Sustaining

Strategic Transitions

in Higher Education

By David Ward

The second half of the twentieth century was a time of great creativity in the kinds of public policies that were put into place for higher education in the United States after the end of World War II. These policies, which opened up access to education and research funding, gave U.S. colleges and universities an enormous competitive and comparative advantage for at least fifty years. But those underpinnings are shifting in this new century. As a chancellor who has led the same public land-grant university during two very different funding environments and who served as president of the American Council on Education for eight years, I am often asked: "How can we sustain strategic innovation and transitions in higher education?"

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There are a number of ways we can do this, and all of them require a commitment to thinking differently about how we are delivering an education to our students. First, we need to recognize that some of the irreversible changes over the past two decades are related to our assumptions about revenue, capacity, access, quality, and delivery of learning experiences.

Next, we need to define ways to respond to these irreversible changes. Incorporating various innovative strategies, leadership styles, new policies, and student pathways to learning can allow us to stimulate and scale a broader array of learning experiences.

Finally, we need to identify the key roles for IT professionals in the future of higher education. In implementing these changes, we will need to adapt—and apply more effectively to ourselves—many of the critical innovations that we have provided to other sectors of our economy and society.

The Big Picture: Irreversible Changes

Much of our current thinking about the performance, policies, ideals, and innovations of U.S. higher education is based on assumptions derived from the post–World War II era. We have relied on a consistent and increasing funding base from federal and state governments to keep tuition low and to dramatically expand access. We have created classrooms, labs, and libraries for a high-quality, nationally competitive, and residential four-year undergraduate experience along with more selective graduate and professional programs.

Our expectations initially assumed few differences between institutions, but the high costs of research eventu-

ally resulted in variability in the extent and capacity of graduate programs. Similarly, cost pressures and vocational needs resulted in the rapid expansion of two-year programs either to provide an end focus on technical qualifications or to serve as a prologue to an undergraduate degree made possible by a transfer program.

Revenue Crisis

In spite of a rise in mission differentiation as a way to avoid duplicating expensive programs and to focus research investments on a limited number of institutions, we are now faced with a critical revenue crisis

in higher education, resulting in varied but significant funding gaps. Higher education, like health care, is trapped in an unsustainable funding model.

For most of the second half of the twentieth century, we became used to a

pendulum swing between adequate and inadequate state funding. In bad times, we waited patiently for the return of good times—which discouraged decisive responses to reduced revenues. But I believe that now the pendulum not only is unlikely to swing back toward adequate state funding but has fallen off its pin and is stuck in the mud.

Federal and philanthropic support rarely sustains base budgets. Tuition is no longer a major source of new revenue because it has become a substitute for the decline in state funding. We may now be at a point where resistance to tuition increases will result in the loss of a means to compensate for decreased state support.

Our challenge is to confront this shift in the composition of our revenues and the possibility that there are limits to our future growth. Our own strategic planning and goals, and our own visions of change and innovation, must address this irreversible change in the way higher education is funded.

New Pathways to Learning

These revenue changes affect all kinds of higher education institutions, but despite this diversity, the dominant forms of delivery continue to be classrooms, labs, and face-to-face communication. Although there are now multiple pathways to an education, by means of transfer among different kinds of institutions, the flexibility of these pathways demands a wider range of learning options including customization.

Many of those options are made possible by innovations in information technology, including remote delivery, flipped classrooms, and computer-assisted curricula. These innovations need not—and should not—replace all current forms of face-to-face delivery, but many segments of our curricula

would have improved outcomes and capacity if the innovations were adopted at the right scale. However, at this point only creative individuals or small groups are adopting these innovative options, and the implementation of broader strategic curricula transformations is still rare.

Multiple customized pathways—as distinct from standardized, age-based sequences—also conform more appropriately with our growing understanding of individual and group variations in the development of the brain, with respect to both age and competency. These findings are critical to any confrontation with the quality limitations of mass higher education.

