

College 2.0: An Entrepreneurial Approach to Reforming Higher Education

Overcoming Barriers and Fostering Innovation

Papers from the Entrepreneurship in Higher Education Retreat | June 2012

INTRODUCTION

Entrepreneurship in Higher Education Retreat

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A far-reaching discussion is taking place in the United States about the challenges facing higher education and the possible forms postsecondary learning might take in the future. Notwithstanding the strengths of our best research institutions, the shortcomings of many U.S. colleges and universities are significant. There is growing evidence that they need to focus more effectively on student learning, improve completion rates, lower costs, make much better use of technology, boost productivity, improve delivery of instruction for nontraditional students, and take innovations to scale more quickly.

To make this happen—and to provide brand-new alternatives to traditional models—a more entrepreneurial approach to postsecondary education is sorely needed. But even as a period of unusual ferment in U.S. higher education gets under way, numerous barriers continue to slow innovation and thwart experimentation, both in traditional institutions and in start-up ventures.

In an effort to understand the nature of those barriers and to generate ideas for overcoming them, in December 2011 the Ewing Marion Kauffman Foundation convened a diverse group of analysts and practitioners for a two-day retreat in Palm Beach, Florida. Participants included Shai Reshef, founder of the University of the People; the management editor of *The Economist*; the founders of startups 2tor, Inc. and StraighterLine; senior leaders of nontraditional universities such as Olin College and Western Governors University; the president and CEO of Kaplan, Inc.; the directors of education policy at the American Enterprise Institute, the Brookings Institution, and the Center for American Progress; and professors who both study and participate in postsecondary reform initiatives.

The gathering, part of the Kauffman Foundation's Law, Innovation and Growth series, was organized into panels addressing six broad themes: Tackling Campus-Level Obstacles to Innovation; Rethinking Accreditation; Streamlining State and Federal Regulations; Improving

Incentives to Boost Academic Productivity; Filling Information Gaps about Student-Learning and Job-Market Outcomes; and Overcoming Barriers to Taking Innovation to Scale. The aim was not to limit discussion to these issues, but simply to provide provisional categories that might foster wide-ranging conversation.

Each participant prepared a short background paper and presentation linked to one of the retreat's themes. The resulting essays are collected in this report, organized by theme. (A full list of authors can be found following this introduction, on page 7.) These thoughtful analyses offer a window into how a range of articulate thinkers and doers approach the question of what is wrong with U.S. higher education, and how it ought to be fixed.

The group did not emerge from the Kauffman retreat with a unanimous manifesto or policy platform. That is no surprise: even a group of reformers of varying stripes is not guaranteed to reach consensus on issues ranging from rethinking accreditation to measuring performance outcomes. At the same time, group members did find common ground on many broad areas of reform. This introduction gives an overview of the six themes discussed during the retreat (and addressed in the essays in this volume), followed by an outline of the broad areas of consensus that marked the proceedings.

Who Will Be Most Affected By Change?

Which postsecondary institutions are most likely to be affected by the much-discussed forces of disruption affecting colleges and universities? David Breneman of the University of Virginia offered an answer at the outset of the discussion that was broadly accepted by participants: elite institutions have much less to fear from a newly competitive era than do the broad range of nonselective colleges and universities attended by more than 90 percent of American students. As he writes in his essay, "All Williams College has to do is attract its target of roughly 600 students each year to be successful." By contrast,

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he observes, “colleges and universities that have limited prestige, modest wealth, nonselective admissions, little ability to push tuition ever higher, and limited fundraising potential. . . . may have no choice but to innovate in order to survive.”

Much of the discussion, then, focused on open-access, public institutions. Yet, reforming the problems endemic to these colleges and universities—from escalating costs to lackluster student learning—faces numerous obstacles. Among these, panelists said, is the culture of university leadership, which often tends to preserve the status quo. As William Green of the University of Miami writes in his essay, “Presidents, provosts, deans, and trustees will have to become evangelists for reform.” Green and others also suggested that faculty members are not invariably resistant to change, but need to be given incentives to try new approaches, whether in the use of technology or the balance between teaching and research.

Accreditation: Facilitating or Blocking Reform?

Accreditation is another oft-cited obstacle to innovation. The difficulties it creates and how it might be reconceived were the subject of the second panel. Broadly speaking, panelists critiqued accreditation on the grounds that it perpetuates the institutional conservatism of universities. Many argued that accreditation says little about a college’s quality, and there is little rationale for variations in accreditors’ requirements from region to region. Participants debated whether accreditation still has a useful role to play as a “Good Housekeeping” seal of approval, with some contending that it says nothing about quality and should be scrapped entirely.

Certain nontraditional institutions such as Western Governors University have successfully obtained accreditation and recently expanded into several states. However, for others trying to create a brand-new and potentially disruptive educational model, such as StraighterLine, which offers very low cost online classes, accreditation is an enormous roadblock. Only institutions can be accredited, not individual courses, so the only way to legitimize such ventures, regardless of their quality, is to find accredited institutions that will award transfer credits for such nontraditional coursework.

Regulating Higher Education

Turning to state and federal regulations, the discussion was framed by the notion that while technology has made the geographical location of instructors and students largely irrelevant, regulation has yet to catch up with this reality. As Andrew Kelly of the American Enterprise

Institute writes in his essay, “Higher education regulations are typically place and process based in an era when the system is moving away from traditional academic calendars and bricks and mortar. Critics rightly focus on accreditation as the key obstacle, but this distinct set of state and federal regulations can prove equally discouraging to entrepreneurial providers.” Indeed, Kelly cited research showing that regulations that create barriers to online and competency-based institutions have grown in the past decade.

Presenters offered numerous examples of the need for leaner, more efficient, and more transparent regulatory structures at the state and federal levels. Dominic Brewer of the University of Southern California’s Rossier School of Education recounted some of the difficulties USC has encountered with state bureaucracies. When the school entered a partnership with 2tor, Inc., a for-profit company that works with universities to take their professional degree programs online, it sought permission to serve students in every state. That effort led USC to encounter what Brewer termed “a slew of obscure and irrelevant provisions, such as needing to submit typewritten applications and specifying the fire rating of file cabinets in which student records were to be stored, as if there were no computer technology.”

Regulations such as the federal government’s “90-10” rule have been particularly controversial among for-profit higher education entrepreneurs. Andrew Rosen, president and CEO of Kaplan, Inc., argued that the rule, intended to limit the amount of revenue private-sector colleges can receive from federal student loans and grants, has in fact had the unintended consequence of setting a de facto tuition price floor that has raised prices and driven up student debt. He also took on the much-debated “gainful employment” regulations, recently revised by the federal government to hold for-profits more closely accountable for their graduates’ ability to find jobs that allow them to repay student loans. The new rules have, in fact, had perverse consequences, he said, reducing access for low-income students who are now less attractive to for-profit colleges because of their lower average likelihood of loan repayment. As long as such rules are on the books, he argued, they should apply equally to all colleges and universities that accept taxpayer dollars.

Improving Productivity

The need to improve the productivity of postsecondary institutions—to achieve better results with fewer resources—was a recurrent theme throughout the discussion. In the panel devoted to

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this topic, participants highlighted, among other things, the perverse incentives that occur when research publications are overvalued in comparison to teaching. Emory University English professor Mark Bauerlein argued that a significant amount of scholarly work in the humanities is of little value—insular, yielding few fresh insights, and rarely cited. Yet professional norms put many professors under significant pressure to publish rather than devote more of their energies to the classroom. Unfortunately, improving productivity is not easy: beyond questions of changing departmental culture, measuring student outcomes is challenging. Still, some institutions—Iowa State University and USC were mentioned in the discussion—have succeeded in creating a model that establishes an individualized balance of teaching, research, and service for each professor.

In the same discussion, New York University economist William Baumol revisited the famous “cost disease” theory that he pioneered with William Bowen in the 1960s. Baumol’s core argument is that education (along with health care and live artistic performance) is a sector requiring large amounts of human capital that cannot be substituted by mechanization and computerization. As a result, with labor-saving productivity growth occurring much more quickly in other sectors, costs in higher education are certain to rise at a rapid clip. Nevertheless, Baumol struck an optimistic note, contending that overall productivity growth, driven by continued innovation, is likely to be so great that Americans will be able to afford education even as its costs rise: “If future productivity bears any resemblance to that of past decades, which brought the United States and the rest of the industrial world ever more education despite rising costs, we must recognize that the increasing cost of education, coupled with rising productivity, is clearly less fear-worthy than it appears to be.”

Measuring Success

Finding better metrics with which to gauge the success of colleges and universities, whether in student learning or labor-market outcomes, has been a persistent challenge for higher education reformers. Prospective students, for example, have far too little information about which institutions, and which programs within those institutions, offer the best value in terms of learning while in school and future earnings after graduation. This information deficit is all the more troubling at a time when, as Grover “Russ” Whitehurst of the Brookings Institution writes in his essay, the United States has become “a high-cost provider of mediocre outcomes.” Panelists highlighted the difficulty of finding appropriate—and politically acceptable—methods of collecting data

on students’ progress through postsecondary institutions and the labor market.

Still, both Whitehurst and Mark Schneider of the American Institutes for Research argued that state-level “unit record” data on individual students’ experience in college can be linked to data kept by states’ labor/workforce agencies. This would yield invaluable information on the economic returns of studying particular subjects at specific institutions. This would be transformational, Whitehurst writes: “If labor market outcomes were linked to other information on institutions and degree/certificate programs such as tuition and completion rates, and made available in a form that would help prospective students make relevant comparisons, it would provide the basis for an informed consumer marketplace in higher education for the first time.”

Better measurement of students’ college success at the “micro” level is also crucial. Several case studies discussed by panelists showed how technology makes it possible to both pioneer new techniques for teaching and student retention and measure the effectiveness of such techniques. Candace Thille of Carnegie Mellon University demonstrated the individualized statistics course offered through the university’s Open Learning Initiative. The computer modules allowed students to complete a fifteen-week class on an accelerated eight-week schedule with better learning outcomes. On the student guidance front, Louis Soares of the Center for American Progress highlighted a software program developed by Saddleback College, a 40,000-student community college in Orange County, California. Called SHERPA (Service-Oriented Higher Education Recommendation Personalization Assistant), the program keeps track of students’ preferences, course requirements, and schedules to build student profiles and match students with classes that meet their needs. If a class is full, or conflicts with a student’s work schedule, SHERPA will offer a viable alternative.

Replicating Worthwhile Reforms

The final panel grappled with a question that plagues reform efforts in many fields, including higher education: How can promising reforms that bubble up here and there be replicated and taken to scale? Despite the promise of online learning, for example, many universities—particularly among elite institutions—have relatively little online presence. Lloyd Armstrong, Jr., of USC suggested that efforts to preserve the value of their brand make such institutions wary of taking their offerings to scale. “The revolution will come when brand begins to be defined in terms of learning outcomes rather than

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exclusivity!” he writes. Others suggested that poor technology, and poor use of technology, have slowed many institutions’ progress into cyberspace. Many professors and administrators simply don’t believe that online courses can offer students an education comparable to what they receive on campus.

Scalability also may conflict at times with the forces of serendipity. Frederick Hess of the American Enterprise Institute noted that certain factors that often underlie successful reforms, by definition, can’t be easily scaled: philanthropic support, self-selected faculty champions, supportive administrators, and relaxation of conventional rules and regulations. Still, he argued that innovations relying on technology, as opposed to talent and complex implementation, have the best promise of spreading quickly: “For instance, Amazon.com or Facebook are remarkably easy to scale, because most of the quality of the experience is almost identical for thousands or even millions of users. Similarly, Tutor.com is easier to scale than is a program which depends on recruiting and training local tutors.”

Toward an Agenda for Reform

These analyses and observations constitute only a fraction of what was discussed during the retreat, but they provide a flavor of the challenges facing postsecondary innovation, as well as its great potential. With no formal mechanism for creating groupwide policy recommendations, participants’ individual views are best expressed in the essays that follow. Nevertheless, during two days of conversations that touched on subjects including course redesign, for-profits, and data collection, and explored start-up ventures such as Western Governors University, 2tor, and the University of the People, some members of the group coalesced around the rough outlines, if not the specific details, of a reform agenda:

1. Tackling Campus-Level Obstacles to Innovation

- a. Faculty should not be viewed as enemies of reform, but as enablers of innovation. One strategy for making this happen is for campuses to create research funds targeted at innovative teaching models, then ask faculty to compete for research grants. Team-teaching should also be encouraged to avoid the “siloeing” of faculty. In addition, certain faculty roles, such as developing curriculum and developing testing instruments, should be unbundled to reduce redundancy and allow more effective specialization.

- b. To allow for innovation to be accepted more readily, changes in curriculum and program should become a routine part of campus culture. At the same time, campus-level change will be easier if institutions work in coalitions rather than in isolation.
 - c. State policymakers could give colleges incentives to innovate by, for example, offering higher levels of funding to institutions with better student outcomes (and, presumably, more effective curriculum and teaching). This, in turn, will require better measures of what happens to students after graduation.
- #### 2. Rethinking Accreditation
- a. There was no consensus on the elimination of accreditation called for by some participants. However, there was general agreement that accreditation should focus much less on inputs, such as the requirement that professors in many courses hold PhDs, and more on outcome measures such as student performance and loan default rates. This would foster innovation: for example, new entrants could post a surety bond until they graduated their first cohort of students, after which they could receive accreditation and federal funds based on outcomes.
 - b. Accreditation should follow the “do no harm” principle, with the fewest possible restrictions on new and existing providers. Accreditation could take place at the course level, or accreditors could require that course delivery and student assessment be separated entirely. Seat time should no longer be required for a program of study to be considered legitimate by accreditors. Indeed, online learning should be largely deregulated so long as minimum course level outcomes are specified. Accreditors should require that completed course credits be transferable to other postsecondary institutions.
 - c. All six regional accreditors should have the same rules and procedures. At the same time, some independently administered oversight bodies may emerge to award certificates for certain programs, sidestepping the existing accreditation system entirely.

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- d. Federal aid and loans should be unbundled from the regional accreditation system.
3. Streamlining State and Federal Regulations
 - a. State and federal regulations should be focused above all on helping students, not protecting the interests of existing institutions.
 - b. States should relax existing rules to make it easier to start charter colleges, including community colleges. Like charter schools in the K-12 sector, charter colleges would be given great flexibility in exchange for improving student outcomes.
 - c. Rules governing federal loans and grants can be used much more effectively to influence policy outcomes. Pell grants for low-income students should be staggered, providing fewer dollars up front and more as students advance toward degree completion. Colleges' and universities' eligibility for enrolling students who receive federal loans should be tied to bringing down costs. The government also should leverage its role as a lender to inform students about the seriousness of taking on loan obligations.
4. Improving Incentives to Boost Academic Productivity
 - a. Research universities should revisit the common breakdown of faculty time, rethinking the research/teaching/service balance on a case-by-case basis. Professors whose time would be more productively spent in the classroom than conducting research could be given financial incentives to teach extra courses.
 - b. More efforts should be made to share journals and other library resources across institutions. This will require an acceleration of the initiatives that already have been launched by university libraries and others to create consortia that share research resources and to bring all academic journals online.
 - c. Universities should continue to explore new pedagogies driven by technology. In some cases, these permit teaching and learning to take place at a scale where low marginal costs could dramatically drive down tuition. In others, innovative instructional models should be pursued simply because of the promise they hold to improve how, and how much, students learn.
5. Filling Information Gaps about Student-Learning and Job-Market Outcomes
 - a. Better metrics to measure the effectiveness of colleges and universities are vital. Prospective students need to know more about which institutions do a better job teaching their students and preparing them for the job market. Policymakers don't know very much about which colleges and universities offer the best value to the taxpayers who typically support most of their operations. All states should immediately provide information on labor-market outcomes by creating "unit record" data that links information on individual students' college experience to how they fare in the job market.
 - b. Before starting college, students should be required to sign a "truth in enrollment" form, akin to the truth-in-lending statements required for home purchases, stipulating that they have received information about the institution's costs, completion rates, graduates' employment rates, and graduates' salary information by major.
 - c. While precise measures of student learning outcomes remain a work in progress, all states should require colleges and universities to assess student learning and release the information publicly. In time, this will give institutions an incentive to develop more effective learning measures, which in turn will provide the information needed to gauge the relatively pedagogical success of different colleges and universities.
6. Overcoming Barriers to Taking Innovative Models to Scale
 - a. The transparency measures called for in previous sections will be essential for spreading the most promising new ventures and practices. Clear and easily accessible information about prices and student outcomes, both in the classroom and in the labor market, will introduce greater competition in the

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higher education sector. More competition, in turn, should create more opportunities for new entrants to introduce new models and take the most successful ones to scale.

- b. With more such measures available, public dollars at the state and federal levels should be allocated on the basis of outcomes rather than through the use of formulas that rely heavily on input measures such as classroom enrollment.
- c. The U.S. Department of Education should create a new “innovation demonstration program” that allows a designated group of new postsecondary providers to award certificates and degrees even if those institutions are not already accredited.

These principles and strategies for higher education innovation are necessarily somewhat broad and provisional. The essays that follow offer considerably more detail about each author’s vision of what reform should look like. As U.S. higher education faces profound scrutiny and profound rethinking, much more debate, and much more experimentation, lie ahead. The observations and analysis generated by the Kauffman Foundation’s gathering represent an effort to lay out the key principles that should guide future discussions.

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PANEL ONE | Tackling Campus-Level Obstacles to Innovation

David Breneman, University of Virginia

David W. Breneman is currently a professor in economics of education at the University of Virginia Curry School of Education. He has also served as director of the public policy program at the Batten School of Leadership and Public Policy, University of Virginia; served as dean of the Curry School of Education; was a visiting professor at the Harvard Graduate School of Education, where he taught graduate courses on the economics and financing of higher education, on liberal arts colleges, and on the college presidency; and served as president of Kalamazoo College, a liberal arts college in Michigan.

As a Visiting Fellow at The Brookings Institution, Breneman conducted research for the book *Liberal Arts Colleges: Thriving, Surviving, or Endangered?*, published by Brookings in 1994, and received the 1999 Award for Outstanding Service from the Council for Independent Colleges for this work. He previously was a Senior Fellow at Brookings from 1975 to 1983, specializing in the economics of higher education and public policy toward education. As an economist, Breneman's research interests are in the areas of finance and economics of higher education. His current focus is on recessions and higher education and on efforts to enhance the productivity of U.S. higher education. Breneman has a book in press (with co-authors) titled *Financing American Higher Education in the Era of Globalization*, to be published by Harvard Education Press in early 2012.

A careful reading of the history of higher education indicates that substantial change has rarely been internally generated, but largely comes in response to external pressures. Witness the reluctance to move away from the nineteenth century classical curriculum until the formation of land-grant A&M universities forced the issue, or the opposition to the GI Bill by many presidents. Other examples will come readily to mind. The issue, then, is to consider current external pressures and the likelihood that they will lead to change and innovation.

Despite its current funding problems, the fact is that higher education remains a hugely successful enterprise, facing rising demand as students and parents know (or believe) that life chances will be enhanced by attendance and graduation. Thus, while survival may motivate change for some marginal institutions, the industry writ large is not imperiled. Budgetary ups and downs are thus viewed by many as just part of the natural rhythm of business cycles, with the expectation that a year or two of financial distress will be followed by a return to normal. As a consequence, the fundamental organization of educational production is rarely seen as requiring review and transformation; instead, travel budgets are cut, libraries buy fewer books, job freezes may be imposed, but all with the expectation that funds will be restored in due course.

The dilemma for educational leaders is that the cry, "This time is different," often falls on deaf ears. Senior faculty members have been through too many cycles to believe that claim, which is dismissed as crying wolf. Even the clever phrase, "the new normal," has by now become a cliché.

Higher education also has an operating style focused almost exclusively on augmenting revenues rather than permanently cutting costs. Witness the billion-dollar campaigns, sharply increased tuitions, emphasis on research grants with overhead recovery, patents and licenses, and aggressive endowment management. Presidents are hired for their skills at resource acquisition, rarely for their ability to rethink educational production with an eye toward cutting costs. Indeed, were a president to focus on the latter, the result is likely to be career ending. (Deans operate under the same pressures.) Few sixty-year-old presidents, eying retirement in five to seven years, are likely to take on the battles with faculty that serious educational change would entail.

That most faculty members share this conservatism goes without saying. Again, the issue is incentives. Far better to devote one's time to research and scholarship, which enhance status and mobility, rather than undertake the largely invisible work of worrying about educational

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processes. Faculty governance over most academic decisions further limits the ability of administrators to intervene in significant ways, except to produce new resources for new programs.

Let me be clear about the argument thus far. I am not asserting that faculty, deans, and presidents eschew all innovation, but that they will eschew innovation intended solely (or primarily) for the purpose of reducing the societal cost of higher education.

External Pressures for Change and Innovation

If one agrees with my view, then the logical conclusion is that we will have to turn to the other panels for drivers of innovation. Before going there, however, we should consider the view, increasingly heard, that the “higher education business model is broken.” This is language that has only come into use in recent years, and generally refers to the notion that cost shifting to students and parents in the form of ever-rising tuition levels, often requiring extensive student debt, is unsustainable, particularly in light of stagnant family incomes and a bleak labor market for many graduates. While one might argue that these conditions do not pose an existential problem for the more selective institutions, they may increase the competitive advantage of for-profit providers, with their low-cost faculty, standardized curricula, ability to scale programs, use of distance learning methods, and minimal overhead costs.

Bill Massy demonstrated long ago that a nonprofit college, pushed to the margin without economic slack, has to behave like a for-profit college in order to survive. For those colleges and universities that have limited prestige, modest wealth, nonselective admissions, little ability to push tuition ever higher, and limited fundraising potential, the direct competition with for-profit providers may become the dominant fact of life. Such institutions may have no choice but to innovate in order to survive. Inevitably, they may adopt many of the techniques of the for-profit entities, which may in turn learn from the nonprofit colleges, particularly in the area of the eighteen- to twenty-two-year-old undergraduate population. One can imagine a blending, or blurring, of the lines among these sets of institutions.

Many will have read Clayton Christensen’s essay, “Disrupting College,” which applies his model of disruptive innovation to the higher education sector. One place where that model does not track directly is that colleges and universities in the nonprofit sector do not seek to increase market share. All Williams College has to do is attract its target of roughly 600 students each year to be successful. As a consequence,

while one part of U.S. higher education might be disrupted by the use of distance learning and related technological changes in educational production, other colleges may sail on, largely unaffected.

It is not at all clear that this vision of the future of higher education is appealing, or attractive, or desirable, but it may be the reality, driven by the inability to sustain current funding models for higher education. The vision of an elite, wealthy sector delivering personalized education in small classes with substantial faculty input, versus a lean, stripped-down version, heavily focused on career skills and limited emphasis on personal development and leadership skills, does not comport well with the democratic ideal of education. But market forces tend to produce inequality in incomes and opportunities, and current trends seem to point in that direction.

PANEL ONE | Tackling Campus-Level Obstacles to Innovation

William Green, University of Miami

William Scott Green is professor of religious studies, senior vice provost, and dean of undergraduate education at the University of Miami. A graduate of Dartmouth College and Brown University, he is a historian of religion with a focus on ancient Judaism and the theory of religion. He was editor of the *Journal of the American Academy of Religion* from 1984–1994, associate editor of HarperCollins Dictionary of Religion (1995), and coeditor of the *Encyclopedia of Judaism* (2000, 2005). From 1994–2006, he was educational director for archaeological excavations in Yodefat, Israel, and Arezzo, Italy. He collaborates with David Sloan Wilson on a study of religious conceptions of the afterlife from a cultural evolutionary perspective. Green chaired the Ewing Marion Kauffman Foundation’s Panel on Entrepreneurship and Curriculum in American Higher Education and is senior program consultant for the Kauffman Campuses Initiative, a program to extend entrepreneurship education throughout university learning. At Miami, he conceived and established The Launch Pad, a novel entrepreneurial and innovation initiative. Prior to coming to Miami, Green was dean of the college, professor of religion, and Philip S. Bernstein Professor of Judaic Studies at the University of Rochester, where he led the development of Rochester’s distinctive interest-driven undergraduate curriculum.

American colleges and universities confront inexorable systemic change, a punctuated equilibrium, perhaps a Reformation. The accumulated current wisdom suggests that the combined forces of expanded access, economic challenge, and online learning will propel American higher education along a path of increasing institutional diversity and greater customized learning. If these trends take hold and persist, in the foreseeable future more American undergraduates (of whatever age) could have more choices to learn more subjects in more ways and at more reasonable cost than ever before. It would be a positive outcome indeed if these expanded options were to enhance human capacity, agency, and freedom.

It is broadly accepted that to reach this point will require serious rethinking and reform of established conditions of teaching and learning, such as the Carnegie unit, degree requirements, academic departments, assessment of students’ learning, and perhaps the nature of undergraduate teaching itself.

