Engaging Faculty p. 10 ■ Business Analytics p. 42 ■ Digital Citizens p. 18

CAMPUS TECHNOLOGY
Empowering the World of Higher Education
March 2012

Build YOUR OWN

With advances in online learning, students can now construct their own university experience. What does that mean for traditional schools? p. 24

+ E-PORTFOLIOS: ARE WE THERE YET?

6 TOP LEGAL ISSUES

REINVENTING IT THROUGH INNOVATION

CT Forum 2012 Page 37

campustechnology.com Volume 25 Number 7

Even the wide body fits.

With a wing span of nearly 200 feet, even the model of this wide body jetliner is huge. But the SDP-960 can handle it. With its jumbo 16.5" x 11.7" shooting area, the 960 is perfect for presenting oversized objects or documents to large audiences with incredible detail.

- 1.39M CMOS offers resolutions of SXGA/WXGA/720P and more
- Full motion 30fps at all light levels and magnifications
- Optical Glass 48x AF Zoom Lens (6x optical + 8x digital)
- SD & USB capture: Take images/record & playback videos with audio
- Built-in preview monitor of live images even when using image freeze
- Use as a webcam with Skype® and lecture capture products

Great styling that folds down to 2.6" flat for easy storage

www.SamsungPresenterUSA.com
1-877-213-1222 ext 3306

SAMSUNG

Contents

vol. 25 no. 7 March 2012

In This Issue

Focus

Cover art by Pushart

18

Features

Camplification

Open education has the power to reinvigorate traditional campuses.

A friend suggested to me that someday we might want to change our name from *Campus Technology* to *Education Technology*. As the options for online learning grow, it's an interesting idea. In some respects, the importance of the physical campus *is* diminishing.

It doesn't seem too far-fetched to imagine a higher ed landscape where large numbers of students receive their education from home—or wherever. This brave new world is the subject of our cover story, "DIY.edu," riffing off the provocative book *DIY U*, by Anya Kamenetz. For the story, we asked three advocates of open education how the DIY U movement would influence higher ed.

Interestingly, a couple of them feel that continuing learners—rather than traditional college students—might be the major beneficiaries. I agree.

For someone like myself, who attended a traditional college and has worked for more than 25 years, the idea of continuing my education from the comfort of home is extremely appealing. I am at a stage in my life where I value and enjoy learning, but I am unwilling to disrupt my family's lives to make it happen.

But when I look at the educational needs of my two children, I am less convinced of an online-only approach to higher education. The benefits of face-to-face interaction with professors, of building a network of friends and contacts, plus the social growth that comes from four years living in a halfway house to adulthood are, I believe, valuable components of a well-rounded education.

So I was pleased to see that our three experts feel that reports of the death of the campus are greatly exaggerated. Rather, they see an existential threat to those institutions that fail to accommodate these new avenues for learning. Again, I agree. I believe the brick-and-mortar institution is here to stay, but the education students receive will know no campus bounds. Technology is making it possible for students to follow expertise wherever it exists—at another institution, within online communities, or abroad. It opens up possibilities for students who previously were limited by what their own school offered. If anything, the potential is for a flowering of higher ed, rather than a grim reaping. Any school that tries to keep student learning locked inside the walls, though, is asking for trouble.

This renaissance will not come without upheaval. The traditional silos that separate learning within individual institutions must give way to a new spirit of collaboration. If a school cannot break down the walls within, it's unlikely to succeed in breaking down the walls to the outside world either. But succeed it must: The possibilities are too fantastic to countenance failure.

Does it make sense to change the magazine's name? Someday, maybe. But I don't think I would remove "campus" from the title. I would add to it instead. With apologies to Google, how about *Campus+*? **CT**

—Andrew Barbour, Executive Editor
abarbour@1105media.com

CAMPUS TECHNOLOGY

campustechnology.com vol. 25 no. 7

REACHING THE STAFF
Staff may be reached via e-mail, telephone, fax, or mail. A list of editors and contact information is also available online at *campustechnology.com/pages/contact-us.aspx*.

E-MAIL: To e-mail any member of the staff, please use the following form: FirstinitialLastname@1105media.com.

CORPORATE OFFICE
(weekdays, 8:30 am to 5:30 pm, PT)
Telephone (818) 814-5200;
Fax (818) 734-1528
9201 Oakdale Avenue, Suite 101,
Chatsworth, CA 91311

BPA WORLDWIDE · WPA Western Publications Association

Improve communication, organization, and accountability within your Experiential Learning program with RXpreceptor™, the **Experiential Learning Management System (ELMS)** for experiential education and service learning.

- Site Management
- Scheduling with Lottery/Match
- Student Evaluation Management
- Student Competency Management
- Student Hours Logging
- Student Requirements Management
- Site Payment Administration
- Full Reporting Suite and More

RXpreceptor is your *prescription* for experiential learning efficiency.
Contact an Account Consultant to schedule a demonstration.

RXpreceptor by RXinsider
RXpreceptor.com
800.972.2083
Support@RXinsider.com
1300 Division Road, West Warwick, RI 02893

RXPRECEPTOR™

CT Online

campustechnology.com

WEBINARS *campustechnology.com/webinars*

Benefits of Creating a Managed Print Environment in Education

With the right devices in the right places, you can create an efficient print environment that lowers costs and reduces tech support headaches. See how.

Lecture Capture: Learning-Focused Features Make Big Impact on Students

How **Athens State University** (AL) is using lecture capture technology to boost student outcomes.

www.shutterstock.com

Trending Articles on *CT*

- **Pros and Cons of Social Media in the Classroom**
  campustechnology.com/0212_socialmedia
- **5 Higher Ed Tech Trends for 2012**
  campustechnology.com/0112_techtrends
- **Harvard Business School Works With TopCoder in MBA Rehab**
  campustechnology.com/0112_hbs

Features

5 Tips for Securing IT Funding

Three campus CIOs share their strategies for securing funds for IT projects.
campustechnology.com/0212_funding

5 E-Learning Trends to Watch

Mobile devices, digital textbooks, online environments, and other e-learning tools have permeated every corner of higher education over the last few years, and the trend is expected to continue. *CT* spoke with a group of academics and instructional technologists to find out what else lies just over the horizon.
campustechnology.com/0212_elearning

Plus…

Follow us on Twitter:
twitter.com/campus_tech

Connect with us on Facebook:
facebook.com/campustechnology

Follow us on LinkedIn:
linkedin.com/today/campustechnology.com

Events Calendar

Mar 4 – 7
League for Innovation in the Community College
Innovations 2012
league.org/innovations
Philadelphia

Mar 28 – 29
Customer Engagement Technology World
cetworld.com
San Francisco

Apr 21 – 24
American Association of Community Colleges
92nd AACC Annual Convention
aacc.nche.edu/convention
Orlando

Apr 22 – 25
National Association of Campus Card Users
2012 Annual Conference
naccu.org/2012/index.htm
Seattle

Apr 30 – May 2
CT Forum 2012
campustechnology.com/forum
Long Beach, CA

campustechnology.com/calendar
To submit your event, e-mail editors@1105media.com.

Fujitsu recommends Windows® 7.

Touch the future

Work anywhere easier.

Windows 7 Professional

The Fujitsu STYLISTIC Q550 Slate PC: Built for Business

Reach new heights with the FUJITSU STYLISTIC® Q550 Slate PC. Designed from the ground up to meet the rigorous demands of mobile business users, the STYLISTIC Q550 features a brilliant, 10.1-inch display with both touch and pen input. Running Windows® 7 Professional it easily integrates into your existing infrastructure. The STYLISTIC Q550 is built to MIL-STD-810G specifications and offers multi-level security features to protect valuable information from prying eyes and hands. With its removable quick-swap battery, you'll be able to stay productive even during extended shifts.

www.shopfujitsu.com

shaping tomorrow with you

FUJITSU

Campus+Industry

TECHNOLOGY HAPPENINGS IN HIGHER EDUCATION

NEWS

FREE ONLINE COURSES. Udemy has launched the Faculty Project, a new website designed to offer free college-level learning to students around the world. The courses, available on demand, include discussion boards, videos, PowerPoint presentations, PDFs, articles, and other resources. According to the site, "The content will be available for free, forever, to anyone who wishes to consume it." Read more at *campustechnology.com/0112_udemy*.

INSTANT REPLAY. **Stanford University** (CA) Cardinal fans have a new reason to cheer: They can now stream instant-replay clips to their mobile devices during live, on-campus sporting events. Elemental Technologies worked with the university to enable fans attending games at Stanford Stadium and Maples Pavilion to view video and audio clips on any mobile device. Now, instant replays can be viewed within 15 seconds of live play. In addition, the Stanford GameDay Live! website delivers games, live stats, and mobile food-ordering capability. Read more at *campustechnology.com/0112_replay*.

FINANCE TRANSITION. New Jersey's **Stevens Institute of Technology** has transitioned its financial systems to an open source platform. To replace its 30-year-old legacy system, Stevens adopted the Kuali Financial System (KFS), a tool developed and maintained by a partnership of higher education institutions and private companies. KFS is the flagship project of the Kuali Foundation, an open source organization dedicated to developing open source tools for higher education. Based originally on **Indiana University**'s Financial Information System, KFS is a modular, enterprise-level financial system comprising accounts receivable, general ledger, purchasing/accounts payable, budget construction, and other major financial functions. KFS is currently in use at 16 higher education institutions. Read more at *campustechnology.com/0112_stevens*.

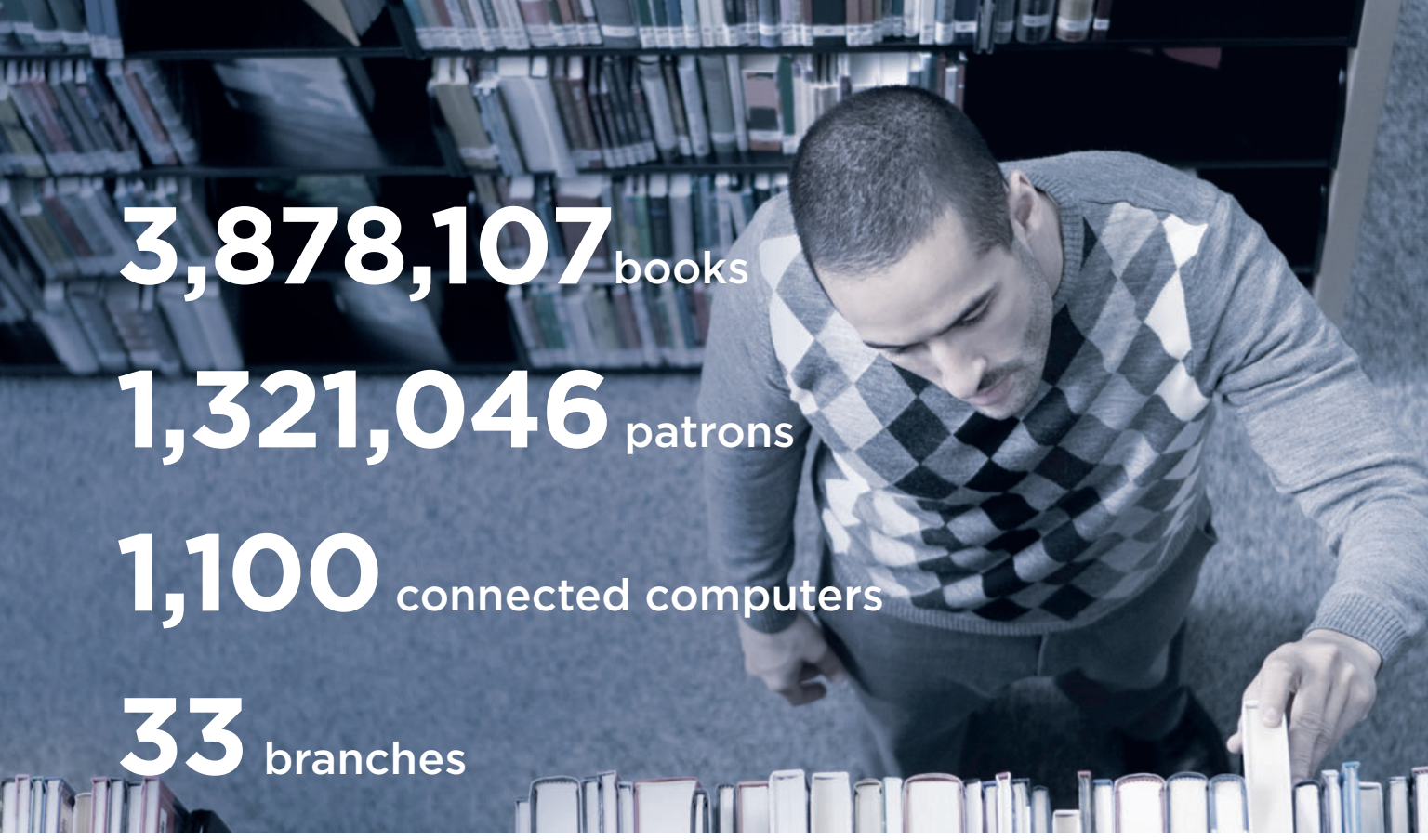
E-TEXT PILOT. Students and faculty at **Cornell University** (NY), **University of Minnesota**, **University of Virginia, University of Wisconsin**, and **University of California, Berkeley** will be test-driving digital textbooks this spring using eText Pilot Trial Pack from Internet2, McGraw-Hill, and Courseload. The pilot is based on Indiana University's e-textbook model. Each school will receive McGraw-Hill e-textbooks, as well as the Courseload reader and annotation platform integrated with the institution's learning management system. The Courseload software enables students to print from the e-text, create and share notes with other users, and access the e-textbooks on any tablet, smartphone, or computer that supports HTML5. Read more at *campustechnology.com/0112_etext*.