Just as the funding model of mass higher education is stressed, colleges and universities have probably reached their maximum capability to offer a standard education that fits all learners. The association of quality with age-specific standards has so far provided no quick solutions to students' varied standards and performance. It is my belief that we need to apply our expanding capacity in information technology and the growing knowledge base of the learning sciences to meet not uniform needs but, rather, students' wide range of varying capacities.

Being Interdisciplinary and the Intellectual Division of Labor

Quite apart from these issues related to student learning, the content of our curricula has also changed dramatically. New disciplines have emerged, old disciplines have merged, the continuum of basic and professional fields has lengthened and become more complex, and many fields of learning must now meet the needs of students specializing in quite different areas of knowledge. Our research agenda has certainly become more integrated and less specialized within disciplines, creating new opportunities for interdisciplinary curricula and improved connections among and between courses designed to provide a general education.

In addition to the challenges derived from revenue gaps and the variability of student learning, changes in the intellectual division of labor over the past three decades have prompted a creative re-evaluation of our curricula and the greater availability of flexible and modular short courses, certificates, and master's degree programs that can extend and deepen the value of an education based on disciplinary content alone.

Customized Solutions for Variable Performances and Outcomes

Over the next decade, it is likely that no more than about one-third of all students will complete a continuously enrolled, four-year residential college experience. The majority of their courses will be face-to-face lectures and seminars, but a significant portion of their education is also likely to be delivered in a more accessible form of blended learning. For the remaining two-thirds of students, the four-year continuous residential college experience designed to result in a specialized major will be inconvenient, inaccessible, or ineffective for their learning capacities.

Because of these changes, combinations of multiple pathways with multiple delivery options will be necessary if we are to fulfill the expectations of mass higher education. For many if not the majority of students, innovations in pedagogy and technology should increase the pathways to educational degree success and improve the inter-institutional structure of student transfers.

In addition to multiple pathways that apply IT and learning science innovations, we need to design learning experiences that take into account what we know about how the brain develops and what I call "right-age competency." Discussions of competencies continue

to focus on age-specific standards, and these limitations need to be reconsidered. For example, the solution to expanding competency in STEM (science, technology, engineering, and mathematics) disciplines is unlikely to be resolved by waiting for pre-college education to improve its performance. Expanding this competency is more likely to happen if we accept that students do not have the same aptitudes at the same ages and if we then provide courses to them when placement tests indicate a probability of success. Doing so might imply that some courses are remedial, but with the right fit of age-competency for different sets of students, many alternative forms of teaching will also better serve our students.

These ideas about a variety of pathways to learning and the application of research around innovation related to learning sciences, brain development,

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and information technology also lead me to the assumptions we have about quality and higher education standards that focus on a one-size-fits-all model despite the mission diversity across higher education institutions. The word *quality* is used so vaguely in the dialogue about higher education that I no longer know how to respond with any sense of precision or understanding. Moreover, within mission-defined institutions, there are multiple curricular opportunities to respond to changes in the organization of knowledge, the combination and re-organization of disciplines, and the need to balance creative and technical competencies. The question we should ask is: "Where should we put the strategic and sustainable efforts to improve uneven performance and variable outcomes?"

No other part of the world has richer higher education diversity than the United States. But we have not faced the

meet them by some current set of best practices. The solution is to decide on variable strategic pathways and delivery methods, in accordance with the growing body of science indicating different developmental capacities of students at any given age.

Putting Concepts to Work: A Sustainable and Strategic Path to Educational Innovation

In July 2011, I returned to the University of Wisconsin-Madison to serve as the interim chancellor for two years, having previously held the position of chancellor from 1993 to 2000. It was clear to me that I was addressing a funding environment different from those in my previous years. Although UW-Madison is a long-established, comprehensive research university and will continue to meet the needs of a predominantly residential student body, revenue challenges combined with shifts in student interests and in research emphasis demand curricular adjustments.

Research agendas have proved to be agile, and until the recent federal sequestration, funding was adequate to sustain many critical innovative fields and in particular to support a remarkable improvement in the scientific infrastructure. Curricular changes were less dramatic, and one response was to develop strategies for scaling up and diffusing educational innovation— or EI, as we call it at UW-Madison (http://edinnovation.wisc.edu/).[1] Working with a group of campus leaders, we have initiated systems and incentives to create a campus-wide environment that maintains and enhances student learning while improving our capacities and generating new resources.

