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This chapter, drawing from the previous chapters, synthesizes potential directions and implications of future innovation in higher education. The focus is on innovation to address critical issues that administrators face today: the adaptability, maturity, cost structure, and efficiency of the institution.

Innovation in Higher Education: Implications for the Future

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In common parlance, the term *innovation* refers to the introduction of a new idea, method, or device. From a management perspective, Peter Drucker suggested that innovation is a "change that creates a new dimension of performance" (Hesselbein, Goldsmith, and Somerville, 2002, p. xi), and from an institutional perspective, as put forth by the U.K. Department of Trade and Industry, innovation is the successful exploitation of new ideas. The same range of meanings applies in higher education, where innovation can refer simply to some new way of doing things, or a change that improves administrative or scholarly performance, or a transformational experience based on a new way of thinking. Today's higher education administrators, who must balance the fiscal pressures of running a large organization influenced by external forces such as rankings and increased competition for students and faculty and internal stresses produced by boards and accrediting agencies who are demanding more transparency, accountability, and tangible evidence of success, are best served by seeking continued innovation in curricular programs, delivery mechanisms, support services, and operations. In this volume, we have presented ideas for new ways of conducting business within the context of higher education. These, and more, are crucial to the continued success of institutions of higher learning.

Innovation can offer flexibility to enable institutions to adapt more readily in a constantly changing environment, a means by which colleges and universities can address concerns typically associated with mature

enterprises, tools to ease increasing cost pressures, and efficiency gains through better operations and better matching of resources and requirements. Each of these benefits is addressed in this chapter.

Innovation and Flexibility

Higher education continues to evolve worldwide. From the origination of Plato's Academy in ancient Greece, to the founding of Oxford's University College in 1249 A.D., to the legislation for land grant universities in the United States through the Morrill Act of 1862, up to the advent of online degree programs in the late twentieth century, the landscape in higher education has been constantly changing. While this evolution has led to the expansion of the higher education industry and advancement in educational aspirations and attainment, ongoing improvement in these dimensions is imperative. As cited in the recent Spellings Report (U.S. Department of Education, 2006, p. vii), "this new landscape demands innovation and flexibility."

In this volume, we have examined some ways in which higher education is evolving and improving to meet the challenges of the contemporary landscape. These include closer examination of quality, novel uses of technology, ways to reach learners with disabilities, and curricular innovations.

An emphasis on quality, while not necessarily innovative according to the common definition of *innovation* (the introduction of a new idea, method, or device), is innovative in the establishment of ongoing processes to ensure openness and ongoing improvements in higher education administration. In the United States, the Baldrige National Quality Program provides both incentives and a basic framework for examining the procedures in place in higher education institutions to support quality in all facets: curriculum design, instruction, student services, and supporting operations. In Chapter One, Julie Furst-Bowe and Roy Bauer describe how implementing the Baldrige framework at the University of Wisconsin-Stout has helped drive innovation and facilitated sustained improvements. In Chapter Five, Brent Ruben examines the Baldrige framework and focuses on ways in which excellence indicators can be linked to accreditation standards to encourage innovation, excellence, and ongoing gains in operational efficiencies and quality. Institutions must remain flexible so they can benefit from these innovations.

Focusing on technology, Kevin Kinser and Ted Dodds (Chapters Two and Six, respectively) discuss how it can drive innovations in operations and offer opportunities for the delivery of academic programs in novel ways. The flexibility afforded by new technologies can facilitate gains in many facets of an institution's operations, provided that the institutions are willing and able to adopt the technologies.

In Chapter Three, Robbin Zeff discusses the issue of increasing the accessibility of higher education to people with different learning styles and

learning disabilities. Universal design for learning (UDL) offers a road map for implementing new technologies, coupled with innovations in the ways in which content is constructed, presented, and delivered. As institutions recognize the broader implications of accessibility as espoused by UDL, they will find potential for improvements in academic and ancillary services.