NEW MOBILE APP. **Seattle Pacific University** (WA) launched SPU Mobile, a mobile app that enables students to access information about campus services from their smartphones or other web-enabled devices. SPU worked with Blackboard to develop the mobile app with funds from student technology fees. SPU Mobile provides students with GPS-enabled campus maps, self-guided campus tours, library databases, complete course catalogs, access to student payroll, and the ability to schedule advising appointments. In addition, students can register for classes and retrieve publications and printed materials, such as admission packets and alumni magazines. Read more at *campustechnology.com/0112_spu*.

THE HP P6000 Enterprise Virtual Array offers up to 480 TB of virtualized storage.

VIRTUAL DATA 24/7. **California State University, Monterey Bay** is expanding its use of virtualized storage to provide 24-hour access to academic and research data for students and faculty. For the move, the university is deploying HP's P6000 Enterprise Virtual Arrays (EVA). The P6000 EVA is the latest in HP's enterprise-class virtual storage systems. The system is available in six base configurations ranging in capacity from 240 TB with a 4 GB cache to 480 TB with an 8 GB cache. The dual-controller systems support up to 20 drive enclosures with 25 drives per enclosure and offer four or eight 8 Gbps fiber channel ports and, in some configurations, either eight 1 Gbps iSCSI ports or four 10 GbE ports. Read more at *campustechnology.com/0112_csumb*. CT

For daily higher ed tech news, go to campustechnology.com/news



One Charter Business® Fiber Solution that turned the page on critical Internet connections.

When the bandwidth of the computer system at the Riverside County Library System was overloaded with users, Charter Business Fiber Solutions put a rock-solid connection in place.

Our wholly owned, proactively monitored network is backed by an enterprise support team 24/7 to help find the smartest solutions for education businesses of every size.

- Fiber Internet
- Data Networking
- Optical Ethernet
- Advanced Voice Solutions

Learn more about this story.

Charter Business

Charter-Business.com/Education | 888.891.1598

keith norbury

Bringing Faculty Into the Fold

Engaging faculty with instructional technology is a big hurdle, but it can be done. Four institutions share their strategies.

THE BIGGEST IMPEDIMENT to the integration of technology into the classroom is not budgets, bandwidth, or byte-related. It's faculty. Convincing them of the value of classroom technology—and persuading them to use it—is probably the most significant tech hurdle facing campuses today. Without faculty support, even the most promising initiative is doomed. And no amount of mandates will secure that support either. To succeed with faculty, the carrot beats the stick every time. Here are tips from four institutions that have discovered ways to foster the use of instructional technology by their faculty.

www.shutterstock.com

1. Peer Training

While university administrators are sometimes viewed with suspicion, faculty members actually listen to their colleagues. Take advantage of that. It's a strategy that's working for **Adelphi University** (NY), which holds an annual Teaching with Technology conference that features presentations by its own faculty.

The 2011 conference attracted 80 to 90 attendees, about 20 percent more than the previous year. Twenty-two faculty members shared teaching practices on topics ranging from e-books and e-resources to creating lessons around whiteboards and notebooks.

While the conference draws just a fraction of Adelphi's approximately 300 full-time and 1,000 part-time faculty members, it enables the university to identify those innovators among the faculty who might be effective in working with other instructors. "The conference and the call for proposals are a way for us to help identify those faculty who could be potential mentors for other faculty in their use of instructional technology," explains Susan Lambert, director of the university's Faculty Center for Professional Excellence.

Lambert credits the conference with helping to boost use of the school's learning management system, Moodle. The number of faculty using the LMS has shot up over the last three years from 40 percent to nearly 70 percent. Lambert's optimistic that these numbers will continue to climb. "We hope to make that almost 100 percent in the next few years," she says.

The yearly conference also helps win over faculty members who might be apprehensive about employing technology in their classrooms. "I actually work with a lot of older folks who are very willing to use Moodle," Lambert says. "What is typically true, though, is they're a little bit less confident when using the technology." ▸

Panasonic
ideas for life

THE PANASONIC DARE TO COMPARE COMPANY.

PANASONIC CUTTING-EDGE PROJECTORS

- Innovative Panasonic technologies
- Superior image quality and reliability
- Flexible installation and easy operation
- 30 years of small, medium and large-venue projector engineering, manufacturing experience and industry leadership

SIGN UP FOR OUR FREE DARE TO COMPARE ONSITE DEMO.
VISIT PANASONIC.COM/HIGHER-ED/PROJECTORS

Go green with the Recycle, Remarket, Reuse Program—responsible, hassle-free end-of-life technology choices from Panasonic.

eco ideas

Panasonic has a 30-year heritage in engineering and manufacturing projectors for virtually every application and can outfit a university from end to end. From micro-portable LCD projectors to large-venue, 12,000-lumen DLP® models, we have turned projectors into essential tools to support teaching and educating students as well as athletic programs and social events.

1.877.655.2357	panasonic.com/higher-ed/projectors
SOLUTIONS	IS OUR MIDDLE NAME

Panasonic Solutions Company

To assist instructors further, Adelphi is launching a website this year that will feature a gallery of faculty technology projects.

2. 1-to-1 Marketing

Coordinating faculty has often been likened to herding cats—a testament to the extraordinary diversity of the professors and instructors on most campuses. Not surprisingly, a one-size-fits-all approach to tech training doesn't always pan out. **Texas Wesleyan University** in Fort Worth is taking a different approach. To cater to the various teaching and learning styles of its 250 faculty members, the university is using Intelliworks, a web-based constituent relationship management (CRM) system, to create individualized development programs.

"Faculty-development programs are under constant pressure to make a case for their effectiveness," says Amy Collier, director of the university's Center for Excellence in Teaching and Learning (CETL), which is charged with providing faculty with the tools and training they need to be effective instructors. CETL uses the CRM system to monitor interaction with faculty—including event attendance, course enrollment, and teaching consultations—and track program effectiveness.

This type of reporting enables the center's administrators to "identify trends and streamline services" in order to customize programs for individual instructors' needs, adds Marcus Kerr, the university's chief information officer. The result is a "market of one," where each faculty member is unique.

In two years, the number of faculty members who have used the program has grown from 25 to 69. "We developed a system that allows us to pique their interest in specific programs and bring them in-house to deliver services and programs that are helpful to them," says Kerr.

3. House Calls

When dealing with faculty who are already leery of technology, it may not be the best idea to make them come to you for their medicine. So make house calls instead. That's what **Marist College** (NY) decided to do after faculty interest in the school's Sakai LMS tapered off.

Not surprisingly, Marist faced the same issue that killed off old-fashioned doctor house calls: cost. To overcome it, Dede Hourican, a support specialist in the school's academic technology department, implemented an idea that she had used at another college: She hired students.

Together with Reba-Anna Lee, assistant director of academic technology, Hourican launched Innovative Technology Education Around Marist (iTeam), a squad of undergraduate and graduate student technologists who help faculty members transition to Sakai. The students receive training in Sakai, help desk support, and how to deal with adult learners.

At first, Lee wasn't sure how her iTeam would identify faculty members who needed help. By happy accident, she discovered that the college's copy center had 5,000 door hangers that another department had ordered but never used. It was the perfect solution.

Now, faculty members receive an e-mail notifying them when the iTeam will be patrolling their buildings. Anyone requiring assistance just has to place the hanger on the office door handle—just like the "Do not disturb" sign on a hotel door—and an iTeam member will stop to provide help.

The experiment has paid off. Faculty use of Sakai has increased since the launch of the iTeam program, now in its third year. About half of the college's 2,100 courses are currently using Sakai.

Not surprisingly, a one-size-fits-all approach to tech training doesn't always pan out.

"Sakai has a lot of tools. With the face-to-face, we're able to show faculty how to use one or two tools really well," Lee says. "They are able to start using that in their classes, and that encourages them to use it more and more." The proof? Faculty attendance at Sakai training increased 33 percent after the first pilot project.

4. Informal Training

Sometimes it's easy to overlook the simplest solutions. Like everyone else, faculty are partial to free food, for instance. Texas Wesleyan hosts "lunch and learn" events where faculty can learn about technology tools—and get a free meal. The events are publicized through e-mails, general postings, calendar listings, and word of mouth.

"We get 15 to 20 people, some of whom are repeat customers," says Kerr. "In a way, it does reward the person who's using technology, because it gives them an opportunity to speak in front of their peers and share their ideas."

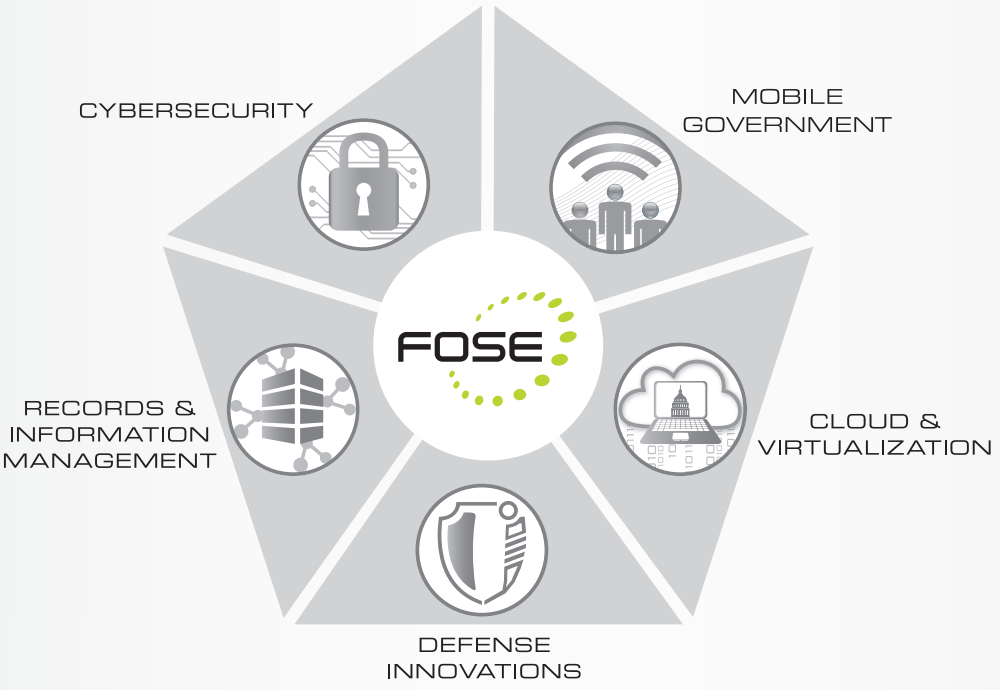
Even without free food, some faculty see the appeal of informal get-togethers. The **University of Arkansas for Medical Sciences**, for example, hosts eTech@Noon, a series of lunchtime learning sessions where faculty learn how to use SoftChalk, an online tool that develops educational modules, quizzes, and tests.

