

Views You Can Use

Vol. IX No. 9

April 2010

Education Trends

Wiki-Universities May Trump Traditional College Degree Programs

Over the past decade, Massachusetts Institute of Technology, Yale University, and other elite universities have developed open-source online courseware to improve the educational experience and to lure prospective students to their degree programs. This interactive courseware, financed largely through the Bill & Melinda Gates and other foundations, includes virtual simulations, videos, labs, and tutorials that allow for continuous feedback. Now, such courses are being used to develop wiki-type universities. If the trend sticks, colleges may cost virtually nothing, and university degrees as we know them may become a thing of the past.

Last fall, students at Harvard Business School started up Peer 2 Peer University (P2PU), a tuition-free wiki-based university, financed with seed money from the Hewlett and Shuttlesworth foundations. The university organizes open-source material from many institutions and combines it with student-to-student interaction with instructional facilitators. P2PU currently has 16 courses in such subject areas as behavioral economics and music theory.

P2PU doesn't offer degrees. Instead, it is working to come up with a degree alternative, such as an online portfolio, which applicants can show to potential employers to prove they have the necessary skills for the job. According to Neeru Paharia, doctoral student and founder of P2PU, "People are mobile. We have the Internet. We don't necessarily need to work within the confines of what defines a traditional education."

Sources: www.nytimes.com/2010/04/18/education/edlife/18open-t.html
<http://p2pu.org/about>

Two States Win Race to the Top Grants

Only two states, Delaware and Tennessee, won grants in the first phase of the Race to the Top competition, the federal government's new investment to spur K-12 school reform to prepare students for college and career. Delaware will receive approximately \$100 million and Tennessee \$500 million to implement their school reform plans over the next four years.

Forty states and the District of Columbia submitted applications for the first phase of grants. Delaware and Tennessee were selected from among 16 finalists. The two states made it to the top based on securing the commitment to reform from key stakeholders, including elected officials, teacher union leaders, and business leaders. The two states also have aggressive

plans to improve teacher and principal evaluation and use data to inform instructional decisions, and they have put in place strong statewide laws and policies to support their reform efforts. About \$3.4 billion in grants is available for the second phase of the competition. The application deadline is June 1. Race to the Top includes \$4 billion for statewide reform grants and \$350 million to support states working together to improve the quality of their assessments.

Sources: www.tntp.org/files/RealRaceBegins.pdf
www2.ed.gov/news/pressreleases/2010/03/03292010.html

The International Center has established a Stimulus Resource Center (SRC) to help school districts and state education departments leverage the education money from the American Recovery and Reinvestment Act of 2009 (ARRA). The International Center's white paper, "The Finish Line — 4 Assurances," outlines what is expected of schools that receive federal stimulus money and how to use it to drive reform and improvement. There also are a number of other links to information on how to secure and implement School Improvement grant on the website. For more information, please visit www.leadereed.com.

Brain Research Trends

Studying Memory on a Chip

A group of scientists, led by the Max Shuttleworth in Germany, has developed a novel method to grow cultured neurons in order to study basic mechanisms of memory on the molecular level. The method may also aid in the development of drugs for brain and other neurological disorders. The new technique involves growing two separate sets of neurons on microfluidic chamber-like chips. Tiny grooves in each chip allow the neurons to meet each other and form synaptic connections. A perfusion channel constructed next to the grooves allows researchers to manipulate small numbers of synapses with drugs or neurotransmitters. The chambers can be imaged, allowing researchers to see the dynamics of synapses, which are the connections between neurons through which information flows from one neuron to another.

Studying cultured neurons makes it possible to reduce the complex three-dimensional network in living organisms to two dimensions. Until now, however, cell growth has been disorganized even in the laboratory, which makes a systematic study difficult. The basis of the research is to understand how synapses are formed and which neurotransmitters play a part in their formation.

Source: <http://esciencenews.com/articles/2010/04/15/neurons.growing.line>

Clinical neuropsychologist Dr. Paul Nussbaum will host an International Center webinar, titled Relationship of the Human Brain to Leadership, on Tuesday, May 18, 3-4 p.m. Eastern time. Dr. Nussbaum will review the basics of the human brain with emphasis on the structures and processes that relate to leadership. To register for this free webinars or for more information, please visit www.leadereed.com/Webinars.html

Nanobiotechnology Trends

Laying the Groundwork for Retinal Transplants

A group of researchers from Tel Aviv University has discovered a way to merge retinal nerves with electrodes, laying the groundwork for retinal implants in people someday. The researchers

say that the role of the electrodes will not be to act as relays between the eye and the visual nerves, but rather to stimulate the growth of natural retinal cells. To create the device, researchers grew a spaghetti-like mass of carbon nanotubes on a platform. An electric current was then applied to coax living rat neurons to grow on the scaffold of nanotubes. In the immediate future, the device could test new products geared toward eye treatment.

Source: www.aftau.org/site/News2?page=NewsArticle&id=11915

Technology Trends

NASA Will Launch First Humanoid in Space

NASA will launch the first human-like robot later this year to the International Space Station. The 300-pound Robonaut 2, or R2, has hands and arms, a head, and a torso. Built by NASA and General Motors, the robot can manipulate the same tools that crew members do at the space station and could be used in both space and factory settings. Once aboard the station, engineers will monitor how it operates in weightlessness. The humanoid will also be subjected to the station's radiation and electromagnetic interference environments. In the future, the greatest benefits of humanoids in space may be as assistants or stand-ins for astronauts during spacewalks or for tasks too difficult or dangerous for humans.

Sources: <http://robonaut.jsc.nasa.gov/>
www.smartplanet.com/business/blog/smart-takes/meet-r2-your-robotic-coworker-courtesy-of-nasa-gm/3890/

The International Center is co-hosting a [STEM Summit in Wisconsin on August 15-17](#) and also working closely with NASA on piloting its expanded Explorer School program.

Privacy Still Valued Among Younger Techie Generations

Despite all the personal information that young people post on social networking sites, most of them still care about preserving their privacy online. The survey, conducted by researchers at the University of California, Berkeley, and the University of Pennsylvania, found that people ages 18-24 care as much about privacy as older Americans. The analysis, based on a 2009 telephone survey of 1,000 Americans 18 and older, is among the first quantitative studies that looked at young people's attitudes toward privacy, as government officials and corporate executives alike increasingly grapple with the issue.

Although they grew up in the digital age, many young people know little about online privacy laws, which offer few safeguards. That, along with a virtual environment that encourages people to share information, may be a reason that young people are careless about what they post online, according to the report. For statistics on the survey, please see "By the Numbers."

Source: www.eschoolnews.com/2010/04/16/study-young-adults-do-care-about-online-privacy/

By the Numbers

Among the findings of the survey on online privacy (see the "Technology Trends" section for full story):

Of young adults ages 18-24, 82% said they have refused to give out information to a business because they thought it was too personal or unnecessary, compared to 85% of those over 65.

When asked if they believe that anyone who posts a photo or video of them on the Internet should get their permission first, even if that photo was taken in public, 84% of people ages 18-24 agreed, compared to 90% among those 45-54.

Of the young adults, 40% believe executives should face jail time if their company uses someone's personal information illegally — the same as the response among people ages 35-44.

Source: www.eschoolnews.com/2010/04/16/study-young-adults-do-care-about-online-privacy