

IN HIGHER EDUCATION

DEMOGRAPHICS | ECONOMICS | ENVIRONMENT | GLOBAL EDUCATION | LEARNING | POLITICS | TECHNOLOGY

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Our last edition focused on uncertainty in the energy sector and its potential effects on the economy. The economy remains at the forefront of this edition and we continue to encourage readers to do wide-ranging scenario planning to help them prepare for many possibilities. For those of you familiar with the work of William Bridges on *Managing Transitions* (2003), we'd like to suggest that we are in what he calls a 'neutral zone.' Neutral zones are times of maximum uncertainty and creative possibility between the ending of the way things have been and before the way they will be has become apparent. Expect continued turmoil and plan to seize opportunities for redefining and refreshing your organization's integrated plan.

The links listed below may be available for a limited time.

DEMOGRAPHICS

Observation

The pattern of increased enrollment in higher education during economic downturns is decidedly less clear in this recession (*Chronicle of Higher Education*, November 28, 2008, chronicle.com/free/v55/i14/14a00102.htm).

- The number of students taking the Graduate Record Examination declined in 2008, the first time that's happened during a downturn (*Inside Higher Ed*, December 8, 2008, insidehighered.com/news/2008/12/08/gre).
- Enrollment fell by 1.5 percent at Southern Illinois University's Carbondale campus while it increased across most of the rest of the state (*Chicago Tribune*, September 23, 2008; www.chicagotribune.com/news/chi-ap-il-collegeenrollment,0,719809.story). Wayne State University saw its enrollment decline by 4.7 percent (*Detroit Free Press*, October 28, 2008, freep.com). The University of Wisconsin-Madison saw applications for admission in fall of 2009 drop by 3 percent (*Chicago Tribune*, February 11, 2009, chicagotribune.com/news/chi-ap-wi-uwadmissions,0,6728552.story).
- The National Association of Independent Colleges and Universities reported that nearly one-fifth of private colleges and universities reported a smaller than anticipated freshman class this fall (*The New York Times*, December 22, 2008, nytimes.com/2008/12/22/education/22college.html?scp=1&sq=%22National%20Association%20of%20Independent%20Colleges%20and%20Universities%22&st=cse).
- The American Association of Community Colleges reported that community college enrollment rose 8-10 percent; the average age of students did not rise as it typically does during a recession (*Newsweek*, December 15, 2008, www.newsweek.com/id/175061).

Our Thoughts

The declining high school population will play a greater role in enrollments in some states than others; as will the extent to which the state or region is affected by the economic decline.

- There are more unemployed college graduates seeking work than high school dropouts (*CNN Money*, December 5, 2008, money.cnn.com/2008/12/05/news/economy/degreed_workers/?postversion=2008120514).
- The percentage of adult college students (25-49) in New York State's higher education system has dropped from one-third of all students in 1995 to just over one-fifth in 2005 (*Daily Gazette*, September 21, 2008, www.dailygazette.com).
- Texas and Mississippi report that community colleges are seeing significant increases in enrollment, but much slower increases in enrollments at four-year institutions (*The Dallas Morning News*, September 25, 2008, dallasnews.com; *The Clarion-Ledger*, September 23, 2008, clarionledger.com).

- Utah saw an increase in undergraduate enrollment of close to 20.5 percent between 2000 and 2007 while its population increased 18 percent. Enrollment in graduate and professional schools increased 35 percent (*The Salt Lake Tribune*, September 23, 2008, www.sltrib.com).

Observation

The governance and administration of the academy is likely to continue being stressed by the economy and shifting demographics. Like enrollment, different regions and institutions will respond to these pressures differently—some with more conflict internally than others.

- Administrators pushing rapid restructuring or reorganization are experiencing considerable pushback from faculty (*The Chronicle of Higher Education*, February 6, 2009, chronicle.com/weekly/v55/i22/22a00102.htm).
- Alumni/ae and faculty pushed the decision by Brandeis University's administration to sell artwork into the media eye, forcing them to revise their plans (*The Boston Globe*, February 11, 2009, boston.com/news/education/higher/articles/2009/02/11/hundreds_seek_ways_to_keep_public_access_to_brandeis_museum/).
- Executive/managerial staff increased over 10 percent between 2005 and 2007 while research staff decreased 4.6 percent (*Inside Higher Ed*, December 12, 2008, insidehighered.com/news/2008/12/12/nces).

Our Thoughts

While relationships between administrators and faculty have always been a balancing act, the reduced number of faculty on the tenure track, as well as the stresses of administration, point to a likely decrease in administrators with any experience in the faculty.

- Faculty appear to be uninterested in academic administration—starting with the traditional entry role of department head (*American Council on Education*, ACE Center for Policy Analysis Issue Brief, September 2008, “Too Many Rungs on the Ladder? Faculty Demographics and the Future Leadership of Higher Education”).
- As graduate students advance in their programs they report being less interested in becoming faculty members as they view the academy as unfriendly to families (*Academe Online*, January-February 2009, <http://www.aaup.org/AAUP/pubsres/academe/2009/JF/Feat/maso.htm>).
- A recent study by the Iowa State University Community College Leadership Program indicates that it's likely that 84 percent of the currently serving community college presidents plan to retire by 2016. At the same time, there was a 78 percent decrease in the number of graduates of community college leadership programs between 1983 and 1997 (*Community College Leadership Program*, Iowa State University, July 31, 2008, public.iastate.edu/~nscentral/news/2008/jul/ccleadership.shtml).