"The sessions are well attended," says Jan Hart, associate library director at the school. "People must care enough to come, because they just get a notice about it." The noontime series draws roughly 10 to 40 faculty members per event. The one-hour presentations are often supplemented with hands-on workshops. **CT**

Keith Norbury *is a freelance writer based in Victoria, British Columbia.*

FOSE
CONFERENCE
& EXPOSITION

INNOVATIVE, EFFICIENT & EFFECTIVE GOVERNMENT TECHNOLOGY SOLUTIONS DELIVERED.



Build the FOSE experience that meets your needs—with more paid and free programming in all the areas outlined above—FOSE is designed to help you succeed.

APRIL 3-5, 2012

WASHINGTON CONVENTION CENTER

WASHINGTON, DC

REGISTRATION IS NOW OPEN!

GET YOUR FREE EXPO PASS TODAY!

Use promo code: FOSEAD2

WWW.FOSE.COM

PRODUCED BY

1105 MEDIA

Innovating the Future

IT organizations have reached a point where they must become innovators instead of builders. Here's how to foster an environment of innovation.

FOR THE PAST 15 YEARS, those of us in IT have built networks, both wired and wireless; we've created online learning systems and tech-enabled classrooms; we've built cyberinfrastructure for our research activities; we've automated every administrative system. While these systems will always require improvement and maintenance, the build and break/fix part is over. Most of what is to come will be from off-the-shelf solutions.

We have reached the end of the beginning, and must now turn our attention to being innovators instead of builders.

Information technology at **Purdue University** (IN) has had a string of recognized successes thanks to our ability to innovate. Our data analytics program, Signals, has been featured on *NBC Nightly News* and licensed by SunGard for use at other campuses. Our classroom mobile apps, such as HotSeat, Mixable, DoubleTake, and JetPack, have also received interest from both national media and potential commercial partners. And our HUBzero platform is being used by more than 40 scientific, medical, and engineering portals with more than 600,000 users worldwide.

Shaw Nielsen

We've been able to make the transition from builders to innovators not because we have smart, creative people—that's true of every university campus—but because we've been able to create an environment focused on innovation. Here are the keys to creating that environment:

1. Innovation relies on preparation.

Innovation isn't luck. It springs from good management. Before you can create an environment of innovation, your institution first has to have trust in your everyday operations. However you define reliability—whether it's good scores on customer-service surveys or five nines reliability—if you can't deliver on your core services, nobody wants to listen when you say you have something new for them to try.

Once you are operationally credible, and you have a lean, efficient organization, you will have the freedom—and most likely the resources—to invest in innovation.

2. Innovate where it's strategic, period.

You must have a clear understanding of your institution's strategic goals, and make those the goals of every office on campus. At Purdue, we aim to develop successful students and to make research discoveries, so we have directed our innovation efforts toward those goals. Our classroom technologies help students become more engaged and achieve higher grades; our research technologies reduce the amount of time required to perform scientific experiments and simulations. ▸

LECTURE CAPTURE THAT SCALES AFFORDABLY

Bring the benefit of Lecture Capture to all your students, with Tegrity.

Lecture Capture is one of the fastest growing learning technologies in higher education, and it does a lot more than just record lectures. With the right solution, it's a highly flexible tool that can be used in many different ways to improve academic achievement. So why limit the impact to only a handful of specially-equipped classrooms? With Tegrity, you don't have to. Tegrity Campus is a fully-automated solution that doesn't require any servers or classroom-based appliances, making it easy and affordable to scale campus-wide.

Learn more at www.tegrity.com

McGraw Hill tegrity

We don't need innovation in areas that are not strategic—in those areas a commodity solution is the best choice. For example, we could devote thousands of staff hours and tens of thousands of dollars to developing the best payroll system for a large research university, but it wouldn't be noticeably better than standard payroll software. And it certainly wouldn't help students be successful or researchers make discoveries. In this area, a standardized solution is preferable.

3. Innovation combines creativity and operations.
Like most colleges and universities, Purdue has a lot of very smart people, a few brilliant people, and many creative individuals. As a result, we have plenty of ideas. But ideas do not equal innovation.

To develop a product or service that can be considered an innovation, it has to have several characteristics, such as reliability, the ability to scale, ease of use, and a return on investment. Beyond that, the institution must be willing to make staff available to answer questions, to continue development (with compensation), and, in some cases, to provide the resources needed to keep the technology operational.

4. Innovation is the responsibility of every manager.
Because innovation requires a combination of creativity and operations, I require innovation from all of my managers.

In those IT units that are dedicated to infrastructure or operations, there may be few opportunities for innovation in hardware or software, but there are opportunities in other areas. Managers can show innovation in how they work out contracts, for example, or in how they handle HR or recruit top staff. Everyone shares the responsibility for both innovation and operations.

Conversely, I insist that staff in units that spend most of their time developing new products also have operational responsibilities. They need firsthand knowledge of the realities of the environment into which their products will be introduced.

5. True innovators will experience failure.
To be a long-term success, you have to have failures. Experience matters. People who are working near their limit make mistakes and take risks that don't always work out. That's fine. Someone who has only good news to share is probably cruising through his job and needs a good push.

6. An idea must produce measurable results.
Proposals for new products or services are often presented to us that—at first glance—appear to be good ideas. The problem in higher education is that these products are often rushed to market without any clear indication that they actually make a difference.

At Purdue, we conduct research on the efficacy of our technologies, and we have data that show that our classroom technologies improve student engagement, or retention, or learning. We know that our research technologies reduce both costs and "time to science."

7. Innovate via your business relationships.
I sometimes bring some of my most creative managers into meetings with vendors. With us working off each other's ideas, these meetings can be very productive. Yes, the companies want to earn our business, but we're more willing to select them as a vendor if they work with us to take their technology beyond where it has gone before.

Our relationship with Cisco is a case in point. A few years ago, we met with Cisco representatives to discuss a variety of networking issues, many of which were outside Cisco's domain. But together we developed an innovative solution that allowed us to implement 802.11n across campus, and to become one of the first universities to have 4G coverage.

Likewise, when we were researching ways to improve "speed to science," the people at Intel presented us with an idea that eventually led to us building our Carter supercomputer, one of the first machines in the world to use the "Sandy Bridge" processor. This machine allows us to do research to identify cancer stem cells that previously had to be done manually. Our partnership has worked well for both of us, and allowed us to create solutions that would not have been possible on our own.

Innovation isn't luck. It springs from good management.

8. Innovation breeds innovation.
One characteristic of true innovation is that it inspires others to build creatively on top of it. We all know the story of the Apple iPhone: When it was introduced, it represented a significant step forward for a mobile device. However, it changed how we think of information technology only when thousands of developers began writing hundreds of thousands of apps for it.

We've seen the same thing on our own campus with HotSeat, our classroom discussion tool. When we released the product, we had our own ideas about how a faculty member might use it. But we've found that faculty are using it to engage students in ways that never occurred to us. When people invest their own creativity into a technology to make it better, that's a great sign that the technology truly is innovative. **CT**

Gerry McCartney *is CIO, vice president for information technology, and director of the Innovation and Commercialization Center at Purdue University.*

LoudCloud

Introducing the only adaptive Learning Management System for Higher Education and K12 that can be configured to meet your specific academic and technology needs.

ONE SIZE DOES NOT FIT ALL

We believe that every institute, university, school and school district should have its own unique learning campus. Our adaptive technology captures and statistically analyzes over 300 variables from student demographics, course engagement and assessment data to provide real-time profiles and patterns of best practice – instructional strategies, content preference, and teaching styles to create a personal learning environment and better outcome for each learner.

The LoudCloud Systems enable unparalleled flexibility and customer choice by converging our advanced native learning modules with an open and extensible interface for rich integration with industry-leading vendor solutions, thereby enabling an end-to-end solution for delivering:

- **Adaptive and Highly Personalized** Student and Teacher Experience
- **Improved outcomes** through actionable and predictive analytics
- **Variety of customizable course templates** to support your delivery model
- **Modular Component Design** for "Pick & Choose" access to an expanding universe of learning tools
- **Open Integration** with a variety of SIS, CRM, Authentication and Back Office solutions
- **Variety of cloud-based deployment architectures** including On-Premise or Managed Services
- **Compliance with emerging and current industry standards** such as ADA, Section 508, SCORM, IMS

Pick and choose from an entire suite of modules from gradebook and discussion forum to the most advanced ones like adaptive learning and predictive analytics:

- **Behavioral Analytics Reporting System™**
- **Adaptive Reader Technology™**
- **Collaborative Learning**
- **Class Management**
- **Assignments**
- **Gradebook**
- **Quizzes**
- **Notifications**
- **Mobile**
- Plus Many More!

Register now to attend a dynamic day of networking, discussions and case-studies around our acclaimed Learning Management System for Higher Education and K12.
Register: LoudCloudSystems.com/Forum

LightningForum APRIL 19 PHOENIX AZ

LoudCloud Headquarters • 5720 Lyndon B Johnson Freeway Suite 123 • Dallas, TX 75240 • Office: 214.614.6016 • LoudCloudSystems.com

REQUEST INFO

Contact Us! LoudCloudSystems.com | Like Us! Facebook.com/LoudCloudSys | Follow Us! Twitter.com/LoudCloudSys | Link Us! Linkedin.com/in/LoudCloudSys


18
Entries
Entrées / Entradas
Visas
Departures
Sorties / Salidas
COPYRIGHT
PIRACY
DENIED
RESEARCH
SKILLS
CONTENT
CREATION
19
Entries
Entrées / Entradas
SOURCE
EVALUATION
TECH
SECURITY
DEPARTMENT
OF SAFETY
OCT. 5 ..... entry
TOOL
DEVELOPMENT
CYBERBULLYING
DENIED

John S. Dykes

Educators debate what it means to be a digital citizen, and how higher education should prepare students to assume the mantle of citizenship.

JOHN Q. NETIZEN

BY JOHN K. WATERS

THANKS TO TECHNOLOGY, the last 15 years have witnessed change on a scale unknown since the Industrial Revolution. Instant access to unlimited information—and the ability to share it with anyone, anywhere, anytime—has altered the world forever. On that, most educators agree. It's also where the consensus stops. Even as their students step into this brave wired world, there is surprisingly little agreement among faculty about what new skills students should possess—or how best to develop them.

This fragmentation extends beyond higher education. Ask a K-12 educator to define digital citizenship and you'll probably hear a tech-era equivalent of Miss Manners: Good digital citizens don't engage in cyberbullying, don't give out too much personal information, and don't post crazy videos on YouTube that will haunt them during college interviews.

In many ways, such proscriptions are a natural reaction to rapidly evolving cultural issues: As the playground spills online, there is a need for a recess monitor. By the time students get to college, however, digital citizenship has less to do with safety and civility than with intellectual inquiry itself.

At the heart of the whole debate is information. Everyone has heard the vaguely apocalyptic statistic that the amount of information in the world doubles every few days. As misleading as such numbers are, they do highlight a greater truth: In just a few years, we have progressed from a situation where students labored to find enough information to where they are drowning in the stuff.

For many faculty, the ability to navigate effectively through this sea of information is the mark of a digital citizen. "Digital citizens are individuals who intuitively understand that high quality information is easily available, either freely or for a fee, and who bristle when information that is public is hidden or not available in a digital form," says Gerry McCartney, professor of information technology and CIO at **Purdue University** (IN). "Digital citizens are not necessarily individuals with advanced technical skills, but instead are people who are comfortable using technology as a tool to accomplish their work. These individuals often use a search engine as a browser, but are skeptical of much of the information that is presented in the search results."

But how many students actually fit this description? "Too often, faculty members assume that, because students are very comfortable using technology, they are also well prepared to be digital citizens," notes Dave Berque, professor of computer science at **DePauw University** (IN). "But this is like assuming that students who can type 60 words per minute are well prepared to write meaningful texts. As a first step toward improving our ability to help students become effective digital citizens, we need to recognize the distinction between being comfortable using digital tools and understanding the implications of using these tools."