The resources and recipes for change are available and constantly adapting and improving. The evidence presented at this conference suggests that we do not lack concrete tools for reform. The question before us is not if, but how quickly and effectively, such changes can occur. How adaptable is American higher education? Can we innovate?

For private research universities, the sector of higher education with which I am most familiar, the answer is a qualified yes, subject to the sorts of preliminary considerations listed below. Even if, as Christensen and his colleagues suggest, the most established of these institutions are less “disruptable” than others, current calls for greater accountability and transparency, in addition to the forces of competition, surely provide an inescapable context for rethinking and reform. Since the abstractions of systemic change remain rhetorical and symbolic until they are put in place on a particular campus and become tangible, programmatic, and personal, the following factors, which are not exhaustive, focus on institutional rather than global issues:

- Faculty are central to reform since they provide the instruction and constitute a workforce much of which, because of academic tenure, must freely recognize how change is in their collective and individual interests. Faculty ultimately must believe in what they are doing and why it matters. Experience suggests that research faculty both support and engage in what Christensen, Horn, Caldera, and Soares call “sustaining innovation.” The deeper, “disruptive innovation” considered here will demand clarity of educational purpose and goals and, for faculty, institutional support to learn new forms of teaching and managing

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knowledge. The challenge is to build from “sustaining” to “disruptive” innovation.

- Robert Zemsky suggests that systemic reform requires an emphasis on the primacy of learning and an alignment of technology and teaching with how the brain works and how different students learn different subjects. This entails a program to draw faculty into this fundamental component of their pedagogical mission. Educational technology provides new ways to disseminate and translate knowledge. Adapting conventional teaching to that technology is intellectual work and must be treated as such in any institutional program of reform.
- Systemic change requires articulate and resolute leadership that can both explain to higher education’s stakeholders the necessity and benefits of reform and institute incentive structures to encourage and enable it. Administration is more than good stewardship. Presidents, provosts, deans, and trustees will have to become evangelists for reform.
- Respect for research and graduate education is essential in any reform effort. Universities perform over half of the nation’s basic research. Research faculty are energized by discovery and innovation, the highest expression of American learning. Departments, which may appear as obstacles to change in undergraduate education, often are the context for research and graduate education. The emphasis of online learning on the dissemination of knowledge should not obscure the issue of the quality of knowledge. Reform will need to balance these considerations and maintain, even broaden, the pipeline from undergraduate learning to research. Since graduate students are the faculty of the future, the use of educational technology in graduate education should not be overlooked.
- Undergraduates can catalyze change and should be fully involved in the process of reform. They often can persuade faculty of the benefit of change. Since they are the beneficiaries of this reform, they are entitled to participate in making it.
- In a research university, systemic reform might begin as an experiment for schools, departments, or cross-disciplinary programs, not only for isolated faculty members. Research

faculty benefit from working with others who share their interests. Intellectual collectives can devise innovative subject-specific learning patterns and techniques for both undergraduate and graduate students and then demonstrate successes to those in other fields.

- The cocurriculum can provide a context for noncredit, experiential, competency-based learning.
- The expansion of online learning will highlight the distinctive ways the campus residential experience and learning in community can contribute to undergraduate education.

PANEL ONE | Tackling Campus-Level Obstacles to Innovation

Vincent P. Manno, Franklin W. Olin College of Engineering

Vincent P. Manno is provost and dean of faculty at the Franklin W. Olin College of Engineering in Needham, Massachusetts, as well as professor of engineering. Prior to joining Olin in July 2011, Manno was associate provost and professor of mechanical engineering at Tufts University in Medford, Massachusetts, where he continues to hold an adjunct faculty appointment. At Tufts, he coordinated graduate education across the university and oversaw several cross-school initiatives including the Institute for Global Leadership and the Tufts Institute of the Environment. He also held appointments as department chair of mechanical engineering, associate dean of engineering, and dean ad interim of engineering.

Manno received a BS from Columbia University and MS, engineer's, and doctor of science degrees from MIT in nuclear engineering and science. His field of expertise is computational thermal-fluid dynamics, including applications in power generation, electronics thermal energy management, and manufacturing processes. He has authored or coauthored more than 140 journal articles, conference proceeding papers, and technical reports. Manno has also worked in the private sector and served as a U.S. Navy Senior Summer Faculty Fellow. His research has been supported by government agencies and industry. He is a recipient of the SAE's Ralph R. Teetor Outstanding Engineering Educator Award, the Harvey Rosten Award for Excellence in the Thermal Analysis of Electronic Equipment, the ASME Curriculum Innovation Award, the Tufts University Fischer Award as Engineering Teacher of the Year, and the Tufts University Seymour Simches Award for Distinguished Teaching and Advising. Manno is a Fellow of the ASME and serves on the ASEE Engineering Research Council board of directors.

Some Thoughts on Tackling Campus-Level Obstacles to Innovation

Innovation is more than incremental improvement and introducing something different or new. Innovation implies that the change is for the better and of a quantum nature. While invention may be the child of necessity, innovation is the child of creativity. Yet, innovation and invention do share an important characteristic—they are usually driven by outside forces. Marcus¹ points out that many substantive changes in higher education (e.g., introduction of modern languages, Land Grant universities, etc.) were introduced despite the objections of those within the academy. In many ways, the Pogo cartoon of the 1950s, copied above, encapsulates this critical aspect of the challenges before us.

Engineering education, the field in which I have spent the majority of my professional career, is no less suspect. My experience in this field colors my opinions in this regard. I am more an education *engineer* than an education scholar. As a student, an engineer, and a professor I have experienced the limitations of the status quo, which impacts not only education but our society. The need for innovation in engineering education is not at all new. While some rightfully find its roots in the mid-twentieth century (e.g., see Grinter²), the need for change was recognized long before that. Washington Roebling, the chief engineer of the Brooklyn Bridge, wrote the following about his education at the Rensselaer Polytechnic Institute (one of our best engineering schools then and now) in the 1850s, "that the terrible treadmill of forcing an avalanche of figures and facts into young

1. Jon Marcus, "Old School: Four Hundred Years of Resistance to Change," American Enterprise Institute, June 3, 2010.

2. L.E. Grinter, et al., "Summary of the Report on Evaluation of Engineering Education," *Journal of Engineering Education* (1955): 25–60.

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brains not qualified to assimilate them... I am still busy trying to forget the heterogeneous mass of unusable knowledge that I could only memorize..."³ I offer these remarks not as a history of engineering education but as an illustration.

I am now privileged to be part of an institution which has innovation at the core of its mission: "Olin College prepares students to become exemplary engineering *innovators* who recognize needs, design solutions, and engage in creative enterprises for the good of the world."⁴ While Olin is arguably making significant and perhaps paradigm shifting contributions, I will also share my reflection that finding ways to continually infuse change within an institution and, more than that, catalyzing systemic change externally are difficult. Speaking in engineering terms, it is a process that requires a great deal of energy infusion because of its dissipative nature and the natural resistive forces.

These "natural forces" are attitudes, culture, and values. Focus on changing the direction of these forces needs to be the priority of those who are the innovators and those who want to catalyze innovation. The realms in which innovation and resistance interact in higher education, especially in traditional undergraduate colleges, should be understood, both separately and as a system. They are: the curriculum, faculty life cycle, expectations and rewards, organizational structures, institutional leadership and purpose, and the supply and demand forces of the "external" world (e.g., students and their families, employers, accreditation agencies, professional schools, society as whole).

The news is not all bad. The prospects for innovation and quantum change in higher education are actually high. Several external factors are providing stimuli. The economic model of university education, especially the reliance of research intensive institutions on shrinking external research funds and the decrease in the number and support of well-off families which will continue for the foreseeable future, is clearly in jeopardy. Competencies and outcomes are becoming the coins of the realm in the marketplace and the media, starting to replace

content and reputation. Technology, especially its ability to transform distances in space and time and change interactional sizes, is leading to situations never anticipated. For example, Stanford's free online Robotics and Artificial Intelligence courses⁵ now have tens of thousands of participants who are basically acting as a self-moderated learning community. The interaction is much more among the students, perhaps organized in virtual subgroups, than between teacher(s) and student(s).

There are also internal forces, most importantly a discernible shift in faculty goals and attitudes. It is my experience that the majority of faculties want to spend more effort on their teaching and assessing its efficacy and construction. This is often their motivation in joining the academy rather than pursuing a pure research or practice environment. However, the embedded implicit and explicit value systems of their institutions often alter their effort profile. From the administrative perspective, many institutions are coming to the realization that they have become difficult to manage and to coalesce around a unified sense of mission and purpose.

Our goal in this retreat is to use our collective perspectives to arrive at a set of approaches to lowering the barriers to innovation at the campus level (i.e., institutional). With this assignment and reflecting on the observations stated above, I offer three general suggested discussion foci:

1. *Strategic* institutional coalitions—This is nothing new (e.g., Claremont Consortium, Five Colleges, Inc., etc.).⁶ However, real data on the functionality of existing consortia are actually hard to find. I suggest that new consortia based on the symbiotic connection of *different* types of institutions that are not natural competitors are important innovation spaces to explore. When we meet, I will share some firsthand experiences with an evolving partnership of Babson College-Olin College-Wellesley College⁷ to illustrate the potential on this strategy.
2. *Co-opted* accreditation processes—Rather than debate or do battle with accreditation processes or organizations, develop

3. D.G. McCollough, *The Great Bridge: The Epic Story of the Building of the Brooklyn Bridge* (New York: Simon and Schuster, 2001).

4. Olin College Mission Statement, www.olin.edu.

5. <http://datadivine.wordpress.com/2011/08/13/stanford-online-ai-course-norvig-thrun-fall-2011/>.

6. L.M. Peterson, "Cultures of Cooperation," proceedings of the Cultures of Cooperation: The Future Role of Consortia in Higher Education, <http://www.fivecolleges.edu/>.

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partnerships that embed accreditation and the accreditors in the development and deployment of innovation. In other words, do not make after-the-fact conformance with existing criteria a limiting factor. Instead, partner with the agency to ensure that your innovation—no matter what its level of success—does not jeopardize your institution’s ability to function. In fact, this approach may lead to more proactive and value-added accreditation functions.

3. *Embedded* experimentation—Make curricular and programmatic changes expected occurrences, encouraged and rewarded by the institution. Conversely, question the lack of the activity by individuals who avoid this aspect of institutional life. The responsibility for embedding experimentation lies with the leadership who should employ the three Palchinsky principles:⁸
 - a. seek out new ideas and try new things,
 - b. do it on a scale where failure is survivable, and
 - c. seek out feedback and learn from your mistakes as you go along.

These principles imply three critical institutional characteristics—expectation of innovation, rational risk assessment, and enlightened management.

Disclaimer: I offer these thoughts on the need to remove obstacles to innovation in higher education in deference to my colleagues at this retreat who have thought more deeply about and contributed more substantially on this front than me.

7. <http://bow3colleges.org/default.aspx>.

8. T. Harford, *Why Success Always Begins With Failure: Adapt* (New York: Farrar, Straus and Giroux, 2011), 25.

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Claudia Neuhauser, University of Minnesota Rochester

Claudia Neuhauser is vice chancellor for academic affairs, director of Graduate Studies for Biomedical Informatics and Computational Biology, and director of the Center for Learning Innovation at the University of Minnesota Rochester (UMR). She is a Distinguished McKnight University Professor, Howard Hughes Medical Institute Professor, and Morse-Alumni Distinguished Teaching Professor. She received her Diplom in mathematics from the Universität Heidelberg (Germany), and a PhD in mathematics from Cornell University. Before joining UMR in July 2008, she was professor and head in the department of ecology, evolution and behavior at the University of Minnesota Twin Cities, and a faculty member in mathematics departments at the University of Southern California, the University of Wisconsin–Madison, the University of Minnesota, and the University of California, Davis.

Neuhauser's research is at the interface of ecology and evolution. She investigates effects of spatial structure on community dynamics; in particular, the effect of competition on the spatial structure of competitors and the effect of symbionts on the spatial distribution of their hosts. In addition, her research in population genetics has resulted in the development of statistical tools for random samples of genes. More recently, she has started to work on bioinformatics and computational biology problems related to cancer. In her role as director of the Center for Learning Innovation at the University of Minnesota Rochester, she is responsible for the development of the BS in health sciences. The center promotes a learner-centered, concept-based learning environment in which ongoing assessment guides and monitors student learning and is the basis for data-driven research on learning. Her interest in furthering the quantitative training of biology undergraduate students has resulted in a textbook on calculus for biology and medicine.

Building a Collaborative Environment to Meet the Vision of the Center for Learning Innovation

The University of Minnesota Rochester (UMR) is the newest campus of the University of Minnesota. It was established in November 2006 to deliver programs with a focus on health sciences. Five years later, UMR's academic programs have grown to nearly 300 students. UMR currently has four academic programs: two undergraduate programs (BS in health sciences and BS in health professions) and two graduate programs (biomedical informatics and computational biology, MS and PhD). The biomedical informatics and computational biology program is an interdisciplinary, all-university program with faculty from the Twin Cities campus, Rochester campus, Hormel

Institute, Mayo Clinic, and IBM. It admitted its first students in Fall 2008 and has grown to forty-five students and over fifty faculty. The BS in health sciences (BSHS) is a four-year program, which admitted its first students in Fall 2009 and has grown to about 240 students. The BS in health professions is an educational collaboration with Mayo Clinic to deliver four programs in allied health, namely, respiratory care, echocardiography, radiology, and sonography. It is a junior-admitting program, which is expected to grow to a total enrollment of about 140 students. It admitted its first cohort of twelve juniors in Fall 2011. In addition, UMR enrolls and provides services to an additional

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350 students in partnership programs, which are degree programs that originate on one of the other campuses of the University of Minnesota and are offered to students located in the Rochester area.

UMR has no departments. A single academic unit, the Center for Learning Innovation (CLI), houses all faculty and instructors who teach in the BSHS. Currently, there are eleven tenure-track faculty and twenty-two part- and full-time instructors in the CLI. The vision of the CLI states that the “CLI promotes a learner-centered, technology-enhanced, concept-driven, and community-integrated learning environment. Through ongoing assessment of student achievement, the CLI aspires to personalize learning, establish data-driven research on learning, and continuously improve the curriculum.”

Innovative Learning Strategies

Learner-centered and personalized: Faculty and instructors across disciplines in the CLI design, implement, and deliver an integrated curriculum that emphasizes collaboration, communication, group work, and making connections across the curriculum. Classroom activities are built to engage students actively in constructing knowledge. Lower division students explore a broad range of careers while taking a common science and liberal education curriculum. The first semester deemphasizes differences in high school preparation to improve student success in the critical initial phase of a student’s college experience. Students are supported by student success coaches who help them achieve self-reliance as they advance through the program. Building on their lower division career explorations, students increasingly personalize their plan of study to prepare for their future career plans. This culminates in a capstone experience, which can range from student research projects to certificate programs or internships. The planning process during the first three years for the capstone experience in their fourth year keeps students focused on finishing in four years while intentionally preparing them for their chosen paths after graduation.

Technology-enhanced: The IT unit reports to Academic Affairs. It works closely with faculty to develop and implement effective technologies. Classroom technology facilitates collaboration and active engagement. Laptops provided to all undergraduate students at UMR give instant access to the curriculum inside and outside

of the classroom, utilizing the vast resources of the Internet. A curriculum development system, iSEAL, facilitates faculty and instructor collaboration in the design, implementation, and delivery of the curriculum.

Data-driven research on learning: CLI faculty conduct data-driven research on learning. Research is translated into the classroom as part of continuing curriculum improvement. The curriculum development and assessment system, iSEAL, has been designed to collect student usage and assessment data in real time, which will yield extensive longitudinal data over the ensuing years. These data will serve as the foundation for the development of learning analytics at UMR to tackle the multidimensional and complex problem of student retention and achievement.

Key factors in the ultimate success of UMR’s model are faculty and staff who realize the potential of implementing a cohesive curriculum as opposed to a collection of independent courses, who build trust and respect within and across disciplines to leverage the breadth of approaches in the pursuit of insights on the effectiveness of the curriculum and the pedagogical approaches, and who develop disciplinary working groups across job classifications to effectively and efficiently implement the curriculum. No less important is an administration that supports the efforts of faculty and staff while insisting on meeting the long-term mission and vision of the institution. For long-term sustainability, a “Blue Ocean Strategy”¹ was developed to carve out an uncontested niche in the higher education market: a research focus on learning across disciplines that translates results into the classroom; preparation for health careers in close geographic proximity to a world-class health care provider (Mayo Clinic); and lower cost and increased value through a faculty/staff model that focuses on providing student access to experts inside and outside the classroom.

Managing growth: Within the first two years, UMR enrolled students in its first graduate program and started to hire faculty for its undergraduate program. It took less than three years to enroll the first group of students in the undergraduate BS in health sciences degree. UMR set aggressive growth goals for its undergraduate programs, namely, to increase newly admitted freshman and transfer students by fifty additional students each year between 2009 and 2013 for a total

1. Kim, W.C. and R. Mauborgne, *Blue Ocean Strategy* (Cambridge, MA: Harvard Business School Publishing Corporation, 2005).

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student body, including students in partnership programs, of about 1,000 students in 2013. To handle the increase in student numbers, the number of faculty and staff who teach and provide student services had to increase rapidly as well. Accompanying the growth in student numbers are increases in space needs, student support services, and technology needs. Such rapid growth must be managed carefully and will remain our biggest challenge. In particular, it requires faculty and staff to constantly adapt to an environment where job responsibilities grow and change in sometimes unpredictable ways as the institution grows.

Collaborative environment: Designing an integrated curriculum across disciplines, establishing data-driven research to meet the vision of the Center for Learning Innovation, and building an administrative structure that integrates across administrative units requires a collaborative environment: faculty and staff must work closely together on the design, implementation, and delivery of the curriculum; the development of research questions that bring to bear their different disciplinary approaches to demonstrate the effectiveness of pedagogical approaches; and the implementation of workflow processes to ensure smooth operation of administrative functions. To meet the challenge of building a collaborative environment, ongoing professional development that leverages the expertise of central units, specifically Human Resources and the Office of Information Technology, has become an integral part of the faculty and staff experience at UMR.

Creating culture: Prior to becoming a campus, the University of Minnesota operated a satellite in Rochester for many years with staff administering the delivery of programs from other University of Minnesota campuses. This group of staff continued to work on the newly established campus and saw its transition from a satellite to a fully established campus with its own faculty and additional administrative and teaching staff. Faculty and staff who arrived after the founding of UMR came with distinct and diverse views of what a higher education institution should look like based on their previous experiences. As a new institution, there was no institutional memory that could be transmitted to new employees. Instead, a melting pot of ideas emerged that needed to be channeled into a coherent mission and vision for the institution. Communication and a clear vision proved critical to building a culture at UMR.

Departing from tradition: Many of the structures at UMR are radical departures from current practice at U.S. higher education institutions, such as no departments, a team approach to teaching, a

faculty that engages in translational research on learning, teaching staff that is charged with the implementation of these tested pedagogies, a curriculum in which individual faculty autonomy is replaced by joint responsibility for outcome, and close collaboration among the CLI, IT, and Student Affairs. On the other hand, UMR also chose to resist the urge to be different for the sake of being different, particularly in administrative units. Since UMR is part of an existing system that had decades to develop its policies and practices, UMR adopted most of these without change. This facilitates interactions within the system and allows UMR to focus its innovations on the student experience.

Institutionalizing innovation: UMR chose a “design and build” build paradigm to develop its programs and structures. This leaves room for change as we continue to learn about what works. However, five years into the development of UMR, we are starting to institutionalize practices and develop workflows for processes as the curriculum stabilizes. These steps of institutionalizing innovation are necessary to sustain the efforts long-term and to achieve a robust structure that can weather not only ever-changing fiscal realities, but also inevitable faculty and staff turnover while remaining nimble in a rapidly changing world. At the same time, as new faculty and staff join UMR, room for new ideas must remain.

PANEL TWO | Rethinking Accreditation

Gib Hentschke, University of Southern California

Guilbert Hentschke is the Richard T. Cooper and Mary Catherine Cooper Chair in Public School Administration at the University of Southern California's Rossier School of Education, where he served as dean from 1988 to 2000. Currently he serves as faculty advisor in programs that join business and education at USC, directs the school's PhD program, and teaches courses on the economics of education and on globalization. Hentschke's research and writing focus on the finance and governance of public, nonprofit, and for-profit education organizations. His two most recent books are *New Players, Different Game: Understanding the Rise of For-Profit Colleges and Universities* (with Tierney) and *For-Profit Colleges and Universities: Their Markets, Regulation, Performance, and Place in Higher Education* (with Lechuga and Tierney). Recent articles and chapters include: Innovation in a Context of Tradition: Dilemmas for American Universities; The Business of Education: Social Purposes, Market Forces and the Changing Organisation of Schools; Characteristics of Growth in the Education Industry: Illustrations from U.S. Education Businesses; The Global Phenomenon of Publicly Financed, Privately Operated Schools (with Brewer); Entrepreneurial Leadership, Leadership and Sustainability in an Emerging Market Environment; K-12 Education and the Role of For-Profit Providers (with Gomez); and The Role of Government in Education—Enduring Principles, New Circumstances, and the Question of 'Shelf-Life.'

Hentschke serves on the boards of directors of several education-oriented organizations, including the Education Industry Foundation, California Credit Union, Excellent Education Development, WestEd Regional Educational Laboratory, Mercury Online Academy of California, and Magnolia Charter Schools. Prior to his tenure at USC, Hentschke served in administrative and faculty positions at the University of Rochester, Columbia University, the Chicago Public Schools, and the East Side Union High School District (California). He earned his bachelor's degree in history and economics at Princeton University and his master's and doctorate in education and business at Stanford University.

I want first to acknowledge briefly here that accreditation can function as a barrier to innovation and entrepreneurship in higher education. At the same time, I'd like to move relatively quickly here in two directions: one, to broaden the notion of accreditation to "quality assurance," and two, to shift the initial focus from one of current barriers to one of necessary functions of quality assurance. From that point, I suggest the area of higher education that would benefit most from a "rethought" quality assurance scheme and then conclude with a brief description of the characteristics of quality assurance for that area which are most likely foster innovation and entrepreneurship.

Accreditation in higher education is really only one form of "quality assurance," which is probably closer to the spirit of our interest and concern here. Rather than focus on the (real) problematic nature of the many current forms of quality assurance, including

accreditation, I'd suggest here, instead, that some forms of quality assurance in higher education are both needed and wanted. First, quality assurance in higher education is a (legitimate) response to demands from multiple actors, especially consumers (households), providers, government and private stakeholders (subsidizers and supporters), and employers. These "demands" are not necessarily equivalent across actors, but we will assume they are in this memo. (For example, the "quality" of student credentials for signaling/screening for employers is different from the "quality" associated with institutional completion rates for government subsidizers.) It is in the interests of each of actors that some (minimal) form of quality assurance exists that mitigates inherent quality risks.

Second, in presuming this quality assurance requirement, higher education is not unlike most other goods and services offered in the

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marketplace, even if it also has some unusual properties that shape the nature of how quality assurance functions. Compared to many other services, education services have a bundle of characteristics that makes assurance of quality unusually material, e.g., as an experience good that is rarely purchased, has high “opting out” costs, is purchased increasingly as an investment (rather than as a pure consumption) good, and is usually associated with high positive externalities (and thereby externally subsidized).

Third, with the growth of new education services, clients, and markets, demands for quality assurance will only grow—albeit unevenly. WASC accreditation of Stanford won’t change much and is less relevant as a form of quality assurance than forms of cohort default rates and/or gainful employment rates for Corinthian’s or Los Angeles City College’s medical assistant programs. Quality assurance can, does, and often, should take a variety of forms, each with its own value to different stakeholders.

Rather than aiming a shotgun at all of higher education, I will limit my attention to the area with arguably greatest demand and opportunity for growth, i.e., programs of study up to and including bachelor’s degree level that are explicitly designed for role-specific career preparation and/or advancement. These programs of study have the following characteristics: (1) wide variety of hours and/or units required; (2) highly specialized program of study; (3) commodified curriculum; and (4) offered by a wide variety of types of providers (5) to a wide variety of students. Quality assurance “reform” provides the most value in these programs because they are both in relatively great demand and, for various reasons, some stakeholders seek a greater sense of quality assurance, which is at the same time less dysfunctional, than is currently available.

Fine and good, but what form of quality assurance best suits these programs and why? Despite the complex, sometimes contradictory quality assurance regimes in higher education today, they all can be roughly pigeonholed into one of only four categories based on (1) whether the quality assurance mechanism focuses its attention largely on *institutional* or on *student* quality and (2) whether quality is mostly a manifestation of *status* or *performance*. What we associate with “accreditation” is largely a measure of institutional status. Diplomas and certificates, on the other hand, usually attest to a student status of having completed a predetermined number of courses. Examples of quality assurance proxies for *institutional performance* include cohort default rates and job placement rates,

whereas similar quality proxies for *student performance* include bar exams (law), the national nursing exam (health), and Cisco’s software programming exams (information technology).