ECONOMICS

Observation

No sector of nonprofit higher education has been spared the effects of the recession. Every state's newspapers carry articles on budget cuts at institutions, public and private alike (*National Conference of State Legislatures*, February 6, 2009, www.nslc.org/programs/fiscal/StateBudgetUpdate0109.htm).

- Virginia public universities will see reductions of 5 percent to 7 percent (*The Roanoke Times*, October 10, 2008, Roanoke.com). \$1 billion construction plan in Arizona is no longer on the boards (*The Arizona Republic*, October 8, 2008, azcentral.com). California's budget will have to account for a \$40 billion shortfall (*The Wall Street Journal*, February 11, 2009, WSJ.com/article/SB123431135774170619.html). The Georgia Board of Regents cut 6 percent from the university system budget (*Atlanta Business Chronicle*, October 14, 2008, Atlanta.bizjournals.com/atlanta/stories/2008/10/13/daily24.html).
- A survey by the National Association of Independent Colleges and Universities reported that 97 percent of endowments were affected or significantly affected by the economic downturn, 82 percent indicated that demand for student aid had been affected or significantly affected (*National Association of Independent Colleges and Universities*, December 18, 2008, www.naicu.edu/news_room/naicu-survey-examines-the-economic-concerns-of-private-college-and-university-leaders).
- A survey of members of the National Council of State Directors of Community Colleges indicated that community colleges will likely have midyear reductions; these will come on top of experiencing the largest one-year drop in state funding of all public education sectors in 2007-2008 at 5.2 percent (*American Association of Collegiate Registrars and Admissions Officers*, November 6, 2008, “Community College Sector Experiencing Severe Budget Challenges,” www.aacrao.org).

Our Thoughts

Unfortunately, we know that the students are the ones most likely to feel the pinch of the recession; from application to enrollment to graduation, everything has changed.

- More students are opting for lower cost college alternatives—community colleges, public 4-year institutions, or lower cost privates (*USA Today*, October 14, 2008, usatoday.com/news/education/2008-10-14-college-costs_N.htm; *The Boston Globe*, October 21, 2008, boston.com/business/personalfinance/articles/2008/10/21/more_affordable_colleges_on_student_parent_minds/).
- Students are taking out more loans, using credit cards, and working more, as parents see their tax-exempt savings (529 plans) shrink (*Los Angeles Times*, November 11, 2008, www.latimes.com/news/education/la-fi-loans11-2008nov11,0,3288334.story?/track=rss; *Bloomberg.com*, November 10, 2008, “Students May Seek More Loans as Savings Dwindle”; *Upromise, Inc.*, August 6, 2008, www.businesswire.com/news/home/20080806005190/en; *Sallie Mae and Gallup, Inc.*, August 2008, “How America Pays for College,” www.salliemae.com/content/dreams/higher-education/how-america-pays-for-college-survey.html).
- Financial aid is critical for keeping students in college and on schedule to graduate, but the drop in endowments and government budget support are making that route tough, too. Hiking tuition to cover the financial needs of students may no longer be sustainable (*The Chronicle of Higher Education*, October 29, 2008, chronicle.com/free/2008/10/6171n.htm; *The New York Times*, November 11, 2008, www.nytimes.com; *Times Union*, September 8, 2008, www.timesunion.com; *National Center for Public Policy and Higher Education*, August 2008, “Squeeze Play: How Parents and the Public Look at Higher Education Today,” www.highereducation.org).

Observation

Budget woes have higher education looking for creative and time-tested ways to boost revenue and cut costs.

- Even though only spending on science and research facilities was included in the US stimulus package, institutions will reap the benefits of lower construction costs on the projects underway or in the pipeline (*The Chronicle of Higher Education*, February 13, 2009, chronicle.com/weekly/v55/i23/23a00103.htm; *Reed Construction Data*, January 30, 2009, reedconstructiondata.com).
- Entire states and many institutions are using furloughs to keep from losing staff and faculty (*Inside Higher Ed*, November 19, 2008, insidehighered.com/news/2008/11/19/furlough; *Baltimore Sun*, December 6, 2008, www.baltimoresun.com/news/local/politics/bal-md.furloughs05dec04,0,5388131.story; *Oakland Tribune*, February 6, 2009, www.insidebayarea.com/oaklandtribune/localnews/ci_11640041?source=rss; *The Chronicle of Higher Education*, January 9, 2009, chronicle.com/free/v55/i18/18a00102.htm).
- Cutting state sponsored merit scholarships, increasing tuition, more adjuncts, elimination of low enrollment programs, and stepping up out-of-state recruiting are all being considered. Each of these tactics puts the burden on students to adjust and jeopardizes the quality of teaching (*Union-Tribune*, January 12, 2009, signonsandiego.com/stories/2009/jan/12/college-out-staters-011209/?zIndex=35720; *The Wall Street Journal*, January 13, 2009, www.wsj.com; *The Chronicle of Higher Education*, January 9, 2009, chronicle.com/weekly/v55/i18/18a01801.htm).