Curricular innovation, as exhibited by Western Governors University and the Leadership Foundation for Higher Education in the United Kingdom, is a hallmark of innovation and flexibility within the academy, according to Kinser in Chapter Two and Robin Middlehurst in Chapter Four. They discuss initiatives in the United States and United Kingdom that have effected change beyond the confines of one institution. In addition to program development and curricular reform, innovations such as these can help institutions meet standards dictated by accrediting agencies and drive changes in the accrediting processes themselves.

Western Governors University was born out of the desire to offer access to higher education to an increasing number of students in an era of fixed, or even declining, state appropriations for colleges and universities. The competency-based model, which was delivered using a wide variety of instructional methods, conflicted with traditional accrediting processes, including the fundamental tenets of faculty and curriculum development. This truly innovative approach survived the unintended consequences brought about by mechanisms already in place to assess and ensure learning outcomes. This case study also offers some clues to potential challenges to novel approaches.

The lessons gleaned from an examination of the development of the Leadership Foundation for Higher Education include insights into the research, political, and timing issues familiar to those who seek to offer new approaches in curricular and program design. Again, these challenges suggest that flexibility is a necessary condition for successful innovation in higher education. The Baldrige Award also offers learning opportunities for those seeking to develop new curricula and programs. These efforts can be supported by the inclusion of pedagogical reform to address universal accessibility.

Finally, information technology affects not only the delivery of academic content but also ancillary operations. If today's students are more technologically savvy than the majority of the faculty, the implications for the academy surely include a wide range of opportunities to leverage the fruits of new hardware and software tools in ways that truly enhance the learning experience. This will require flexibility on the part of the faculty. In addition, as schools are more ratings conscious, new ways to innovate in the delivery of supporting services will emerge; institutions whose operating processes are most open to change will reap the most benefits.

Innovation in a Mature Enterprise

The Spellings Report finds that "American higher education has become what, in the business world, would be called a mature enterprise: increasingly risk-averse, at times self-satisfied, and unduly expensive" (U.S. Department of Education, 2006, p. ix). It is harder to innovate in a mature enterprise. Risk-averse behaviors do not lend themselves to trying new ideas or new ways of operating. Self-satisfaction allows little cause for the reflection that precedes innovation, and fiscal pressures may offer easy excuses to maintain the status quo. The chapters in this volume nevertheless suggest that innovation can and does happen in higher education today.

Unfortunately, this may be a case of too little, too late. The 2006 National Report Card on Higher Education in the United States compares the performance of U.S. colleges and universities to one another and to their counterparts abroad. The bottom line, according to the authors of the report, is that "the current level of performance [in U.S. higher education] will fall short in a world being reshaped by the knowledge-based global economy" (National Center for Public Policy and Higher Education, 2006, p. 5). Completion rates have fallen to the point that the United States ranks in the bottom half (sixteenth among the twenty-seven countries considered) in the proportion of students who complete a college degree or certificate program. In fact, completion rates in Georgia, the best-performing state, fall below those in Japan, Portugal, the United Kingdom, Australia, Switzerland, and Denmark. In the same vein, the Spellings Report notes that "over the past decade, literacy among college graduates has actually declined" (U.S. Department of Education, 2006, p. vii). Not only have costs risen dramatically, but the performance of graduates appears to have declined.

The challenge is to motivate innovation in the mature enterprise that higher education has become. Programs such as the Baldrige Award and initiatives like UDL offer systematic ways to foster and encourage the development of new processes and programs. As presented in this volume, these programs are being implemented in mature institutions, and the institutions are noticing positive benefits.

In contrast, the Spellings Report demands innovation beyond the traditional scope of inputs and processes, finding that institutions must develop innovative ways to demonstrate learning outcomes and measure student performance and learning. In short, the U.S. Department of Education is urging the accreditation community to place greater emphasis on results. While new technologies can assist with the compilation, presentation, and assessment of data, innovation demands new data generated in novel ways that examines the institution from different perspectives. Institutions that have process-oriented programs in place, such as the ones discussed in these chapters, will be better positioned to find new ways of thinking about results.