My “pitch” here is to focus our attention on the “career preparation” area of higher education and on the design and exclusive use of *student performance* quality assurances. Not only can they be “repurposed” to provide institution-focused in addition to student-focused quality assurance, they also have the potential to provide the greatest value to the widest variety of stakeholders for whom a functional system of quality assurance in higher education is a necessary attribute for a robust and thriving market.

PANEL TWO | Rethinking Accreditation

Sally Johnstone, Western Governors University

Sally M. Johnstone is the vice president for academic advancement at the Western Governors University, a competency-based, online institution headquartered in Salt Lake City, Utah. Prior to joining WGU in October 2011, she was the provost and vice president for academic affairs at a traditional comprehensive university, Winona State University, in Minnesota. She also spent over fifteen years at the Western Interstate Commission for Higher Education.

Johnstone has been active in the Open Educational Resources movement since its inception. Her experiences include work on policy issues for higher education institutions and system organizations, interinstitutional collaborations, quality assurance issues, project development and evaluation, and international projects. She has worked with UNESCO on education and open educational resource issues for over a decade. Johnstone serves on the editorial boards for *Change* magazine (USA) and the *Journal of Open Learning* (UK). She has authored dozens of articles, books, and reports on issues of integrating information and communication technology into academics. Johnstone earned her PhD in experimental psychology from the University of North Carolina at Chapel Hill.

Accreditation in the U.S. is focused at the level of the institution that awards a degree to a student. I shall stick to that level of analysis, but there are arguments for other ways of thinking. Most U.S. higher education institutions have several types of accreditations. Many fields of study have programmatic accreditations that can be nice to have but are not associated with licensure (i.e., business and art). Some fields have accreditations that are linked to licensure of graduates (i.e., psychology and nursing). These are critical for institutions that have those programs. Most of these programmatic accreditations systems are designed to maintain the quality of the programmatic area but they also perpetuate the traditional higher education structures. A few of these have ventured into examining newer modes of delivery of education but the faculty members who serve on the examining teams rarely have experiences outside the models that existed when they were students. As a result, most of these programmatic accreditors are unlikely to endorse innovative approaches.

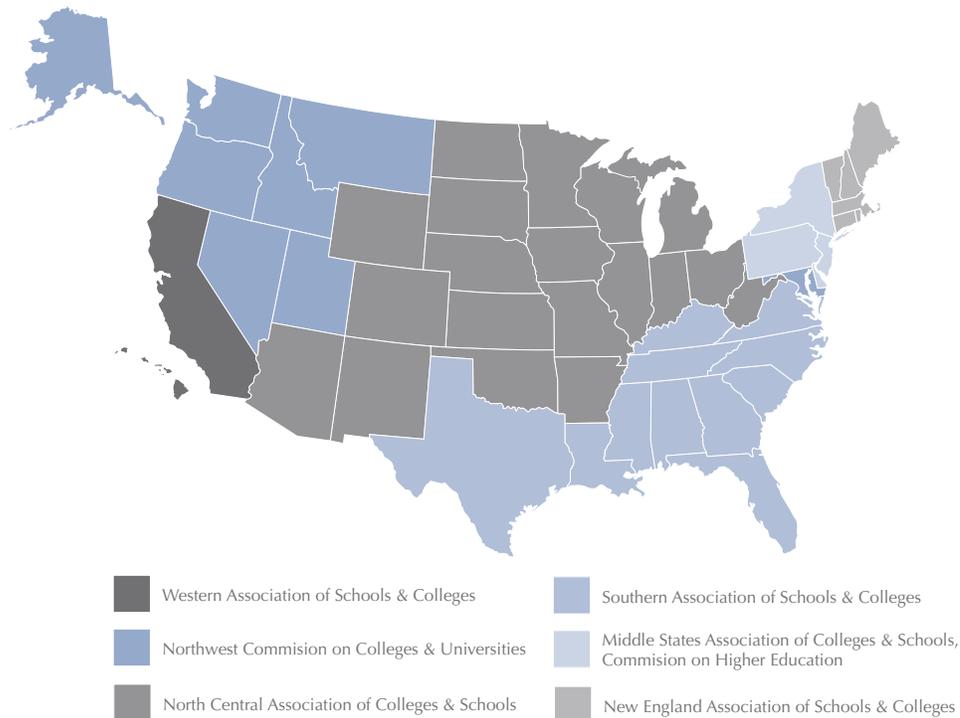
Another important type of accreditation relates to those organizations that are recognized by the U.S. Department of Education and whose seals of approval give institutions access to federal student financial aid dollars. These include the regional accrediting organizations as well as some national accrediting organizations. I

would like to focus on the regional organizations as their practices have the highest impact on institutions and innovation.

The map on the following page shows the somewhat arbitrary distribution of the states into the regional accrediting commissions:

Each of these regional commissions developed using a model of peer evaluations and governance. *What* is evaluated and *how* the evaluations are executed became differently codified during a century of mostly independent development. While most of these commissions have experimented with different types of institutions, they still have dramatic difference in their approaches. For example, the practices that might be possible for an institution in Illinois may be very difficult for an institution located in New Hampshire simply because of the accrediting region in which it is located. With the emergence of higher education institutions that serve students throughout the country, these differences make less and less sense. It is interesting to note that some of the newer institutions have chosen the location of their headquarters based which accrediting region would be examining them. If the purpose of the accreditation is to assure a reasonably good educational experience for students, location should not need to be a critical variable.

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It took the attention of several state governors questioning accrediting practices in the mid-1990s for the commissions to begin formal and regular conversations. The advent of the Western Governors University forced some attempts to cooperate among several of the regional commissions. By the late 1990s they formed the Council of Regional Accrediting Commissions (C-RAC), which continues to bring together the presidents and chairs of each commission to regularly discuss issues of mutual impact. Each of the commissions has moved away from measuring exclusively what an institution has toward what an institution can validate that it *does*. However, the criteria and processes they use are still dramatically different.

As we are all aware, people tend to measure what they know how to measure. It is far easier to count the number of volumes in a library as a reflection of an institution's commitment to access to knowledge, or the number of publications of the faculty to reflect scholarship, than it is to determine what students actually get out of their experience at the institution. As new forms of educational institutions arise, it seems critical that there is agreement on which ones offer students effective learning experiences for a reasonable

price. Focusing on students' achievements can leave room for different types of institutions to offer different types of experiences, but each institution would have to be explicit about what a student could expect. This does not need to arbitrarily vary across different regions of the country.

Proposal: All the regional accrediting commissions begin a process of consolidating evaluation criteria and systems. This consolidation will take several years and may include the concept of using evaluators from within similar regions to make the process more cost effective. The ultimate test of quality should focus on student learning outcomes balanced with the price to the student for achieving those outcomes.

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Anne Neal, American Council of Trustees and Alumni

Anne D. Neal cofounded the American Council of Trustees and Alumni and has been president since 2003. For over fifteen years, Neal has been a prominent national player in higher education reform, publishing widely and appearing frequently on radio and television, including Fox Business News, CNN, Fox News, WGN, and National Public Radio. She has authored or coauthored numerous ACTA studies on historical illiteracy, federal accreditation, governance, intellectual pluralism, and cost, and contributed chapters to *Accountability in American Higher Education* (Palgrave MacMillan, 2010) and *Reforming the Politically Correct University* (AEI Press, 2009). She has also convened higher education conferences under the auspices of the Philanthropy Roundtable. In 2007, and again in 2010, Neal was appointed to the National Advisory Committee on Institutional Quality and Integrity, which advises the U.S. Secretary of Education on federal accreditation.

Neal has provided expert testimony before the Commission on the Future of Higher Education, the U.S. Senate Health, Education, Labor, and Pensions Committee, the Louisiana Postsecondary Education Commission, the California Advisory Committee to the U.S. Civil Rights Commission, and in many state capitals, and presented at conferences sponsored by the American Enterprise Institute, the American Legislative Exchange Council, the University of Notre Dame, the Foreign Policy Association, the Association of American Colleges and Universities, Montana State University, the American Association of University Professors, and the Council for Higher Education Accreditation. Prior to joining ACTA, Neal served as general counsel and congressional liaison for the National Endowment for the Humanities. She also worked as a First Amendment and communications lawyer for Rogers & Wells and Wiley, Rein & Fielding. Neal graduated Phi Beta Kappa and magna cum laude from Harvard College with an AB in American history and literature. She received her JD from Harvard Law School where she was president of the Harvard Journal on Legislation. She has served on the boards of many cultural and civic organizations, and currently is a director of the Mount Vernon Ladies' Association, the U.S. Capitol Historical Society, and Casey Trees.

The Problem

In passing the Higher Education Act over forty years ago, Congress linked accreditation and federal student aid* to prevent students from squandering money on diploma mills. According to the act, recognized accreditors serve as a "reliable authority" on the "quality of education or training offered." Only accredited schools can receive federal financial aid.

Accreditation was thought to be a good proxy for quality. This assumption was wrong.

Today, virtually all colleges and universities in the United States are accredited (sometimes by more than one accrediting body). Yet there is widespread concern that college quality has been on a steady

decline. In their shocking study, *Academically Adrift*, professors Richard Arum and Josipa Roksa document that nearly half the students at a range of accredited schools learned little or nothing in their first two years. Over a third showed no gain in critical thinking or analytical reasoning in four years.

According to a recent study by the Partnership for 21st Century Skills, less than one-quarter of employers believe that the entry-level skills of newly hired four-year college graduates are "excellent." Slightly more than 25 percent say that the writing skills of four-year college graduates are deficient. The National Assessment of Adult Literacy, conducted by the U.S. Department of Education, meanwhile, found that over two-thirds of college graduates could not reliably compare two editorials or compute the cost of purchasing office goods.

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This should not be surprising since, until recent pressure from the Department of Education and others, accreditors have largely looked at inputs and ignored learning outcomes that matter to parents and students. *These input criteria, meanwhile, are direct barriers to innovation and entrepreneurship.* They not only demand more resources but predictably raise the cost of higher education. The ABA, for example, imposes standards for accreditation that limit student employment; require institutions to determine student-faculty ratios based on the number of tenured professors, without regard to the important (and generally more affordable) role adjuncts play; and limit online learning, an often cheaper and better form of delivery. Regulations recently announced by the Department of Education present another barrier to innovation: they insist that accreditors define and credit “seat time” when online instruction and blended learning render the very concept anachronistic.

Accreditation has also, on some occasions, interfered in institutional autonomy and governance with politically correct agendas. In 1992, the Western Association of Schools and Colleges (WASC) demanded that Thomas Aquinas College change its signature Great Books curriculum to make room for the multicultural courses that WASC prescribed. The Middle States Association threatened to withdraw accreditation from Baruch College on grounds that the school had only 18 percent minority representation on the faculty, and from Westminster Seminary, because the school had an all-male governing board, in accordance with its charter. Board members are legal fiduciaries yet they find themselves subject to review and second-guessing by “peer review” teams made up of college administrators and faculty.

Indeed, the accreditation process is riddled with conflicts of interest since accrediting bodies are membership organizations made up of the very administrators and faculty who benefit from accreditation. Accreditors do not sell their services in competition with other firms; six “regional” accreditors operate as regional monopolies.

On the rare occasion that accreditors do suspend or terminate an institution’s accreditation, it isn’t due to educational concerns. Typically, institutions are sanctioned because of financial shortcomings—an area the Education Department already investigates without the need of accreditation teams.

The accreditation process is also opaque; consumers are provided little information other than that a school is accredited.

And some schools today graduate less than 10 percent of their students in six years. Yet those schools (i.e., Chicago State University) are still accredited. At the same time, recent discussions on Capitol Hill underscore fundamental Congressional confusion about what accreditors do and why. (See <http://www.goacta.org/press/Articles/2010Articles/10-11-12IHE.cfm>; <http://www.goacta.org/press/Articles/2011Articles/11-03-17WE.cfm>.) This problem is complicated by the fact that the public has been led to believe that accreditation is a “Good Housekeeping” seal of quality when, in reality, it is not. It does harm by providing a false sense of security.

Finally, because of the regulatory strictures of accreditation, it can be more difficult to open a new college or university or transfer a college or university than it is for a company to sell stock or for a doctor to open a clinic. There is a lengthy and costly application process for startups and recent regulatory changes have made transfer from a nonprofit to a for-profit subject to extensive review by accrediting bodies. The bottom line: new entrants have a hard time breaking in and accreditation favors traditional “bricks and mortar” delivery.

Economic Consequences of a Broken Quality Assurance System

Graduates who lack the fundamental, core skills necessary for today’s demanding and ever-changing job market do not fare well. In a follow-up study to *Academically Adrift*, Professor Arum found that 31 percent of the sample of students from the class of 2009—all drawn from regionally accredited institutions—moved back in with their parents after graduation; the majority earned less than \$30,000 per year, and 9 percent were without jobs and actively looking for work. Meanwhile, the average debt load of students is at \$23,000, and the 2009 national student loan default rate is 8.8 percent.

New U.S. Department of Education regulations make “gainful employment” a criterion for for-profit schools’ eligibility to receive Title IV funds: given Professor Arum’s findings, regional accreditors clearly neglect their responsibility when they do not apply “gainful employment” criteria to the schools they certify. Emerging data concerning employment rates of graduates of accredited law schools, moreover, show rates of employment that are often scandalously low, a matter that has drawn the attention of Senators Tom Coburn, Charles Grassley, and Barbara Boxer.

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The Solution

Get the federal government out of the accreditation business. While accreditors argue that they are private entities, their gatekeeping role effectively makes them agents of the federal government. Substantial evidence exists that accreditation increases costs and imposes politically correct agendas on colleges and universities—while failing to ensure quality.

Since the current system to protect taxpayer dollars and guarantee quality is not working, a better approach must be found.

The Higher Education Act should be changed to remove accreditors as federal gatekeepers. Instead, taxpayer dollars will be protected by baseline proof of institutional financial solvency and a low threshold of student loan defaults (to be set by Congress), coupled with transparent and self-reported information on key data by the institution. The federal government's role in ensuring educational quality is to ensure honest reporting of quality measures to the public with appropriate sanctions to curtail fraud and misrepresentation. When accreditation becomes a voluntary credential, the value of accreditation will depend upon its credibility as a guarantor of quality, and accreditors can rise or fall in the market according to the quality standards they ensure.

Until legislative changes are made, the secretary of education should use his broad authority to invite pilot projects and alternatives to the existing accreditation review process. Expedited accreditation alternatives should be welcomed.

If accreditation is not removed from the federal apparatus, any new statute should provide for an expedited accreditation alternative that allows already-accredited institutions to provide information directly for the consumer and to bypass the accrediting bodies. Any regulatory requirements in accreditation should also apply equally across all sectors—for-profit and nonprofit. A definitive survey on the costs of accreditation is also in order.

Regional accreditors should be disallowed as noncompetitive monopolies, and institutions should be allowed to pick and choose from the full spectrum of accreditors rather than limit their choice by geography. It is surely an absurdity in a digital age for regionally based accreditors to hold monopolies over the schools in weirdly divided jurisdictions.

There should be a greater insistence on transparency through thorough reporting by institutions receiving financial aid. The National

Advisory Committee on Institutional Quality and Integrity—which currently serves as a nonbinding advisory committee responsible for certifying accreditors—should be eliminated. In its history, it has recommended less than a handful of accreditors be shut down; it is vulnerable to the same conflicts of interest rife in the accreditation process and offers no value to the taxpayer.

- The amount Congress approved for student financial aid in FY** 11 (Total of \$174,610,136,000) broken down by program and
- The amount the President requested for student financial aid for FY 12 (Total of \$187,666,621,000) broken down by program.

Note: The above information does not include the estimated \$13 billion disbursed in Post-9/11 GI Bill funds as of mid-Summer 2011. For more information about the Post-9/11 GI Bill, see http://www.gibill.va.gov/benefits/post_911_gibill/index.html.

**FY = Federal fiscal year, October 1 through September 30, supplied by the Department of Education.

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Burck Smith, [StraighterLine](#)

Burck Smith is the CEO and founder of StraighterLine. Before launching StraighterLine, he was the founder and CEO of SMARTHINKING, the dominant online tutoring provider for schools and colleges. In addition to building StraighterLine, Smith is writing chapters for two books on education policy for the American Enterprise Institute (AEI). He is a member of the American Enterprise Institute's Higher Education Working Group.

Smith worked as an independent consultant who contracted with for-profit and nonprofit educational organizations, including clients such as the Gates Foundation, Microsoft, Computer Curriculum Corporation, the CEO Forum on Education and Technology, the Milken Exchange on Education and Technology, Teaching Matters Inc., *Converge* magazine, and others. As a writer about education and technology issues, Smith has been published by *Wired* magazine, *Wired News*, *Converge*, *University Business*, and the National School Boards Association. In the early 1990s, he wrote articles on a variety of subjects including creating community telecommunication networks, electronic access to political information, telecommunications deregulation, and the ability of utilities to serve as telecommunications service providers. Smith holds a master's degree in public policy from Harvard University's John F. Kennedy School of Government and a BA from Williams College.

Higher Education Reform

(An original article mashed from "Disrupting College: Lessons from iTunes," John William Pope Center for Higher Ed Policy; and "Let's Deregulate Online Learning," *Chronicle of Higher Education*)

Is online education disruptive to higher education or merely a new feature? At first blush, online learning appears to have disruptive characteristics. The Internet and digital content dramatically reduce the cost and increase the convenience of the building blocks of education, content delivery and inter-personal communication. Also, given the popularity of online learning among students, the vast number of colleges that offer courses online, and the lack of distinction between online and face-to-face courses on college transcripts, it appears that colleges and their accreditors implicitly accept online learning as equivalent to face-to-face learning. Yet the effects of disruption—vastly lower prices for consumers, new course providers, struggling old providers, and disaggregation of products—are not evident. Prices continue to rise and, with the possible exception of for-profit colleges, nobody new has appeared on the education landscape to deliver college courses. In practice, it seems as though online learning is simply

a "feature enhancement" that allows colleges to make their offerings attractive to more people.

The major reason for the absence of change is that higher education, like other highly regulated markets, inhibits the development of business models appropriate to new technologies. Consider the personal computer. It was dismissed as a "toy" by the providers of powerful and expensive mainframe computers. In 1977, Ken Olsen, the founder and CEO of Digital Equipment Corporation, the largest provider of mainframe computers, infamously said, "There is no reason for any individual to have a computer in his home." He never thought that the price and convenience of the personal computer would appeal to a whole new consumer market. These new consumers bought the new products that spurred innovation in the personal computer market. By "voting with their dollars," previously unserved consumers created

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the personal computer market, which soon dwarfed the market for mainframes. Today, almost none of the mainframe computer makers are still in business.

Unlike the computer industry, higher education is heavily regulated and taxpayer supported. Students cannot easily “vote with their dollars.” Prospective students depend on a range of taxpayer subsidies—state grants to colleges, tax-favored status, students’ grants and subsidized loans—to finance their education. The only way students—and thus the schools they attend—can get access to grants and loans is to enroll in a nationally or regionally accredited institution. Thus, accreditation is the gateway to federal financial aid and the cornerstone of today’s postsecondary regulatory system.

To be accredited, a college must meet a variety of criteria, but most of these deal with a college’s inputs rather than its outcomes. Furthermore, only providers of entire degree programs (rather than individual courses) can be accredited. And even though they are accredited by the same organizations, colleges have complete discretion over their “articulation” policies—the agreements that stipulate the credits that they will honor or deny when transferred from somewhere else. This inherent conflict of interest between the provision of courses and the certification of others’ courses is a powerful tool to keep competition out. Articulation agreements, like API’s for computer operating systems, are the standards that enable or deny integration. In short, by controlling the flow of funding, accreditation insures a number of things: all colleges look reasonably similar to each other, the college can’t easily be “disaggregated” into individual courses, and coursework provided by those outside of accreditation can’t easily be counted as credible.

Lastly, to further tip the scales toward incumbent providers, accreditation bodies are funded by member colleges, and accreditation reviews are conducted by representatives from the colleges themselves. The “iron triangle” of input-focused accreditation, taxpayer subsidies tied to accreditation, and subjective course articulation ensures that almost all of the taxpayer funds set aside for higher education flows to providers that look the same. And by keeping innovations out, colleges can maintain their pricing structures.

This explains why most online courses are priced the same or *higher* than face-to-face courses despite massive cost efficiencies. Such enormous profit margins available to the delivery of accredited online learning explains the quick growth of for-profit colleges, non-profit

colleges offering online degree programs in conjunction with private-sector providers who share in tuition revenue and colleges running separate online divisions that subsidize face-to-face operations.

A more accurate characterization of today’s higher education is that individual colleges offer online learning as a “feature,” but use their regulatory clout as a group to resist disruption.

The Example of iTunes

In a freer market, competition would drive the price of online courses down to something approximating their cost to deliver. In time, those willing to price courses more cheaply would outperform those that weren’t, resulting in a new set of winners and losers in the college market. Consider a recent disruptive technology—single-song downloads. iTunes disrupted a music industry that relied on CDs, records, and cassettes by disaggregating music—breaking apart the ten-song album and dropping the price dramatically. The combination of the Internet and advances in computer memory enabled songs to be delivered and stored in an exponentially cheaper manner.

Something like that could happen in higher education, but it hasn’t. Colleges only spend about \$100 in direct instructional costs to deliver the most popular college courses like those taught in the first year of college. Yet they are able to generate between \$1,000 and \$3,000 in revenue from such a course. This revenue comes in the form of state support, tuition, and fees. The “margin” (the difference between the actual cost and the revenue) goes to support the remainder of the college infrastructure—buildings, security, low-enrollment majors, upper-level courses, climbing walls, marketing, profit, and others. Arguably, this is money well spent in a face-to-face environment. However, online students do not benefit from this infrastructure at all.

In theory, online courses should not be saddled with the subsidies necessary to perpetuate a face-to-face infrastructure. In practice, such disaggregation is difficult because, according to the accreditors, providers of individual courses cannot be accredited, and the form of new competitors must be comparable to the form of the existing providers. If such a system were applied to the music industry, only companies that produced and distributed CDs would be allowed to sell and deliver songs electronically. And the fact that colleges have complete discretion to award or deny credit transferred from somewhere else is comparable to declaring nonproprietary file formats ineligible. (As an aside, this is the same reason that the cable television

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industry fights so hard against allowing individuals to buy individual channels rather than packages of channels).

For-Profit Colleges

Some have argued that for-profit colleges are an example of higher education disruption and flexibility. While for-profit colleges have successfully served a market underserved by traditional colleges, for-profit colleges are accredited and rely on the flow of taxpayer funds to finance their businesses just like their nonprofit brethren. Further, when the impact of state subsidies and differential tax status are accounted for, their price points are comparable with those of public institutions. Thus they have little incentive to cut their prices—and they don't.

Though for-profit colleges are not disruptors themselves, they do point to a new, and potentially explosive, dynamic in higher education—competition. Historically, many students, especially working adults and those who didn't have the funds to travel far, had few options for enrollment. Only in the largest metro areas could students choose from three or more colleges. Today, however, the growth of online learning presents students with thousands of enrollment options. The competition for the online student is suddenly very fierce. With fierce competition for online students seeking to continue online or in a face-to-face environment, colleges are forced to compete on items that affect the actual price paid, such as the number of credits that can be transferred, the level of scholarships, and other items. Ultimately, this competition will push the effective price of college down, disaggregate and redefine "college," and allow new providers to enter—like StraighterLine, the company I founded and run.

How We Got Here

At the time the GI Bill was passed in the late 1940s, the basic economic model of a university was, more or less, the same that it had been since the 1500s. Because subject-matter experts were scarce and real-time communication options were limited, it made sense to build impressive campuses to attract professors and enable teaching. With such large fixed costs, adding a few more professors was relatively cheap. A critical mass of professors attracted a critical mass of students, who attracted more professors, and so on.

That model—substantial fixed costs with low marginal costs (the cost to offer one more class)—is the economic model that was "hardwired" when colleges' accreditation status and revenue streams were inextricably linked. Because the strongest signals of value in a high-fixed-cost model are the physical plant and faculty credentials,

accreditation mostly measures variables related to those. Because student mobility was relatively limited, standards governing the transfer of credits were unnecessary. And it worked—for a while.

But online learning has a fundamentally different economic structure. Real-time and speedy synchronous and asynchronous communication options abound. The location of the professor and the student are irrelevant. Content can be cheap or free. The price of the software enabling such learning experiences is plummeting. Courses are mobile, so students don't have to be. Online education is characterized by extremely low fixed costs *and* low marginal costs. Without having to carry the overhead of a face-to-face course, online courses should, more or less, cost only as much as the professor's labor. However, an accreditation system tailored to a high-fixed-cost business model; postsecondary education's dependence on taxpayer supported financial aid; and the reluctance of colleges to honor course work taken elsewhere conspire to restrain course-level price competition, keeping prices to online students way higher than they should be.