Our Thoughts

It's becoming more probable that postsecondary education will be forced to make fundamental changes in its cost structure. How will cost affect delivery of the traditional higher education missions?

- If trends continue, the average annual tuition at a public research university could reach nearly a quarter of the median family income by 2036. College costs increased at double the rate of inflation between 1989 and 2005. The economic benefits to an individual will disappear long before then (*The Motley Fool*, October 1, 2008, Fool.com; *National Association of State Universities and Land-Grant Colleges*, November, 2008, “University Tuition, Consumer Choice and College Affordability: Strategies for Addressing a Higher Education Affordability Challenge,” www.nasulgc.org/NetCommunity/Page.aspx?pid=1088&srcid=813).
- Colleges can provide financial aid to only so many students and fewer dollars will be available in the foreseeable future (*The Chronicle of Higher Education*, October 31, 2008, chronicle.com/daily/2008/10/6350n.htm; *Associated Press*, February 19, 2009, hosted.ap.org/specials/bluepage.html; *Inside Higher Education*, September 19, 2008, insidehighered.com/news/2008/09/19/rethink).
- The Apollo Group, Inc.—the parent company of the University of Phoenix—more than doubled its profit for the same quarter in 2007 during the third quarter of 2008 (*Phoenix Business Journal*, October 28, 2008, phoenix.bizjournals.com/phoenix/stories/2008/10/27/daily30.html).
- Clayton Christensen of the Harvard Business School predicts that within ten years over half of instruction will take place online (*eSchool News*, February 23, 2009, www.eschoolnews.com/conference-info/aasa).

Observation

Until the passage of the US stimulus package, alternative energy's future was looking less promising. Even with it, however, perceptions about 'being green' still must change for any real or lasting effects on climate change.

- The return to below \$50.00 per barrel oil has taken much of the immediate impetus out of finding and using alternative energy sources (*The New York Times*, October 21, 2008 and February 4, 2009, www.nytimes.com; *The Chronicle of Higher Education*, October 9, 2008, chronicle.com/daily/2008/10/4951n.htm).
- Builders and corporations are likely to think that 'green' is costly, even if presented with contrary evidence (*Academy of Management Perspectives*, A. Stefan and L. Paul, "Does It Pay to Be Green? A Systemic Overview," November 2008, v22, n4, pp 45-62; *Professional Builder*, September 1, 2008, probuilder.com).
- Without changes to the power grid—a system built over 100 years ago—adding wind power on any large scale just can't happen (*The New York Times*, August 27, 2008, www.nytimes.com).

Our Thoughts

As an economic sector, higher education has invested more broadly in the range of changes needed to create the three-legged stool of sustainability practices in the environment, economy, and social justice.

- Even Congress recognized the unique role of higher education. In passing the Higher Education Opportunity Act of 2008, it authorized a University Sustainability Program that offers competitive grants to institutions to develop, implement, and evaluate sustainability curricula, practices, and academic programs (*US Department of Education*, August 2008, www.ed.gov/policy/highered/leg/hea08/index.html).
- Compared with the survey done in 2001, responses by university leaders in 2008 indicate an increased value for environmental, social, and economic sustainability—and they are putting practices and organizational structures in place to move this agenda forward (*National Wildlife Federation Campus Ecology*, "National Wildlife Federation's Campus Environment 2008: A National Report Card on Sustainability in Higher Education," www.CampusEcology.org).
- A 2007 survey found that 85 percent of colleges and universities have incorporated sustainable design principles in recent building projects (*Building Design + Construction*, October 2007, www.bdcnetwork.com/).
- Companies and institutions that invest in sustainability appear better positioned for this financial downturn (*A. T. Kearney*, "Green" Winners: The performance of sustainability-focused companies during the financial crisis," <http://www.atkearney.com/main.taf?p=5,3,1,262>; *Clarion Ledger*, February 3, 2009, www.clarionledger.com/apps/pbcs.dll/article?AID=2009902230326).

Observation

Water quality was one of the first aspects of environmental awareness in the 1960s and 1970s, but it's slipped off the radar in the face of global climate change. Unfortunately, one of the first casualties of climate change could be water.

- According to the World Water Council, 1.1 billion people worldwide lack adequate drinking water—one-sixth of the population. Human consumption only accounts for 10 percent of the ways water is used—close to 70 percent is used for agricultural irrigation, with industry accounting for 20 percent (*World Water Council*, www.worldwatercouncil.org/index.php?id=1&L=0%2Ftitle%3Dtarget).
- A 2007 survey reported by the Wharton School of Business indicated that while 40 percent of Fortune 1000 companies believed the impact of a water shortage would be severe to catastrophic, only 17 percent said they were prepared for such an eventuality (*Knowledge@Wharton*, October 1, 2008, knowledge.wharton.upenn.edu/article.cfm?articleid=2059).
- The UN estimates that 50 million people will be displaced by water shortages in the next 10 years (*E/The Environment Magazine*, "Commentary: The Business of Water," www.emagazine.com/view/?4363&src=).