There is disagreement among educators, however, on whether today's higher ed institutions are even in a position to teach these implications. "Universities and colleges are built on many of the same ideas and values that would define a digital citizen," says McCartney, who believes that today's higher ed institutions are "spectacularly well equipped to create and nurture [digital citizens]. Universities are built on the premise of transparent and easy access to information; on comprehending that there are both credible and non-credible sources of information; on the understanding that solutions and knowledge exist and can be discovered with effort; and on the agreement that discourse about radically different views and opinions can and should take place in a civil manner."

But not everyone is convinced that the university tradition of academic inquiry is sufficient to ensure that students master what could be considered a whole new set of skills. "Using a search engine is *deceptively* simple," notes Alexander Halavais, associate professor of communications at **Quinnipiac University** (CT). "Developing good Google-fu is not something that just happens—it requires good examples and a lot of practice."

Halavais argues that this kind of "sustained assault" can happen in small liberal arts colleges, but that it's much more challenging—and rare—in large university settings. The prob-

RESOURCES

For links to the schools and projects mentioned in this article, please visit *campustechnology.com/0312_citizens.*

THE ROLE OF CRITICAL THINKING

IT'S A STRANGE phenomenon. Question educators about what it takes to be a digital citizen and the answers sound a lot like a traditional liberal arts education: Teach kids how to think and they can figure it out.

"The core digital skill is not digital at all," says Alexander Halavais, associate professor of communications at **Quinnipiac University** (CT). "It's critical thinking. That may seem obvious, but many see the key digital mode of interaction to be the remix: taking stuff and putting it together in interesting ways. I think this is an important skill to have, but many students seem to lack the ability to assess information, to recognize what an assertion is, and to use evidence effectively."

In a world where information is everywhere, the advantage would seem to lie with those students who know how to evaluate it critically, regardless of whether those skills were learned in the classics department or in engineering.

"The essential digital skill is *rationality*," continues Halavais. "With that comes what [communication media guru] Howard Rheingold has referred to as bullshit detection. When he teaches his course at **Stanford University** (CA), detecting bullshit scores a fairly prominent place on the curriculum. I don't have to tell you what the alternative is: a world in which the mere assertion that our president is foreign-born or that climate change is a scientific controversy is enough for large swaths of voters to make poor decisions."

Not so fast, says Michael Wesch, associate professor of cultural anthropology at **Kansas State University**. When it comes to the digital world, he contends that critical thinking skills are not enough if you don't know how to speak the language. Just as a philosophy student will falter when presented with an advanced mathematical formula, so too will students in the online world who don't understand its underlying structures.

"In the digital world, critical thinking helps you filter the things that are coming at you," says Wesch, "but you also need skills that help you find and sort information, and, ultimately, create your own platforms. Whether you believe that students need to become 'digital citizens,' or great global entrepreneurs, or whatever it might be, they really do have to understand this stuff. They need to be able to navigate the digital world and use all of these different technologies fluently. And we, as educators, need to give students the courage and the curiosity to become something like intentional learners, people who will go out and find new things and make new connections. That's part of digital citizenship as well—maybe the most important part."


MICHAEL WESCH

lem, he asserts, is compounded by a lack of urgency among the higher ed community. "Many faculty, more administrators, and most students are convinced that the youth own the digital world, and that they are already the experts in anything digital," Halavais says. "I think this is a deeply flawed assumption."

According to Halavais, this assumption, coupled with large course sizes at many schools, leads to an unfortunate result: "Most students learn that the internet is best used as a source of distraction, and are good at guessing at multiple choices, but markedly less good at constructing a cohesive argument, considering alternatives, and assembling evidence to support their position."

If students are to improve their ability in these areas, adds Kristi Shaw, assistant professor of education at **Marian University** (IN), the necessary digital skills should not be taught as stand-alone components. The technology must "permeate all content areas and into the campus community," she says. And educators must model proper use of technology tools and encourage collaboration among students, faculty, and staff (see "Collaboration and the Digital Citizen" on page 22).

While educators agree on the importance of students being able to evaluate information critically, some feel this is the bare minimum of what should be expected of a digital citizen.

"This notion of digital citizenship is no longer about the old questions about the quality of sources," says Michael Wesch, associate professor of cultural anthropology at **Kansas State University**. "We've been asking those questions forever. And it's not about what we used to call 'netiquette' or computer literacy."

A researcher in the modern discipline of digital ethnography, Wesch is well known for a 2007 video, "The Machine Is Us/ing Us," which became a YouTube sensation. In his view, digital citizenship should reflect the very attributes implied in its name: a sense of belonging and a responsibility to participate.

"We have to recognize in our society that the new media we see in our environment are not just new means of communication, not just tools," he said in a recent speech. "Media change what can be said, how it can be said, who can say it, who can hear it, and what messages will count as information and knowledge." For Wesch, digital citizens can't afford to be bystanders in this new world—they must be active participants in shaping the information .

Susan Metros, deputy CIO for technology-enhanced learning and professor of visual design and clinical education at the **University of Southern California**, doesn't like the term "digital citizenship" (she prefers "visual literacy"), but she shares Wesch's contention that higher ed has a responsibility to produce graduates who are both discriminating consumers of online content and responsible content creators.

"The definition of visual literacy, which isn't new, is the ability to look at something and understand it," she says. "But now you have to be able to *make* something. It's about both *decoding* and *encoding*. We have to teach people how to do that, and give them not only the skills but the theory behind it and the context."

Wesch sees enormous value in students learning the theory behind it all. In a digital world where everything is interconnected, where hyperlinks bounce users among content, and search engines use advanced formulas to determine content rankings, he feels students need to understand the machinery under the hood.

"The newer, more interesting questions that are unique to the digital world revolve around things like algorithms," he explains. "When my students are freshmen, I try to get them familiar with the digital space in a new way, to begin to give them a sense that what they're seeing on the screen is encoded. I want them to get a peek behind the curtain. By the time they're seniors, my hope is that they not only see those structures, but start to manipulate them and put things together in new ways."

Interestingly, Wesch sees the traditional university setup as an impediment to achieving these goals. "Our schools are still generally organized around answers, rather than questions. If we organized around real questions

"Developing good Google-fu is not something that just happens—it requires good examples and a lot of practice."

—Alexander Halavais, Quinnipiac University

ONLINE EXCLUSIVE:
Heidi Hayes Jacobs, director of the Curriculum Mapping Institute, shares her definitions of the three new learning literacies: digital, media, and global.
campustechnology.com/0312_literacies

"Our schools are still generally organized around answers, rather than questions." *—Michael Wesch, Kansas State University*

that research teams are actually trying to answer, our students would immediately have to get really good at all the things we want them to be good at. This includes everything from finding, sorting, and analyzing information to collaborating effectively, and ultimately scaling all the way up to creating the platforms on which collaboration can flourish. What's so disheartening is that it's very achievable. If you organized a school around that goal, you'd get to it in four years."

Wesch is trying to walk the walk. He's an active developer of innovative teaching techniques, including the World Simulation project, which is the centerpiece of KSU's Introduction to Cultural Anthropology course. On his Mediated Cultures website, Wesch describes the project as "a radical experiment in learning, created in a fit of frustration with the large lecture hall format which seems inevitable in a classroom of 200-400 students."

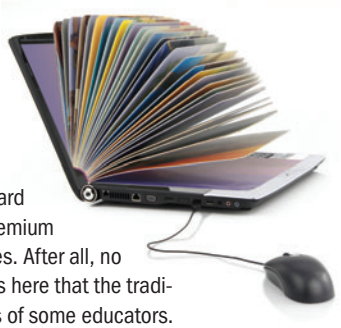
"I think one of the big missed opportunities [in higher ed] is that so few students are learning how easy it is to create their own tools," Wesch says. "Let's say you're solving some simple problem, like how to make a team work. You have 10 people working on a project, and you start exploring your options. You think about setting up a group blog, or a wiki, or maybe Google Docs. But none of these works well for your team, so you start to list the things that would work. And that's when you discover that you can take a few widgets from here, a few components from there, and create your *own* collaboration platform. In that moment, you are creating the environment in which a creative society will flourish."

Veteran educators, with memories of slumbering students in the back row, may look askance at Wesch's ambitions of having non-tech students create digital platforms for collaboration. And Wesch himself admits that he's setting a high bar for digital citizenship.

"I'm not saying that every student should become a developer," he advises. "I am saying that every student should know enough to be able to *talk* to a developer. They should be able to imagine the limits and possibilities of digital space, and be able to say to a developer, 'I want this to happen.'"

For that to be possible, Wesch believes that significant portions of the university curriculum need to change, with digital skills becoming part of the core requirements. "You have to start looking at things that are required across the whole university," he explains. "At KS, for example, it's writing 101 and 102, and a speech class that are required. The kinds of things we're talking about in digital citizenship are at the level of writing and speaking. This is how we communicate now. It shouldn't be its own discipline, so that only the media studies or journalism kids learn how to do this stuff. The challenge here is that it's not just a skill set, but a way of approaching the world that you are trying to instill. It almost requires some sort of transformational learning experience." **CT**

COLLABORATION AND THE DIGITAL CITIZEN



MICHAEL WESCH, ASSOCIATE PROFESSOR of cultural anthropology at **Kansas State University,** feels that universities have to switch gears from an academic culture predicated on dispensing the answers to one that focuses on posing questions. For his classes, he works with students to frame questions to which no one in the class—including himself—knows the answer. These questions then provide the springboard for broad exploration, research, and analysis. It also puts a premium on collaboration, not just within the class but across disciplines. After all, no one can be sure where the question will lead students. And it's here that the traditional university structure becomes an impediment in the eyes of some educators.

"Our biggest challenge is not technology mastery or outcomes assessment or all of the things we tend to look at," says Gary Brown, director of the Center for Online Learning at **Portland State University** (OR). "The biggest challenge we have in higher ed is our inability to *collaborate* effectively. We are, both by disposition and the structures of our institutions, disinclined to work together. And we are rewarded as individuals and for our individual work."

Brown has been in his current position for about five months, during which time he has worked to build a structure of incentives that reward programs that collaborate, with the goal of "quality in hybrid and online courses that engage community."

"We need to start finding ways in our universities to recognize departments, not individuals," adds Brown. "And that includes departments that are collaborating across the boundaries of our disciplines."

Wesch agrees. "The problem is that so much of the structure and administration is encumbered by the silo effect that is fragmenting the university," he notes. "Even when it occupies a shared space, there's not much sharing going on. Getting to where we need to be might not take much structural change, but something more cultural. If you can somehow inspire a culture of sharing and collaboration, that might do it."

www.shutterstock.com

John K. Waters is a freelance writer based in Palo Alto, CA.

The next level in education

IT and network communications solutions for elevated performance

Educational institutions today face difficult challenges. Students expect a secure, connected learning environment. Faculty and staff need to communicate and collaborate with enhanced mobility. Budgetary pressures call for technology that can handle increased data volume and applications, now and in the future, at a reasonable cost. We bring you tailor-made solutions built on an in-depth understanding of your unique needs, strategies and objectives. Solutions that enable you to enhance communication and collaboration, safeguard information, support physical security and enrich the academic experience. Learn how NEC's solutions and expertise in voice and data communications, networks and data storage can elevate your performance.

Learn how you can elevate your performance at **www.nec.com**/education

Empowered by Innovation NEC

CT asks three leading advocates of open education to evaluate the impact of the DIY U movement on traditional brick-and-mortar institutions.

DIY.edu

BY JENNIFER DEMSKI

THE PUBLICATION OF Anya Kamenetz's *DIY U: Edupunks, Edupreneurs, and the Coming Transformation of Higher Education* (Chelsea Green Publishing, 2010) caused quite a splash in the higher ed community. If, as she advocates, highly motivated students can access quality online coursework for free—if they can create their own learning paths based on their interests, passions, and professional needs—what does that mean for the future of the traditional brick-and-mortar institution? Is this a fringe movement, or are we looking at the higher ed of tomorrow? To find out, *Campus Technology* sat down with three leading visionaries in the open education movement to talk about its potential impact on traditional colleges and universities.

Lego Art by Pushart

Campus Technology: Is the brick-and-mortar institution really in jeopardy?