What Can We Do About It?

If the existing regulatory model is not appropriate for a product with low fixed and low marginal costs, what is? The answer for online learning might be none—or very little, anyway. Government intervention in private markets is usually done to protect consumers, fix market failures, protect local industries or, possibly, foster an informed citizenry. Of these, consumer protection, market making, and fostering an informed citizenry are relevant to education.

However, it's hard to argue that the current accreditation system is protecting consumers. College tuition has risen four times faster than inflation, grade inflation is rampant, studies indicate that students are learning very little, per-student debt is skyrocketing, profit margins for online courses are substantial, and the federal government felt it necessary to re-regulate already accredited for-profit institutions.

Further, with starkly lower tuition resulting from marginal-cost pricing, the financial risk to consumers could be—should be—dramatically reduced. Given that there are hundreds of providers willing to provide online courses to students, the online learning market hardly needs stimulation or protection. Anyone with an Internet connection can access an online course, so the real limit of educational accessibility is price.

To be sure, minimum consumer protection and quality-assurance standards are necessary, but they would be far more protective,

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accurate, and efficient if they reflected a set of minimum expected outcomes around core general education courses, rather than an all-encompassing input-focused evaluation system.

Policy Considerations

Admittedly, no matter how sensible, de-regulating online learning is unlikely to be embraced by the federal Department of Education or the colleges themselves. However, there are a variety of other possible reforms—both radical and incremental—that could go a long way toward bringing sanity back to higher education pricing. In no particular order, here are some suggestions:

- *Do No Harm*—As colleges start to struggle with budget cuts, consumer price sensitivity and competitive threats from models outside of the traditional accreditation system, there will be pressure on state and federal governments to “bail out” colleges. This pressure may come in the form of requests for funding increases, reductions in accountability, or increased barriers to alternative educational models. Federal or state policies that protect colleges are more likely to hurt the growth of more productive models of education.
- *Deregulate Online Learning*—If course-level price competition yields dramatically lower prices and there are thousands of providers in the market, there is limited justification for government intervention in the market. To provide opportunities to those who can’t afford online options, other systems that work in other markets, like food stamps and vouchers, could be included. Such a politically radical strategy should be accompanied by deregulation, defunding by the federal government, minimum outcome standards and required articulation.
- *Let Student Loans be Dischargeable at Bankruptcy*—As with gainful employment rules, but far more efficient, private and government lenders would quickly determine what combination of student characteristics, online programs, and interest rates represent a good investment. Or, if the public chooses to stimulate the loan market, subsidize some portion of the loan to deserving populations. Another variation would be to let student loans for online learning be dischargeable.
- *Assess What’s Assessable*—State or federal governments could assess what is easily assessable—general-education and skills-based courses. For courses and programs whose

outcomes aren’t as easily measurable, the market does a much better job of determining value. Let a hundred providers bloom, whether they be colleges; companies like mine, StraighterLine; single professors; teams of professors; or, most likely, some combination of all of these. Those that offer the best product for the best price will succeed, and the others would fail.

- *Set Common Academic Standards*—Like open-source operating systems, states should award equal credit for equal courses, no matter where the course is taken. This could be accomplished by setting uniform outcome standards for commonly taken courses and/or creating an independent review mechanism for unaccredited course providers.
- *Accredit the Course—and the Institution*—The coin of the academic realm, particularly among lower-division offerings, is the course. These are the building blocks of degrees and they are transferred among colleges. However, the institution is the entity that undergoes an accreditation review. Currently, accreditation provides little or no information about an individual course’s quality, yet it is the standard by which most colleges determine course transfer validity.
- *Fund the Course, Not the Institution*—Currently, a student’s financial aid is tied to the institution, not to the course. A student who finds a cheaper course at another college must pay for it with out-of-pocket funds (and make sure that it transfers into the original college). Such a policy stifles price competition among colleges.
- *Require Assessment to be Separated from Instruction Wherever Possible*—At least one-third of all college courses are relatively standard across colleges. There is no reason why statewide or even nationwide pools of assessors could not evaluate student work independently and impartially. The current system where professors have total authority to deliver and assess instruction is an inherent conflict of interest that undermines the integrity of higher education.
- *Accreditors Should Be Enforcers or Self-Help Organizations, Not Both*—If accreditation remains the gateway to taxpayer subsidies, then it should be independent and outcome driven. It should be funded independently of its members and its reviewers should not be employed by its members. It should

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resemble the SEC or FDA, not an industry trade group. Further, to allow innovation, it should be agnostic about the methods and models used by providers to educate students.

- *Require Articulation of Lower-Level Credits*—General education courses are relatively constant across schools, yet schools routinely refuse to honor coursework taken at another school.
- *Change the Culture of Higher Education Regulation*—The federal Department of Education and the state systems of higher education have the functions of regulators but the actions of boosters. A true regulatory function would be agnostic to the methods and corporate structure that entities use to achieve desired outcomes. The DoE's oversight of higher education should look more like the FDA or the SEC, rather than the role that it currently serves.
- *Stop Taxpayer and Foundation Funding of Open Content Projects*—There are already numerous open content repositories. Not one has succeeded in reducing the price of education. This is due to the fact that professors don't often use open resources and, more importantly, when they do, the portion of the price of a course represented by content construction and delivery is practically zero. Open content suffers from a demand problem, not a supply problem.

PANEL THREE | Streamlining State and Federal Regulations

Dominic Brewer, University of Southern California

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Before joining USC in 2005, he was a vice president at RAND Corporation. Brewer has overseen major projects focusing on educational productivity and teacher issues in both K-12 and higher education. He is the author of *In Pursuit of Prestige* (Transaction Press, 2001). Brewer is a coeditor of *Educational Evaluation and Policy Analysis* for 2010–12 and an American Education Research Association Fellow (elected in 2011).

Higher education is widely lauded as an American success story. But significant challenges associated with demographic shifts, a changing economy, and a declining fiscal base present U.S. higher education with an imperative for major change. Although innovation is taking place within existing providers and through the entry of new providers, it has not dramatically increased the system's capacity to educate more students or driven down costs. There appears to be "too little" and "too slow" innovation, particularly when compared to other industries that have improved productivity via the introduction of technology or through strategies that reduce labor costs. There are multiple barriers to innovation in U.S. higher education, and these are reviewed in more detail in Brewer and Tierney (2011). State regulation can provide critical consumer protections but it is also an important barrier that can stymie new entrants and breed lethargic institutions. Several key facets stand out.

First, existing state regulation tends to be outdated, undifferentiated, and burdensome. Regulations accumulate geologically, not logically. When USC's Rossier School of Education, working with our partner 2tor, Inc., launched an online Master of Arts in Teaching (MAT@USC), we sought each state's blessing to operate within it. This process revealed a slew of obscure and irrelevant provisions, such as needing to submit typewritten applications and specifying the fire rating of file cabinets in which student records were to be stored, as if there were no computer technology. (The regulations are described

as "so 1978" by a colleague familiar with the applications.) Typically old requirements are left in place as new requirements get added, and the end result can be incredibly burdensome with a focus on minutiae that have unclear links to quality. For the MAT@USC, applications easily might run into hundreds of pages of supporting documentation. Further, in some states, the process makes no distinction between the type of institution or program that is being established. In our case, for example, USC found itself side-by-side with yoga schools, sea captains' colleges, and hospitality programs. State higher education commissions were often underresourced and overwhelmed, as well as unsure how to handle anything that did not fit the traditional place-bound postsecondary education model. There clearly is plenty of room for improvement in state regulation through simplification and modernization of requirements, and a more nuanced approach that recognizes important differences in types of institution. This conclusion is not particularly startling, but the effects of a major "cleanup" or state regulations shouldn't be underestimated.

Second, the entire notion of state regulation in itself is problematic in an era when technology effectively removes some of the need for physical presence, and where marketing, recruiting, and program delivery can all be national or international. Fifty separate and widely differing systems create significant transaction costs to new entrants trying to figure out how to comply with each state's unique regulatory framework. There is a 'threat' effect, too, wherein fear

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of running afoul of rules encourages inertia. While it seems unlikely that states will cease to play a major role in setting parameters for postsecondary education, over time as more and more institutions operate across state boundaries, one would expect to see (and hope for) some convergence in regulatory frameworks. Whether rules can keep current with the rapidly evolving possibilities in the higher education marketplace is less certain.

Third, it is not at all clear that existing state regulation is in place primarily to protect students. State regulation, when combined with state funding and accreditation, tends to overprotect existing institutions and in particular public, in-state campuses. Regulation may seek to prevent certain types of provider (e.g. for-profit, non-regionally accredited) from offering courses in a state, thereby forcing students to attend the public system schools or established private colleges and universities. Regulation may limit course credit transfer or bar state financial aid from being used at particular kinds of institutions. This is not to say that the state may not have a legitimate role in setting rules such as these, but it is not clear that they are in place to protect students; rather, they appear to be designed to protect institutions. Proposals for new programs might be evaluated by representatives or graduates of the major in-state universities. When an application to operate in a state is made, existing providers may vocally object to increased competition. Although each state recognizes that it needs to increase participation in the postsecondary sector in order to improve its economic well-being, most states have made no plans whatsoever to work with private and for-profit institutions in a manner that would enable them to increase capacity and help the state achieve increased participation.

In conclusion, regulation is not inimical to innovation, and without it consumers can be left unprotected from unscrupulous operators. However, much of the state, federal, and related oversight by regional and professional accrediting agencies now serves to stifle creativity in large part because those who make the rules and regulations are unable, or have no incentive, to keep pace with changes in arenas like technology, outsourcing, and globalization. A system of largely autonomous institutions, and a large public sector that receives funding on a per-student enrollment basis with little or no consequence for student outcomes, is unlikely to have strong incentives to innovate. Although several states and accrediting agencies have made moves toward measuring student retention, graduation rates, learning, or long-term labor success, progress has been painfully slow. Students

still have virtually no information on performance of colleges and universities on comparable metrics, and policymakers have not based funding or regulation on systematic criteria that would spur innovation. Simplifying and modernizing state regulation should be leveraged by accompanying changes in federal and state funding mechanisms—for example, by tying some portion of funding to outcomes, cost reductions, or elimination of duplication; competitive “race to the top”-style efforts and federal R&D ; and funding unbundled from operations (“Charter” colleges?).

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PANEL THREE | Streamlining State and Federal Regulations

Andrew Kelly, University of California, Berkeley

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All providers of higher education—public, nonprofit, for-profit—operate under a complex web of state and federal regulations. These regulations are ostensibly designed to protect consumers and ensure that taxpayer dollars are not wasted on fly-by-night programs, but they often serve as barriers to new providers and/or existing providers looking to experiment with new ideas. Higher education regulations are typically place and process based in an era when the system is moving away from traditional academic calendars and bricks and mortar. Critics rightly focus on accreditation as the key obstacle, but this distinct set of state and federal regulations can prove equally discouraging to entrepreneurial providers. Research suggests that regulatory barriers to innovations like online learning and competency-based models have become even more pervasive since the early 2000s.¹

But it would be wrong to suggest that all federal and state regulation is necessarily a barrier to innovation. The problem lies with the fact that higher education regulation has traditionally focused on inputs, processes, and structures (“compliance”) rather than student outcomes (“accountability”). Regulating things like “seat time” rather than student learning or how much instruction takes place

online versus in-person tends to pigeonhole providers into one model and discourage experimentation with new ideas. In contrast, when regulations set standards for outcomes but leave the process up to the provider, the system creates room to innovate and levels the playing field between insurgent and established players.

Unfortunately, two of the most recent federal efforts fall into the innovation-thwarting “compliance” category, and evidence suggests that in spite of some signs of progress, state barriers to entry generally remain high. After reviewing these barriers, I conclude with a look at new state efforts to bring in innovative providers, a discussion of how new gainful employment regulations relate to larger questions of higher education innovation, and two suggestions for reform. In contrast to some market-oriented critics of the new federal regulations, I believe that holding institutions accountable for student outcomes is a prerequisite to fostering innovation—so long as policymakers extend the focus on outcomes to all institutions and use this newfound emphasis on student success to relax process- and place-based regulations that block nontraditional providers.

1. Michael B. Goldstein, Aaron D. Lacey, and Nicholas Janiga, “The State of State Regulation of Cross-Border Postsecondary Education” (Washington, DC: Dow Lohnes PLLC, 2006).

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Federal Regulations as Barriers to Innovation

After federal policy reforms made the world more hospitable to nontraditional providers in the early 2000s,² the Obama Department of Education looked to strengthen “program integrity” regulations to curb apparent abuses in the for-profit sector. Two of these regulations—one defining the “credit hour” and the other requiring cross-state providers to obtain “state authorization”—run counter to innovation in higher education.

The effort to define credit hour was designed to prevent for-profits from inflating their credits so that students could fulfill the credit hour requirements for financial aid. For-profit American InterContinental University, for instance, was found to be awarding nine college credits for courses of five weeks in length. The new regulation defines “credit hours” as one hour of direct faculty instruction and two hours of out-of-class work for fifteen weeks (or “reasonable equivalencies” of this amount of work represented by learning outcomes and student achievement). Higher education observers vehemently argued that linking the definition to seat time directly discourages the innovative programs that allow for asynchronous learning and competency-based credits.³

The state authorization rule requires colleges that provide online instruction across state boundaries to obtain authorization from any state where they enroll students. The department’s rationale: providers are already obligated by individual states to obtain authorization but many do not, so the federal government is simply adding some teeth to the requirement.

But the rule would actually force online providers to gain separate approval from every separate jurisdiction where they enroll students,

creating enormous transaction costs, duplication, and redundancy. A survey of 230 institutions with online programs by the University Professional & Continuing Education Association (UPCEA)—which represents extension divisions of traditional universities—found the average cost to institutions would be about \$150,000 a year, and that 59 percent of the colleges reported that they would stop accepting students from states with burdensome authorization requirements, thereby limiting the choices available to students in certain areas.⁴ The DC District Court vacated the state authorization rule in July 2010, but state regulators are increasingly attuned to questions of state authorization.

State Barriers

State-level regulations vary considerably from jurisdiction to jurisdiction, creating a maze of red tape that new providers must navigate. State licensure boards can act as cartels, erecting barriers to keep new entrants out and protect incumbent institutions. In many states, licensure board members are often higher education providers themselves, providing them little incentive to welcome new competitors into the market.⁵

For national providers that enroll students in many locations, most states have a “physical presence” standard that defines whether providers need to be licensed, which sounds simple enough. But the definition of “physical presence” varies. In some states, physical presence equates to an actual branch of the main campus; in others, they are considered to have a physical presence if students are required to engage in group activities like study groups, or if the institution recruits students in person, or if they have even one adjunct faculty member from the state. According to a recent analysis by Eduventures, ten states explicitly assert jurisdiction over online programs, while six

2. In 2002, the Department of Education did away with the “twelve-hour rule,” which required colleges with “nontraditional calendars” to provide at least twelve hours of in-class instruction per week. For online and hybrid programs and/or compressed timeframes, this requirement was impossible to meet. See Tom Wolanin, ed. “Reauthorizing the Higher Education Act (HEA): Issues and Options.” (Washington DC: Institute for Higher Education Policy, 2003). In 2006, Congress eliminated the “50 percent rule,” which had prevented students attending programs where more than half of the instruction was delivered at a distance (or where more than half of the students took courses entirely online) from receiving Title IV funds.

3. Blair Dowden, president of Huntingdon University and a board member of the National Association of Independent Colleges and Universities, told a congressional panel that “A restrictive definition of ‘credit hour’ based on seat time alone would turn back the clock and discourage the kind of innovation that enables colleges and universities to serve these students.” See: http://www.insidehighered.com/news/2011/03/14/members_of_congress_and_college_officials_debate_higher_education_regulations.

4. “UPCEA/WCET Survey Shows Institutions Struggling to Comply with State Regulations,” news release, August 18, 2011, <http://wcet.wiche.edu/wcet/docs/state-approval/UPCEA/UPCEA-WCETPressRelease08-18-11.pdf>.

5. Guilbert Hentschke and William Tierney, “Making it Happen: Increasing College Access and Participation in California (The Role of Private Postsecondary Providers)” (Los Angeles: University of Southern California, 2010), http://cheпа.usc.edu/pdf/Making_It_Happen.pdf.

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do not assert any control; the remainder have some variation on the physical presence standard. A 2006 study by Dow Lohnes found a “crazy quilt” of state licensure requirements, and argued that state efforts to control online providers had increased during the early 2000s.⁶ This inhibits providers from expanding to new markets.

Some states make it easier to enter than others. Gib Hentschke and William Tierney of USC identify Minnesota, Wisconsin, and Washington as states that have moved their licensure process in the right direction, making requirements clear and keeping licensure costs low.⁷ Meanwhile, Rhode Island explicitly bans for-profit colleges from operating in the state. Massachusetts creates a committee to review each institution’s application (which can include “site visits”) and will sometimes hold a public hearing. The state then charges \$10,000 in licensure fees, plus \$2,000 for each program licensed and \$4,000 in annual fees.⁸ Such requirements are far from a welcome mat for new providers.

Inviting (Some) Innovators In—An Incomplete Solution

Policymakers in Indiana, Washington, Texas, and elsewhere have found one way around the barriers to entry: invite a new provider in as a partner to the state. Indiana and Washington have both formally created a branch of Western Governor’s University that is affiliated with the state (and will grant degrees that bear the imprimatur of the state system).

But let’s be clear: this approach has more to do with producing additional degrees at low cost than it does with promoting innovation or competition. Indeed, WGU-Washington and Indiana will likely carve out a niche that is distinct from the traditional state institutions (serving adult learners), leaving incumbent providers to continue with business as usual. In some ways, taking some pressure off of the existing system by building capacity may actually remove any incentive they have to do new things.

In short, the fact that a state has to issue an executive order or pass legislation to encourage an innovative provider to set up shop

says more about the monumental barriers to innovation than it does about any fundamental sea change in the offing.⁹

What about Gainful Employment?

Where does “gainful employment” fall in this discussion? The rules, recently amended after a fierce debate in Washington, tie institutional eligibility for federal student aid to the debt-to-income ratio and repayment rates of graduates from vocational programs. As a quality control mechanism, gainful employment is exceptionally ham-handed: it operates under arbitrary thresholds and provides little or no ability to distinguish providers who fulfill the minimal standard. The highfliers and those who made it by the skin of their teeth look largely identical.

While the implementation is lousy, the kernel of the idea underlying gainful employment—that we should measure the labor-market outcomes of graduates, set minimum outcome standards to determine eligibility for student aid, and use these data to inform consumer choice—is critical to promoting innovation in higher education. Once we set the goalposts and collect outcome data across all types of providers, we can quit haggling over definitions of seat time or “physical presence,” which are really just poor proxies for quality anyway. Institutions that routinely fail to reach even a minimal standard can be cut off from federal and state aid, while informed consumer choice will reward high-quality providers regardless of their structure or mode of delivery. As is the case in charter schools at the K-12 level, a regulatory framework focused on outcomes and agnostic about process frees entrepreneurs and innovators to experiment with more radical redesigns of education.

The flipside: regulators should reduce the web of disclosures that are unrelated to student outcomes but which colleges must spend scarce resources reporting to federal and state authorities. Refocusing regulations on important outcomes and dropping inane requirements—like reporting gender ratios among athletic coaches—would allocate institutional effort toward measuring and reporting on the things that matter: the effectiveness of their programs.

6. Goldstein et al., “The State of State Regulation of Cross-Border Postsecondary Education.”

7. Hentschke and Tierney, “Making it Happen.”

8. See WICHE Cooperative for Educational Technologies (WCET) et al., “State Approval Regulations for Distance Education: A ‘Starter’ List” (2011), <http://wcet.wiche.edu/wcet/docs/state-approval/FinalStateApprovalRegulationsforDistanceEducationAStarterListwithAddendum2.pdf>.

9. Western Governors University should be applauded for getting involved in these state systems. But it is not clear that WGU sees itself as a “disrupter.”

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Some opponents have argued that the current gainful employment regulation hinders innovation because it targets the most innovative institutions out there—the for-profits. Applying these regulations across the board is certainly critical to create a level playing field where innovative models can challenge established providers. But it is equally important to foster a market that can effectively force unsuccessful innovations out of business. Under the current system, we actually have little ability to tell which innovations are successful and which should be left to wither, setting up a scenario where we reward “innovation” as an end in itself rather than a means to marked improvements in quality and productivity.

Promoting Reform

Policymakers should look for policies that improve measurement of student outcomes and encourage experimentation. Two directions come to mind.

First, the federal government should leverage existing efforts to link postsecondary and labor market data—namely its investments in statewide longitudinal data systems (SLDS) and its data collection efforts under gainful employment. The federal government has awarded \$500 million in grants to 41 states to create SLDS systems, but only 26 states currently link workforce and education data, and far fewer actively make data on how outcomes vary across programs and institutions public.¹⁰ Under the new gainful employment regulations, the federal government will now be in the business of linking postsecondary data from for-profits and vocational programs at community colleges with wage information from the Social Security Administration. Policymakers could leverage this precedent to compel data collection and reporting across all institutions receiving federal aid.

Pending improvements in our ability to “keep score,” state policymakers could also create the higher education analog of the state’s charter school laws—a policy that sets up a “horse trade” of more freedom to experiment in exchange for greater accountability for

student outcomes. Providers of all stripes—public, nonprofit, for-profit, or third-party organizations—could apply to offer postsecondary courses and degrees under a strict performance contract. In return, the state would waive some of the existing regulations (accreditation, seat time, library requirements, etc.) that tend to discourage nontraditional providers.

This idea is not necessarily new: it was the subject of a white paper more than a decade ago, and a recent Brookings paper argued for the creation of charter colleges for pre-K educators.¹¹ But given the increased capacity to measure student outcomes, the emerging market of innovative postsecondary providers, and the urgent search for lower-cost degree pathways, the time seems ripe for experimentation with such an alternative governance arrangement.

10. Data Quality Campaign, “Postsecondary Data Connections: A Primer” (Washington, DC: Data Quality Campaign, 2011), [http://www.dataqualitycampaign.org/files/DQC%20Postsecondary%20Primer_2011_Format%20\(2\).pdf](http://www.dataqualitycampaign.org/files/DQC%20Postsecondary%20Primer_2011_Format%20(2).pdf).

11. See Robert Berdahl and Terrence McTaggart, “Charter Colleges: Balancing Freedom and Accountability,” The Pioneer Institute White Paper 10 (Boston: The Pioneer Institute, 2000); Sara Mead and Kevin Carey, “Beyond the Bachelors: The Case for Charter Colleges of Early Childhood Education,” Brookings Institution State and Metropolitan Innovation, no. 7. (Washington, DC: The Brookings Institution, 2011).

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Andy Rosen, Kaplan Inc.

Andrew S. Rosen is chairman and CEO of Kaplan, Inc., one of the world's leading providers of educational services. Rosen joined Kaplan in 1992 and was named chairman and CEO in November 2008. Kaplan, a subsidiary of The Washington Post Company, is a diversified educational company with more than \$2.9 billion in revenue in 2010 and accounted for more than half of the parent Company's revenue.

Throughout his career, Rosen has embraced an outcomes-based approach to education, focusing on student achievement and success. As CEO of the company's largest business, Kaplan Higher Education (KHE), Rosen redefined the higher education landscape, bringing online and campus-based learning opportunities to working adults. Under his leadership, KHE has grown to account for more than half of Kaplan's revenue and today provides postsecondary education to nearly 80,000 students. As president of Kaplan University, Rosen led the school's growth from thirty-four students in 2001 to more than 53,000 online students today. He also oversaw Concord Law School, the first fully online law school in the United States. His first book, *Change.edu: Rebooting for the New Talent Economy*, was published in October 2011.

Rosen came to The Washington Post Company in 1986 as a staff attorney for *The Washington Post* newspaper and moved to *Newsweek* as assistant counsel in 1988. When he moved to Kaplan, he served as center administrator, regional director, and vice president for field management prior to assuming the role of chief operating officer in 1997. He was named president of Kaplan, Inc. in 2002 and assumed leadership for Kaplan's higher education operations in 2004. Previously, Rosen served as law clerk to the Hon. Levin H. Campbell, Chief Judge for the U.S. Court of Appeals for the First Circuit, in Boston. He holds an AB from Duke University and a JD from Yale Law School. Rosen currently serves on the boards of Enterprise Florida, the Museum of Art in Fort Lauderdale, the Broward Workshop, and the Council for Educational Change. He is also a member of the CEO Council for the Broward Alliance.