Our Thoughts

Energy and water are inexorably enmeshed—the extraction of oil and coal require water, nuclear power plants need water for cooling, and the primary source of renewable energy is hydroelectric power. As rainfall patterns change and polar ice caps melt, we have more to worry about than greenhouse gases.

- Will higher education be able to push for research on water quality and availability? The focus is so much on renewable energy, what must we do now to reduce the severity of this looming crisis?

- Banning bottled water is beginning to catch on at some campuses. It's time we consider the water used to make products, as well as the energy, when we're looking at our ecological footprint (*The Ubyyssey*, August 20, 2008, www.ubyssey.ca; *E/The Environment Magazine*, "Commentary: The Business of Water," www.emagazine.com/view/?4363&src=).
- Ironically, students are finding fewer water fountains and other potable water sources when they walk around campuses—just vending machines for water and sugared drinks (*Canadian Union of Public Employees*, September 2, 2008, www.policyalternatives.ca).

GLOBAL EDUCATION

Observation

The scramble is on to preserve enrollments and garner research funding—and prestige internationally with both. An estimated 2.5 million university students study outside their own countries, a 70 percent increase in the past decade (*University World News*, "Vast rise in student mobility," October 12, 2008, www.universityworldnews.com).

- Both China and Singapore have plans to attract significantly higher numbers of foreign students—in the case of Singapore, the goal is 150,000 by 2015 (*The Guardian*, August 21, 2008, guardian.co.uk/uslatest/story/0,-7741590,00.html; *University World News*, September 28, 2008, universityworldnews.com).
- Canada and the US are increasing their efforts to attract foreign students; the result for US graduate schools is a decrease in enrollments (*The Star*, February 21, 2009, thestar.com/printArticle/591003; *The Boston Globe*, November 9, 2008, boston.com; *Inside Higher Ed*, November 10, 2009, insidehighered.com/news/2008/11/10/international).
- India plans to create 30 'world class' universities, eight new institutes of technology, and seven institutes of management in the coming five years (*University World News*, January 11, 2009, universityworldnews.com).
- The European Union is creating a \$1.2-billion fund for scholarships they hope will be competitive with the Fulbright program in attracting the brightest students from outside the EU (*The Chronicle of Higher Education*, February 17, 2009, www.chronicle.com).

Our Thoughts

The global economy might ultimately determine the outcomes of these efforts. What will happen in the worldwide postsecondary education market in the next four to five years?

- China's economic growth has slowed considerably in the past year from its former double-digit pace. Will Chinese parents still be able to send their children overseas to be educated? (*The New York Times*, October 23, 2008, nytimes.com; *The Guardian*, January 27, 2009, guardian.co.uk; *University World News*, November 2, 2008, universityworldnews.com).
- The number of British students at England's universities fell (one percent) for the first time in recent history in 2007, while the number of overseas students rose by 4.8 percent (*BBC News*, January 1, 2009, news.bbc.co.uk/go/pt/ft/-/1/hi/education/7859034.stm).
- Throughout the world, people are attempting to increase their skills while escaping the recession by returning to higher education (*The Guardian*, February 16, 2009, guardian.co.uk; *The Canadian Press*, January 13, 2009, thecanadianpress.com).

Observation

The competition is not just for students, but also faculty members, rankings, and the hope of innovations that put the institution on the map (and presumably pay royalties).

- Former American academics that moved to Canada over the past eight years show no signs of returning to the US. In fact, Canada is actively recruiting top American researchers through prizes and significant funding (*University Affairs*, February 23, 2009, www.universityaffairs.ca; *The Globe and Mail*, October 23, 2008, globeandmail.com).
- Canadians have also changed their immigration policies to encourage international students with desired skills to stay after they graduate—work permits are now good for three years (*Inside Higher Ed*, August 22, 2008, insidehighered.com/news/2008/08/22/Canada).
- The annual number of scientific papers produced in China rose 16.5 percent per year in the decade from 1995-2005. The same decade yielded a 15.7 percent growth rate in papers from South Korea, 12.2 percent in Singapore, and 8.6 percent in Taiwan. In the same period, the EU's production of scientific papers rose by 1.8 percent and the rate in the US was 0.6 percent (*University World News*, August 17, 2008, universityworldnews.com).

Our Thoughts

Europeans, Asians, Indians, and South Americans are approaching the economic crisis differently than the US and that will inevitably affect higher education around the world. For now, the models for the delivery of a 'credential' are still in flux (*Academic Matters: The Journal of Higher Education*, October/November 2008, ISSN 1719-010X, J. Wright, "The internationalization of higher education: Are we on the right track?").