In 2011, there was no shortage of innovative practices happening across campus, but most were small in scale. Because both the organization and the delivery of higher education curricula are based on the individual course commitments of faculty, it is difficult to scale up almost any kind of initiative. But that is especially true when it comes to educational innovations. For Phase One of our EI efforts, in the 2011–12 academic year, we thus worked on developing a strong communication strategy to work with faculty and staff, campus leaders, and governance groups to support a dialogue about the shifts in cultural practices that are necessary to sustain innovation.

During that first year, our focus was on mining the innovations that were already present and sharing them across campus to provide experiential legitimacy. We designed dozens of opportunities to celebrate, recognize, and publicize those efforts. For example we hosted eleven campus "incubator" sessions where 150 innovations were shared with 450 attendees; we held peer-to-peer workshops that promoted toolkits and coaching for curricular redesign projects; we surveyed campus EI leaders to improve our understanding of their needs; we created a blended learning summer EI workshop; and we hosted a town hall meeting that featured the many ways information technology facilitates and enhances transformation in curricula and learning (for examples of these resources, see http://edinnovation.wisc.edu/phase-ii-creating-and-executing-your-educational-innovation-plan/).

In addition to these meetings, events, conversations, and surveys, we created several EI teams to move this effort forward. It is the on-the-ground experience provided by these EI team members that supports the underlying cultural and communication challenges in this kind of innovation project. Our current EI team structure consists of the following:

- EI is sponsored by the provost and me (the interim chancellor).
- The EI Core Team of seven campus leaders is led by EI co-chairs: our vice provost for undergraduate teaching and learning and our vice provost for lifelong learning and dean of the Division of Continuing Studies.

reality that this diverse higher education system is not designed to address the required multiple core outcomes and multiple pathways through it. The solution is not to exert uniform age-specific standards and assume that everyone will

Other team members bring expertise regarding undergraduate learning assessment, communications, quality improvement, academic technology, and faculty/staff work patterns.

■ The provost leads an EI "Tiger Team" consisting of the EI Core Team and experts in various areas of campus administration to address major emerging EI strategic and policy issues, such as enrollment management, academic planning, and institutional research.

■ Each school or college has appointed an EI point person, and these representatives meet to share issues, ideas, and best practices. In addition, each EI point person has organized a committee at the school, college, or division level.

■ The EI Advisory Committee includes formal governance representation from the University Committee representing faculty, the Academic Staff Executive Committee, and the Associated Students of Madison, as well as three EI point people, to assist in deeper campus-wide engagement and policy questions.

As seen in Figure 1, during Phase Two these EI teams have identified strategic and sustainable outcomes and associated EI projects. For each of the EI projects, campus teams are identifying performance measures that will let us know how we have achieved success.

By strategically identifying these outcomes via the engagement of many campus leaders and EI team members, we have created an environment to support an alignment of campus resources and to promote new ways of partnering.

Key Roles for IT Professionals

During all phases of the EI efforts, we have engaged IT professionals as key campus partners. Our vice provost for information technology—also the chief information officer—joined and championed early campus EI planning conversations. He understood the collective leadership approach and the communication strategies needed for this effort. He aligned our EI work with a concurrent campus-wide strategic planning effort: Administrative Excellence (www.adminexcellence.wisc.edu), which is developing a new enterprise IT decision-making campus structure.