Stephen Carson: I think not. The educational needs in the United States and around the world are so immense right now that we're going to need every avenue available for providing education to the populations that are interested in learning. Open education has really been about expanding access to education, and one of the things we discovered along the way was an enormous untapped demand for independent learning opportunities. These are not necessarily people who would otherwise go to brick-and-mortar institutions, but instead are people who are nonetheless seeking educational opportunities at a more informal level.

John Ittelson: In the DIY model, the students are typically not new to higher ed. They have defined their educational goals and are trying to find their own path. Traditional universities are very much an extension of the industrial model that we have in our K-12 schools. DIY students are figuring out what they want to learn and then taking the courses they need to achieve that. They're creating their own curriculum by putting together these pieces. These open ed initiatives are really the leading edge of changes we're going to see across the spectrum of education. Change happens from the fringes of institutions, and that's where we're seeing do-it-yourself take hold. We're going to see a demand from students for a greater ability to create their own paths for their education.

Candace Thille: The challenge for traditional institutions will be to figure out how to use the emerging knowledge about how people learn in combination with the opportunities afforded by information technology and the wealth of open educational resources (OER). If universities can work that out, they will be able to serve more students, a greater variety of students, and reduce the cost—while improving quality.

Higher education needs integrated research that supports innovation and the evaluation of interactive teaching strategies and technologies in various contexts. Ongoing research and adaptive management are critical because the context is in flux. The domain knowledge that students are expected to learn, the number and complexity of skills they are expected to develop, and the number of students who are expected to achieve a college degree are all growing. The variability in the student population and our understanding of how people learn are growing, and the technology and the way people use technology are changing rapidly. Information technology can offer ways of creating, over time, a complex stream of data about how students think and reason while engaged in important learning activities that can support adaptive decision-making.

CT: The college experience is as much about social interaction as it is about learning. Will this be sacrificed or will students achieve a similar experience in a different way?

Ittelson: Not all students need that residential experience. I know instances where students at brick-and-mortar institutions feel just as disconnected and lost as some people do in online or DIY environments. The issue—in all areas of higher ed—is *engaging*. If you look at the DIY movement, what people consider a threat to higher ed institutions are really first indicators of what we should be looking at as a way to increase student engagement in all of our educational institutions. Greater success in all programs, whether face-to-face or online, will be achieved by increasing student engagement. And what it means to engage students is very different in each of these environments. For DIY students, choosing their own path might enhance the breadth and depth of their experience, because they're focusing on their strengths, their interests, and their passions.

Carson: One of the early conceptual mistakes in the development of distance learning was attempting to re-create the campus on the computer, because you're always going to get a "less than" product. The internet provides the opportunity for new methods of educating and new approaches to pedagogies that are probably going to be substantially different from the campus-based experience. There probably will be social aspects to it—you see that with sites like *openstudy.com* and the way people connect on Facebook—but these are substantially different experiences from what you'd get in person, and I don't think one is necessarily a substitute for the other.

Thille: Most traditional colleges and universities have three primary goals: research, or the creation of knowledge; teaching, or the dissemination of knowledge; and service to the community. Students attending physical colleges learn how to work and learn with people from a variety of backgrounds and perspectives. In the past few years, the networking power of technology has given learners access to a much wider pool of expertise, guidance, and

"We're going to see a demand from students for a greater ability to create their own paths for their education."

—John Ittelson, California Virtual Campus

support, and fostered participation in social learning communities—beyond the walls of college or home.

Ittelson: We know that networking, study groups, and social interaction help students learn. If I were to make a prediction, I would say we're going to see a convergence of classrooms, rather than a big distinction between brick-and-mortar and online or DIY learning. I see the walls of the brick-and-mortar classroom and the campus-specific LMS falling down. I see a network of connected classrooms, so a student taking an advanced calculus class at one traditional institution might be engaged in a study group with a student who's taking an online calculus course, who in turn might be engaged with an engineer who's doing a DIY refresher course using **MIT** OpenCourseWare for a project he's working on professionally. They're all in a shared classroom, but that classroom isn't tied to a specific institution. The classroom exists only as the intellectual sharing of knowledge around the content of that course.

CT: Which institutions are most threatened by DIY U? Are some closer to extinction than others?

Thille: "Extinction" is a pretty extreme term.

Carson: Agreed. The threats to institutions are a bit exaggerated at this point, partly because the university experience teaches students not what to know but *how* to know. It's fine to be a DIY learner pulling things from all over the internet, but you need to have developed a certain amount of discipline and understanding of the higher ed experience to do that successfully and get the maximum benefit. The four-year college experience will continue to be part of people's educational lives. It will be when they really develop an understanding of what it means to be a learner and to learn in a structured way.

What you're going to see is that learning doesn't end after you receive your degree. Learning is an ongoing part of maintaining your professional expertise. Lifelong learning has been a buzz phrase for some time, but I think the rubber is really hitting the road on that issue. In most fields, you really cannot function as a professional unless you spend a significant amount of your time continuing to learn about your field.

Ittelson: That's all true, but the campuses at greatest risk are those that have not come up with a process for managing change. Rather than a particular type of institution, such as liberal arts schools, campuses of every breed that are unwilling to change will be most affected. Campuses will have to be more open to online learning. They need to be more open to change in the areas of articulation and transferring credits. We're going to see new ways of demonstrating and assessing competency at a granular level that will facilitate credit transfers. We need to make it easier for alternative educational methods, such as open ed, to grow within our established system of higher ed.

CT: How can forward-thinking colleges and universities embrace this trend to make it a positive development for both students and the institution?

Ittelson: The biggest factor will be whether those people who are in power positions and who usually defend the status quo can embrace change. They need to be proactive. Every campus has a set of "fringe" faculty who are trying to push the envelope when it comes to technology and new ways of learning. Those faculty members should be incorporated into committees on innovation. If you can bring those people into the mainstream in a way that helps them grow, some of their ideas will turn out to be great, even as some others fail. But we don't want to discourage that creativity. If you look at what is happening in other industries and look at the economic

OUR PANELISTS

Stephen Carson

Steve Carson is external relations director for MIT OpenCourseWare at the **Massachusetts Institute of Technology**. He served as the first president of the OpenCourseWare Consortium from 2008 to 2011, when he oversaw the incorporation of the organization as an independent nonprofit, and helped grow membership to include more than 250 universities globally. He currently serves on the organization's board of directors.

John Ittelson

John Ittelson is director of outreach for **California Virtual Campus** and professor of information technology and communication design at **California State University, Monterey Bay**, where he was one of the founding faculty. His areas of expertise include distance and online learning, multimedia development, and e-portfolio issues. He currently represents the CSU Chancellor's Office as the lead on e-portfolio initiatives in the CSU System.

Candace Thille

Candace Thille is director of the Open Learning Initiative at **Carnegie Mellon University** (PA). She served on the working group to coauthor the National Education Technology Plan and on a working group of the President's Council of Advisors on Science and Technology to write a report for the Obama administration on improving STEM higher education. The focus of her research is in applying results from the learning sciences to the design, implementation, and evaluation of open web-based learning environments.

forecast, which calls for a slow recovery, the institutions that are going to survive are those that embrace creativity within their organizations.

Thille: At **Carnegie Mellon**, our research into the intersection of information technology and the science of learning to develop open web-based learning environments has been an interdisciplinary, inter-university collaboration. We made the courses we've developed open to have a practical impact on a serious problem. Our OER development is based on a constant research cycle: Research informs the course design, and the data collected through student use of the course fuel not only feedback to students, instructors, and course design teams but also additional research studies.

We are also exploring many different ways to expand options and make the use of such environments a positive development for all students. The Open Learning Initiative (OLI) technology allows faculty members to think differently about the range of offerings and experiences in higher education. A student might take one class in OLI "anytime, anywhere" mode, while taking another course the traditional way. One could imagine using OLI courses to complete a four-year degree program in three years. Or students' junior and senior year could incorporate diverse experiences—more hands-on research activities, community internships, or work for a startup company. Senior faculty could devote their time to mentoring or teaching capstone courses. These are just some of the possibilities.

Carson: Institutions need to think of this as an investment in an infrastructure that will pay dividends. Certainly we've seen that at MIT. If you think about all the money that's invested by a university in the educational content of its courses, the extra expense of publishing it on the web is almost negligible. But the benefit of exposing all that curriculum—not just to the rest of the world, but to your own academic community—is tremendous.

Most of our students use the MIT OpenCourseWare as an advising tool. Having our curriculum online has reduced calls to our advisers by 30 percent. Think of all of the man-hours that has saved. Students in class are better prepared because they've seen the materials. Students in advanced classes can go back and review introductory-level concepts from their freshman year. It's a tremendous resource for the MIT community—we had over 350,000 visits from the MIT domain to our site in the past year, so it's very heavily used by the MIT community. In relation to the benefit produced, I think the expense is quite small. **CT**

Jennifer Demski is a freelance writer based in Brooklyn, NY.

2012 CAMPUS TECHNOLOGY

19th Annual Education Technology Conference

July 16–19, 2012 ▪ Seaport World Trade Center ▪ Boston, MA

Make plans NOW to attend Campus Technology 2012, the country's premier higher education technology conference, produced by the award-winning Campus Technology team

- Learn from the pioneers shaping the future of technology on campus and increase your knowledge of the technologies, systems and products redefining the university landscape.
- Acquire the skills you need to master and implement today's most compelling and revolutionary technologies—cloud computing, virtual reality and more.
- Meet face-to-face with hundreds of top technology solution providers in the tech-specific Exhibit Hall.

campustechnology.com/summer12

jennifer demski

E-Portfolios: Are We There Yet?

For years, e-portfolios have been nurtured by a corps of true believers. As DIY education becomes a reality, their time may have come at last.

LEARNING OBJECTS' e-portfolio product utilizes various social media tools including wikis, blogs, and podcasts.

AS OPEN ED AND DIY initiatives seep into the mainstream, educators continue to grapple with the issues of assessment and credentialing. A solution that has been bandied about for years without gaining significant traction is e-portfolios. Has the time finally come for institutions to move away from transcripts and traditional assessment toward the e-portfolio model for demonstrating student achievement? *Campus Technology* sat down with Trent Batson, executive director of the Association for Authentic, Experiential, and Evidence-Based Learning (AAEBL), to talk about the strength of e-portfolios in assessing 21st century learning and the potential of e-portfolios to transform higher ed.

Campus Technology: Why e-portfolios? Why now?

Trent Batson: E-portfolios have gained a huge amount of interest in the past few years, because they are not a technology that sustains the status quo, like learning management systems. In a sense, e-portfolios portend the future, because they are a way for students to own their own learning and to carry around evidence of their experiences in all fields of study. The e-portfolio fits into the world of learning as it is now. It can be a technology around which entire enterprises transform, so that learning becomes assessed through evidence rather than tests.

It's funny, portfolios have been used in the skills-based fields—writing, art, music, and so on—for many years, but they tended to be looked down upon in academia outside those disciplines. Now, with the focus on student-centered 21st century learning, everyone is talking about skills. Sure, you have a degree in history, but what did you do to achieve that? What can you do with those skills that you learned while earning that degree?

The beauty of e-portfolios is that they can enable theories that have been developed through intense study over the past 30 years of how humans learn using cognitive science, traditional psychology, and anthropology. It's important that we're now switching to an approach that's appropriate for adult learning. At the base of this research

is the idea that learning is based on experience. Until now, we have not allowed students to have much in the way of experience; instead, we expect them to listen to someone who has had experience.

CT: When do you believe the adoption of e-portfolios will become mainstream?

Batson: It's a growing phenomenon, but the change to e-portfolios as a standard assessment tool won't happen overnight, because it means redesigning how courses are taught. A professor using e-portfolios as the basis for a course grade has to take a different approach from a professor using more traditional means of assessment. He has to help students build the evidence in their portfolios. It means the teacher must help them work on problems or projects throughout the semester. It's an active learning approach.

This doesn't mean that professors don't lecture at all. For young students coming into a college-level biology course without a biology background, there might be four weeks designated as the informational stage of the course. How does a biologist think? What kind of evidence does a biologist look for? The teacher would then build toward the questions that he's going to ask throughout the semester and the problems to which students will try to find answers. At that point, the teacher would turn to what we might call the transformational part of the semester: For 11 weeks, the teacher would help students work on projects, and create deliverables that they produce and respond to, and help them build evidence in their portfolio. That's a very different model from the one we've employed for centuries.