- Southeast Asian Ministers of Education Organization (SEAMEO) recently met and took the first steps for aligning with the Bologna process, something they hope to achieve in seven years. Presently, there are 12 million students and 6,500 higher education institutions covered by these countries (*University World News*, November 23, 2008, universityworldnews.com; *European University Association*, EUA Publications 2007, D. Crosier, L. Purser, and H. Smidt, "Trends V: Universities Shaping the European Higher Education Area, eua.be/trends-in-european-higher-education).
- Quality assurance and credit transferability efforts are converging. Hopefully global rankings will find a way to recognize that beyond the 'usual suspects' (*The Chronicle of Higher Education*, October 17, 2008, chronicle.com/weekly/v55/i08/08a02701.htm; Inside Higher Ed, January 30, 2009, insidehighered.com/news/2009/01/30/chea; Council for International Higher Education, Number 53, Fall 2008, bc.edu/bc_org/avp/soe/cihe/newsletter/Number53/p21_Morse.htm).
- Canadians and Australians have not yet decided which to use, the results of Bologna or those of the US model, whose universities still tend to dominate the global rankings; (*University World News*, February 29, 2009, universityworldnews.com; University Affairs, February 9, 2009, "The Bologna conundrum," universityaffairs.ca; *The Chronicle of Higher Education*, September 30, 2008, chronicle.com/daily/2008/09/4803n.htm).

LEARNING

Observation

Advances in cognitive science and neuroscience continue to shed light on how people, and college-age students in particular, learn (*The Art of Changing the Brain: Enriching the Practice of Teaching by Exploring the Biology of Learning*, J. Zull, (2002) Sterling, VA: Stylus; *Enriching the Brain: How to Maximize Every Learner's Potential*, E. Jensen (2006) San Francisco: Jossey-Bass; *Mapping the Mind*, R. Carter, (1998) Los Angeles: University of California Press).

- Research on adolescent brain maturation and the ability to plan effectively (i.e., anticipate fully the consequences of present actions) clearly indicates that individuals differ greatly as to when executive functions will emerge. That appears to make early decisions for admission particularly risky, as students don't understand how to make educational plans for reaching their career goals (National Association of College Admission Counseling, Research Report, B. Schneider, 2008, "College Choice and Adolescent Development: Psychological and Social Implications of Early Admission," nacacnet.org/PublicationsResources/Research/Reports/Pages/default.aspx).
- The length and quality of sleep continues to be highlighted as a key to everyone's health. College students' habits put them at higher risk of negative consequences, primarily by increasing tissue-damaging inflammation. The outcomes include lower grade points. (*Science Daily*, September 4, 2008, sciencedaily.com/releases/2008/09/08092975211.htm; *The Chronicle of Higher Education*, December 16, 2008, chronicle.com/daily/2008/12/8694n.htm; *Inside Higher Ed*, October 21, 2008, insidehighered.com/news/2008/10/21/health).
- Advocates of active learning strategies have long maintained that engaging in 'doing' helps learning. Recent brain research confirms that the cells that were activated when an experience first occurred are the same ones that become active during recall (*The New York Times*, September 5, 2008, /www.nytimes.com/2008/09/05/science/05brain.html?_r=1&scp=1&sq="For the Brain, Remembering Is Like Reliving"&st=cse).

Our Thoughts

As important as the studies of how the brain acquires and stores information, are those that assess how relationships and interactions affect learning. Multiple factors, beyond physiology, affect students' readiness to learn.

- Students who attended high schools with high levels of violence or disorder tend to have lower grades their freshman year than comparably prepared students who attended schools that were orderly (*The Chronicle of Higher Education*, November 13, 2008, chronicle.com/daily/2008/11/7310n.htm).
- Emotions, whether anger or love, affect the way in which advice is received—even when the emotion has no relationship to the person offering the advice. Since learning is essentially about accepting information (advice in a different form), this finding would seem to suggest that instructors should do their best to induce positive emotions at the start of every class if they want their students to learn (*Knowledge@Wharton*, October 1, 2008, knowledge@wharton.com).

wharton.upenn.edu/article.cfm?articleid=2061).

- When we need to make a decision, we're more likely to look to our experiences than to descriptive knowledge (e.g., reading, listening to lectures, etc.) in making our choice. That's because feedback on the effects of a decision (on ourselves or others) is essential to rationality (*Psychological Science*, R. Jessup, A. Bishara, and J. Busemeyer "Feedback Produces Divergence From Prospect Theory in Descriptive Choices," v 19, n 10, pp 1015-1022).

Observation

Individuals within an identifiable group usually differ more among themselves than across groups (e.g., there are more differences among individual women than between women and men as groups). Unfortunately, we are still left with significant variances in how a variety of groups experience higher education.

- Academic engagement increases the success rate of all groups when measured by grade point average. It has the greatest effect on students who enter with lower achievement levels (*The Gender Gap in College: Maximizing the Development Potential of Women and Men*, L. Sax, (2008) San Francisco: Jossey-Bass; *High-Impact Educational Practices: What Are They, Who Has Access To Them, and Why They Matter*, G. Kuh (2008) Washington, DC: American Association of Colleges and Universities).
- Negative stereotypes of groups, including athletes, minorities, and women, affect their performance on tests and in classes (*In Press, Psychological Science*, G. Walton and S. Spencer, "Latent Ability: Grades and Test Scores Systematically Underestimate the Intellectual Ability of Negatively Stereotyped Students;" *National Bureau of Economic Research*, T. Dee, Working Paper 14705, www.nber.org/papers/w14705).
- All students, but particularly minorities, were significantly more likely to graduate if they enrolled at a competitive institution under the 'Texas 10 percent plan' than if they enrolled at a less competitive institution (*Inside Higher Ed*, January 12, 2009, insidehighered.com/news/2009/01/12/tenpercent).
- The greater the diversity students experience among their close friends and classmates, or even in a discussion group, the more likely they are to engage in critical thinking (*Tomorrow's Professor*, October 28, 2008, cgi.stanford.edu/~dept-ctl/cgi-bin/tomprof/postings.php).