Our higher education system, long considered the best in the world, is beginning to falter as an engine of our economy. While our most elite universities continue to top worldwide rankings, broader measures of progress show that we are slipping. The United States recently has fallen to sixteenth place among developed nations in college degree attainment according to the OECD; in the 1970s, the United States was ranked first. We're also losing steam in the classroom: recent research has shown that a significant proportion of America's college students demonstrate no significant improvement in critical thinking, complex reasoning, and writing.¹

These trends do not auger well for continued U.S. economic primacy. We need to change the current course of U.S. higher education to unleash the kind of innovation and entrepreneurship that once made our system the envy of the world and produced a workforce that gave our economy a leg up. In order to make that kind of progress, the now-\$430 billion higher education industry will need to address significant structural challenges: our current system funds institutions and students without regard to performance, and the myriad federal and state rules and regulations reinforce that approach.

1. See Richard Arum and Josipa Roksa, *Academically Adrift* (Chicago: The University of Chicago Press, 2011).

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Renewing the Focus on Access, Learning Outcomes, Innovation, and Affordability

Our current higher education funding system does not distinguish between universities that do an excellent job enabling student learning and institutions that do a mediocre job. As a result, today's universities do not compete with one another on what should be their core goal: enabling learning. Instead, they compete over measures that drive their prestige, like the number of students to whom they deny admission, the number of books in their libraries, and the on-campus lifestyle they are able to provide. In an effort to attract "better" students, many universities have turned themselves into full-blown resorts.

Meanwhile, college costs keep rising sharply and student loan debt just passed the \$1 trillion mark.

Regulators have sought to intervene, but have done so with a patchwork approach, seeking to ensure institutional quality indirectly without consideration for individual student outcomes. Some of these regulations have not only fallen short of their goal, but have instead created unintended consequences that are stifling the very kinds of innovation we should be rewarding.

Problematic Regulations that Impede Innovation and Drive Costs Higher

A series of recent regulations, and I highlight two specific examples below, have singled out one sector of higher education—the for-profit, or "private sector"—based on its tax status without regard to its unique role in serving adult learners and working class students. The significant growth of these new institutions, which do not resemble our traditional view of "college," has attracted a regulatory agenda that is serving to reinforce the status quo. This is not a productive path—regulation that favors incumbents at the expense of newcomers only undermines innovation. History has demonstrated that some of the biggest leaps forward in our higher education system—the advent of land-grant colleges or the introduction of community colleges, for example—were achieved when new entrants introduced new models to expand the spectrum of higher education opportunities in the United States.

Example 1—Gainful Employment Regulations: The "gainful employment" rule is an attempt at measuring the quality of private-sector institutions by holding them accountable for their students' ability to repay their government loans. Data has shown, however, that student loan repayment is not a proxy for quality; rather, it is

highly correlated with the percentage of lower-income students an institution serves. This regulation has dramatically undercut private-sector institutions' ability to provide access to lower-income students who might most benefit from the opportunity. It will likely serve to reduce the spectrum of programs that can be offered, while limiting the socioeconomic scope of students.

Example 2—The 90-10 Rule: The "90-10" rule is an attempt both to curb potentially aggressive student recruiting by limiting the amount of revenue a private-sector institution can take in via federal student grants and loans, and to ensure educational quality by requiring students to put some of "their skin in the game." However, because individual institutions are not able to limit the loan dollar amount students may receive, the 90-10 rule has effectively created a tuition price floor, driven prices up, increased student debt, and further challenged institutions' ability to comply with the gainful employment rule. Furthermore, such regulation stifles innovation that could come from unleashing price competition among all institutions. The 90-10 rule has shown itself to be a poor barometer of education quality, an ineffective consumer protection in terms of recruitment practices, and a tuition accelerator.

Both of the foregoing regulations—along with a host of others—purportedly are protections for students and taxpayers, but apply only to private-sector institutions. Rules intended as protections should apply equally to all institutions that serve students and accept taxpayer funds.

Developing a New Incentive System for Higher Education

To put U.S. higher education back on the path to innovation and entrepreneurship, the focus should be on realigning incentives. Higher education policymakers should be rewarding institutions that deliver on four principles:

- *Learning outcomes.* It's possible, particularly using technology, for all of our colleges and universities to be able to measure and improve student learning. At Kaplan University, for example, we assess all students on their achievement of the learning outcomes of every course, and use the data to improve the courses, better train the faculty, and remediate students before they have a problem. We know, institutionally, what all students are learning and what they are struggling with. Most traditional universities today do not conduct such measurement and analysis, and that impedes ongoing improvement.

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- *Access.* Now, our universities are rewarded in the marketplace for how many students they reject, not on how many they can accommodate. Even as Harvard's endowment approaches \$1.5 million per student, it doesn't increase the size of its entering class. Our country cannot afford to ration college slots based on a manufactured sense of scarcity and hope to regain its leadership in the competitive, global marketplace. A better model would reward those institutions that increase access, particularly to broader audiences.
- *Affordability.* Our policies should be designed to unleash price competition. Instead, our current funding mechanism encourages institutions to engage in an unhealthy amenities race for which taxpayers are on the hook. We should be incentivizing institutions to bring costs down and let schools fight for students based on their institutional dollar-value propositions.
- *Accountability.* Colleges should be required to publish, in a clear, understandable fashion, the information students need to make decisions about their education: price, debt, graduation rates, placement rates, career outcomes, class availability, and so on. This data should be compared with that of other institutions with similar student demographics. Metrics that measure today's college experience, not the one of a generation ago, are necessary to inform this transparency. This kind of information will help drive students (and their loan and aid dollars) to schools that outperform on meaningful metrics.

Our Economy Depends on Fixing the Current Higher Education Incentive System

Our current legislative and regulatory approach no longer promotes expanding access and educational excellence. It protects the status quo at a time when our relative position in the world economy is under intense pressure. Education is a key to economic growth, and our future higher education system will be fashioned by those who are responsible for creating the incentives today. Accountability lies with the funders.

We need to move from a regulatory paradigm based on the institution to one framed around the student.

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Trace A. Urdan, Education Industry Research Analyst

Trace Urdan has covered the for-profit education industry as a research analyst since 1998 and has twice been cited as an All-Star analyst by the *Wall Street Journal*. He is widely cited as an expert on the topics of for-profit education and e-learning. In 2005, he was invited to testify before the Spellings Commission on the Future of Higher Education. In 2008, he was cited by *Career College Central* magazine as one of the twenty-five most influential people in the career college sector. Urdan has published equity research for a number of investment banks, including, at the time this paper was written, Wunderlich Securities. Urdan also spent five years as a partner and managing director at Signal Hill Capital Group and headed education research for Robert W. Baird & Co. Before beginning his career as an investment research analyst with Alex Brown & Sons, Urdan held senior management positions within Time Inc. and KPMG Peat Marwick. Urdan earned his BA from Yale University and his MBA from Harvard Business School.

Regulation of the For-Profit Postsecondary School Sector

Background

For more than fifty years, since the Second World War, U.S. higher education policy has focused on expanding access to and participation in higher education. Through grants and government-guaranteed student loans, policymakers have encouraged increased participation in postsecondary education as the ticket to a better life. As a result of these substantial and universal government programs, the fastest-growing group of postsecondary students has become nontraditional working adults returning to school to obtain or complete a degree. These students have often dropped out of other institutions and/or are ill-prepared academically and often face considerable financial challenges.

For their part, traditional higher education institutions have not served this type of student well. With elite schools fixed in size (and somewhat ambivalent about working adult students), and state-funded schools willing but limited by state budget constraints, increased postsecondary attendance among nontraditional students has fueled the emergence and growth of privately capitalized schools. By offering convenient locations and schedules, current and relevant curricula, and

practitioner-instructors, these institutions have satisfied the demands of nontraditional students better than most publicly funded and not-for-profit schools. Furthermore, proprietary institutions, which historically operated only in vocationally oriented sectors, have emerged over the past twenty-five years with the benefit of the Title IV program as dominant players in preprofessional higher-level degree markets offering AAs, BAs, MAs, and even PhDs.

Republican policymakers have historically focused on the legitimate role of proprietary schools in helping to add practical skills and drive employment for successful graduates, and on the ability of private capital to fund additional seat capacity so that enrollment can grow even as state subsidies decline. Democratic policymakers, including consumer advocates, on the other hand, have been more concerned with the negative consequences for those students that fail to complete, but nevertheless have outstanding loans to service for the time they were enrolled. Democratic policymakers also have been less impressed with the role of private capital in funding expanded capacity and have focused instead on the profits earned by private companies on the government capital extended to students and the potential for

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companies to manipulate the system to the detriment of students and taxpayers.

Both perspectives have merit. While the market should be the most efficient means of weeding out poor-quality programs or those with an inferior value proposition, several factors seem to distort the market from working as effectively as it should. These factors include a universal benefit that allows any U.S. citizen to borrow money for school regardless of their credit history, program of study, or likelihood of success; a relatively unsophisticated customer who is often ill-equipped to evaluate what should be an appropriate level of indebtedness; a loan benefit that can include large amounts of money provided up front for self-defined “living expenses”; and a default avoidance program that allows students to defer loan payments for up to eight years with interest compounded and capitalized.

Current Regulatory Framework

Regulation of the for-profit sector today takes place through a loosely coordinated framework traditionally referred to as “the triad.” Generally speaking, the Department of Education monitors controls surrounding the integrity of the flow of loan funds to schools; approved accrediting agencies ensure that program quality meets acceptable standards; and states generally look after consumers, including false advertising claims. Over the years, through various iterations of the Higher Education Act, Congress has attempted to set rules for for-profit schools designed to counter any incentive to enroll a student under false pretenses for purposes of extracting federal loan and grant dollars without any real benefit to the student. The principal measures include the “90-10” rule, which limits the amount of Title IV revenue an institution may receive to 90 percent in an effort to ensure students have some “skin in the game”; “cohort default” rules that cap acceptable nonpayment rates as measured over a three-year period following students’ departure from school; and the “incentive compensation” rule that prohibits schools from compensating recruiters based on the number of students they recruit.

Following the inauguration of the Obama administration in 2009, the Department of Education launched a reregulation process that significantly expanded the role of the federal government in the regulatory equation. Stripping safe harbors from the incentive compensation rule has tempered enrollment growth by reducing salesmanship in the recruiting process. New federal misrepresentation rules have elevated the stakes, if merely repeating the preexisting state prohibitions on false advertising. And finally, and most significantly, an

elaborate definition of “gainful employment” has created standards that attempt to limit levels of student indebtedness by starting salary post-graduation.

But the successive layers of regulation have moved the schools further away from a market-based system where student satisfaction determines success and failure and more toward a complex government-managed system that results in a series of unintended consequences that effectively stifle innovation and effective competition. Despite this, the additional regulation has failed to materially mollify critics:

- The “90-10” rule ignores the reality of unskilled working adults who have no money saved to attend school and no parental support. Because all the students are therefore prepared to max out their federal benefits, schools must effectively set their prices 10 percent above this maximum, artificially increasing the cost of education for those least able to afford it. In this circumstance, students are forced to either borrow money at “subprime” rates of interest or forgo school altogether.
- The “cohort default” rules encourage schools to push students into well-meaning but ill-advised programs that permit them to defer their loans while interest is compounded. At the same time, the rule measures a random period of time that does not reflect the true cost of default to taxpayers, a cost which remains unmeasured and unknown.
- The “incentive compensation” rule prevents schools from holding recruiters accountable for their most basic job function and remains purposefully vague so that schools remain insecure about compliance.
- The “gainful employment” rule has caused schools to raise their admissions standards as they focus more on students’ likelihood to complete and repay their loans. Unfortunately, while this process has reduced the potential for students to drop out with the additional burden of student debt, it has also narrowed the opportunity for many of those in greatest need of retraining. In an effort to protect consumers, the new rule has removed some of their ability to choose for themselves how much they are willing to sacrifice to pursue their preferred course of study.

Some Modest Proposals

While the public interest is well served by regulation that protects the interests of students and taxpayers, its goal should be to allow

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a robust market, governed by stiff and effective competition and empowered consumers, to direct the flow of student loan dollars. In areas where normal market incentives appear to be dysfunctional, the policymakers should attempt to identify a root cause and, wherever possible, correct for that. Our own proposals follow:

Treat student loans more like a loan and less like an entitlement.

Credit score requirements defeat the purpose and intent of the Stafford loan program, but the government should make its role as creditor plain to borrowers directly rather than standing behind the schools. This should include verifying student identity and mandating a class or counseling session with a federal loan officer that makes students aware of the cost of their loan obligation and the consequences of nonpayment.

Enrollment counselor compensation would be an irrelevant issue if the government as lender took care in making proper disclosures to its borrowers. And the ability of schools to lure students with easy money would be greatly diminished if students better understood from whom they were borrowing the money.

This also includes eliminating the deferrals and forbearances currently permitted for student loans. As well-meaning as these programs are, they have broken the market feedback loop that should exist in warning students of the consequences of ill-advised borrowing by separating the consequences of default from the enrollment decision.

Share the risk.

Were the Title IV program to truly maximize the salutary effects of market forces, the government would lend like an actual lender, making tough decisions about creditworthiness and likely returns based on various programs. Just as commercial lenders today make supplemental loans to students at some schools freely and at others require subsidies, so would the government make judgments about liberal arts versus law degrees, and poor versus affluent borrowers. But because this seems a political nonstarter, and Title IV benefits must be granted to each citizen without such judgment, the schools must, in some way, bear responsibility for the taxpayers' liability.

This then means actually measuring the costs of collection and default. Politicians love the Stafford loan program because the loans are scored by the Congressional Budget Office (CBO) as an asset and because the spread between the interest rate charged and the interest

rate paid on government loans allows for a surplus that can be spent on other programs. If the actual cost of default were measured along with the costs of collection (up to and including withholding Social Security payment), then the program as a matter of public policy could be more effectively evaluated. Better data would allow for clearer-minded public policy discussions about the merits of the program on different populations and its cost relative to other types of public assistance and job training.

Once these costs were made more precise in terms of dollars rather than students, and calculated on an absolute basis rather than within the artificial construct of a two-year or three-year cohort, then schools could be asked to bear some responsibility for that cost. Schools could pay into a pool based on their own actual default dollar costs, which could, in turn, be used to defray the costs of default to taxpayers. While the likely outcome might still be to limit participation for some students, the determination would be based on market conditions rather than dictated by bureaucrats based on an elaborate formula. Furthermore, and more important, an arrangement like this could silence the critics that seem still largely unsatisfied by the administration's "gainful employment" rule.

Conclusion

Though criticism of the sector unfairly demonizes for-profit school intentions, in our opinion, it is laser focused on the two areas where market forces remain insufficient to ensure quality outcomes—consumers who feel abused, and the return on taxpayer investment. If each of these areas can be effectively clarified and targeted with straightforward systems that better align natural (and real) market forces, we believe these criticisms can be more fairly and effectively addressed.

PANEL FOUR | Improving Incentives to Boost Academic Productivity

Mark Bauerlein, Emory University

Mark Bauerlein is professor of English at Emory University. His books include *The Dumbest Generation: How the Digital Age Stupefies Young Americans and Jeopardizes Our Future* (Tarcher/Penguin, 2008); *Negrophobia: A Race Riot in Atlanta, 1906* (2001), and *Literary Criticism: An Autopsy* (Pennsylvania, 1997). His essays have appeared in *PMLA*, *Yale Review*, *Partisan Review*, and *Wilson Quarterly*, and his commentaries and reviews have appeared in *Education Week*, the *Wall Street Journal*, the *Washington Post*, *TLS*, *The Weekly Standard*, and the *Chronicle of Higher Education*.

For an English or foreign language professor at a research university, there is no more rewarding act than the publication of a book. The material benefits are obvious: tenure, promotion, a salary bump. The immaterial rewards are equally compelling: prestige, “author” status, authentication as a full member of the guild. Both conspire to make the publication mandate a national system that steers more than 700 departments of language and literature and more than 50,000 faculty members and those aspiring to become one. Institutions pay professors to publish research, assuming that the more their departments produce, the higher those institutions stand in graduate school rankings. Professors enjoy light teaching loads and devote long months and years to producing books and articles in the field.

But there is a problem in the system. For a variety of reasons, including overpublication, the vast majority of books and articles in literary studies show little evidence of impact once they are published. According to scholarly press editors, literary monographs now reach sales of only 300–400 units, most of them from standing library orders. Circulation librarians at universities tell me that those books have only a 50 percent chance of being checked out in the ten years after their shelving. Most importantly, articles average only a half-dozen citations in the six years after their publication. Books fare better, but not by much.

In other words, universities demand that professors labor assiduously to produce goods that have little evidence of impact. This is a terrible waste of university resources and faculty talent. It also prevents faculty members from devoting time and talent to other activities that support the educational mission of the university. The policy must change.

Unfortunately, research bears so much cachet that changing won’t be easy. Because research is so important to the sciences (among other things, funding depends on it) and because it affects rankings, it still impresses administrators and professors as the most distinguished and effectual pursuit for the humanities professor. In the academic world, if a department were to say “We will no longer require a book for tenure,” peer institutions would think, “Oh my, they’re lowering their standards.”

How, then, to convince them otherwise? Four ways:

One, by demonstrating to decision makers who stand above the faculty and deans just how costly and inconsequential the research enterprise has become. If we can show state legislators who control budgets and trustees and presidents who control campus policies that their institutions are engaged in wasteful practices, we might prevail upon them to make adjustments, especially at a time of fiscal crisis.

Two, by convincing interested parties to join us in revising the system, such as libraries who haven’t the money or the space to purchase the thousands of books published every year; editorial offices at presses and periodicals that can’t handle the manuscripts that pile in every week for submission; foundations that can’t handle the research proposals that arise weekly . . .

Three, by asking professional organizations such as the Modern Language Association to recommend limits on the amount of research that may be submitted for tenure and promotion, for instance, the 100-page rule whereby a department says it will look only at 100 pages of scholarly work in a tenure candidate’s portfolio (the result would be that the candidate would publish only 100 pages of work, but make sure that the quality was superb).

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And four, by helping individual universities to convene meetings of literature and language faculty members with administrators to contemplate altering the employment contract. This would involve, perhaps, a dean interviewing faculty members about the prospect of lowering research demands in exchange for one more class per semester with a \$5,000 salary bonus (the money would recognize that time spent teaching twenty more students is worth a lot more than time spent writing an essay that nobody will see).

My assumption is that, once the research pretense is broken, most professors and most administrators will clamor for change. In truth, leaders who initiate it will find many more allies and sympathizers than they realize. I do not know of any professor who likes the system, especially at its current pace. They will regard the lowering of research demands as a blessing, as long as they don't feel that the revision is just a way to make them work harder at something else.

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William J. Baumol, New York University

William J. Baumol was born on February 26, 1922 in New York City. He received his BSS at the College of the City of New York in 1942 and his PhD at the University of London in 1949. He is the Harold Price Professor of Entrepreneurship and academic director of the Berkley Center for Entrepreneurial Studies in the Stern School of Business at New York University, and senior economist and professor emeritus at Princeton University.

Baumol is past president of the American Economic Association, the Association of Environmental and Resource Economists, the Eastern Economic Association, and the Atlantic Economic Society. His honors and awards include twelve honorary degrees and membership in the U.S. National Academy of Sciences, the American Philosophical Society, the Accademia Nazionale Dei Lincei (Italy), and the British Academy. In May 2009, two Chinese universities, Wuhan University and Zhejiang Gongshang University, named Centers for Entrepreneurial Research in Baumol's honor.

Baumol is also the author of more than forty-five books and over 500 articles published in professional journals. These publications have been translated into over a dozen languages. His most recent books include: *Global Trade and Conflicting National Interests* (with Ralph E. Gomory), 2000; *The Free-Market Innovation Machine: Analyzing the Growth Miracle of Capitalism*, 2002; *Downsizing in America* (with Alan S. Blinder and Edward N. Wolff), 2003; *Growth, Industrial Organization and Economic Generalities*, 2003 (collected papers); *Good Capitalism, Bad Capitalism, and the Economics of Growth and Prosperity* (with Robert E. Litan and Carl J. Schramm), 2007; *Entrepreneurship, Innovation, and the Growth Mechanism of the Free-Enterprise Economies* (with Eytan Sheshinski and Robert J. Strom), 2007; *The Invention of Enterprise: Entrepreneurship from Ancient Mesopotamia to Modern Times*, 2010; *The Microtheory of Innovative Entrepreneurship*, 2010; and *Economics: Principles and Policy*, 12th edition (with Alan S. Blinder), 2011.

On Higher Education and Its Affordable Cost Disease

Education is surely indispensable for continuing innovation and the resulting spectacular rise in standards of living that one day may allow us to declare victory in the war on poverty. Unfortunately, we cannot speak of education without discussing the costs of higher education, which have long followed an explosive trajectory. In living memory there were very reputable institutions of higher education that could be attended at little cost, and the heavy debt that burdens so many students was unheard of. Today matters are evidently very different, and exploding costs seem to threaten to handicap and even undermine the education process.

Nearly half a century ago, William Bowen and I were led by our cost-disease analysis to foresee such a prospect (though, at the time, we had only modest confidence in our projections). Of course, the rising costs of education cannot be attributed to only one source. However, the persistence and magnitude of the rate of increase already suggested that there was at least one significant driver of the phenomenon, and subsequent developments have offered evidence supporting the cost-disease model underlying our original analysis. Yet, my purpose here is not to validate the cost-disease story (though I will briefly reiterate it) but, rather, to offer a new and surprisingly happy ending. Indeed, if my analysis is correct, there is good reason to believe

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that society certainly will be able to afford the ever-expanding costs of education.

The cost-disease analysis rests on the different rates of labor productivity growth that inherently characterize the different sectors of the economy. Some outputs readily lend themselves to mechanization and computerization and, as a result, are able to expand their labor productivity rapidly—sometimes at unprecedented rates. The quantity of labor invested in producing these outputs falls rapidly and persistently. In other activities—especially services, such as education, health care, and live artistic performance—human attention is indispensable and cannot be replaced by productivity-enhancing automation.

The rising cost scenario follows at once, as this simple scenario makes clear. Consider an imaginary economy with two output products, A and B, in which labor-saving productivity growth occurs in both sectors but is twice as rapid in the former as in the latter. Labor costs for both A and B will decrease, but A's will fall far more rapidly. With comparable wages in the two industries, it is clear that costs, and thus competitive market prices, will rise far more quickly (or fall more slowly) in B than in A. That is, B's costs will rise relative to the average of the two industries' prices and will continue to do so without ceasing. Since the average price is actually the economy's rate of inflation, it follows that the price of B must persistently follow a trajectory that exceeds the rate of inflation. That, in brief, is the mechanism of the cost disease.

But are these rising costs really as serious as they appear to be? I contend that it is only if we misunderstand its nature and thereby are led to irrational responses. Consider once again the scenario I just described, in which productivity grows steadily—albeit at markedly different rates—in the two sectors of an imaginary economy. Now remember, as was suggested to me in a note I received from Joan Robinson many years ago, that the real prices we pay for products A and B are not the number of dollars we give up for them, but the number of hours of labor their production requires. With labor productivity growing everywhere, it follows that both products are actually growing less expensive, in terms of labor hours.

Thus the cost of education (and of other vital services with slow productivity growth) will remain within our reach. The innovation that drives our economy is likely to continue, and productivity in the economy as a whole will continue to rise, giving us the means for everyone to afford to pay for education, health care, and other

services. In the long run, the forces of competition will relentlessly drive innovation forward, and we can expect productivity to continue to grow at rates unequalled in earlier history.

Contrary to appearances, we can afford more and better education, ever more ample health care, adequate support of the indigent, and a growing abundance of private comforts and luxuries. That we cannot afford all of these is an illusion—one that must be dispelled if we are to deal effectively with the fiscal problem that triggers the cost increases, which, in turn, leads to the cuts that ultimately cause growing public squalor.

This conclusion may sound simplistic. However, if future productivity bears any resemblance to that of past decades, which brought the United States and the rest of the industrial world ever more education despite rising costs, we must recognize that the increasing cost of education, coupled with rising productivity, is clearly less fear-worthy than it appears to be.

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Roger C. Schonfeld, Ithaka S+R

Roger Schonfeld leads the research efforts at Ithaka S+R. His work has focused on shifts in faculty attitudes and research practices in an increasingly electronic environment; shifts in teaching practices and the future of instruction; and the academic library in a digital environment, including the economics, preservation, and policy issues associated with the transition from print to electronic formats for scholarly literature and government documents. Schonfeld currently serves on the NSF Blue Ribbon Task Force on Sustainable Digital Preservation and Access and on the Western Regional Storage Trust's advisory committee.

Previously, Schonfeld was a research associate at The Andrew W. Mellon Foundation. There, he collaborated on *The Game of Life: College Sports and Academic Values* with James Shulman and William G. Bowen (Princeton University Press, 2000). He also wrote *JSTOR: A History* (Princeton University Press, 2003), which examines business models for the shift to an online environment for scholarly texts by focusing on how JSTOR developed into a self-sustaining, not-for-profit organization.

The cost increases in higher education have become increasingly painful and more obviously unsustainable in recent years, especially at publicly funded institutions. Rather than increasing prices, attention is turning appropriately to how to reduce average costs per student while sacrificing neither learning outcomes nor the broader educational experience. This memo focuses on experiences and issues in the traditional university sector both, including those outside the teaching and learning space, that may be worth consideration.