"Knowledge is no longer a commodity. Knowledge is a process now."

CT: What is stopping schools from adopting this form of assessment across the board?

Batson: There are some major barriers. If you are still going by seat time and the credit system as the main way that you charge students, the business side of the university is impinging on the academic side. It's saying that this is the best way for us to keep track of students and commoditize knowledge. That is completely inappropriate today, because knowledge is no longer a commodity. Knowledge is a process now. But you can't charge tuition based on little bits of knowledge—what are three credits of knowledge? So the business aspect of higher learning stands in the way.

We stand at the crossroads of two gestalts—the business model gestalt of the credit system and seat time, and the academic gestalt of student-centered learning. Basically, the whole university has to accept e-portfolio assessment as the way to grade students. Sure, a whole program can certify students as biologists or physicists or mathematicians based on the e-portfolio approach. And we as professionals can say that this is how we're going to certify students in this field. But for a whole university to make the switch really goes against the expectations of the culture, the expectations of the students, and the expectations of most professors, because they still want to do what they've been doing all along.

CT: What's the role of e-portfolios in higher education right now?

Batson: Right now, about half of all American universities have some sort of e-portfolio initiative in place, so it is becoming widespread. In most cases, though, the initiatives encompass a few courses here and there, or a program or two. A handful of universities around the globe, including **Virginia Tech**, **Clemson University** (SC) and **LaGuardia Community College** (NY), have committed themselves to moving toward 100 percent e-portfolio courses.

This is not something that's going to change overnight, but it is really nice to know that there is a road map for how to change around e-portfolios. The push toward e-portfolios is not just a willy-nilly "technology is causing a revolution and I don't know what we're doing" type of change. Our whole culture has gone digital, knowledge has changed entirely—yes, it's a big change, but we actually know the way to go. We have evidence in the practices gathered together that gives us a pathway forward. **CT**

Jennifer Demski is a freelance writer in Brooklyn, NY.

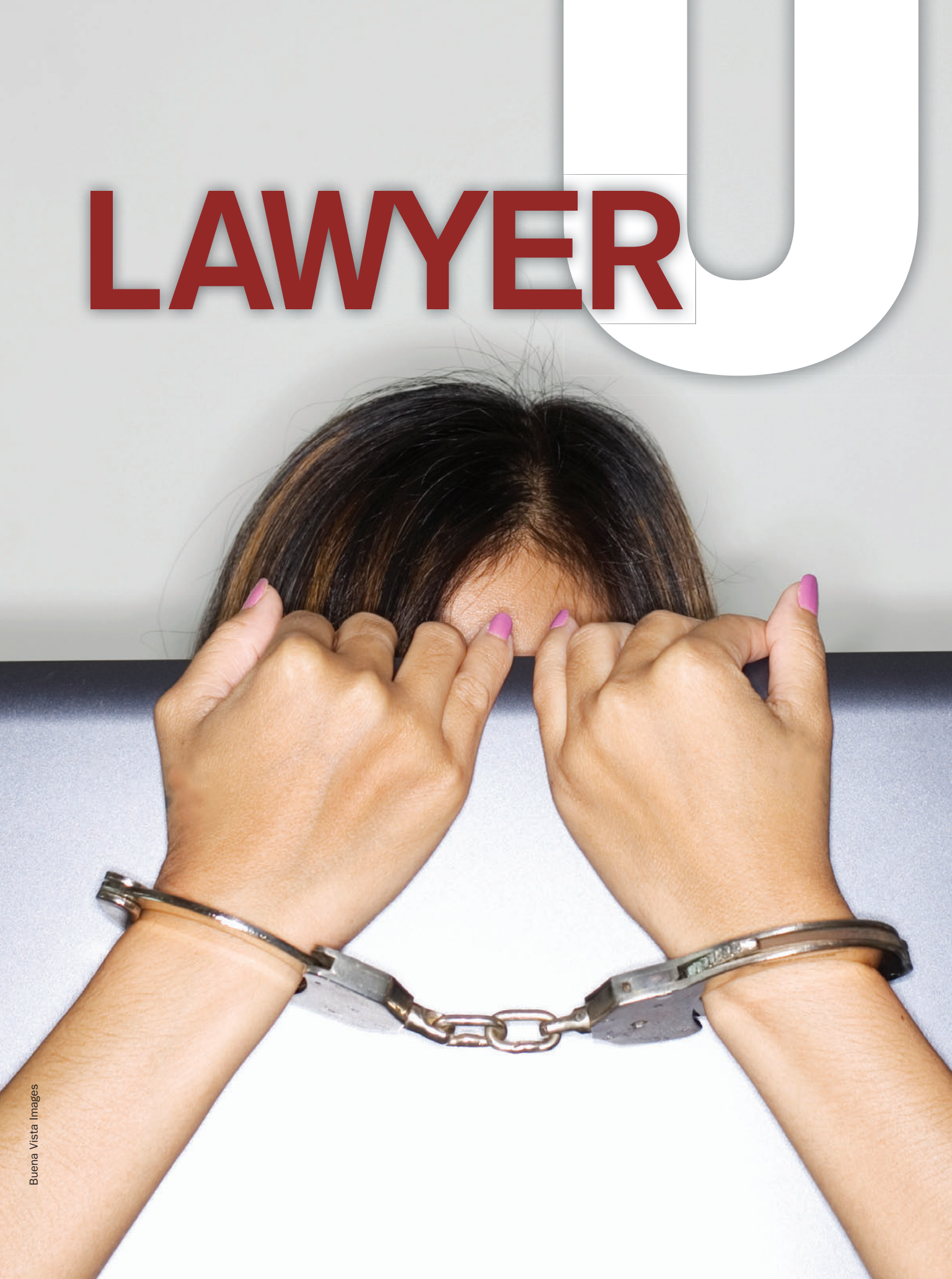
Related Reading

A Survey of the Electronic Portfolio Market Sector: Analysis and Surprising Trends: *campustechnology.com/1011_eportfolios*

Lehigh University Pilots Open Source E-Portfolio: *campustechnology.com/0811_lehigh*

2012: What's Hot, What's Not: *campustechnology.com/0112_hotornot*

LAWYER U



Buena Vista Images

Lawyers identify the six biggest legal issues facing IT today, and how CIOs can avoid a run-in with the law.

BY DIAN SCHAFFHAUSER

PUTTING A CIO and a lawyer together in the same room may give you the start of a pretty decent joke, but it could also save your institution millions of dollars in legal fees. While the IT chief understands the systems that fall under the purview of compliance, the attorney is the go-to pessimist for identifying the "gotcha" elements when it comes to the law. Working together, they are equipped to anticipate—and resolve—legal worries before they mushroom into headaches. *CT* talked with legal experts to identify the six biggest legal issues that your institution's dynamic duo should be addressing together.

1. Digital Defamation

When a student publishes a derogatory post about another person, particularly a statement that could damage his reputation and cause injury, that's cyberbullying. Even if the post doesn't break a state criminal law, the poster may still face a lawsuit for libel or violation of state privacy laws.

So what should a school do about an entire website devoted to gossip and rumor? That was the dilemma facing university administrators nationwide when the JuicyCampus site became wildly popular as a destination for anonymous college posters. Before the site closed down in February 2009, a few IT administrators decided to ban access to it on their college networks.

But that's the wrong approach, says Joseph Storch, associate counsel in the Office of General Counsel for the **State University of New York**. "We've advised consistently that the answer to cyberbullying and digital defamation is not to block access to websites."

The reasons are many. For one, it's a slippery slope. "It's easy to agree to block JuicyCampus or [similar sites]," continues Storch. "But what about when someone is defamatory on Facebook? It's one thing to block access to a gossip site and another to block access to Facebook."

For another, the school has to remember that it operates within its own bounds. "Institutions don't go out and patrol the outside world," Storch notes. "As an institution, we have limited jurisdiction and it doesn't include significant control over external private parties. Here the issue is digital, but the same rules apply."

Finally, even if a site is blocked via the school network, most students can find ways to access it anyway. "Students can just go to their smartphones and pull up the same content," Storch points out. "So what are we gaining by blocking access?"

While Storch advises against blocking sites, he stresses that colleges are by no means powerless. "In addition to responding to reports of cyberbullying through the judicial code and, in some cases, the Title IX officer, the approach we recommend is to start at the beginning and do what colleges do best: education," he explains. "Working with orientation or student affairs, IT folks can educate students and model good behavior. Educate them during orientation or during some other residence life program: 'Things you say on the internet have real consequences.'"

2. Intellectual Property

With increasing numbers of faculty and students developing apps on campus, the question of intellectual property (IP) rights has moved front and center. Depending on law and policy, deciding what a campus can do with the output of instructors is commonly the purview of the faculty-governance entity, such as the faculty senate. What schools can do with products or content developed by students, however, is often less formalized.

"Your institution's policies can govern the relationship with students regarding IP rights in the content they create," advises Storch. When placing that content online, however, "you should ask the student's permission." All it takes, he says, is a short agreement that "includes language that licenses the student's intellectual property rights in a nonexclusive license to the institution so [the school] can put it up on the web."

The likelihood that a student would object, let alone sue, is small, but attorneys are trained to ponder potential consequences. "You never know when your unassuming junior student in music turns out to be the next Adele or Lady Gaga," notes Storch. "All of a sudden, her music is worth quite a bit of money, you've got some of her songs up on your website, and her people are contacting you to take it down."

The same is true with student-developed programs that might be of value on campus. A school representative should approach the developer before it's distributed on any school sites and say, "We really like what you did. We want to use it. However, it's your IP. We would be happy to give you credit, or throw you a few bucks, or work something out. Let's sign an agreement memorializing that." The point is to give the person the opportunity to say yes or no, which is his right.

3. Illegal Downloading

If you thought illegal peer-to-peer downloading was so last decade, think again. Several sections of the revised Higher Education Opportunity Act, signed into law in 2008, deal with unauthorized file sharing on campus networks. Schools have two responsibilities under this law:

- To develop, implement, and regularly review written plans to combat unauthorized distribution of copyrighted material by users of the institution's network
- To inform and educate their communities about the appropriate use of copyrighted material

To comply with these federal mandates, SUNY's Storch insists that IT and the judicial side of the house need to team up: "When a student is accused, either because the campus receives a DMCA [Digital Millennium Copyright Act] notice, or it otherwise comes to the attention of the campus, IT can do the initial fact-finding: Is this accurate? Who does this IP address match to on our campus? Is it a student or a faculty member? Then the actual judicial work can be done by the judicial or conduct office." Ultimately, he insists, the best way to approach the issue "is with a partnership." (For more information on dealing with illegal downloading on campus, read "Catching Illegal Downloaders" at *campustechnology.com/0212_illegaldownloads*.)

For higher ed institutions, the legal ramifications of copyright infringement could become far greater depending on the ultimate outcome of legislation

RELATED READING

An E-Discovery Primer
campustechnology.com/0112_discovery

Deciphering the TEACH Act
campustechnology.com/1211_teachact

under consideration in Congress. In January, two bills—known as PIPA (the Protect IP Act) and SOPA (Stop Online Piracy Act)—were shelved after vocal opposition from sites such as Google and Wikipedia, which claimed that they would muzzle free speech on the internet.

4. Data-Privacy Compliance

According to the National Conference of State Legislatures, data-breach notification laws are on the books in 46 states. These laws are layered on top of other federal regulations, such as the Family Educational Rights and Privacy Act (FERPA) and the Health Insurance Portability and Accountability Act (HIPAA). And that may be just the beginning. "I actually think that the regulatory and compliance hurdles will only increase moving forward," says Heidi Wachs, director of IT policy and privacy officer for **Georgetown University** (DC).

When Wachs does a presentation on campus about data privacy, however, she doesn't dwell on what the various laws require. "We focus on our strong good behavioral practices that, if followed, will protect the privacy and the integrity of the data," she says.

Experience has taught her what's important. In January 2008, just a few months after she joined the IT division at Georgetown, an external computer hard drive was stolen from an administrative office. The institution had to inform about 38,000 students, staff, and faculty that identifiable personal information, including Social Security numbers, had been stored on the hard drive. Trained as a lawyer, Wachs was quickly pulled into the realm of data-privacy compliance, and spent the next several years wading through the mop-up work related to that breach.

