

AMERICAN ASSOCIATION OF COMMUNITY COLLEGES

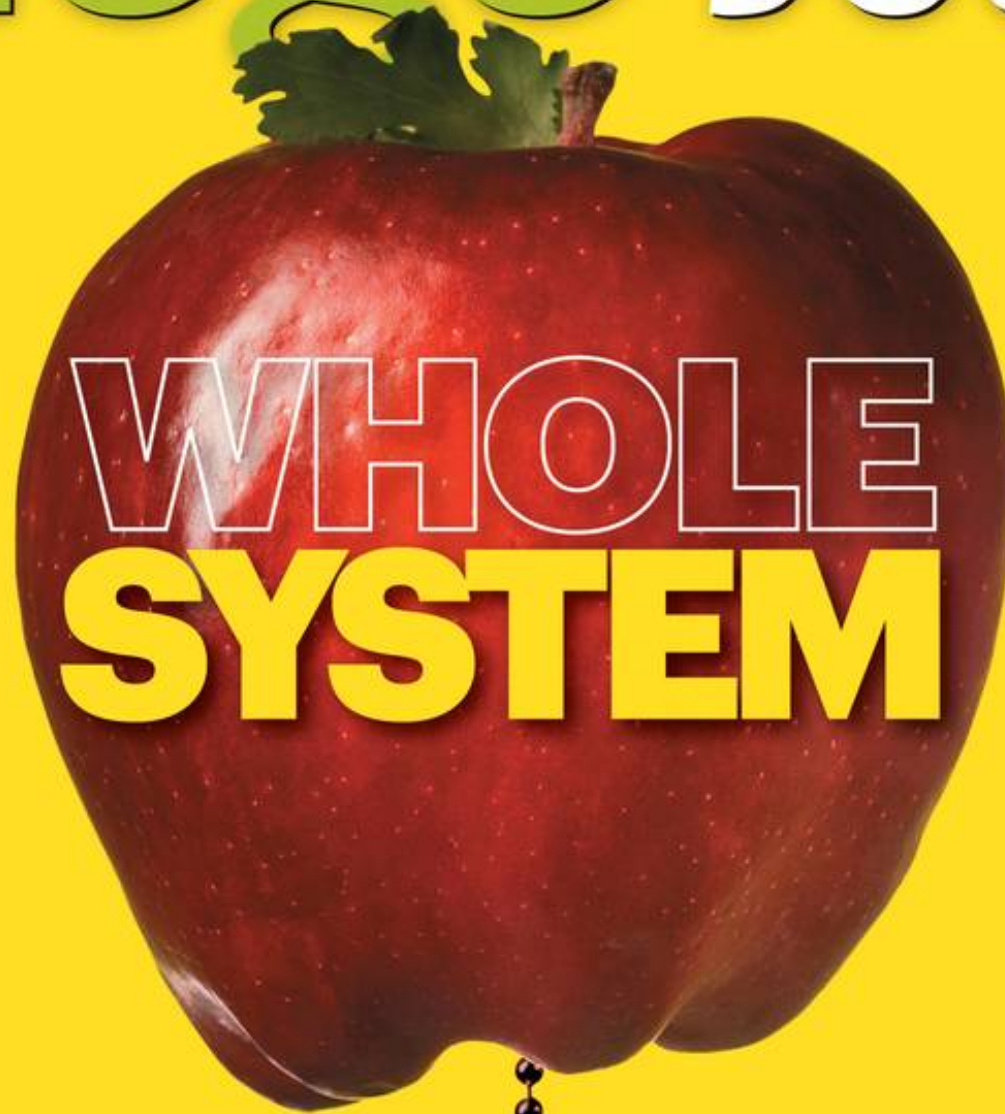
# Community College Journal

JUNE/JULY 2013

**Designing New  
Student Pathways**

**The Adjunct Debate**  
Cutting Hours and the ACA

**6 Technology  
Game Changers**



**WHOLE  
SYSTEM**

# THINKING

Working with K-12 and Four-Year Partners to Boost Student Success





BY STEVE ZURIER

# GAME CHANGERS

Six  
technologies that  
are transforming  
community college  
education and job  
training

Few professors teaching at community colleges today expect students to learn every nuance of every technological device they're likely to encounter throughout the course of their careers. Let's face it: Some of these tools haven't even been invented yet.

But what educators can do is expose students to enough of a base so that when the technology does evolve—and it will—they have the confidence and ability to adapt and continue working.

For this special report, our editors picked six technological trends—mobile apps and devices; massive open online courses (MOOCs); game-based learning; 3D printers; media literacy tools such as video editing; and big data—that are poised to make a big impact on education and job training in 2013 and beyond. Has your college integrated some or all of these tools into its curriculum? If not, chances are it will—and soon. So get ready. >>



## 1

**Mobile Apps and Devices**

Research group IDC estimates that tablet shipments worldwide will exceed 172 million in 2013, and community colleges are keeping pace.