FIGURE 1

Phase Two of Educational Innovation: A Framework for Action 2012-2013

VISION *Where are we trying to go?*	GOALS *What does success through innovation look like?*	OUTCOMES & EI PROJECTS *What will we do to get there?*	METRICS *How will we know we achieved success?*
Improve **capacities** and generate **new resources** to enhance **student learning** and **research excellence.**	**Transform education to enhance learning** **Generate savings and resources**	**Improve learning through redesigned curriculum** • Funded projects: call for proposals • Curriculum redesign; outcome mapping **Improve delivery through technology and student experiences** • Blended learning • Online degree completion • MOOC Coursera pilot • Blended Learning Fellowships, Roadshows, and design experiences **Serve more students and graduate more students** • Post-baccalaureate degrees and certificates • Increase summer session courses and enrollment • Strategic campus-wide enrollment planning • Market analysis for expanded audiences **Create Agile Infrastructures** • Rethinking structures and collaborations • Calendaring: expanded use of available time • Development and use of new revenue generating models • Partnering internally, system wide, and nationally to advance EI goals	• Learning outcomes • Student time to graduation • Graduation rate • Increased number of students served • Revenue generated • Resource savings

Note: These efforts require coordination across various support systems including: learning management systems, enrollment management and learning analytics, academic planning and program delivery, learning spaces, budget allocation models to align incentives, and instructional support and development.

This will ensure that decisions around the costs, needed resources, and strategic directions for learning technologies will follow a high-level and campus-wide strategic planning and decision-making process. It also guarantees that the importance of transforming teaching and learning through the use of technology is reflected in campus strategic planning and budgeting processes.

Because of the chief information officer's early engagement with the EI effort, our academic technology professionals have been integrated into, rather than segmented from, the EI effort. Our associate vice provost for learning technologies and director of the Division of Information Technology (DoIT) Academic Technology unit serves on the EI Core Team that meets weekly. This has resulted in the direct involvement of our campus academic technologists, and in many cases they have provided leadership for some of our key EI projects, such as blended learning activities, MOOCs, and online course development.

Indeed, our academic technologists are working with faculty, in teams, to transform the way we think about delivering learning experiences and providing learners with new pathways to learning. These mixed teams of academic technologists and faculty members can drive change and provide mutual respect. The academic culture can be hard on non-faculty players and does not fully recognize the richness of the potentiality of academic technologists and the wealth of competencies, skills, and knowledge that academic technology and IT professionals bring to higher education. In addition, our administrative

computing infrastructure, networking, help desk, and security IT professionals are constantly innovating, and we have to get them deeply involved first with faculty who respect them and who are, themselves, innovating.

Within this growing culture of collaboration, we hope to create a wave of innovation to provide future pathways to learning and future learning experiences for ourselves, for our students, and perhaps for all segments of our society.

Sustaining Strategic Transitions

The irreversible changes in higher education include the shifting revenue model for higher education, the capacity of higher education to meet demand, the need for access by an expanded diversity of learners, evolving definitions of *quality,* and the impact of technology on delivery and pathways to learning experiences. I believe our ability to be responsive to changes in the creation, discovery, and organization of knowledge itself will require us to make significant curricular and programmatic shifts that will be facilitated by multiple learning practices.

Responding strategically to these changes is critical, and decisions at this point will shape a new world of learning. In responding, we will need to shift our assumptions and long-held traditions, as well as open our minds to serving learners through a broader array of pathways and experiences.

We must find ways to stimulate and scale change across institutions—as well as to sustain those changes—if we are to create models that can serve the expanding needs of our learners.

It will not be enough to continue making changes through collections of scattered pilots. We must find ways to stimulate and scale change across institutions—as well as to sustain those changes—if we are to create models that can serve the expanding needs of our learners.

In all of this, technology is often viewed as the driver of the changes, but technology simply opens new possibilities that spawn awareness by and expand demand from a broader range of learners. More frequently, technology is a vehicle for responding to changes, especially as it relates to the need to stimulate and scale our responses. As a result, the role of the IT professional is shifting to being an indispensable partner with faculty in the process of change and innovation for the future of higher education. IT professionals have been at the core of transformations in many other economic sectors. Now is the time for them to step forward and become collaborative partners in the shaping of the future of higher education. ∎

Note
   1. For more on educational innovation and why I think it is important, please see my video here: http://edinnovation.wisc.edu/why-innovate/.

David Ward (dward@wisc.edu) served as Interim Chancellor at the University of Wisconsin–Madison from 2011 to 2013, after serving as Chancellor from 1993 to 2000. He served as President of the American Council on Education (ACE) from 2000 to 2008.