Approaches

For services that are capital intensive but feature comparatively low marginal costs to participation, scale is essential to drive down average costs. Academia is very experienced with such services in the form of, for example, publishing research outputs and maintaining library collections. There have been significant and instructive efforts to drive to scale in each of these areas.

Much scholarly publishing, especially for journals, moved over the course of several decades to organizations outside academia that are extremely well positioned to drive innovations to scale—for-profit and often publicly traded commercial publishers such as Elsevier, Springer, and Wiley. The principal-agent problem of the library purchasing materials on behalf of faculty and students and the uniqueness of any given journal yielded significant price elasticity. Despite numerous attempts to reshape the marketplace, to date payment by libraries to publishers have continued to rise inexorably. There are significant

lessons to be learned from this experience by academia—also smarting from the high cost of textbooks, many of whose publishers are moving steadily into courseware and online learning.

On the other side of the equation, libraries have recognized that much infrastructure can be sourced at a cross-institutional basis. In addition to publishing services discussed above and negotiating for access to them by banding together into consortia, academic libraries have over time created a number of membership organizations and other not-for-profits. The Center for Research Libraries and OCLC, both founded decades ago but still providing valued services, each represents a very different scale, mission, and set of challenges. And, some states have created centrally funded public bodies such as the California Digital Library and the College Center for Library Automation (and JISC in the UK), providing infrastructure and services to libraries on a shared basis. Some consortia, public bodies, and membership organizations for academia are not always well positioned for strategic agility, especially as they grow in participation, but others find themselves highly responsive to changing member needs.

More recently, more than fifty academic and research libraries have come together to create on a shared basis the HathiTrust preservation and access platform—a non-organization that is technically an arm of the University of Michigan. Benefitting from the scale of its enterprise and directly incorporating the accumulated expertise of its member organizations and their staffs, it is innovating

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rapidly in providing services on top of the Google-digitized book collections and other content holdings. Nontraditional forms of achieving scale bring their challenges, with unresolved questions about how and what types of management and structure will permit participation growth. Even so, Hathi has been able to source the basic capital requirements of its start-up period as it moves into a long-term cost-sharing model that envisions regular reinvestment to drive ongoing innovation. Novel types of organizations should not be outside the bounds of consideration for collaboration and scale across traditional universities.

Achieving Scale

Sophisticated methods of online learning such as those developed by Carnegie Learning and the Online Learning Initiative at Carnegie-Mellon are capital intensive—far more so than a “traditional” online course. However, if commonly taught courses were to be offered in similar or identical form across multiple or even numerous universities, the low marginal costs of offering the courses might yield comparatively low average costs per student.

Achieving scale might be seen as a type of sacrifice for almost any faculty member. Even for textbook-driven courses, instructors typically offer supplements or advise students to skip certain chapters and focus on others. Making a decision to standardize courses across institutions might therefore need to be taken at an institutional level; problematic in institutions with a tradition of faculty governance. Still, assuming for the moment that standardization is feasible at a deep enough level to bring scale benefits to bear for some courses, we face significant questions about how to achieve that scale.

One approach would be a champion university such as the Open University, which can achieve almost unlimited scale and therefore organize the development and provision of courses at the same institutional level as the delivery to students and the evaluation and certification of their success. This model is most appealing if all courses are to be delivered online (even if not all utilize sophisticated online learning methods). It seems to be the direction in which many of the for-profit universities will be moving.

On the other hand, many courses may not be suitable for online instruction. In those cases, traditional universities will want to explore how to achieve cross-institutional scale for sourcing those courses that are well suited to such models. There is probably no easy answer, but some of the basic parameters may be as follows.

Governance is vital, to ensure that vital aspects of scholarly pedagogy remain under the control of the higher education sector. Commercial providers may be best positioned to raise the capital required, but it may not be desirable for traditional institutions to outsource the provision of such an essential part of the student experience to this type of vendor.

Innovation and agility are also vital, since online learning requires regular iteration and seems likely to face steep competition from commercial universities and courseware providers. Many types of institutional collaborations and consortia may not be positioned to gather start-up funding and then partner closely with universities while iterating quickly not only courses themselves but also, if necessary, at a strategic level. A peer-to-peer model of sharing courses across universities might face some similar issues.

It may be too soon to say the level of scale necessary for success, recognizing that greater scale will reduce average costs while also requiring standardization across more institutions. State systems and “non-organizations” may not be able to achieve the right level of scale because of natural size constraints. The solution in this case would be to expand the size of individual universities to drive scale in this way.

Other types of not-for-profit organizations and services for academia—my own organization Ithaka is one—suggest other ways to balance governance, agility, and scale. Establishing the right organizational model for online learning is likely to prove a key success factor.

Integration

Discussing scale and standardization need not elide the resistance to this type of “Fordist” approach to standardizing educational offerings. To be sure, sophisticated online learning in its best forms can be highly tailored to the learning progress of the individual student. But such approaches may only be appropriate for certain types of courses.

In recent years, there has been an explosion of new types of pedagogies on campus that have moved far beyond the lecture, seminar, and lab. Well beyond introducing media-rich PowerPoints into lectures—transformative enough in their own right—instructional technologists and teaching faculty have developed new forms of interactive, creative, and in some cases peer-driven instructional models. Such pedagogies do not necessarily benefit from scale in the ways discussed above, but they are an exciting new direction for certain types of higher education including the liberal arts.

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In one vision, it might be possible to scale up those courses that will offer the greatest productivity benefits from sophisticated online learning and thereby free up enough resources to permit continued investment in more traditionally organized, even if highly innovative, pedagogies. Any given institution might be able to increase student enrollment at least modestly, shifting the focus of its instructional faculty towards upper-division courses and reducing the average cost of an undergraduate degree.

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Adrian Wooldridge, *The Economist*

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Barack Obama invited a puzzling group of people into the White House last December 5th: university presidents. What should one make of these strange creatures? Are they chief executives or labour leaders? Heads of pre-industrial guilds or champions of one of America's most successful industries? Defenders of civilisation or merciless rack-renters?

Whatever they might be, they are at the heart of a political firestorm. Anger about the cost of college extends from the preppiest of parents to the grungiest of Occupiers. Mr. Obama is trying to channel the anger, to avoid being sideswiped by it. The White House invitation complained that costs have trebled in the past three decades. Arne Duncan, the secretary of education, has urged universities to address costs with "much greater urgency".

A sense of urgency is justified: ex-students have debts approaching \$1 trillion. But calm reflection is needed too. America's universities suffer from many maladies besides cost. And rising costs are often symptoms of much deeper problems: problems that were irritating during the years of affluence but which are cancerous in an age of austerity.

The first problem is the inability to say "no". For decades American universities have been offering more of everything—more courses for undergraduates, more research students for professors and more rock walls for everybody—on the merry assumption that there would always be more money to pay for it all. The second is Ivy League

envy. The vast majority of American universities are obsessed by rising up the academic hierarchy, becoming a bit less like Yokel-U and a bit more like Yale.

Ivy League envy leads to an obsession with research. This can be a problem even in the best universities: students feel short-changed by professors fixated on crawling along the frontiers of knowledge with a magnifying glass. At lower-level universities it causes dysfunction. American professors of literature crank out 70,000 scholarly publications a year, compared with 13,757 in 1959. Most of these simply moulder: Mark Bauerlein of Emory University points out that, of the 16 research papers produced in 2004 by the University of Vermont's literature department, a fairly representative institution, 11 have since received between zero and two citations. The time wasted writing articles that will never be read cannot be spent teaching. In "Academically Adrift" Richard Arum and Josipa Roksa argue that over a third of America's students show no improvement in critical thinking or analytical reasoning after four years in college.

Popular anger about universities' costs is rising just as technology is shaking colleges to their foundations. The internet is changing the rules. Star academics can lecture to millions online rather than the chosen few in person. Testing and marking can be automated. And for-profit companies such as the University of Phoenix are stripping out costs by concentrating on a handful of popular courses as well as making full use of the internet. The Sloan Foundation reports that

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online enrollments grew by 10% in 2010, against 2% for the sector as a whole.

Many universities' first instinct will be to batten down the hatches and wait for this storm to pass. But the storm is not going to pass. The higher-education industry faces a stark choice: either adapt to a rapidly changing world or face a future of cheeseparating. It is surely better to rethink the career structure of your employees than to see it wither (the proportion of professors at four-year universities who are on track to win tenure fell from 50% in 1997 to 39% ten years later). And it is surely better to reform yourself than to have hostile politicians take you into receivership.

A growing number of universities are beginning to recognise this. They understand that the beginning of wisdom in academia, as in business in general, is choosing what not to do. They are in recovery from their Ivy League envy. They are also striking up relations with private-sector organisations. And a growing number of foundations, such as the Kauffman Foundation, are doing their best to spread the gospel of reform and renewal.

Seats of Learning

Western Governors University (WGU) in Salt Lake City was founded in 1996 by 19 state governors who saw the crisis coming. To squeeze costs, it does all of its teaching online. It also separates lots of things that are bundled together in traditional universities. Professors decide what they want students to know and design tests to see whether they have learned it. But they buy teaching materials from independent publishers and employ "mentors" to guide students. It is notable that the head of WGU was one of the nine university bosses invited to the White House.

BYU-Idaho has decided that focusing on teaching undergraduates is the way forward. It has got rid of expensive encrustations such as the athletics and PhD programmes and introduced year-round courses. Cornell teaches 10,000 students online every year, most of them working adults. Southern New Hampshire University has five satellite colleges that make it easier for students to live at home while studying. The University of Southern California's Rossier School of Education has formed a partnership with a private company, 2tor, to design courses for students in 45 states and over 25 countries.

Nearly 100 years ago American universities faced similar worries about rising costs and detachment from the rest of society. Lawrence Lowell, the president of Harvard, argued that "institutions are rarely

murdered; they meet their end by suicide... They die because they have outlived their usefulness, or fail to do the work that the world wants done." America's universities quickly began "the work that the world wants done" and started a century of American dominance of higher education. They need to repeat the trick if that century is not to end in failure.

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PANEL FIVE | Filling Information Gaps about Student-Learning and Job-Market Outcomes

Mark Schneider, American Institutes for Research

Mark Schneider is a vice president at the American Institutes for Research, based in Washington, D.C. Previous to joining AIR, he served as the U.S. Commissioner of Education Statistics from 2005–8. He is also a visiting scholar at the American Enterprise Institute and Distinguished Professor Emeritus of Political Science at the State University of New York, Stony Brook.

Schneider is the author of numerous articles and books on education policy. His most recent book, edited with Kevin Carey and titled *Higher Education Accountability*, was published by Palgrave in December 2010. Johns Hopkins University Press will publish his next book, *Getting to Graduation: The Completion Agenda in Higher Education* (edited with Andrew Kelly) in 2012. His previous book, *Charter Schools: Hope or Hype?* was published by Princeton University Press in 2007. His 2000 book, *Choosing Schools*, also published by Princeton University Press, won the Policy Study Organization's Aaron Wildavsky Best Book Award. Schneider has been working on increasing accountability by making data on college productivity more publicly available. To that end, he is one of the creators of www.collegemeasures.org and serves as the president of College Measures LLC, a joint venture of AIR and Matrix Knowledge Group.

Given the growing costs of higher education coupled with questions about how well institutions of higher education are spending those dollars, the need for reliable measures of student success is more important than ever. The need for these measures can be grouped into three large categories:

1. Student success while in college;
2. Student success in acquiring knowledge and skills; and
3. Student success in the labor market.

I will focus mostly on measuring labor market outcomes, but first I present my own view of where we are in developing metrics in the two other categories.

Student Success While in College

The nation has made considerable progress in developing measures of student success while in college. There is widespread recognition that the nation's postsecondary database, the U.S. Department of Education's Integrated Postsecondary Education Data System (IPEDS) is hopeless as it is currently administered. IPEDS focuses on first-time full-time students who are now a minority of incoming students in the nation's higher education system; it doesn't track the success of important groups of students (e.g., Pell grant students,

transfer students, or students who take remedial courses); and it has a limited suite of student success measures (for example, retention rates are reported only for the first year of student enrollment).

These limitations have long been noted but action to fix them at the national level has been slow. However, the National Governors Association (NGA) has adopted a much more robust set of measures developed by Complete College America (CCA). In the fall of 2011, over half the states reported these better metrics for their public institutions (see CCA's recent report *Time is the Enemy*), and more states are expected to join the effort next year. Campus-level data are scheduled for release in the near future. Just as the NGA helped improve flawed measures of high school graduation rates, the NGA/CCA effort will more than likely produce new nationally accepted measures of student success in postsecondary education.

Building on state efforts and mobilizing governors in defining and then collecting these measures is a smart political strategy, given the dysfunctional atmosphere in the nation's capital, given strong conservative opposition to expanding the federal government role in education, and given the fact that states have the lion's share of responsibility for funding and regulating higher education institutions.

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While the nation would likely be better served with a national student unit record system that tracks the progress of individual students through K-12 education and then through postsecondary institutions and into the workforce, such a robust system is not likely to be built in the near future and current NGA efforts are a welcome step forward.

Student Learning

Higher education is about educating students. However, accurately measuring how much students have actually learned is an endeavor that is only now beginning to gain traction. Critics have long suspected that far too many colleges have not improved student skills. Richard Arum and Josipa Roksa's recent book, *Academically Adrift*, elevated that concern from a backroom parlor game to an issue on the front pages of newspapers across the country. Indeed, their work even made it into a Doonesbury cartoon.

Arum and Roksa show that during their first two years of college, almost half of the students in their study did not improve their critical thinking, complex reasoning, and writing skills. Moreover, they show that students are distracted by socializing or working and that colleges and universities often put undergraduate learning close to the bottom of their priorities.

One of the strengths of their study is its empirical base. Rather than simply asserting that students are not learning, Arum and Roksa used one of the new instruments, the Collegiate Learning Assessment (CLA), that measure the cognitive skills of students. While the CLA seems to be the assessment that has attracted the most attention, others are available (such as the College Board's Collegiate Assessment of Academic Proficiency or ETS' Proficiency Profile test) and more will likely be coming to market as policymakers demand measures of the value added of college education. A great deal of work is needed to validate that the skills the CLA (or other systems) assesses are the right ones for success after graduation, but with support from many foundations the CLA continues to expand its reach.

Recognizing the resistance of faculty to assessment, the organization responsible for the CLA, the Council for Aid to Education (CEA), stresses that its efforts are designed for "continuous improvement" and that "faculty are the ultimate stakeholder of the assessment." Moreover, while the CEA notes that comparing institutional performance may be "necessary in order to give faculty and administrators information they need to help frame a well

grounded formative assessment program," CEA goes out of its way to disclaim any interest in college rankings.

In short, "authentic" assessments that are psychometrically valid and that test skills that have real value are difficult to develop. And given how close assessments cut to the bone in terms of faculty and institutional mission (and therefore threaten to overturn the entire structure of faculty independence and "academic freedom"), implementing these new measures on a widespread basis will be a very long and very difficult process.

Measures of Student Economic Success

While improving measures of student progress and student learning are important, we must also assess the extent to which labor markets are validating the level and usefulness of the skills college students possess. Indeed, one could consider student labor market outcomes as the ultimate external validity check on the value of degrees and the extent of student learning.

About half the states in the nation can now link student-level data that document their experiences in college (e.g., major field of study) with unemployment insurance records that track salary, employment status, and industry of employment. With these data, stakeholders can compare the returns on the investment students and taxpayers have made in, say, a student with a bachelor's degree in sociology to a similar student who earned a bachelor's degree in business administration from the same campus. Perhaps even more importantly, these linked data can be used to measure the returns to students with the same credential from different campuses. In turn, students and policymakers can compare how successful a student with, say, a bachelor's degree in materials sciences from one school is doing compared to a student with the same degree from another campus.

While higher education is about many things besides success in the labor market, for most students, their families, and state policymakers, higher education is the ultimate economic development strategy—and rewarding colleges and universities for the labor market success of their students is a "no-brainer."

While a large number of states can link these unemployment insurance records and student-level data, very few have made those linked data available to the public, to individual campuses, or to their state legislatures. Absent these publicly available campus-by-campus, program-by-program data, the kinds of comparative analysis needed to evaluate the labor market success of students will be difficult to

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develop. But to reiterate: making these data public is more about political will than it is about technical problems.

One dimension of this political battle will revolve around the role of the states versus federal government (reprising the tension noted in the earlier discussion of measures of student success while in college).

The U.S. Department of Education already reports cohort default rates (CDRs). These are based on the percentage of a school's federal student loan borrowers who default within a defined period of time. Two-year cohort default rates have been reported for some time, and the department is moving to three-year cohort default rates. CDRs reflect the economic value of a degree from an college or university relative to the costs—students who borrow too much relative to their earnings after graduation will be far more likely to default than students whose degrees are more valued in the labor market or for whom the cost of their degrees was more in line with their earnings. But this is an indirect measure of student labor market success and is reported at the level of the institution, not the program. In the summer of 2010, the Department of Education also released “repayment rates”—the percentage of students who are actually paying down the principal on their loans. These repayment rates were part of the department's effort to get better measures of gainful employment. These were reported at the institution level (and set off a firestorm).

In addition to these institution-level data, there is growing demand for program-level data. The Department of Education has long asserted its statutory authority to gather program-level data from for-profit institutions and for career-oriented programs across all institutions. But in the wake of recent regulatory battles over “gainful employment” rules (which require for-profits to show that their graduates are moving into jobs that allow them to repay their federal student loans), a consensus emerged that program-level data for all institutions were needed. The Department of Education is proceeding along these lines by linking salary data from the Social Security Administration with student-level data, including program completion information and student debt data. The results of this matching are supposed to be made available to institutions sometime in the summer of 2012, but there are still questions about the coverage of those data (that is, will only career-oriented programs be covered or will the list be more expansive?).

The problem with this federal approach is that the memorandum of understanding covering these matched data will limit their

dissemination. The Social Security Administration, rightfully, is not at all in favor of making its data more openly available. Moreover, this effort is tied in with the controversial gainful employment regulations, making the data fraught with controversy focused on the role and intention of the federal government.

In contrast to this fight over the role of the federal government, there is another path forward centered on states. States already “own” student unit records and unemployment insurance records, two key data sets that can be used to develop measures of student success in the labor market. While unemployment insurance records are missing key pieces of information (they include industry, not occupation, they don't cover all employers in a state, and they don't track students who leave the state), they do record salaries of covered workers in the state, which is a (if not the) most important measure of labor market success. They can also track growth in salary over time and, with more measurement problems, a graduate's history of unemployment.

Despite some limits, then, there are state data systems sidestepping the heavy-handedness often displayed by the Department of Education. Further, many states already link these two data streams—and with some political will and some modest investment in staff time and money, public-facing websites allowing comparison of student labor market success at the program and institution level could be created in relatively short order.

While refinements will need to be made in these linked data, the surest way to get these data into better shape is to get them out from the data warehouses in which they now reside and into data storefronts where people can use them and any errors be found and fixed. These state systems can eventually be scaled up into regional systems. And just as it is states, through the NGA and CCA, that ultimately will create the political force for a better national system of measuring student progression and completion, it is likely that states will drive the effort for better measures of the economic success of their students.

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Louis Soares, Center for American Progress

Louis Soares is the director of the postsecondary education program at American Progress. He manages the policy team's work on workforce training, community and four-year college education. Soares is a sought-after speaker and commentator on federal and state policy and is a contributor to CNBC, *The Chronicle of Higher Education*, and *Inside Higher Education*.

Soares's research at the Center for American Progress includes community college reform, worker training, education and industry partnerships, career and education counseling, and technology-driven innovation in higher education. Soares's papers "Working Learners: Educating Our Entire Workforce for the 21st Century" and "Disrupting College: How Disruptive Innovation Can Bring Quality and Affordability to Postsecondary Education," are widely cited as redefining the policy debate in worker training and online education respectively.

Prior to joining American Progress, he served as director of business development in the administration of Rhode Island Governor Donald L. Carcieri where he managed Rhode Island's policy incentives for workforce training, business attraction, export assistance, government contracting, and small business from 2003 to 2006. As director of education and training for the Rhode Island Technology Council from 2000 to 2002, Soares developed and managed a workforce training strategy for a 240-member trade association, which included implementing education-business partnerships at the high school, college, and corporate levels to align with relevant workplace skills. He also served as a small business consultant with the U.S. Peace Corps in Romania in 1995 and 1996. Soares holds a master's degree in public administration from Harvard University and a bachelor's degree in business economics from Brown University. He lives with his wife, Elizabeth, and daughter, Maya, in Alexandria, Virginia.

The 'Personalization' of Higher Education: Using Technology to Enhance the College Experience

Technology will transform higher education as it has many other industries. One of the ways it will cause transformation is through personalization—giving students more power to understand and craft the education experience they want for themselves. This will happen as information technology, or IT, becomes embedded in more and more of the processes that make up going to college such as course enrollment, classroom instruction, and student support services.

The IT infrastructure supporting college education processes makes it possible for students to register for a course more quickly, take courses online, or connect with campus tutors through social media platforms. Of equal importance, the data about student journeys,

successes, and failures that can be captured through IT can improve both individual, and perhaps collective, outcomes across all of higher education when provided back to students in useful ways.

This brief provides an overview of technology and industry change, a series of examples of technology innovations that are driving the "personalization" revolution in higher education, and finally provides some recommendations for policymakers on how to facilitate this process.

Technology and Change

Technology is transforming higher education. Software's ability to play a key role in functions from course enrollment to classroom

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instruction to student lifestyle management is beginning to produce better ways for students to enroll in, learn at, and eventually complete college. In addition, these software tools are beginning to produce the kind of actionable data that will transform higher education.

Today, we treat higher education as a “black box” experience managed by the intuition of faculty and administrators. Consequently, students, families, and taxpayers pay a lot of money for an offering we know very little about. Once we begin to have a better sense of what works and what it costs, we can begin to have a real conversation about the affordability and performance of colleges. Tomorrow, information technology will provide more cost-effective ways to ensure that students enroll in and learn from the courses best suited to them while better managing their student experience to boot.

Evidence of the transformation and the emerging policy challenges are seen in the U.S. Department of Education’s recent spurt of regulatory energy that culminated in two highly visible and contentious debates. The first was the tempestuous fight over gainful employment—a rule that seeks to hold career-training programs that receive federal funds accountable for results in terms of students’ career/income outcomes. The second is the emerging debate about standardized definition of the credit hour—the unit of measure by which colleges award degrees, namely, you need 120 credit hours to get a BA, and, not coincidentally, how these institutions get paid for their work.

On the surface, these debates are driven, and justifiably so, by the amount of money that for-profit online colleges are receiving from federal financial aid funds and whether or not the government (and students) are getting something consistently valuable for the price paid. Underlying this fight, however, is a much deeper challenge with regard to how technology is transforming higher education. Beginning with, but not limited to, the online education offered by for-profit institutions, students and institutions are interacting more with information technology. This interaction is producing ways for students to “personalize” college by using technology to register for and take courses, and even to manage their time. In addition, we are beginning to see a rise in the data that is produced from these interactions that can be used to empower students to make even better choices as their journey continues.

Policymakers, institutions, and indeed students themselves have only begun to mine this data to open the “black box” of college

delivery and see what works and what doesn’t. This is what has happened with the travel industry with the rise of Kayak and Priceline. Consumers became more empowered in the travel industry and began structuring the best experiences for the best prices from their perspective.

Early Examples of Technology-Enabled, Data-Driven College Education

Higher education institutions gather data now for the purposes of reporting to public policymakers. Evidence suggests that very little of it is used to create data-driven enrollment, instruction, or student support practices that would promote college completion and success. Emerging technologies are not only providing data to institutions that could facilitate the creation of these practices but also giving students themselves the opportunity to see the data and consequently have the opportunity to become better managers of their own education experiences.

What follows are examples of technologies that can both improve the performance of students in college and create data that can help us build better systems.

Personalized Learning

Perhaps the most exciting of the “personalization” education tools are those emerging to enhance the actual instruction process itself. An excellent example of this is The Open Learning Initiative, or OLI, at Carnegie Mellon University. OLI brings together evidence-based research in learning, science, and technology to create web-based learning environments. These web-based offerings could support individual learners who do not have the benefit of an instructor achieve the same learning outcomes as students who complete the traditional course at Carnegie Mellon.

OLI offers college level courses in engineering, biology, French, and statistics to name only a few. All courses are online and free of charge. The courses are offered in student-centered learning environments and have measurable learning objectives and built-in tools to support students in achieving them. Each course contains small amounts of explanatory text and many activities that capitalize on the computer’s capability to display digital images and simulations and promote interaction. Many of the courses also include virtual lab environments that encourage flexible and authentic exploration.