This included the development of remediation plans to address the extensive use of Social Security numbers on campus. It wasn't a simple matter of declaring them off-limits and doing a massive find-and-delete operation on computer systems. Campuses aren't like corporations, with a centralized IT structure that can be scoured. "Universities are far more distributed than that," Wachs says. "Professors buy their own laptops; business departments sometimes run their own servers."

Plus, universities are employers. "You have to collect Social Security numbers, because that's how any employer that conducts payroll communicates with the IRS," notes Wachs. Furthermore, students and their parents have to provide SSNs for financial-aid applications. "We have to have Social Security numbers."

As a result, education has been crucial. In the aftermath of the breach, the approach has been to focus on changing "little by little" the business processes and systems used on campus. "We have to go in and make sure the security is really good, and access is limited only to those who actually need it," Wachs explains.

Today, Wachs is often called upon to offer advice whenever university departments shop for services or are asked to share data with internal groups. In the benefits area, for example, the university has pressed vendors on why they need to use SSNs as the primary identifier for customers. In fact, during the period immediately following the breach, the institution stopped working with some vendors over the issue.

Now when a SSN field is required as part of the work, Georgetown looks for a way to mask it, so that anybody accessing the files can't easily view it. Also, vendors are required to fill out a form verifying that they require the SSNs for a legal purpose. And, says Wachs, "it has to be signed by either their privacy officer or [legal] counsel."

Sometimes it's an internal source asking for access to sensitive data. In such cases, the first step is to examine the business process and find out why the internal source doesn't have access already—and what prompted the request in the first place. If a decision is made to share the data, the focus then shifts to ensuring a secure transfer. At different points, both phases require input from IT and Legal.

5. Cloud Computing

Once you get past the technical and financial aspects of implementing a cloud solution, you need to sign a contract with the service provider. If you're relying on the vendor to supply that contract, though, it's time to get your legal people involved. "Form contracts are written in favor of the party that wrote them, not in favor of the other party, which is us," proclaims Steve McDonald, a member of the General Counsel Department at **Rhode Island School of Design**. "So you have to work through it and make sure it's actually the deal you want."

"Lawyers don't make your decisions. Lawyers help make your decisions better." *—Steve McDonald, Rhode Island School of Design*

As an example, McDonald recalls a contract negotiation that involved the off-site processing and storage of data. The vendor's form contract stated that the vendor had no liability in the event of a data breach. "I said, 'Wait a minute. This is your system. The data is on your system. You're processing it. You're supposed to be protecting it. We have nothing to do with any of that and no ability to affect it, but you're saying it's our problem?'" relates McDonald. "They said, 'Oh, yeah. Our insurance company said that's a black hole liability, and we can't take it on.'"

Discussions continued until both parties came up with something that worked, "partly through negotiation and partly through deciding how we

would use the system," he explains.

A lawyer's job, says McDonald, is to make sure the contract reflects what the school wants or gets as close to that ideal as possible. "A contract isn't really a legal document," he explains. "Rather, it's a business document that is enforceable by law. Its main job is to express the business deal, which isn't the lawyer's call. The problem is that people tend to view contracts as these dense legalistic traps. They don't want to read them or think them through, because they feel like, 'We have this deal.'"

For anyone who views contracts in this way, McDonald trots out one of his favorite Yogi Berra quotes: "You've got to be very careful if you don't know where you're going, because you might not get there." As he notes, "If the salesman promised a whole bunch of things that aren't in the contract, those promises aren't part of the contract and probably aren't enforceable."

Much like the outsourcing contracts of a decade ago, today's cloud contracts must address a host of issues, including:

- FERPA and other privacy concerns
- Data security
- E-discovery
- Export controls
- Control of data in the event of service cancellation
- Indemnification
- Location of jurisdiction

"There are certainly advantages to cloud computing," notes McDonald, "but don't assume that the cloud is instantly solving all your problems and you have nothing to worry about."

That's where a good lawyer comes in—not to tell you what should be in the contract, but to help you think through what you need and ensure the contract provides it. As McDonald noted in a recent Educause presentation (no doubt after studying the copyright for BASF's old ads): "Lawyers don't make your decisions. Lawyers help make your decisions better."

RESOURCES

For links to the schools, law firms, organizations, and legislation mentioned in this article, please visit *campustechnology.com/0312_ITlaw.*

6. Distributed Antenna Systems

Seldom are CIOs involved in deals where a vendor wants to pay the institution. But setting up a distributed antenna system (DAS) is one of them.

A DAS is an array of small, low-powered antennas that effectively form one large virtual antenna to provide wireless service within an area or structure. "Whereas a typical cell site covers something measured in acres or square miles, with these you get coverage in a much smaller area, which significantly increases the density of the throughput you can get," says J.G. Harrington, an attorney with Dow Lohnes. "That's a big advantage for wireless providers."

The companies involved may be well-known cell providers, or they may be "neutral" providers that install a DAS on a campus and then find carriers to use their setup. Campuses are particularly attractive for DAS installations because they're filled with people "who live on their mobile devices," notes Harrington. "Finding a way to improve their coverage and improve the amount of throughput they can get in the area is pretty important to a carrier."

But negotiating the right DAS deal for your school poses potential legal challenges, warns Harrington. For example, older schools might need to consider historic-preservation issues under federal law that governs placement of antennas. There are likely to be local zoning rules, too, as well as regulations governing emissions of radio frequency (RF) waves. As if that weren't enough, providers will also be expected to comply with requirements pertaining to e911, which will affect how the DAS is deployed.

One other issue that is easy to overlook: Campuses may have research operations that could be affected by emissions. "If you don't account for that possibility, you could find yourself creating trouble for researchers on campus," Harrington points out.

For public institutions, there is yet more to consider, especially when it comes to state procurement requirements. "The last thing you want is to set up a bidding process where the amount of money you get is the only factor and then you lose coverage as a consequence," warns Harrington. Schools also need to protect themselves from vendors that want to restrict access: If the new system doesn't accommodate students and faculty who use other carriers, administrators are likely to get an earful.

At the same time, few colleges will want a contract with more than one vendor. Although each wireless provider operates on its own frequencies, notes Harrington, in certain situations their RF streams could conflict with one another or the total amount of radiation could exceed legal limits.

Harrington urges schools to avoid a situation where they find themselves "mediating conflicts between two providers that both say they have the right to be there and the other one doesn't. Those conflicts are always messy. Everyone wants to blame the other party."

Whatever they do, administrators should make sure that the contract addresses all their school's issues, because they're probably going to have to live with it for a long time—DAS contracts are frequently five or 10 years long, with renewal options on top of that. "There's a certain inertia that you get in these contexts," explains Harrington. "Once you have somebody there, that somebody will probably stay around for a long time." CT

***Dian Schaffhauser** is a senior contributing editor of* Campus Technology.

LEGAL EAGLE IN THE CLOUD

In an online *CT* exclusive, Steve McDonald, a lawyer for Rhode Island School of Design, discusses the legal issues to consider before signing any cloud computing contract. Please visit ***campustechnology.com/0312_legal***.

CAMPUS TECHNOLOGY FORUM

APRIL 30 - MAY 2, 2012

Renaissance Long Beach Hotel • Long Beach, CA

THE DIGITAL CAMPUS
COLLABORATION & COMMUNITY

Digital media and mobile technology are transforming teaching, learning, infrastructure and peer-to-peer relationships in ways unimaginable just 5 years ago. At Campus Technology Forum you can explore new technologies—and innovative application modalities—that will benefit your institution economically as well as pedagogically.

EARLY BIRD PRICING!

SAVE UP TO 20%
WHEN YOU REGISTER BY MARCH 30!

OPENING KEYNOTE:
Laurence F. Johnson, Ph.D.
Chief Executive Officer of the New Media Consortium (NMC)

CLOSING KEYNOTE:
W. Gardner Campbell, Ph.D.
Director, Professional Development and Innovative nitiatives in the Division of Learning Technologies and Associate Professor of English, Virginia Tech

REGISTER TODAY! campustechnology.com/ctforum
SEE PROGRAM HIGHLIGHTS INSIDE!

THINKING OF INCREASING THE USE OF DIGITAL MEDIA ON YOUR CAMPUS?

Campus Technology Forum provides a unique platform for delving into the rapidly evolving digital and mobile campus that embraces all forms of media and cutting-edge online technologies to increase both institutional efficiency and peer-to-peer relationships. Don't miss this in-depth exploration of best practices for transitioning to digital processes from traditional forms of teaching, outreach and infrastructure led by innovative and influential leaders. Increase your understanding of these cutting-edge technologies and how you can employ them successfully on your campus.

JUST ANNOUNCED!

OPENING KEYNOTE

APRIL 30, 2012 • 4:15 – 5:30 PM

Campus Technology Forum Is Pleased to Announce Laurence F. Johnson, Ph.D. Chief Executive Officer of the New Media Consortium (NMC), Will Deliver the Opening Keynote Address on Monday, April 30.

Laurence F. Johnson, Ph.D.

Laurence F. Johnson, Ph.D., is the founder of the Horizon Project, which produces the acclaimed series of Horizon Reports that are now used by more than a half-million educators in nearly 60 countries. He is also the Chief Executive Officer of the New Media Consortium (NMC), an international not-for-profit consortium dedicated to the exploration and use of new media and new technologies. Its hundreds of member institutions constitute an elite list of the most highly regarded universities, museums, research centers and companies in the world.

Johnson is an acknowledged expert on emerging technology and its impacts on society and education and the topics of creativity, innovation and how to think about the future. With more than 25 years of experience in the higher education arena, he has served in roles from professor to dean, CIO and provost and most recently, president before joining the NMC in 2001.

TOP REASONS TO ATTEND CAMPUS TECHNOLOGY FORUM

1. **Conference Keynotes:** Learn from innovative and influential education technology leaders as they discuss the implications and advantages of the digital campus for all stakeholders across the university.

2. **Conference Tracks Covering Topics Relevant to All Areas of Campus Job Responsibility:** Digital Tools and Instructional Designs, Technology Infrastructure and Mobile Learning, IT Leadership and Institutional Intelligence, Industry Directions and more!

3. **In-Depth Explorations of Digital Technologies and Techniques:** Sessions and workshops focused on the revolutionary software that can foster student engagement and build learning communities; achieve greater ROI on existing campus platform investments; improve program assessment, retention and graduation initiatives through the application of today's powerful digital toolkit.

4. **Variety of Conference Session Formats:** Keynotes, small workshops and breakout sessions, poster sessions and featured "deep dive" sessions that support collaborative learning and problem solving.

5. **Leading Industry Suppliers in the Exhibit Hall:** The Campus Technology Forum Exhibit Hall is where attendees can gather to see the latest products and services from participating technology vendors. The hall is specifically designed to create a lively, interactive environment where attendees can network face-to-face with solution providers, see detailed product demonstrations and ask questions specific to their institutional challenges.

6. **Networking Opportunities:** Intimate, collegial setting provides easy access to speakers, plus the opportunity to network in a supportive environment of highly motivated professionals sharing actionable intelligence for successful digital conversion.

ATTEND YOUR CHOICE OF 20+ SESSIONS AND 6 WORKSHOPS.

Here is just a sampling of the deep-dive workshops and breakout sessions on the latest transformative technologies—with track topics tailored to all areas of campus responsibility: faculty, instructional designers and developers, IT staff, technology program managers, mobile application developers, CIOs, VPs of IT and technology directors.

TRACK 1 DIGITAL TOOLS AND INSTRUCTIONAL DESIGNS

Join the latest discussions of how to foster student engagement and build learning communities through the application of digital instructional modalities and Web 2.0/social media. Explore the best of today's instructional technologies and digital toolkit and learn how to leverage higher education's growing online resources and burgeoning digital knowledge base. Faculty, instructional designers and developers, and academic technology program managers will find this track of special interest.

