Chapter 23
The Near Future of Technology in Higher Education

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ABSTRACT

Higher education in the 21st century faces a multitude of internal and external challenges. From budget reductions, to globalization, to a new generation of students, the choices that faculty and administrators make about technology will be central to the future success of higher education systems. Technology serves as a tool that students, faculty, and administrators can use to foster innovation through effective and efficient means. For example, emerging technologies, such as those related to social networking and collaboration, enable students and faculty to work together to build new types of learning environments. On the other hand, technology is not the only solution to meet the challenges faced by higher education systems. Careful analyses of problems are necessary to identify appropriate solutions. For purposes of this chapter, best practices in educational technology and in technological integration and use to meet current and near future institutional goals of higher education are presented.

BACKGROUND

It is almost as if there is a "perfect storm" in higher education of the early 21st century. Universities and other post-secondary institutions face an uncertain future as they face challenges posed by internal and external factors. The promise of technology as

a supporter of that future is intricately intertwined with the higher education system; technology, itself, plays a critical role in the system from multiple perspectives. The juxtaposition of these factors and technology places higher educational institutions at an interesting crossroad.

In this chapter, the challenges faced by higher education institutions are explored, with particular focus on the consequences of budget reductions,

accountability, changing demographics, and innovations and uses of technology. A strategy for developing best practices is presented.

Challenges facing Higher Education. Hanna (2003) outlined 11 strategic challenges that higher education faces in the 21st century. The American Association of State Colleges and Universities (AASCU) State Relations and Policy Analysis Team (2010) reported 10 areas of concern that are confronting higher education. In these forecasts, a variety of factors were projected: internal factors included institutional operation, program quality and accountability, faculty and students; external factors included economic concerns, globalization, and competition from for-profit institutions. Globalization and competition from for-profit institutions specifically affect the structure and composition of the future higher education institution (Davidson-Shivers, 2002; Friedman, 2005). Budget concerns, especially at the state level have become a serious issue in 2010 (AASCU Team).

Similarly, issues were also identified in the *Chronicle of Higher Education* (*Chronicle*) on a regular basis in 2009. In a review of *Chronicle* 2009 issues, general trends in higher education regularly covered included:

- Reduced budgets,
- Pressures to increase efficiency, productivity, accountability, and effectiveness,
- Enrollment management, marketing for enhanced enrollments in others, with few increased resources for a number of years to come,
- Students diversity, including generations of students, and concern about underserved students,
- Entrepreneurship and social entrepreneurship,
- Rise of private and for-profit higher education organizations and globalization
- Examination of operations such as scheduling, quarters versus semesters, how student credit hours are generated, tenure, staffing,

- Community engagement and service, including building partnerships across broad sectors of the community, including business, other higher education organizations, non-profits, K-12 schools, government agencies, and even global community partners, and
- Tensions among research, teaching and service.

Two of the trends listed by the *Chronicle* have been occurring, not just in the current economic climate, but for several years: reduced budgets and funding shortfalls, and pressure for accountability and efficiency – an emphasis has been placed on developing a business model for higher education.

Reduced budgets impact higher educational institutions. Considering the recent downturn in the economy, changes to revenue sources of higher education institutions have become necessary. The recession of the early 21st century has placed unprecedented financial strains for most, if not all, U.S. colleges and universities. For example, Diel (2009) reported that Alabama colleges faced severe cuts in state funding and that further cuts in state funding were expected, following the model of other states. The University of Minnesota felt the effects of lack of state funding for the first time in 2009: for the first time tuition provided more revenue than did the state (About Campus, *Minnesota*, 2010). Programs are being eliminated, low-enrollment courses are not being offered, and other reductions in services are being observed in states including Florida, California, Nevada, and Oregon (Clark, K., 2009).

Additionally, the AASCU Team (2010) reported that state support of schools, overall, has been in decline, even before this "Great Recession" occurred. The AASCU Team stated that instead of being *state supported* institutions, universities are moving toward being *state assisted*. These reductions in state support require additional tuition payments from students or require institutions to reduce initiatives, programs or student support. As

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