The aspect of OLI that most expresses the precision education ethos is its embedded “mini-tutors.” These intelligent tutors are

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computerized learning environments whose design is based on cognitive principles and whose interaction with students is like those of a human tutor—making comments when students err, answering questions about what to do next, and maintaining a low profile when they are performing well. This approach differs from traditional computer-aided instruction, which gives didactic feedback to students on their final answers; the OLI tutors provide context-specific assistance throughout the problem solving. OLI also includes instructor and student dashboards so that both can have real-time feedback on how and why learning is occurring.

The “mini-tutor” has two features that help create more data-driven education. The first is that they learn with the student—this is called adaptive instruction. Based on student errors, the mini-tutors come to anticipate future challenges and provide problem sets to assist the student in mastering the material. The second is that the mini-tutor generates robust data on how learning is actually happening across students that can be used to improve individual performance, enhance course design, and even begin to predict future performance of similar students. Initial research on the learning results of OLI is extremely promising with students from diverse backgrounds learning as much or more as students in traditional classroom settings. With the tools provided by OLI, students themselves can have much more complete knowledge about how they actually learn and thus manage the instruction process to their benefit.

Personalized Course Enrollment

An example of “personalization” in the process of course enrollment is provided by Saddleback College, in the South Orange County Community College District of California, which enrolls nearly 40,000 students. Saddleback has developed software called SHERPA, or Service-Oriented Higher Education Recommendation Personalization Assistant. SHERPA works similarly to the recommendation services on Netflix and Amazon. Student preferences, schedules, and courses can be stored to create profiles that are responsive to student needs. SHERPA was conceived and shaped by the realization that today’s students are accustomed to receiving recommendations in things they are considering doing or buying—movies, books, restaurants, music, and directions. So why not build “nudges” and lifelines into the online academic experience?

Lifelines are tutors, live or otherwise, time management tools, and life planning resources that can help students get help or manage competing priorities. “If you tell us that you work, or that you love that

instructor, or that your buddy is in the class, SHERPA doesn’t throw that data away when your session is over,” said Bob Brammuci, vice chancellor of technology and learning services. “It builds a profile of you the same way Netflix does. It knows a little bit more about you the each time you interact with it.”

Instead of just telling a student that a class is full, the program will suggest classes that are open. If students program in their work schedule, SHERPA will guide them to only the classes that are available when they are, both at Saddleback and Irvine Valley College, which is also a part of the district.

Imagine a SHERPA-like tool that includes data on how students with your similar profile performed in that class and you begin to get at the kinds of technology-enabled information that makes college less of a crapshoot and more of a sure thing.

Personalized Course Success Diagnostics

Building on SHERPA’s course selection tools, Purdue University developed an early warning system for college course-taking success, named Signals. The Signals software monitors students’ behavior patterns and academic performance to determine if they are at risk of earning a low grade and allows faculty to intervene with suggestions on actions they can take to help students improve their grades. An intuitive stoplight dashboard provides indications to students, on their course homepage, if they are underperforming and prompts the students to take action.

Signals scrapes and analyzes data from grade books, activity log files, adding in student demographic information as well, to create a profile of the student that can be compared with those of successful students. At-risk behaviors and characteristics can be identified and guidance and resources provided to invigorate student effort and provide better academic prep. The result is that students are able to have a very fine-grained sense of how they are doing in the course overall and adjust to produce better results or reach out to available resources such as faculty or tutors for help.

Student Lifestyle Management

Research on learning communities suggests that helping students actually manage their academic lives can help them persist in college until they complete their course work and graduate. Based on this research and leavening in insights from behavioral science on how people make decisions, technology is beginning to emerge that builds adaptive software tools similar to the “mini-tutors” noted above

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designed to help motivate students to persist and succeed in college. The software builds profiles of student behavior, academic life, and preferences into interactive tools that help them stay on track.

An early example of this technology is being introduced by a social enterprise called Persistence Plus. Founded by Jill Frankfort and Kenneth Salim, who previously worked at the Kauffman Foundation's Education Ventures Program, Persistence Plus uses smart software in mobile platforms such as cell phones and iPads to engage and motivate students to complete college. Think of Persistence Plus as the "Weight Watchers of college completion." In the same way the Weight Watchers helps transform lifestyles around nutrition, Persistence Plus fosters student behaviors and mindsets that lead to college persistence, completion, and success.

Persistence Plus uses technology tools to build a student success profile and then uses adaptive software to "nudge" students to action. This process includes:

- Interventions targeting common college obstacles. Software tools help students learn how to prepare for and deal with academic setbacks and external obstacles, organize time and responsibilities, and make progress toward short- and long-term goals.
- Social network levers. Tools facilitate positive peer academic pressure by enabling students to easily share academic goals and their progress toward them with friends, and compare their own academic habits to aggregate norms.
- An automated channel of communication and care. Through engaging messages that call for a response, Persistence Plus collects data on the well-being of students, and uses this information to identify and reach out to students who need additional support before official early alerts.
- Rapid research and development. Persistence Plus evaluates and assesses the efficacy of each motivational intervention at promoting successful college-going behaviors in real time and uses the data collected to refine its approach for different student populations and contexts.

By tracking their own performance or connecting to the performance of others, students are able to keep up with which behaviors work to help them complete college and which need to be modified.

Each of these software tools is using individual level data to both transform the way that higher education is done today and provide new data on how it should be done in the future. The key is to allow students access to both their own data and the user-generated data of their peers.

Policy Recommendations

Personalizing college through the use of the tools above could be supported by the following policies from the U.S. Department of Education:

- Creating guidelines for how data generated through these technology tools should be treated in order to promote student privacy while allowing for the data to be shared in a social environment.
- Reviewing the data it currently collects to find areas where the information might supplement the emerging user-generated data in ways that help students make better choices.
- Funding the development or spread of emerging "personalization" tools through competitive grants. A special focus could be placed on fostering the scaling of these tools in institutions that educate underserved populations including low-income students and students of color.

Students have the most to win and lose from the choices they make to get them through their college journey. Using data from their own experiences to help them become better consumers of college just makes good sense.

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Candace Thille, Carnegie Mellon University

Candace Thille is the director of the Open Learning Initiative (OLI) at Carnegie Mellon University, a position she has held since the program's inception in 2002. She is also the co-director of OLnet. Jointly run by Carnegie Mellon and the Open University in the UK, OLnet is an international open educational research network. Thille's focus of research and development is in applying results from the learning sciences to the design, implementation, and evaluation of open web-based learning environments.

Thille serves as a redesign scholar for the National Center for Academic Transformation; as a Fellow of International Society for Design and Development in Education; and on the Global Executive Advisory Board for Hewlett Packard's Catalyst Initiative. She recently served on a working group at the U.S. Department of Education to write the National Education Technology Plan and is currently serving on a working group of the President's Council of Advisors on Science and Technology (PCAST) to write a report for the Obama administration on improving STEM higher education.

President Obama has set an ambitious goal for America—to have the highest proportion of college graduates in the world by 2020 (speech, February 2009). According to analysis at the National Center on Higher Education Management Systems (NCHEMS), achieving this goal will require an additional 8.2 million postsecondary graduates by 2020 (NCHEMS, 2010). Meeting this goal demands that colleges and universities address the seemingly impossible challenge of serving more students, serving a greater variety of students, and reducing the cost and price of instruction in the face of shrinking state budgets.

The urgency in meeting the president's goal of increasing the number of college graduates is bolstered by international comparison, projected labor market demand, societal need, and the role that higher education has historically played in supporting Americans to achieve the American Dream.

Comparing higher education completion rates in the United States with rates in other countries, particularly the thirty advanced post-industrial democracies that are members of the Organization for Economic Cooperation and Development (OECD), reveals that the United States, while still No. 1 in percent of adults 55–64 holding an associate's degree or higher, has fallen to No. 10 in the percent of adults 25–34 with associate's degree or higher (NECHEMS, 2011). The

actual percentage of degree holders in each of the two age groups is the same, 40 percent, but other countries have increased their degree production so the comparative education advantage long held by the U.S. workforce has diminished.

The challenge in educating a higher percentage of young people and reversing this trend is heightened by the change in demographics of the U.S. population. The number of people in groups with historically higher attainment rates in both secondary and postsecondary education is shrinking while the number of people in groups with historically low attainment rates is increasing. Without a change in current process and policy, the 2020 workforce will likely be less well educated than the 2000 workforce.

The trend showing an increased labor market demand for college graduates is supported by the Bureau of Labor Statistics (BLS) and by the work of labor economist Tony Carnevale. The BLS projections show that the growth rate for jobs that require a college degree outpaces the growth rate for jobs in the economy in general. Carnevale's analysis predicts an "upskilling" of jobs, an even greater demand than the BLS projections suggest for workers with a degree, and a projected production shortfall of about 3 million U.S. workers with a college degree.

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Addressing the price and cost of higher education will be an important factor in increasing graduation rates. Explanations of the high cost of higher education abound, and include: efforts to improve service to students and the professional lives of faculty (Zemsky and Wegner, 2006); poor management practices; new requirements for complying with government regulations (Getz and Siegfried, 1991); increased capital equipment costs associated with teaching increasingly complex topics requiring more expensive technology (Archibald and Feldman, 2008); a fundamental economic argument that, as a service industry, higher education has little hope of significantly increasing productivity without a concomitant diminution in the quality of the service (Baumol and Bowen, 1966); and the overly complex and mismatched business model of higher education (Christensen, Horn and Soares, 2011).

A key part in addressing the challenge of increasing attainment and academic productivity is collecting and analyzing data that can be used to support students, institutions, and state and federal policymakers in developing an appropriate path forward. Stakeholders are becoming acutely aware of the need to make data-driven decisions at every level of the education system on the basis of what is best for each and every student; decisions that, in aggregate, will lead to better performance and greater efficiency across the entire system.

The challenges to realizing the vision of collecting and using data across classrooms and across systems are both technical and regulatory. Other panelists will address the regulatory challenges. On the technical front, multiple student data systems and the lack of common standards for data formats pose formidable barriers to the development of multilevel data collection and analysis systems. For example, student and program data today are collected at various levels and in various degrees of granularity to address different needs in the educational system. Cross-institutional, systemwide or state data systems generally collect and provide what we can think of as macro-level data. Institutional student information systems and traditional learning management systems collect and provide what we can think of as micro-level data. New “closed-loop” learning platforms that monitor student interactions provide what we can think of as nano-level data. Forming data-based recommendations on program design, course design, or a specific learning intervention given an individual’s context, demographics, behavior patterns, and knowledge states will require discovering and analyzing patterns across all levels of data. Providing meaningful, actionable information to all stakeholders in

the education system will require building agreement on the technical processes for sharing data that are collected across multiple levels and multiple systems.

While other panelists will focus on filling the macro-level and micro-level information gaps, the focus of my comments will be about filling the information gaps at the “nano-level,” which is episodic learning data generated by student interactions on well-designed web-based learning tasks. Our understanding of human learning from the last twenty years of research tells us that learning is an active, not a passive process, and simply attempting to scale our current methods of disseminating knowledge by providing recorded lectures or shifting the current processes to an online environment is not sufficient. Educational technology becomes a transformative innovation when it instantiates learning science into reusable, easily accessible, and scalable technology-enabled learning tasks, which simultaneously collect the data that can be used to continuously improve the learning environment and our understanding of human learning.

Advances in learning science, combined with advances in information technology, can create just the transformative force needed to make instruction more affordable and help it to better serve a larger number of students.

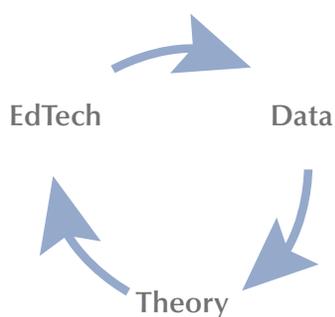
The premise of learning science, still a young field, is that much of student learning is driven by a set of learning mechanisms. The goal of learning science is to articulate these mechanisms and thereby describe, explain, and predict human learning. While many practitioners say they “know what works,” based on apparently successful efforts in particular classes or at particular institutions, the descriptions of “what works” are often complex exemplars that are challenging to replicate and scale and, even when replicated and scaled, often do not “work” in the new context or for the new population.

When the precise underlying mechanisms of learning are not known, instruction must be provided through “intuitive instruction” in which quality instruction is provided only by talented or highly trained professionals—“great teachers.” However, as patterns in student learning are studied by scientists and the underlying mechanisms of learning are articulated and tested, instruction can evolve into the realm of “evidence-based instruction”—where data are gathered to show that certain approaches are better than others and to stipulate the contexts in which they are likely to work. To replicate and scale effective instructional practice, we need to be able to describe what

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works as a set of underlying mechanisms that are influenced by a set of student and contextual variables. In other words, we need to create better theories of learning, which inform both teaching practice and the design of educational technology. To develop better theories, we need more data from more students in more contexts.

One unique power of the newest web-based educational technology is its ability to collect fine-grained student learning data. We can use this data to personalize instruction for the learner and to create a virtuous cycle for continuous improvement:



The most important processes in education that we can use information technology to automate are not processes that push out information, but rather processes that pull in information about the learner, the learner’s knowledge state, and learning process.

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Russ Whitehurst, Brookings Institution

Grover (Russ) Whitehurst is the Herman and George R. Brown Chair and director of the Brown Center on Education Policy at the Brookings Institution. Previously, he was director of the Institute of Education Sciences at the U.S. Department of Education; U.S. Assistant Secretary for Educational Research and Improvement; chair of the Department of Psychology at the State University of New York at Stony Brook; and academic vice-president of the Merrill-Palmer Institute. He received his PhD in experimental child psychology from the University of Illinois at Urbana-Champaign in 1970. He is a widely respected and influential leader in education research and policy in the United States and around the world. His specializations include program evaluation, teacher quality, preschools, national and international student assessments, reading instruction, education technology, and education data systems.

On a per-student basis, the United States spends 2.5 times the average of developed countries on postsecondary education. Although our elite research universities remain remarkable engines of innovation and are the envy of the world, our postsecondary education system in general is challenged not only by rising costs but also by low productivity. The United States used to lead the world in higher education attainment, but is now ranked twelfth among developed countries. We have become a high-cost provider of mediocre outcomes. The burden of mediocrity falls most heavily on students and prospective students from low-income and minority backgrounds who disproportionately attend the very institutions that have trouble retaining and graduating students. This affects their welfare and our future as a nation.

Critical to addressing this problem is better information on the performance of our postsecondary institutions. As the U.S. Secretary of Education's Commission on the Future of Higher Education concluded in 2006:

Our complex, decentralized postsecondary education system has no comprehensive strategy, particularly for undergraduate programs, to provide either adequate internal accountability systems or effective public information. Too many decisions about higher education—from those made by policymakers to those made by students and families—rely heavily on reputation and rankings derived to a large extent from inputs such as financial resources rather

than outcomes. *Better data about real performance and lifelong working and learning ability is absolutely essential if we are to meet national needs and improve institutional performance.*

Institutional performance and student outcomes are multidimensional, and include civic responsibility, acquisition of a variety of general and specific skills and knowledge sets, changes in aspirations and dispositions, creation of peer networks, and others. My focus is on just one outcome, the private labor market returns to individuals who choose to complete a program of study leading to a certificate or undergraduate diploma at a specific postsecondary institution. Of the many dimensions of institutional performance in terms of student outcomes, economic returns are at the fore of public consciousness as decisions are made about investments in higher education. Who has not been exposed to the estimate publicized by the College Board that the average college graduate will earn a \$1 million more over a lifetime than the average high-school graduate? In 2008, 67 percent of students graduating from four-year colleges and universities had student loan debt. This debt was no doubt assumed on the belief that the cost of borrowing would be more than offset by the increased earning power that would come with the receipt of a college degree.

As central as economic returns are to private investment in higher education, information on those returns is available only at the aggregate level. Thus, the median salary for various occupations

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and levels of educational attainment and age ranges is available from the U.S. Census Bureau and repackaged on various websites. Earning differentials associated with particular types of institutions, e.g., public selective versus public open admissions, can be estimated with data from the National Center for Education Statistics. Conjoining such aggregates leads to potentially useful information for consumers of higher education. For example, someone trying to decide which college to attend and which major to pursue would probably want to know that, on average, students who graduate from a four-year private selective college earn appreciably more than students who graduate from a four-year public selective college, or that a degree in engineering is associated with higher earnings than a degree in history. One for-profit service, Payscale.com, provides salary returns at the level of individual institutions, but these are self-reported salaries from people who use the site and thus are of questionable validity, and they do not extend to particular programs of preparation within institutions. Knowing the average salary of a graduate of UC Berkeley is not particularly informative to the person thinking of majoring in art history.

If one were trying to decide on a restaurant for dinner, the analogue to the aggregate information currently available to prospective postsecondary students would be knowing that expensive restaurants and those serving French food tend to have the best meals. But an individual's choice of a restaurant typically focuses on a few possibilities that are constrained by location, price, and culinary preference rather than on broad categories such as French or not. Thus, the customer wants Zagat or some such service to provide information that allows comparison of restaurant A with restaurant B, and then entrée X with entrée Y. Deciding whether to attend a college or technical school, and then which one with which major, is one of the most important decisions any individual will make, but an individual's choice of a restaurant is likely to be much more informed.

Currently, nearly all information that allows prospective students to compare postsecondary institutions is collected by the National Center for Education Statistics through the Integrated Postsecondary Education Data System (IPEDS). IPEDS provides good information on a large number of process and input variables related to postsecondary institutions but it does not collect or publish any data drawn from

following students into the labor market. To provide such information for all institutions through a national system of data collection would require unit records, i.e., a unique number that would identify individual students and allow their academic records to be matched with other data files, e.g., payroll contributions to the Social Security system.

However, achieving consensus on the desirability of a national database of student records has proved too politically challenging for such a database to be in offing, at least in the foreseeable future.

There is, however, a way forward. Congress has authorized and funded state-level longitudinal data systems that have the capability, now realized in a few states but coming online in many others, to follow individual students from K-12 through their postsecondary careers into the labor market. Further, forty-five states have at least one postsecondary unit record system that contains student demographic and postsecondary enrollment information. Of these forty-five, twenty-three have established a relationship between the postsecondary agency/entity that holds the unit records and the state labor/workforce agency and have access to workforce data elements, and three provide postsecondary data to the workforce agency.¹ Thus there are presently twenty-six states in which some postsecondary information and workforce information are linked at the level of individual records.

If labor market outcomes were linked to other information on institutions and degree/certificate programs such as tuition and completion rates, and made available in a form that would help prospective students make relevant comparisons, it would provide the basis for an informed consumer marketplace in higher education for the first time.

The public face of such a system at the state level would be a website allowing prospective students to compare degree and certificate programs within and across institutions on diverse outcomes, with corresponding information on price. At a minimum, the outcomes would include graduation rates, employment rates, and average earnings after graduation. Outcomes would be reported at the individual program level, such as the associate degree in nursing at Shoreline Community College, and would allow side-by-side comparison with similar degree programs at other institutions, e.g., the associate nursing degree at South Puget Sound Community College.

1. Tanya I. Garcia and Hans Peter L'Orange, *Strong Foundations: The State of State Postsecondary Data Systems* (Boulder, CO: SHEEO, 2010).

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A mock-up of some of the comparative information that could be made available follows:

Employment, wages, and completion for all programs related to Associated Degree Nursing at Shoreline Community College

Program Type: Nursing
 For academic years: 2004–2005, 2005–2006, 2006–2007
 Students who completed the program(s)

Number of Graduates	271
Completion Rate	88%
Number with Reported Employment	238
Employment Rate	87%
Typical (Median) Hourly Earnings	\$31.17
Typical (Median) Annual Earnings	\$60,557

Employment, wages, and completion for Associated Degree Nursing | ADN at South Puget Sound Community College

Program Type: Nursing
 For academic years: 2004–2005, 2005–2006, 2006–2007
 Students who completed the program(s)

Number of Graduates	178
Completion Rate	53%
Number with Reported Employment	164
Employment Rate	92%
Typical (Median) Hourly Earnings	\$29.65
Typical (Median) Annual Earnings	\$52,028.67

Note that the completion rate is 34 percent higher and the annual earnings are \$8,000+ higher at Shoreline versus South Puget Sound. Tuition per credit, not depicted in the figure, is identical at the two institutions. All other things being equal, Shoreline seems to be

the better choice. Of course, all other things are unlikely to be equal. For example, these two institutions are seventy-two miles apart—one but not the other may be within a reasonable commute for some prospective students.

Shoreline CC is in a suburb of Seattle, whereas South Puget Sound CC is in a small town. This may affect the attractiveness of the institution to prospective students, and also may influence outcomes such as employment rates and earnings. The latter point is important. These data are not value-added and do not include adjustments for the characteristics of incoming students (though these two particular institutions are demographically very similar) or for differences in the labor market demand in different locales. One could imagine such adjustments at some point in the future. But for now think how much more informed the prospective student would be with information on employment outcomes as presented above than without such information.

Information on differences in performance at the level of individual programs versus campus aggregates would also likely have a strong effect at the management and policy level. One can imagine campus administrators or state policymakers asking, “Why does the nursing program at Shoreline manage to graduate nearly all of its students whereas the one at South Puget Sound barely gets half of its students to the finish line?” The same question opens the door to research on program differences that could lead to the improvement of retention and completion rates in all associate degree programs in nursing.

Creating a higher education marketplace vibrant with transparent and valid information on performance and price would be a powerful driver of reform and innovation.

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PANEL SIX | Overcoming Barriers to Taking Innovative Models to Scale

Lloyd Armstrong, Jr., University of Southern California

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Prior to coming to USC, Armstrong was professor of physics and dean of the school of arts and sciences at the Johns Hopkins University. He has served on a wide variety of government and university advisory boards in his role as a physicist. Armstrong has also served on the boards of directors of the California Council of Science and Technology, the Southern California Economic Partnership, the Pacific Council on International Policy, and the Pacific Century Institute. He is a member of the Pacific Council on International Policy and the Council on Foreign Relations and serves on the advisory boards of InsideTrack and Altius Education. He consults widely with institutions and corporations on educational matters. His higher education blog is ChangingHigherEducation.com.

Higher education, like many very successful enterprises, is very resistant to any really fundamental changes in its way of doing business. "Scale" is a concept that suggests fundamental changes in faculty roles, student demographics, and traditional bundling of products (e.g. teaching, social growth, research). Thus, it is likely to be strenuously resisted by all levels of the enterprise. Yet, current and realistically evaluated future economic conditions put significant financial pressures on institutions that are not likely to be relieved without adoption of scalable education models. In addition, many of the innovative, scalable models are very desirable because they have been shown to provide equal or better learning outcomes than the traditional approaches.

However, if history is any guide to the future, most existing institutions are not likely to embrace scale and other innovations willingly simply because it is in their or their students' best interests. The single best driver for overcoming this barrier to innovation is to increase competition in higher education so that market forces can play a role. The true "disruptive innovation" in this context is outcomes measures. Outcomes measures would allow consumers to compare institutions and provide an invaluable resource in efforts to refine and

improve new approaches to learning. In particular, such measures would allow consumers to judge for themselves the value and effectiveness of new, lower-cost nontraditional entrants into the higher education space. Outcomes measures should include both data on occupational outcomes, e.g. success in getting a job and income over time, and learning outcomes. Defining desired learning outcomes will obviously be contentious and difficult, but one should not let excellent be the enemy of good. After all, we accept accreditation standards that look at only a limited range of quite imperfect variables, and surely we can do even better with learning outcomes without being perfect.

Many institutions also lack the financial sophistication required to properly evaluate arguments for moving certain activities to scale. In part this is based on the current accounting requirements for higher education, which make it extremely difficult if not impossible to evaluate the net costs of any particular activity. Cross subsidization of activities hides the true costs of individual components, making it difficult to make rational management decisions. Changes to the accounting standards set by FASB in a direction that make it natural to track net costs of individual programmatic activities could help alleviate this problem.

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An additional obstacle is the general lack of understanding the financial implications of the disruptive potential of scalable activities in higher education. Christensen points out that the disruptive potential of an innovation can only be realized if it is matched to a different business model from that used for the existing activities. Thus, a scalable innovation such as online learning looks rather expensive if grafted on to the existing business model in that it requires much more direct investment than does simply creating a new traditional classroom course. However, the net costs of production for both the traditional course and the online course also carry extremely expensive overhead costs relating to, e.g., the swimming pool, dining halls, student clubs, athletic teams, and faculty research. Consequently, if the online courses are produced in a business model that includes none of these extraneous overhead-producing activities, the net costs drop precipitously. Thus, in order to understand the potential financial impact of introducing activities of scale, administrators must understand the fiscal implications of the current business model and be prepared to investigate alternative business models to manage the scalable activities.

