "Every year, you have to put money aside to refresh technology," Hoover says. "If you don't, then it's almost impossible to come up with all the money at once."

3. Faculty need to rethink their teaching approach. They need to adjust their teaching style to effectively take advantage of technology, from using multimedia in the classroom to holding online discussions in an online course. "You have to relearn how to teach. It is not simply replicating face-to-face instruction," says one faculty member in the survey.

4. Instructors should immerse themselves in technology, and figure out what works best for them. "Not everyone has to use everything," one faculty member says. "Pick and choose the technology that is right for you and your teaching style."



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