Our Thoughts

How will we achieve the gains needed for all students in learning outcomes? If we know that active learning in safe environments works for virtually everyone, what must change to accomplish that?

- First steps should include the development of competencies/literacies for students that will face multiple employment changes (*Tomorrow's Professor*, April 3, 2009, cgi.stanford.edu/~dept-ctl/cgi-bin/tomprof/postings.php).
- A next step would be to ensure that teacher preparation and licensure requirements are aligned with what we want students to know 20 years from now—remembering that the teachers of children in 2019 and 2029 are in college now (*Teachers College Record*, September 26, 2008, H. Rubin, "The Archer's Dilemma, or, Why the question 'What will preK-12 students need to know and be able to do in 2028?' is timely and important right now!" <http://www.tcrecord.org/content.asp?contentid=15389>).
- Setting targets for graduation rates seems like the wrong focus to us. What we need are graduates that go beyond just meeting seat time requirements or passing our present-day high school graduation tests and college entrance exams—routine cognitive knowledge will rapidly become obsolete. The flexible acquisition and use of knowledge to solve problems is critical (*Inside Higher Ed*, December 11, 2008, insidehighered.com/news/2008/12/11/report; *Tomorrow's Professor*, April 3, 2009, cgi.stanford.edu/~dept-ctl/cgi-bin/tomprof/postings.php; *Informal Learning: Rediscovering the Natural Pathways That Inspire Innovation and Performance*, J. Cross (2006), San Francisco: Pfeiffer/John Wiley, Inc.).

POLITICS

Observation

Colleges and universities in the US continue to be saddled with a variety of costly compliance related expenses.

- The average spent by public universities to prevent peer-to-peer (P2P) file sharing in 2007 was close to \$170,000, private universities averaged \$408,000, and even community colleges had to spend an average of \$50,000 on hardware, software, and other compliance costs (*The Campus Computing Project*, K. Green, October 2008, campuscomputing.net; *eSchoolNews*, August 29, 2008, eschoolnews.com/news/top-news/?i=55049;_hbguid=6a5a7c34-adf2-44de-8d8f-50bee4456b15).
- Amendments to the Americans with Disabilities Act (ADA) are likely to result in higher costs to institutions, as the legislation included "thinking" and "concentrating" on the list of major life activities for which students with difficulties may request accommodations (*Diverse Education*, July 23, 2008, DiverseEducation.com).

- A change to Internal Revenue Service Form 990 has caused at least one college to start charging staff and faculty for their use of institutionally provided laptops by considering them part of the employees' wages. All campuses are advised to ensure that their policies and practices comply (*Campus Technology*, January 12, 2009, campustechnology.com; *Dean & Provost*, March 2009, A. Shackelford, "The IRS is knock-knock-knocking on higher education's door," p 8).

Our Thoughts

The accountability requirements that come with changes to FERPA, identity theft protection, Title IX, and more, all contribute to the cost of higher education, but politicians and the public don't seem to see that.

- Federal funding agencies, such as the National Science Foundation and the Department of Energy, have started Title IX compliance reviews in a number of academic departments across the country (*Capital Newspapers*, September 2, 2008, madison.com/archives/read.php?ref=/tct/2008/09/03/0809030015.php).
- The Family Educational Rights and Privacy Act (FERPA) had new rules issued in December 2008 that became effective in January 2009. Of particular concern are rules about contractors that affect outsourcing students' email to Microsoft and Google, one way that institutions are looking at cutting costs (*The Chronicle of Higher Education*, December 19, 2008, chronicle.com/weekly/v55/i17/17a01801.htm; *eSchoolNews*, January 12, 2009, eschoolnews.com/news/top-news/?i=56670).
- The Employee Free Choice Act, if passed, could increase the costs for private institutions, as it makes it simpler for employees on those campuses to form unions (*The Chronicle of Higher Education*, February 20, 2009, chronicle.com/weekly/v55/i24/24a2401.htm; *Committee on Education and Labor*, March 10, 2009, edlabor.house.gov/newsroom/2009/03/us-senate-and-house-introduce.shtml).
- The Federal Communications Commission (FCC) is considering a change in the "universal service fund" that subsidizes telephone access for rural and low-income areas. If accepted, the charge of 85 cents per phone line on a campus could add up costing a campus up to \$100,000 (*The Chronicle of Higher Education*, December 19, 2008, chronicle.com).

Observation

The election of Barack Obama and a Democratic Congress has indeed changed the fiscal fortunes of education at all levels.