Other potential barriers to moving to scale are external to the institutions, such as accreditation and a patchwork of state regulations and laws. State-by-state approval of programs is simply obstructionist and protective of existing state institutions when high-quality education can be delivered on the boundary-leaping Internet, and students nominally resident in one state are highly likely to follow some part of their courses while actually visiting or working in other states. Both state approval and regional accreditation are likely to have been devised in times when very few scalable educational approaches were available, and the rules focus on evaluating the effectiveness of implementation of the traditional business model (but not the outcomes of that model!). In cases where scale is not simply used for sustaining innovation in the traditional business model, but is part of an entirely new business model, existing accreditation procedures may find it very difficult to evaluate the new approach. Obviously, development of outcomes measures could change this situation completely, since the focus could be on outcomes without regard to the underlying business model.

Finally, rather persuasive arguments can be made that increasing state and federal student financial aid has made it easier for higher education institutions to raise tuition and fees at a rate significantly above inflation. This, in turn, has lowered pressure on institutions to

lower costs by adopting scalable innovations. Because of financial constraints, both states and the federal government are unlikely to be able to continue this past practice of regularly increasing financial aid, and decreases are a more likely future scenario. Whatever the level of student financial aid in the future, it would make great sense to use it to incentivize desired behavior rather than inefficiency and high tuition increases. Thus, institutional eligibility to receive student financial aid should not be contingent simply on accreditation, but rather on demonstrating desirable institutional outcomes such as internal changes leading to price containment near the level of CPI and improving student outcomes.

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Rick Hess, American Enterprise Institute

Frederick M. Hess is resident scholar and director of education policy studies at the American Enterprise Institute. He has authored influential books on education including *The Same Thing Over and Over*, *Education Unbound*, *Common Sense School Reform*, *Revolution at the Margins*, and *Spinning Wheels*, and pens the Education Week blog “Rick Hess Straight Up.” His work has appeared in scholarly and popular outlets such as *Teachers College Record*, *Harvard Education Review*, *Social Science Quarterly*, *Urban Affairs Review*, *American Politics Quarterly*, *Chronicle of Higher Education*, *Phi Delta Kappan*, *Educational Leadership*, *U.S. News & World Report*, *The Washington Post*, and *National Review*. He has edited widely cited volumes on education philanthropy, stretching the education dollar, the impact of education research, education entrepreneurship, and No Child Left Behind.

Hess serves as executive editor of Education Next; as lead faculty member for the Rice Education Entrepreneurship Program; on the review board for the Broad Prize in Urban Education; and on the boards of directors of the National Association of Charter School Authorizers, 4.0 SCHOOLS, and the American Board for the Certification of Teaching Excellence. A former high school social studies teacher, he has taught at the University of Virginia, the University of Pennsylvania, Georgetown University, Rice University, and Harvard University. He holds an MA and PhD in government, as well as an MEd in teaching and curriculum, from Harvard University.

There are at least two kinds of big obstacles to scaling innovations. The first is that innovative models are themselves often reliant on elements that defy scaling. The second is a number of structural conditions that impede efforts to grow even those models that might scale.

First, seemingly successful pilots often depend more on the conditions that attend their adoption and execution than the model itself. Pilots tend to benefit from a number of advantages that disappear when these efforts start to “scale,” namely:

- *Philanthropic support*—Dollars are often available to fund new initiatives. Such funding allows CTE or remedial programs to offer services and opportunities that prove unsustainable when the program expands to new sites that lack the extra resources.
- *Expertise*—Pilot efforts are, by design, promoted and supported by the experts who have conceived of the model (or intervention). They benefit from intense, sustained, loving attention by those who are most knowledgeable about and invested in the idea. Later sites have less access to that talent.

- *Hawthorne effect/enthusiasm*—Pilot efforts are inevitably launched where the leadership (and/or the faculty or instructors) are enthusiastic enough about the venture that they’re willing to invest all the energy necessary to launch it. That passion and sense of ownership are enormously helpful in making early iterations successful.
- *Accommodating policies*—Pilot efforts are frequently launched where they are because the local leadership has the wherewithal to get the waivers, leeway, or support to launch the effort. So a new academic program benefits from special treatment when it comes to faculty loads or student recruitment. When the same models are implemented in less accommodating settings, the models frequently fail to deliver the anticipated results.
Second, even promising models run afoul of several structural impediments, including:
 - *Discomfort with for-profits*—For-profits typically have much more ability and incentive to scale than nonprofits. Whereas nonprofits are driven by the passion and commitment of their leadership, for-

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profits are propelled by the logic of maximizing returns. This leads for-profits to take risks in pursuit of growth and to aggressively seek opportunities for expansion. Absent pressure to maximize returns, nonprofits tend to default to the innate attraction of focusing on existing clients; they therefore tend to grow much more slowly. Nonprofits also have a much more limited capacity to attract the capital necessary to fuel growth. Yet public resistance to for-profits means that much of our hope in higher education is pinned on the ability of nonprofit or public entities to scale reforms.

- *Reliance on entrenched institutions*—In nearly every sector, transformation is the product of new ventures emerging with wholly new ways of leveraging tools, talent, and technology. That’s why three-fourths of America’s twenty-five biggest firms didn’t exist in 1965. In education, however, there’s a presumption that staid institutions of higher education can and will remake themselves with the right encouragement and support. It’s a noble aspiration, but one need only consider the history of Bethlehem Steel, TWA, or General Motors to recognize how severe the challenge is.
- *Lack of price competition*—The immense subsidies and public underwriting in the sector blunt the cost sensitivity of students. The problem is that the vast majority of innovation in the world is not “disruptive” but is focused on modest, incremental boosts in productivity. These frequently show up in price competition. In higher education, however, the inelasticity of the demand curve means that institutions have spent little time or effort trying to build or scale increasingly cost-effective models; instead, most energy has been devoted to models that are bedecked with bells and whistles.
- *Lack of outcome comparability*—Because there are not good or comparable measures of outcomes, it’s difficult for even highly effective models to glean the benefits from their performance. This makes it hard for new models to displace familiar providers, and places a premium on marketing and perception while limiting the rewards for quality.

What to do about any of this? It’s hard to say. Most of the obstacles are either inherent in the enterprise or a product of deep-seated norms. That said, three suggestions:

- *Put a premium on innovations that scale easily*—The most difficult innovations to scale are those that rely heavily on talent and complex implementation. The easiest to scale are those that leverage technology or other tools to provide services with few moving parts. For instance, Amazon.com or Facebook are remarkably easy to scale, because most of the quality of the experience is almost identical for thousands or even millions of users. Similarly, Tutor.com is easier to scale than is a program which depends on recruiting and training local tutors.
- *Resist the notion that innovative models can readily be housed in existing institutions*—Established institutions have established norms, cultures, policies, and routines. No matter how energetic and enthusiastic are those who would adopt innovative models, the difficulties of maneuvering around these realities makes innovation a bad bet. New staffing models or metrics may be used successfully at a given community college with committed leadership, but they can be quickly bent into unrecognizable form when adopted by other institutions that are less committed.
- *Focus on cost and outcomes in allocating public dollars*—Encouraging the successful scaling of innovative models is going to depend in large part on whether the larger environment supports such ventures. An environment dominated by formula funding, hefty subsidies, and few useful measures of quality is designed to accommodate the status quo. Changing that requires changing public policies at the state and federal level.

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Josh Jarrett, Bill & Melinda Gates Foundation

Josh Jarrett is deputy director for postsecondary success in the Bill & Melinda Gates Foundation United States program. Jarrett leads the Next Generation Models portfolio within postsecondary success. This portfolio supports learning innovations and technologies with the potential to dramatically increase low-income student success and improve affordability. Investments areas include interactive courseware and tools, diagnostic assessments, learner relationship management systems, and breakthrough delivery models. Prior to joining the foundation, Jarrett served as an engagement manager in McKinsey & Company's social sector practice, and as an entrepreneur, helping to launch a customer service software company. Jarrett is a graduate of Dartmouth College and holds a graduate degree in business from the Harvard Business School.

Scaling Up Higher Education Innovations—Idea Sparks

A lot of the conversation about scaling innovations will rightly focus on removing systemic barriers, including reforming accreditation, regulatory waivers, and financial incentives. Those are rich and fruitful conversations, but ones that I am much less skilled in addressing than my fellow panelists. Instead, I would like to focus on potential “hacks” of the system; a hack being defined as an inelegant but effective solution to a problem. The hacks below are not systemic, top-down solutions, but instead, are bottom-up or even out-of-left-field. They might serve to stimulate new innovations and create new marketplaces to refine and scale the most promising innovations in higher education.

1. *Develop an EDK (an “entrepreneurs developer kit” a la a software developer kit) to lower the costs and risks of start-up program and college models.* The typical business plan for a for-profit conversion of a nonprofit or a for-profit/nonprofit partnership is roughly \$25 million to reach breakeven. Comparable plans for nonprofit social entrepreneurs come in around \$10 million to reach breakeven. How could we lower the costs, lower the risks, and encourage entrepreneurship around these start-up models? One suggestion would be an EDK so that there is less of a wheel to reinvent each time. The EDK could include such things as: a rich student segmentation analysis; high-quality OER for the core twenty-five developmental and general education courses; a cloud-hosted technology stack built with LAMP, Quali, and Moodle/Sakai/Canvas; a learning analytics system; and a partnership/accreditation primer.
2. *Establishing an open rapid prototyping infrastructure for learning R&D.* Zynga, Facebook, and Amazon routinely run dozens, if not hundreds, of A-B tests per day to optimize their customers' experiences at the cost of a few pennies per test. In contrast, comparable research in education takes years to design, implement, analyze, and share, with costs well in the millions per test for random control studies. Given the breadth of what we need to learn about learning versus the need to optimize click-throughs on Farmville, this disparity is even more pronounced. What we need is a simple-to-deploy architecture for mapping the growing pool of digital learning experiences from multiple sources to intended learning outcomes—and to aggregate that data across many students, supported by rich analytics. In other words, build the research platform/infrastructure once and then drop in many, frequent tests.
3. *Separating instructional delivery from credentialing.* Certainly not a new idea, but here's an idea for a hack that goes further than CLEP, Dantes, and prior learning assessment. Could we convince one flagship university in each of the six accreditation regions to establish credentialing regimes for awarding associate's degrees? These six institutions would establish the assessment criteria

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for the core courses of the associate's degree—let them be as rigorous as they want—and then “open for business” for other instructional service providers and independent learners to sit for the assessment. Maybe it's \$50 per course to be assessed and another \$50 to have the course transcribed once you pass? Once those credits and degrees are established by a flagship university, they should have a much more established path to transfer and articulation with every other institution. Would a Michigan State or UC-Riverside or UT-Brownsville not see this as a way to increase their relevance, expand revenue, and grow their pipeline of BA-completion students? Particularly if they are facing declining enrollments due to demographics and declining funding due to state divestment in higher education? You would only need one university per region to take the lead. There would be issues with the accreditors, but with the right institutional partners and supporting consortium, couldn't they be overcome?

4. *Convince one top-25 university to accredit learning through their open courseware.* If MIT “won” the last decade in OER for being the first to move aggressively to publish their OpenCourseWare (OCW) library, won't the institution that creates a path to accrediting OCW learning “win” the next decade? A core of general education courses available for very low cost and validated by a top-tier institution—even if by their extension school—could become a game changer. Examples like MIT, ASU, and USC's School of Education's partnership with 2tor show that institutions can strengthen their reputation by expanding access to their knowledge and to more students. Are these examples demonstrating that higher education institutions can successfully define their reputations with abundance, as opposed to scarcity and exclusion?

I submit these idea sparks as exactly what they are—wacky ideas that just might be so crazy that they would work. Or they just might be crazy.

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John Katzman, 2tor

After graduating from Princeton University in 1981, John Katzman founded the *Princeton Review*. He served as president and CEO from 1981–2007; during that time, the company grew into one of the strongest brands in education. Katzman’s innovative ideas on education reform have made him one of the nation’s leading authorities on testing, postsecondary admissions, and data-differentiated instruction. He is the coauthor on five books on testing and admissions, and a frequent lecturer and panelist. Katzman has also helped several startups, including Student Advantage, both before and after it went public. He serves on the board of directors for two small nonprofits, and the board of advisors of several small companies. His personal interests include ice hockey, running, and architecture.

Slow Accountability: How to Evaluate Universities Without Making a Mess

Even as people acknowledge that the U.S. higher education system is a magnet for students all over the world, there is a growing movement demanding more information about the efficacy of our colleges and universities.

This demand for accountability is reasonable and understandable. An undergraduate education at a top private college will soon cost up to a quarter-million dollars. Studies suggest students aren’t working as hard as they once did, accreditors have missed some glaring problems, and the rapid growth of the for-profit sector has increased the suspicion that standards are slipping throughout our higher education system. When either for-profits or traditional universities balk at proposed accountability measures, they’re seen as obstructionists and apologists.

And yet, the proposed measures are deeply flawed. There is no research to suggest, for example, that the Collegiate Learning Assessment (CLA) or other tests of reasoning predict long-term success. Further, as these tests take on more importance, they will breed a new generation of test prep programs that are unlikely to teach the skills we want colleges teaching.

Most importantly, though, the underlying assumption of most accountability regimes is that Harvard and the University of Phoenix

are trying to teach the same thing, and can be measured by the same yardstick. That is obviously wrong, as is the notion that pre-meds, engineers, and philosophy majors all have the same goals. Such misguided notions have damaging consequences, because as standardized scores become more important, they will push schools to be ever more like each other.

There is a third path between an utter lack of transparency and a one-size-fits-all metric based on test scores or post-graduation salaries, one that creates true accountability while allowing for, and even celebrating, the fact that different students and different institutions have distinct goals.

Big Data

We should look at school accountability in the context of the era of big data. It now costs \$1,000 to sequence your DNA, and some believe that cost will be reduced to pennies within a decade. Websites review the IP address and web cookies of browsers, and serve up pages customized to the user.

Similarly, the starting point for accountability in 2012 is the individual student. What are *your* educational goals, and what is your likely outcome against those goals if you join this school or that department?

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This might seem too lax. What if a school is terrible for the vast majority of students who might go there? Isn't there an objective measure of good and bad? After all, aspirin is a good drug for the great majority of people with headaches—I don't need my genome sequenced every time I catch cold.

One-size-fits-all solutions are certainly preferable if they dramatically reduce costs, but what if a custom drug was simpler and less expensive than aspirin? *U.S. News & World Report* or some accreditor might create model groups of students and rank schools against them, but why not strive to let an actual student measure schools against his or her own actual needs?

Goals

It's important to think a lot about unintended consequences, and most efforts at educational accountability have had lots of them. Business schools, for example, are ranked (in part) by the income of their recent graduates; accordingly, they steer students away from entrepreneurship, which has delayed gratification, and toward Wall Street and consulting. College-bound students are judged by the SAT; savvy ones learn the (relatively unimportant) skills tested there, rather than high school math or English, to raise their scores. Once we attach stakes (including lowered U.S. News rankings) to reasoning tests like the CLA, we will see the curriculum of many good colleges bend in the direction of test prep.

Rather than measure schools against the common yardstick of a standardized reasoning test, imagine we started by asking a university to describe its goals in precise terms. For example, a business school might say:

"Six months out, we want our students to be engaged with a career they like, and to speak well of their experience here. For those who joined a Wall Street firm, we'd like to see a high salary in an area they're interested in. For those who started companies, we'd like to see them engaged with the start-up process. And for students who want to work in an established company, we'd like to see them in a position of management on a leadership track."

Those are three reasonable tracks for recent graduates, and each should have different metrics. Now imagine doing the same thing for those same students one to five years, five to ten years, and ten-plus years out of school. A school might have similar metrics for each group, including health and happiness—some measure of life balance. Or it may just be looking for overall compensation.

The point is to expose the school's goals with real precision. What are the questions it would ask of its graduates (or students who dropped out, for that matter) at each stage of their careers? And what are the answers the school is looking for?

If we stopped there, this would still be more illuminating than any test. It allows for a variety of goals—Harvard should have different goals than DeVry, and its business school should have different goals from its philosophy department. A school whose goals are vague and impossible to measure will put itself at a disadvantage to its peers. And most importantly, every prospective student can get past the puffery and understand what he or she is getting into.

Measurement and Dissemination

Of course, we won't stop there. We'll look for the actual answers to those questions.

More precisely, accreditors should require schools to survey their graduates every year, asking their chosen questions and publishing the results (most, of course, would outsource this work to third-party providers, who would work hard to lower the cost of electronic surveys while improving response rates). At scale, this is not a tremendously expensive exercise, and smart schools would see it as an advancement opportunity that more than paid for itself.

It would be great to see the data from every school anonymized and collected into a large data store for magazines and others to mine, but privacy concerns would probably outweigh the benefits. However, each school should publish the overall data (and any subset it thinks relevant), along with a simple engine that would allow students to slice the outcomes data for students like themselves.

Are there a few questions that we want asked of every student about their careers and their satisfaction with their programs? Probably, and it's possible that accreditors, the media, and policymakers will focus on simple comparison across all cohorts on these questions: the problem with data is that you can't stop people from focusing on subsets like starting salaries. But good information generally crowds out bad information, and the opportunities for good here far outweigh the mischief that competitors, the press, and politicians will make.

Slow is Good

These sorts of outcomes change more slowly than standardized test scores or salaries upon graduation. A new university administration making enormous changes in admissions criteria or program quality

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will wait for years before those changes become evident in the outcomes data (especially since best practices could demand a rolling average).

I'm as impatient as the next guy, but I'm willing to wait. Universities generally change very slowly, and reputations change more slowly than that. Some indicators (e.g., dropout rates and first-year graduate satisfaction) will respond more quickly to changes in a school, but many others might take a decade.

If we make the mistake of not waiting, we risk settling for measures that can be implemented quickly but aren't very useful. Value-added test scores or short-term salary measures just aren't the kind of accountability metrics that students and parents understand and care about.

Slow-cooked accountability will be simple, flexible, difficult to game, and inexpensive to maintain. It will help schools stay closer to their graduates, and encourage them to differentiate. Finally, it will give each prospective student useful information on what's likely to happen after he or she enrolls.

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Peter Stokes, Eduventures

Peter J. Stokes leads Eduventures' team of researchers and consultants, who work with hundreds of colleges and universities across the country as they seek to recruit students, develop faculty, manage costs, and produce high-quality graduates. In the thirteen years that Stokes has been with Eduventures, his work has focused on helping colleges and universities serve adult learners, grow online enrollments, educate future teachers, and demonstrate meaningful outcomes. In 2005, Stokes was recognized as one of "higher education's new generation of thinkers" by the *Chronicle of Higher Education*. More recently, he provided testimony to U.S. Secretary of Education Margaret Spellings's Commission on the Future of Higher Education, and later served as an advisor to the commission in the development of its final report, "A Test of Leadership."

Stokes was a member of the CHEA Tenth Anniversary Commission, which sought to support the strengthening of higher education accreditation. He also worked on Governor Deval Patrick's Commonwealth Readiness Commission to support the development of a ten-year strategy for education in Massachusetts. In 2011, his essay, "What Online Learning Can Teach Us about Higher Education," will be published by Harvard Education Press in an American Enterprise Institute-edited volume called *Reinventing the American University*. Prior to joining Eduventures, Stokes was manager of the industry research group at Daratech, Inc., an information technology market research firm. He also has held teaching positions at Tufts University and the Massachusetts College of Art. He has a graduate certificate in business administration from Cardean University and a BA and a PhD in literature from the State University of New York at Stony Brook.

Want Innovation? Remove the Barriers

Innovation in higher education, I sometimes think, is a bit like the weather. Everybody talks about it, but nobody does anything about it.

Every six months or so, as some new conference or other on the future of higher education heaves into view, I'll get a call asking if I can list any and all recent innovations in higher education. The people on the other end of the line seem to feel that these innovations must surely be out there, so they make phone calls looking for them. But they always seem disappointed when I resort to listing the usual suspects: online universities, open educational resources, commercial ventures looking to partner with institutions. That's not innovation, the people on the other end of the line seem to be saying. And in many respects,

I agree with them. We haven't yet seen anything truly game changing, have we?

In recent months, the focus on innovation in higher education has turned to "disruptive innovation," that concept originally formulated over a decade ago by Harvard Business School professor Clayton Christensen to describe change and innovation across numerous industries, but which he has more recently begun applying to education. Now everybody wants to know where the disruptive innovations in higher education are hiding.

For his part, Christensen points to online learning. But even by the standards established by Christensen's own theory (where disruptive

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innovations are easier to use, cheaper, and serve new audiences), the case for online learning as a disruptive innovation is equivocal.

Is it a simpler, easier-to-use product? In some respects, but not all.

Is it less expensive to deliver? Outside of a few grant-program case studies, not particularly; the potential may be there, but it has yet to be fully realized.

Is it reaching a new audience? Probably, yes, but the evidence is mostly indirect and approximate.

Of course, there's a reason why we don't actually see much in the way of real innovation in higher education, and Christensen understands this. Incumbent leaders in mature industries engage in what Christensen calls "sustaining innovation"—the development of new features and benefits that make a product or service more useful, but not dramatically so. Think, for example, of the addition of a camera on the iPad2. With an increase in benefits, prices typically rise as well. What keeps pricing in balance in most industries, however, are those disruptive innovations—think of the personal computers that supplanted the mainframes decades ago. These cheaper and easier-to-use tools attract new audiences to the category and refashion the economics of the industry's business model.

While colleges and universities may well engage in some sustaining innovations (the high-rise dormitories, the state-of-the-art fitness centers, the not-entirely-mythical rock-climbing walls, not mention the world-class science labs and other high-tech investments), the fact is that they face little in the way of disruptive innovation because they have a lock on the market—it's called accreditation—and thus there's little opportunity for new entrants to come in and offer something less expensive or simpler to use.

To my mind, if you're looking for an innovation opportunity, technology is just a part of the story. The real innovation—in price, in ease of use, in access—will occur when our colleges and universities face some real competition, and that will only come when we allow some new, entrepreneurial providers into the market.

If you want innovation, I say, remove the barriers.

To that end, I'd like to propose that the U.S. Department of Education establish a new "demonstration program," not unlike the Distance Learning Demonstration Program of the past. That former program allowed institutions that delivered a majority of their programs online to distribute Title IV funds. Twenty-four institutions—a mix of

nonprofits and for-profits—participated in the program. Along the way, we learned something important about the potential for scale within online learning, and today, one in four college students has taken at least one course online.

Now we need something a little different, but based on the same model—call it the "Innovation Demonstration Program." In this case, the program will charter new organizations to offer degrees and distribute Title IV funds—even if they lack accreditation. That has the potential to open up real innovation within multiple segments of the marketplace.

Commercial organizations that offer tutoring services, curriculum, or learning technologies could get into the degree-granting business and even make federal financial aid available to their students.

At the same time, established institutions might see this as a terrific opportunity to build new degree-granting organizations adjacent their own traditional campuses—unencumbered by the regulatory and governance hurdles that currently stymie their attempts to reach new markets, deliver new programs, or otherwise rethink how they do business.

It will, of course, be necessary to guard against the potential for new diploma mills entering the market and targeting federal dollars, but that's where the regulatory apparatus becomes useful. It can both foreclose fraud and stimulate innovation at the same time. Under the kind of close supervision that a federal demonstration program would require, a few dozen experiments of this sort could teach us a great deal about what's really possible when it comes to innovation in higher education.

If you think this sounds absurd, consider the case of the Relay Graduate School of Education, granted a charter by the New York State Board of Regents in 2011 to offer master's degrees to teachers in New York. Founded by three charter school organizations—KIPP, Achievement First, and Uncommon Schools—the Relay Graduate School of Education was purpose-built to meet the education and professional development needs of those schools' own teachers.

Along the way, Relay did something innovative. It tore up the semester model. In its place, Relay delivers sixty discrete learning modules. Students learn in the context of the schools in which they teach, and online curriculum is augmented by cohort discussions within the schools, all under the supervision of on-site mentors. This is

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a very different way of thinking about delivering education—and it's innovative.

What makes it innovative isn't that there's technology involved—it's really a very people-centered learning model—it's that the organization is free to rethink the "why" and "how" of teacher professional development. Equally important, the oversight of the Board of Regents puts Relay on a level playing field with all of the other traditional providers of master's degrees in education within the state of New York. Now ask yourself why the same thing shouldn't be happening in disciplines such as business, engineering, computer science, health care, and numerous other fields, and on a national scale.

There is, after all, another key element in Christensen's theory of disruptive innovation. It happens at the margins, and it happens within organizations that are free from the obligations of established incumbents. One of the great misunderstandings regarding Christensen's theory, in my view, is that we can all disruptively innovate ourselves. But Christensen himself points out that the only companies that have successfully accomplished that feat have done so by establishing separate, discrete R&D units free of the pressures of the parent organization's business model, customer demands, profit targets, and more. The reality is, more often than not, that disruptive innovations put established incumbents out of business. That, after all, is what makes them disruptive.

If traditional higher education wants to innovate—if it realizes that it must—then that innovation will have to take place in the margins, free from the demands of traditional culture, regulation, and financial models. An Innovation Demonstration Program would allow us a chance to see just how much invention is in us, and how far we can go in lowering prices, increasing access, and educating the nation.

KAUFFMAN
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