John Blaylock, vice president of educational services at [Northeast Community College \(NCC\)](#) in Norfolk, Neb., says the college wanted to deploy tablets but chose to do it in a strategic way.

In spring 2012, NCC identified 18 faculty members who were interested in using the tablets in the classroom and provided training later that fall. "I call the early adopters 'classroom entrepreneurs' because they took a risk to move forward and use the technology," Blaylock says.

By spring semester 2013, the professors identified which classes they'd be using the tablets in and 320 Apple iPads were ordered. Another 55 faculty members will begin training this fall, with classroom implementation in spring 2014. By fall 2014, Blaylock says the college hopes to have all 117 full-time faculty incorporate a mobile device into their instruction.

While many community colleges are experimenting with tablets, other institutions, such as [Broome Community College](#) in Binghamton, N.Y., have taken the notion of mobile a step further by teaching aspiring Web site developers how to build mobile apps.

Sandra Wright, chair of the college's business information technology unit, says the college offered its first course on mobile app design this spring. "Building mobile apps is a necessary skill for developers today, because just about every Web application must also be useable on a mobile device," she says.

Wright says students studying for a hospitality degree are using iPads in restaurants and hotels. For the most part, the college issues the school-bought tablets to students, but administrators have also considered the benefits of a bring-your-own-device policy, which would allow students to use their own mobile devices for learning on the college's network.

## 2

**MOOCs**

Massive open online courses (MOOCs) are making inroads in community colleges by way of grants from the [Bill & Melinda Gates Foundation](#), which late last year awarded \$550,000 to 12 colleges, including three community colleges, to test applications for the technology. MOOCs allow students, teachers, and others access to educational content, including lectures and videos, often for free, online.

[Cuyahoga Community College](#) in Cleveland; [Mt. San Jacinto College](#) in San Jacinto, Calif.; and [Wake Technical Community College](#) in Raleigh, N.C., each received funding to launch initiatives as part of the effort.

Laura Kalbaugh, dean of academic success and transition resources at Wake Tech, says the college used its \$50,000 grant to develop an introductory algebra



Coursera



review course for high school students looking to place out of developmental math.

"Something close to 70 percent of students nationwide place into developmental courses at community colleges," Kalbaugh says. "When students have to take developmental courses, it makes it difficult for them to complete an associate degree within two years."

The college hopes to use its algebra MOOC, the only one of its kind in the country, to help students begin coursework sooner. Wake Tech also is developing MOOCs for introductory English and reading, and professors have discussed using the algebra MOOC as a supplement to other programs.

At Mt. San Jacinto College, educators are developing an open writing course for aspiring college students in high school, or people in the community who want to pursue higher education but need remedial writing work.

"The vast majority of our students need basic skills courses in either reading or math," says Pat James, dean of distance learning at Mt. San Jacinto. "Many of the students are three and four levels behind, so this course aims to get them closer."

The writing MOOC went live on May 13 with nearly 20,000 students enrolled. The college hopes to add a second MOOC that would help students place into college-level courses. She says Mt. San Jacinto focused on writing in hopes of dovetailing its efforts with those at Wake Tech and elsewhere across the country. Ideally, James says, she'd like the colleges to share resources.

"I certainly see some cross-pollination between the MOOCs developed through Gates Foundation grants," James explains. "It makes no sense to reinvent the wheel."



OLEKSIY MAKSYMENKO/GLOW IMAGES

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# 3

## Game-Based Learning

Mesa Community College in Arizona has offered an associate degree in multimedia and game technology since spring 2010.

Burton Borlongan, interim director of the program, says professors who teach these “gamify” classes often use game metrics to mirror the very products and services students learn to create.

In a recent Python programming class, for example, Borlongan challenged students to create their own avatar. Students were awarded level upgrades based on their progress toward and beyond certain programming milestones.

“The whole idea is to find ways to engage this generation of students,” Borlongan says. “They grew up with games, so much of this comes natural to them.”

While gaming comes naturally to students, it doesn’t always come naturally to professors, which is why Front Range Community College (FRCC) in Westminster, Colo., developed a MOOC for professors who want to learn more about game-based learning.

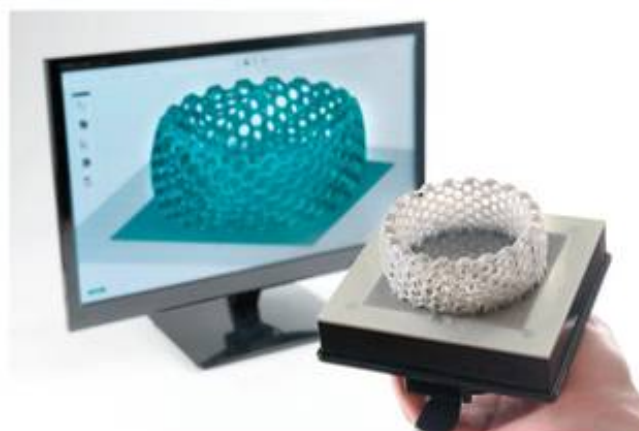
Kae Novak, an instructional designer at FRCC, says 608 people have registered for one of three different versions of the MOOC, which mixes text-based learning with game simulations. One unit challenges students to develop a game using mobile apps and augmented reality.