Making Education Social: The FoxMIS Community Site
DAVID SCHUFF, Associate Professor, Temple University

Integrating Student Response Systems, Note-Taking Tools and Assessment with eTextbooks
PERRY SAMSON, Professor, University of Michigan

Can the iPad Provide a High-Quality Education Experience?
GLENN SETLIFF, Director of Information Technology, Duke University

TRACK 2 TECHNOLOGY INFRASTRUCTURE AND MOBILE LEARNING

Technology-enhanced learning environments, mobile technologies and personal communication devices empower your institution's faculty, researchers, staff and students. Our evolving campus technology environments can create new opportunities for collaboration while supporting the individual—join this track to see the latest models of technology interdependence on campus. IT staff, technology program managers, mobile application developers and those charged with classroom technology implementations will be drawn to these sessions.

Sowing the Seeds for a Great Lecture Capture Harvest
CYNTHIA FARIAS, Multimedia Specialist, Texas A&M University-Kingsville

Anytime, Anywhere, Any Device
LINK ALANDER, Associate Vice Chancellor, Technology Services, Lone Star College System

TRACK 3 IT LEADERSHIP AND INSTITUTIONAL INTELLIGENCE

From program assessment, to retention and graduation initiatives, to academic analytics and business intelligence—IT leaders throughout campus have new opportunities to contribute to their institution's leadership strategies. CIOs, VPs of IT, technology directors and academic or technology planners whose work impacts the institution at an enterprise level will benefit from joining this track.

Your Enterprise Wiki: Managing Tribal Knowledge for Change
CULLEN JONES, Educational Technologies Manager, Naval Postgraduate School, Monterey

Chief Information Officer Effectiveness in Higher Education
WAYNE BROWN, Vice President, Excelsior College

Remote Online Placement Assessment at Kent State
ROSE TRAN, Lead IT User Support Analyst, Kent State University

TRACK 4 INDUSTRY DIRECTIONS

Leading technology vendors reveal their latest development efforts and discuss how their product lines are positioned to serve and sustain the higher education technology market.

WORKSHOPS:

Securing Financial Support for Campus Technology Initiatives
Meg Cantwell, Senior Consultant for Special Initiatives, Grants Resource Center, American Association of State Colleges and Universities

Collaborative Learning Tools and Techniques: Teach an Instructor to Digitally Fish and You Feed Students for Life
Jeff Borden, Sr. Director of Teaching & Learning, Pearson eCollege

Interactive Learning Designs with New Media
Michael Cottam, Associate Dean of Instruction, Rio Salado College

Explore the complete list of sessions and workshops online at campustechnology.com/ctforum

REGISTRATION INFORMATION

SAVE $100
WHEN YOU REGISTER BEFORE 3/30/12!

CAMPUS TECHNOLOGY FORUM CONFERENCE PACKAGES

Complete Workshops, Conference and Hotel Package
$999 Early Bird Discount through 3/30/12
$1,099 after 3/30/12

- 3 nights hotel (Sunday–Tuesday) at the Renaissance Long Beach (room and tax only)
- Morning and Afternoon Workshops
- All conference sessions
- Keynote and general sessions
- Access to Exhibit Hall
- Breakfast on Wednesday in the Exhibit Hall
- Exhibit Hall Reception
- Poster Sessions
- Lunch on Monday, Tuesday, Wednesday
- Unlimited networking opportunities with colleagues and peers from around the country
- Refreshment breaks

Full Workshops Plus Conference Registration Package
$399 Early Bird Discount through 3/30/12
$499 after 3/30/12

- Morning and Afternoon Workshops
- All conference sessions
- Keynote and general sessions
- Access to Exhibit Hall
- Breakfast on Wednesday in the Exhibit Hall
- Exhibit Hall Reception
- Poster Sessions
- Lunch on Monday, Tuesday, Wednesday
- Unlimited networking opportunities with colleagues and peers from around the country
- Refreshment breaks

HOW TO REGISTER

ONLINE: campustechnology.com/ctforum
Online registration is transacted via **secured** server in order to safeguard your private information.

PHONE: 850.219.9600
(9:00 am – 5:00 pm EDT - credit card payment only)

REFUND AND CANCELLATION POLICY

A 100% refund less a $100 processing fee will be given for all cancellations requested by March 30. After March 30, no refunds will be given; however, all registrations are transferable to colleagues and associates with written authorization from the original registrant.

EXPLORE CTF ONLINE ON YOUR MOBILE DEVICE

TEAM REGISTRATION DISCOUNTS

SAVE $200 BEFORE March 30!

When three or more people from a single school or organization register at the same time, you can realize savings of up to $200 per person when you register by 3/30/12 and $75 per person after. Please contact Sara Ross at sross@1105media.com for more information.

REGISTRATION DEADLINES

Early Registration Discount Deadline: March 30, 2012

REGISTRATION QUESTIONS?

PHONE: 850.219.9600 (9:00 am – 5:00 pm ET)
E-MAIL: CTForum@1105media.com
ONLINE: campustechnology.com/ctforum

Campus Technology Forum's Federal Tax ID number is 20-4583700
Campus Technology Forum is a division of 1105 Media, Inc.

HOTEL INFORMATION

RENAISSANCE LONG BEACH
111 East Ocean Boulevard, Long Beach, CA 90802
562.437.5900

The Renaissance Long Beach has reserved a special room rate of $156 per night single/double (plus applicable taxes), for Campus Technology Forum attendees. Attendees must book their accommodations by March 30, 2012, to receive the discount. After that date regular room rates will apply.

Rooms at the Renaissance Long Beach in the Campus Technology Forum Block also include discounted validated self-parking of $8.00.

RESERVATIONS

BY PHONE: call 800.468.3571 or 562.437.5900 and mention you are with Campus Technology Forum.

ONLINE: Go to the travel page at campustechnology.com/ctforum

CONNECT WITH CAMPUS TECHNOLOGY FORUM!

See Additional Travel Discounts at campustechnology.com/ctforum

Index

>> Sales Contact Information

Wendy LaDuke
President and Group Publisher
P 949-265-1596
C 714-743-4011
wladuke@1105media.com

Mark D. Buchholz
West Coast Sales Director
P 949-265-1540
C 714-504-4015
mbuchholz@1105media.com

M.F. Harmon
Eastern Region Sales Manager
P 207-883-2477
C 207-650-6981
mfharmon@1105media.com

Tom Creevy
Central Region Sales Manager
P 847-358-7272
C 847-971-5621
tcreevy@1105media.com

Jean Dellarobba
Sales Account Executive
P 949-265-1568
C 949-357-7564
jdellarobba@1105media.com

Patrick Gallagher
Event Sales Director
C 617-512-6656
pgallagher@1105media.com

Stephanie Chiavaras
National Accounts Manager, Events
P 508-532-1424
C 617-784-3577
schiavaras@1105media.com

Deborah Carroll
Event Sales Representative
C 203-814-7408
dcarroll@1105media.com

Corporate Headquarters:
1105 Media
9201 Oakdale Avenue, Ste. 101
Chatsworth, CA 91311
1105media.com

Media Kits: Direct your media kit requests to Michele Werner, 949-265-1558 (phone), 949-265-1528 (fax), mwerner@1105media.com.

Reprints: For single-article reprints (in minimum quantities of 250-500), e-prints, plaques and posters contact PARS International, 212-221-9595 (phone), 1105reprints@parsintl.com, *magreprints.com/QuickQuote.asp*.

List Rentals: This publication's subscriber list, as well as other lists from 1105 Media, Inc., is available for rental. For more information, please contact our list manager, Merit Direct: 914-368-1000 (phone); 1105media@meritdirect.com; *meritdirect.com/1105*.

COLLEGE/UNIVERSITY INDEX

COMPANY INDEX

ADVERTISER INDEX

Note: Advertisers with * are regional ads and may not appear in this issue.

Campus Technology (ISSN 1553-7544) is published monthly by 1105 Media, Inc., 9201 Oakdale Avenue, Ste. 101, Chatsworth, CA 91311. Periodicals postage paid at Chatsworth, CA 91311-9998, and at additional mailing offices. Complimentary subscriptions are sent to qualifying subscribers. Annual subscription rates payable in US funds for non-qualified subscribers are: US $29.00, International $44.00. Annual digital subscription rates payable in US funds for non-qualified subscribers are: US $39.00, International $39.00. **Subscription inquiries, back issue requests, and address changes:** Mail to: *Campus Technology*, P.O. Box 2166, Skokie, IL 60076-7866, e-mail CAMmag@1105service.com or call 866-293-3194 for US & Canada; 847-763-9560 for International, fax 847-763-9564. **POSTMASTER:** Send address changes to *Campus Technology*, P.O. Box 2166, Skokie, IL 60076-7866. Canada Publications Mail Agreement No: 40612608. Return Undeliverable Canadian Addresses to XPO Returns: P.O. Box 201, Richmond Hill, ON L4B 4R5, Canada.

C-Level View

Fostering a Culture of Evidence

A large community college system is using business analytics to support better decision-making at all levels.

By Mary Grush

The **Virginia Community College System**—one of the largest in the country, with 23 colleges on 40 campuses—leverages business analytics to inform key institutional initiatives. Here, Catherine Finnegan, assistant vice chancellor for institutional effectiveness, tells *CT* about her organization's plans to extend the reach of analytics to a broader range of decision-makers systemwide.

CAMPUS TECHNOLOGY: How has the use of business analytics changed over time at VCCS?

CATHERINE FINNEGAN: Analytics first started to become part of the way colleges do business about five years ago. Several national initiatives, including Achieving the Dream, made it important for community colleges to understand their students better. Community colleges were beginning to be required to collect a lot of information about their business processes and about student success. As a result, VCCS started working on several different data marts.

FINNEGAN

Initially, we tried to answer very specific and discrete questions on issues such as faculty workload and credentialing, facilities management, retention and graduation, and curriculum. But these were very siloed data marts, and the people using them tended to be institutional researchers—the same people who have always used data. Not many others—middle-level administrators, for example, or deans, or department heads—were using the data. We were missing a lot of the people who actually make on-the-ground decisions and could benefit greatly from data analytics. We wanted to get data into their hands.

So, more recently, we started a new project that we hope will improve the data we collect, broaden it, and break it out of silos. To eliminate silos, we are moving away from the initial process of building data marts and moving to a data-warehousing approach instead. Plus, we are looking at taking data from external sources, such as the Virginia Employment Commission or the National Student Clearinghouse. The general idea is to break down silos and offer access to broader and more transparent data to a wider audience.

CT: How do you see your users' needs for business analytics changing in the near future?

CF: We joke that there's a "Maslow's Hierarchy of Data"—the more data you provide to people, the more they want different types of data in order to ask more and more complex questions. But these may be important questions! So we need to be prepared to offer more data and address data-quality issues.

Another thing we need to consider is a quick snapshot of data. Often, users don't need a full report or a real drill-down; increasingly, they need a way to check data points quickly, even in the middle of a meeting. Developing regularly updated dashboards that users can rely on to foster their discussions is going to be important. I also hope we'll be able to include a social media component in all of this.

CT: What is your biggest hope for business analytics at VCCS?

CF: My hope is that we will be able to train more people within VCCS to use analytics to make data-driven, evidence-based decisions for themselves, for their programs, and for their institution.

Community colleges are really in the spotlight right now. Every other day you see something about community colleges in the national news media. For the local community college or system, this can be an opportunity to use data we're already collecting to validate or deny those national generalizations. Data can help the VCCS community build a culture of evidence we can rely on to respond to scrutiny and fulfill the role the community expects of us. **CT**

SONY
make.believe

Nothing's out of your range.

Upgrade your image with the
Sony EVI-H100V, H100S, D90 and D80.

From conferencing to distance learning, from remote justice to worship, there's a Sony® EVI Series pan/tilt/zoom camera that gets the picture. Our expanded line meets your needs with 18x to 28x optical zoom and mounting flexibility. We go from standard definition all the way to stunning 1080p HD. And every model offers the VISCA™ protocol that Sony created, along with the legendary reliability, picture quality and autofocus accuracy that set Sony apart. If you've got the application, we've got the EVI Series camera.

Visit sony.com/videocameras for details and a free 30-day evaluation.

We know thousands of students, multiplied by an exponential amount of data, proliferated by an entire faculty, equals more than one person can handle. It's why we have solution architects here to support you in storage, security, virtualization, power and beyond. They can design, implement and install it all. Simply put, they're masters of helping manage the unmanageable.

Learn how we can give you some extra bandwidth at CDWG.com/datastorageredreport

CDW·G PEOPLE WHO GET IT™