Nicholas M. Donofrio (2006), executive vice president for innovation and technology at IBM, calls for collaboration—a collaboration of multiple

and diverse cultures—to break the malaise. He maintains that innovation has to be more multidisciplinary, with collaboration among experts from many different backgrounds. The effort must include experts and users and requires breaking down barriers and destroying the disciplinary and functional silos that have grown as institutions have matured. This has been demonstrated through the creation of Western Governors University.

Innovation and Cost Pressures

The following quotations paint a bleak picture of rising costs coupled with declining fiscal support for higher education, bringing into question the long-term viability of the current model of higher education funding:

> The Commission notes with concern the seemingly inexorable increase in college costs, which have outpaced inflation for the past two decades and have made affordability an ever-growing worry for students, families, and policymakers. Too many students are either discouraged from attending college by rising costs, or take on worrisome debt burdens in order to do so [U.S. Department of Education, 2006, p. 2].

> Education is supposed to be an equalizer. But with costs rising, students are trading down dreams of an Ivy League education for one at a state university, and from a state university to one at a community college. While all education will bear fruit, we are creating a bifurcated system in which the best education will go to those who can pay for it. Students of color and those of modest means will most likely be the ones left behind [Malveaux, 2006].

> External support for major academic innovation in colleges and universities has significantly decreased in the past decade. State and federal per capita funding has decreased, a number of major foundations have shifted their priorities away from higher education, and business and industry have changed their focus to supporting only those projects that are seen as having an immediate and positive beneficial impact on their bottom line [Diamond, 2006].

The chapters in this volume offer some potential solutions to these concerns. The model laid out by the founders of Western Governors University shows promise in the area of fiscal restraint. Similarly, Rio Salado College in Arizona has about thirty full-time faculty overseeing approximately a thousand adjuncts who teach the 46,800 for-credit students and 14,000 non-degree-seeking students. The question that must be asked of this model goes to the fundamental tenet of a university: the creation and dissemination of knowledge. While adjuncts can disseminate knowledge and assessments can measure students' performance, skills, and abilities, this new model offers little in the way to support traditional research, which is germane to the academy. At the time of this writing, the recipients of the 2006 Nobel prizes for chemistry, physics, and medicine had just been

named. They all are affiliated with U.S. universities. Some have claimed that the U.S. model of research better fosters discoveries like those made by the 2006 Nobel laureates. The tension between fiscal restraint and basic research will be difficult to address.

Universal design for learning has cost-based implications. Whether academic or cocurricular, programs that are designed using UDL principles are meant to be accessible and available to a broad and diverse audience. Rather than having to undergo costly redesigns or retrofitting after the fact, innovation that employs UDL from inception is inherently predisposed to be more inclusive and more accessible without being more costly. Of course, in mature institutions, faculty, administrators, and staff should continually look for ways to revise current processes to be more inclusive; it is likely that staff members—those closest to the end users—will have the most direct contact with the people who are most directly affected by the processes. Hence, it is vital that staff members, and everyone else who has close contact with users, feel that their suggestions for innovation will be heard.

IT innovations can support UDL and other new programs and initiatives. New technology typically comes with a higher price tag than administrators hope to see. However, the potential efficiency gains that can be realized with efficient and effective deployment can offset the initial expense and help achieve more attractive cost structures in the long term. These innovations must be managed to take advantage of the continuous refinements and improvement in the hardware and software itself while not being perpetually postponed awaiting the introduction of the next generation.

Institutions that have implemented formal processes to monitor operations and seek improvements, such as those that have participated in the Baldrige Award program, understand the simple steps required for continuous review: (1) examine a key process carefully and thoughtfully; (2) document the process to ensure that all parties have the same understanding of its operation and goals; (3) develop meaningful metrics to measure process outcomes in relation to its goals, and determine baseline measures; (4) look for ways to improve the process; (5) implement selected improvements; (6) compare measurements after the improvements with the baseline measures; (7) if the process shows improvement, document the changes; and (8) repeat the process. This continuous review process is not necessarily expensive, but it can be costly to ignore.