- The American Recovery and Reinvestment Act of 2009 provided real increases in funding for scientific research and infrastructure (*The New York Times*, February 24, 2009, [nytimes.com/2009/02/24/science/24stim.html?_r=1&scp=1&sq="Beaker-Ready Projects? Colleges Have Quite a Few"&st=cse](http://nytimes.com/2009/02/24/science/24stim.html?_r=1&scp=1&sq=)).
- College for all is championed in the inaugural address. That pledge is backed up by a budget that funds higher Pell Grant awards, full support for veterans, and more support for college preparation programs (*Inside Higher Ed*, February 24, 2009, insidehighered.com/news/2009/02/24/budget; *Inside Higher Ed*, February 4, 2009, insidehighered.com/news/2009/02/04/yellowribbon).
- The \$54-billion in the stimulus bill that is designated to help states cover shortfalls in their education budgets has not stopped some governors from making deep cuts in spending on public higher education—there just wasn't enough money in what they received (*The Chronicle of Higher Education*, February 27, 2009, chronicle.com/weekly/v55/i25/25a02401.htm).

Our Thoughts

Issues of accountability for access and learning are likely to heat up as money flows to higher education, whether from government sources or tuition and fees. Politicians will increasingly see this an area in which they must take a stand.

- The need for reliable methods for tracking students throughout their educational careers, which may last a lifetime, is likely to happen regardless of the lobbying against it. Whether it's the plan proposed by the US Department of Education's Office of Inspector General or the collaboration among states being supported by the Bill and Melinda Gates Foundation, we're expecting a national student data base will happen in the next five years (*Inside Higher Ed*, November 19, 2008, insidehighered.com/news/2008/11/19/oig; *Inside Higher Ed*, February 13, 2009, insidehighered.com/news/2009/02/13/data; *eSchoolNews*, November 19, 2008, eschoolnews.com/news/top-news/?i=56097).
- Institutions are looking to ways other than accreditation and rankings to demonstrate their worth. The proliferation of methods may not bode well. If all it does is create confusion, then the federal government may finally step in and demand a single standard, as it has done in No Child Left Behind (*Inside Higher Ed*, September 29, 2008, insidehighered.com/news/09/29/2008/vsa; *The Chronicle of Higher Education*, October 24, 2008, chronicle.com/daily/2008/10/5612a.htm; *The Chronicle of Higher Education*, September 5, 2008, chronicle.com/weekly/v55/i02/02a03203.htm).

- Rankings have become the default measure of quality for the public, but they are still fraught with problems. *US News & World Report* has seen participation in its “reputational” survey (25 percent of its formula) drop from 67 percent to only 46 percent in 2007 (*Inside Higher Ed*, August 22, 2008, insidehighered.com/news/2008/08/22/usnews).
- Research presented at the Association for the Study of Higher Education indicates that those who manage to move in the *US News* rankings are primarily doing it through changes in their selectivity—not a good sign for access. In addition, the schools most likely to move in the rankings are those in the lower tiers where a change in the score on one factor makes a bigger difference (*The Chronicle of Higher Education*, November 10, 2008, chronicle.com/daily/2008/11/7010n.htm).

TECHNOLOGY

Observation

Options for providing connectivity and storage via cloud computing will require institutions around the world to fundamentally rethink their information technology strategies (*The Tower and the Cloud: Higher Education in the Age of Cloud Computing*, R. Katz (Ed.), (2008), Boulder, CO: EDUCAUSE).

- Institutions that have embraced open-source software will find that they can modify it to customize their own computing clouds that work with the commercial services now available (*Technology Review*, November 6, 2008, technologyreview.com/web/21642/).
- Bandwidth issues accompany the move to the cloud, along with online learning, media sharing, massive research databases, and the general exchange of knowledge that characterizes education. Commercial internet service providers are also experiencing this problem (*St. Bernard Software*, July 28, 2008, lewiswire.com/us/lewiswire/St-Bernard-Software/Increased-Use-of-Streaming-Media-and-Growing-Enrollment-Cause-Schools-Network-and-Productivity-Pains/c/111/n/1634; *InfoWorld*, November 11, 2008, infoworld.com/d/networking/our-internet-future-in-danger-715; *eSchoolNews*, October 16, 2008, eschoolnews.com/news/top-news/news-by-subject/research/index.cfm?i=55613).
- Wireless connectivity is essential for students. A recent survey indicated that the availability of WiFi influences their choice of college (60 percent), coffee shop (52 percent), and bookstore (42 percent). In fact, 70 percent of US college students own a laptop and nearly 90 percent own a cell phone (*Campus Technology*, October 7, 2008, campustechnology.com/articles/list/features.aspx?page=5; *eMarketer*, August 11, 2008, emarketer.com).

Our Thoughts

Institutions are finding themselves as driven by student and faculty habits as by any coherent plan. Accommodation and innovative strategy will be essential in supporting effective databases and IT systems on campus.