“We are looking at offering the course in two three-week segments this summer,” she says.

For information about the summer course, visit <http://gamesmooc.shivtr.com>.



# 4



COURTESY OF FORMLABS

## 3D Printers

Deep in the heart of the U.S. manufacturing belt in Flint, Mich., students in the computer-aided design program at Mott Community College (MCC) work with digital design software and 3D printers to test designs and learn about additive manufacturing techniques that promise to make the U.S. manufacturing industry more competitive.

Thomas Crampton, the college’s executive dean of regional technology initiatives, says the MCC FABLAB emerged from a digital fabrication model developed at MIT. A critical component of that initiative was a 3D printer.

In additive manufacturing, designers build a digital model using traditional CAD software and send it to a 3D printer, which produces a tangible, to-scale replica of a component part. 3D printing is an additive process that builds the part one thin layer at a time until the final dimensions are achieved, explains Crampton.

“By printing out a 3D copy of the design, engineers can see if the design makes sense before spending thousands of dollars on tooling,” Crampton says. “It’s a more efficient way to work and results in much less waste.”

Community colleges are viewed as the perfect venue to test and develop the technology. They can use their 3D printers to train students and lend the technology out to designers and engineers in the community who want to test their own products and ideas.

## Community College Journal

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**Northampton Community College (NCC)** in Bethlehem, Pa., is one of 65 colleges, companies, and nonprofit organizations that received a total of \$45 million in federal grants over three years from the **National Additive Manufacturing Innovation Institute** to explore the benefits of 3D printing.

"As prices come down for 3D printers, we'll be able to more easily produce components with more advanced materials, such as titanium alloys, for use in manufacturing," says Paul Pierpoint, NCC's vice president of community education. "Right now, the 3D printers we have are good for developing prototypes and to show potential customers at trade shows, but that's going to change over time."

# 5

## Media Literacy

For James Richardson, associate professor of New Media Studies at **LaGuardia Community College** in New York City, the most important part of media literacy is learning how to adapt as technology evolves.

"Whatever technology students learn here at school will change in a year or two," Richardson says. "I want to provide them with enough of a base that they can recognize trends and keep on developing new skills so they can maintain employment and their standard of living."

Richardson's program does just that. Six core courses include an intro course on media convergence; Web develop-

ment, in which students learn online coding; a video and audio production course; a session on

Web scripting languages and databases; a course in building mobile apps; and a capstone course in which students learn to create their own digital portfolio.

"From there, students choose specific tracks, such as e-commerce or game design," Richardson explains. "We also stress how to manage a digital identity. Students must understand that what they post on Facebook or Twitter can follow them into the workplace."

The goal is to give students a working knowledge and foundation of the types of skills and technologies that employers in the knowledge-based economy value.

# 6

## Big Data

Community colleges aren't necessarily teaching big data, but many of them are employing it to make smarter spending decisions and improve the quality of education and service offered on campus.

The **Lone Star College System** in The Woodlands, Texas, uses the **Oracle Business Intelligence Enterprise Edition (OBIEE)** interface over **Oracle's Enterprise Performance Management (EPM)** engine to extract relevant information about students.

System CIO Link Alander says Lone Star initially used OBIEE to deliver pie charts on

information such as student health.

"The state requires that all students pass a meningitis requirement,

so the interface in OBIEE offers our executives a chart that tells them how many students have met the requirement," says Alander.

Lone Star also plans to add this capability for human resources and finance. The hope is that the state community college system will eventually create a master database in which institutions can share relevant student information.

"The bottom line is speed of access to information so executives can make decisions," he says. "We need to develop better data on how many students are completing a two-year program on time and the reasons why those who don't are having difficulty."

**Sinclair Community College** in Dayton, Ohio, developed an in-house Web tool called **My Academic Plan (MAP)** that's collecting completion pathway data on student schedules and analyzing that data against historical enrollment patterns.

Karl Konsdorf, manager of research, analytics and reporting, says the college wants to leverage MAP to get a better sense for when it should be offering certain courses, noting that completion rates often hinge on a student's ability to take courses in the proper sequence.

"The idea is to get better information and arrange courses in such a way that our students don't have to wait an extra year to graduate," he says.

STEVE ZURIER is an education and technology writer based in Columbia, Md.



## WANT MORE ON CLASSROOM TECHNOLOGY?

Don't miss this article on *Community College Times* about how mobile devices are changing education: [www.aacc.nche.edu/mobiletech](http://www.aacc.nche.edu/mobiletech).