Innovation and Efficiency

"While students bear the immediate brunt of tuition increases, affordability is also a crucial policy dilemma for those who are asked to fund higher education, notably federal and state taxpayers. Even as institutional costs go up, state subsidies are decreasing and public concern about affordability may eventually contribute to an erosion of confidence in higher education. In our view, affordability is directly affected by a financing system that

provides limited incentives for colleges and universities to take aggressive steps to improve institutional efficiency and productivity" (U.S. Department of Education, 2006, p. 2).

Productivity is the ratio of outputs to inputs. The fundamental output of higher education is knowledge, whether it is new knowledge discovered through basic research conducted by faculty and students or the knowledge transferred from faculty to students and from faculty to society at large. As our knowledge base grows (that is, our numerator shows gains), the overall productivity ratio must increase if the cost of the inputs—facilities, faculty salaries, support staff, and ancillary programs—holds steady or declines (that is, the funding remains constant or drops). In short, institutions of higher education must exhibit productivity gains to survive in the current environment. Universities must continually seek ways to innovate and thereby deliver increased productivity through gains in operating efficiencies. Institutions have sought such improvements in several ways: outsourcing of ancillary services, developing consortia to support a broad variety of academic programs, using technology better, and matching inputs and outputs more closely.

The outsourcing of ancillary services is not necessarily innovative in today's environment. Typically universities have outsourced a wide variety of services, including food services, vending, bookstore operations, custodial services, maintenance services, and laundry services. In addition, facilities management and administrative services may be outsourced. Outsourcing of these ancillary services allows the institutions to focus on the primary functions of the creation and dissemination of knowledge, their core competency. As universities continue to look for ways to increase operating efficiencies, it is possible that more services will be outsourced. In a sense, that is what is happening at Western Governors University, where the assessment of existing knowledge, skills, and abilities has replaced classroom instruction to an extent.

Consortia are another means by which institutions of higher learning can outsource courses and degree programs. In areas where several universities are geographically close, schools may choose to focus most of their resources on a selected group of academic disciplines. If the schools work together, students may enroll in one institution and take the classes needed to fulfill academic requirements or personal inquiry from all the schools in the consortium. This system allows the participating schools to maintain more universal offerings without bearing the burden of fiscal support for diverse programs.

Technology now allows consortia to extend beyond traditional geographical boundaries. Not only can consortia benefit from technology, but with the judicious use of technological innovations, institutions can become more efficient while remaining responsive to environmental changes. The past twenty years have witnessed rapid changes in record keeping, ranging from degree audits and transcripts to course registration and the

payment of tuition and fees. This trend toward the increasing use of technology is making its presence known in the classroom, as evidenced by mandatory laptop computers for all students and the introduction of iPods to the curriculum. In order to realize a greater proportion of the potential benefits of new technology, it is vital that institutions reexamine their processes to make the most efficient and effective use of technology. In many cases, a class taught in the technology classroom is not much different from a class taught using a lectern and a chalkboard. If this is the case, then the technology has merely added bells and whistles at great cost. Faculty may have to reinvent themselves to make the most effective use of the available technologies.

Finally, a better matching of inputs and outputs will lead to greater efficiencies. At innovative institutions, this might mean that students access tutorials prior to enrolling in a course in order to achieve more homogeneous background preparation. Faculty can use technology to receive immediate feedback during a class meeting; this feedback will allow the faculty member to focus on areas in which the students exhibit the least understanding and not expend too much time or energy on topics where students demonstrate a greater depth of knowledge. A better matching of inputs and outputs might also mean better scheduling of extracurricular activities given student input using technology.

Final Thoughts

The challenges facing higher education today are both new and familiar. Flexibility, maturity, fiscal responsibility, and efficiency gains are not innovative in and of themselves. However, the shrinking world in which we live, which journalist Thomas Friedman (2006) refers to as the flat and highly interconnected world of the twenty-first century, brings new insight and urgency to these issues. Although a single volume cannot address every concern, the thought-provoking chapters here will provide an impetus for the next round of innovations in the areas of institutional processes, program design, the application of technology in many facets of an institution's operations, and curricular evolution. It is up to each of us to continue this conversation. If we do not, some of our foremost schools may not survive to see the dawn of the twenty-second century.

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