- Students come to campus with their own email addresses and smart phones, a preference for immediate communication styles, and little understanding of real security issues (*The Chronicle of Higher Education*, December 19, 2008, chronicle.com/free/v55/i17/17a00901.htm; *CDW Government*, October 13, 2008, “The 21st-Century Campus: Are We There Yet? Challenges and Opportunities for Campus Technology”).
- Students on campus want access to the same rich content that online students have so they can view lectures and listen to Podcasts to reinforce their learning, not just for convenience. Listening and viewing lectures increases success in coursework (*University of Wisconsin E-Business Institute*, R. Veeramani and S. Bradley, September 23, 2008, “Insights regarding undergraduate preference for lecture capture”; *Campus Technology*, December 10, 2008, <http://campustechnology.com/articles/2008/12/growth-of-market-for-videoconferencing-streaming-and-lecture-capture-driven-by-oncampus-students-and.aspx>; *Computers and Education*, D. McKinney, J. Dyck, and E. Luber, “iTunes University and the classroom: Can podcasts replace Professors?,” v 52, n 3, April 2009, pp0 617-623)
- Faculty who hold their classes in a smart classroom are more likely to integrate technology into every class than those who do not have access to such classrooms. Keeping such classrooms up to date and allowing all faculty to consistently teach in them is a significant issue in helping faculty keep pace with their students (*CDW Government*, October 13, 2008, “The 21st-Century Campus: Are We There Yet? Challenges and Opportunities for Campus Technology;” *The Chronicle of Higher Education*, October 17, 2008, chronicle.com/free/v55/i08/08a01701.htm).

Observation

The ability of users to create and modify content via Web 2.0 applications is making its way into campus teaching practices. Convergence technology that allows multiple devices to interact means even laptops aren't necessary for mobile computing anymore or cell phones for conversations. What's being considered on campuses?

- A virtual Japanese university (Cyber University) delivers its courses via smart phone technology and it's been very well received (*University Business*, February 2008, universitybusiness.com/viewarticle.aspx?articleid=1233). North Carolina's Project K-Nect (K-12 schools project) uses smart phones to teach mathematics by pushing problem sets, animations and simulations to students. Students work on the problems and use instant messaging and self-created video explanations to help themselves and others understand the underlying algebraic concepts (*Center for Digital Education*, 2008, "A Connected Life: A look at mobile strategies for schools, colleges and universities," convergemag.com/paper/A-Connected-Life-A-Look-at-Mobile-Strategies-for-Schools-Colleges-and-Universities.html; *The New York Times*, February 16, 2009, nytimes.com/2009/02/16/technology/16phone.html?_r=1&scp=3&sq=Cellphones%20+%20Teaching&st=Search).
- A community college instructor in Virginia has created a video game with readily available software. It is part of his course, Statics, Strength of Materials, and Dynamics (*Newport News*, February 9, 2009, dailynews.com/news/dp-local_tnccinteract_0209feb09,0,4053042.story). A European Union report recently concluded that video games stimulate the "learning of facts and skills such as strategic reflection, creativity, cooperation and a sense of innovation" (*eSchoolNews*, February 12, 2009, eschoolnews.com/news/around-the-web/?i=57265;_hbguid=41b51f53-adaf-4428-9ee7-aa09725c2c6d).
- Electronic textbooks are going beyond digitized versions of hard copy as instructors and students write and publish them collaboratively. Economics, as well as students' mobile preferences, are pushing electronic versions of textbooks (*Austin American-Statesman*, October 4, 2008, statesman.com/news/content/news/stories/local/10/04/1004textbook.html; *University Business*, November 2008, universitybusiness.com/viewarticlepf.aspx?articleid=1168; *The Chronicle of Higher Education*, November 28, 2008, chronicle.com/weekly/v55/i14/14a02901.htm).

Our Thoughts

Pockets of educational innovation with technology have been occurring for years, but most faculty still don't use much more than PowerPoint and a course management system for document exchange (*CDW Government*, October 13, 2008, "The 21st-Century Campus: Are We There Yet? Challenges and Opportunities for Campus Technology"). Campus' administrative units appear to be further along in their adoption of Web 2.0 features.

- Student recruitment and enrollment have embraced these technologies more quickly than any other part of a campus and commercial enterprises are even organizing multi campus, online college recruitment fairs (*Campus Technology*, February 19, 2009, campustechnology.com/articles/2009/02/19/the-evolution-of-online-student-recruitment.aspx; *Marketing Magazine*, August 20, 2008, marketingmag.ca/english/news/media/article.jsp?content=20080819_172153_22684; *Urban Insight*, November 2008, J. Ber, C. Steins, and J. Emond, "The Millennial Environment: New Recruitment Strategies for the Next Generation").
- Phone service appears to be a place where campuses look to save money—students don't need landlines and staff and faculty can use VoIP (voice over internet protocol) to drastically reduce costs (*NetworkWorld*, October 6, 2008, networkworld.com/news/2008/100608-higher-education-communications.html).
- Data warehousing, data mining, and BI (business intelligence) analytics are beginning to be adopted by higher education as ways to learn more about the institution, students, and how well operations are working. Institutional researchers may be required to have increased analytical and software capabilities for these techniques to make the difference they can (*Campus Technology*, August 21, 2008, campustechnology.com/articles/list/all-articles.aspx?page=100).