


Chapter 71

Technology–Enabled Innovation for Academic Transformation in Higher Education

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ABSTRACT

This chapter examines the challenges facing U.S. higher education today and profiles universities that are spearheading academic transformation to address these challenges with emerging technology and media. Identifying five technology-powered innovation models (competency-based education, experiential education, student success-centered education, open education, and lifelong education), the author studies institutions that exemplify innovation, and shows how technology has enabled academic transformation that has changed the higher education landscape. These pioneering institutions provide successful models of academic transformation for the higher education industry.

INTRODUCTION

Higher education plays a key role in economic and societal development. The current knowledge-based global economy has a greater dependence on intellectual capabilities in information, knowledge, technology, cognitive skills, and soft skills than ever before. The demand for college-educated workforce is growing, and investing in higher education is increasingly recognized as a necessity for social mobility, competitiveness, prosperity, and well-being. The value of postsecondary education, however, raises both opportunities and challenges to institutions of higher education in the U.S.

Higher education confronts a bevy of challenges and issues at present – accessibility, affordability, accountability, equity, and relevance, along with the changing, diversified demographics of student population. Colleges and universities are at the crossroads of embracing change or staying stagnant. Digital technology, which has literally transformed almost every aspect of society, holds great potential to help address the issues that higher education is tackling. While higher education has a reputation

DOI: 10.4018/978-1-7998-8047-9.ch071

for resistance to change and being slow in response to technological advances, universities have a long tradition of experimentation. And many forward-thinking universities are exploring and experimenting with new ways to prepare learners in alignment with the needs of today's economy.

The purpose of this chapter is to identify emerging models of technology-enabled academic innovation to combat crises in higher education. By looking into institutions that are leading the charge in transforming the landscape of higher education, this chapter depicts how higher education is experimenting with new systems and models to transform student experiences, facilitate their success, and prepare them for the increasingly complex economy and the ever-changing world of work and society.

BACKGROUND

The American public's confidence in higher education has been declining. The most recent 2018 Gallup Annual Confidence in Institutions report reveals that U.S. adults' confidence level in higher education has dropped from 57% in 2015 to 48% in 2018, making it the largest drop over the past three years among the 16 core institutions in society (Jones, 2018). Exacerbating the public distrust of higher education, college students are questioning the value of their college education. Strada-Gallup College Student Survey (2017) showed that just 34% of students feel confident in the job market and 36% in the workplace, and only half (53%) believe their major will lead to a good job.

Among recent criticisms of higher education are rapidly rising tuition and mounting student debt. Beginning in the 1990s, the cost of a college degree has kept rising, steadily and rapidly, at nearly three times the inflation rate of other goods and services (Rossi, 2014). According to the College Board (2018), which has tracked college cost since 1971, the average cost of one year at a public four-year institution in 1987-88 was \$3,190 (in 2017 dollars); after 20 years, it has tripled to \$9,970 in 2017-18. Similarly, the average cost of one year at a non-profit private four-year institution is up sharply from \$15,160 in 1987-88 to \$34,740 in 2017-18. The rate of college cost rose faster than family incomes. In 1971, the average cost of one year college was 15.6% of the median household income, which did not necessarily lead to student loan debt for many families; in 2018, however, the cost takes up to 35.2% of a median household income (Comet, 2018). Consequently, more Americans are now burdened by student loan debt than ever - more than one in four American adults have active student loan. Following mortgage debt, college loan ranks the second highest consumer debt (Friedman, 2018).

In addition to rising college cost and mounting student loan debt, both the American public and the higher education industry are deeply concerned with the ominously low retention and graduation rates of college students and dismally stark race-related disparity in college retention and graduation. The most recent national report on college completion, conducted by the National Student Clearinghouse Research Center (2017), revealed that the overall six-year college completion rates of cohort 2010 was 54.8% and 56.9% for cohort 2012 in four-year public institutions. While these rates surpassed, for the first time, the pre-Great Recession rate of 52.9% of cohort 2008, the increase has been sluggish. When looking into the completion rates by race/ethnicity, Black (39.5%) and Hispanic (48.6%) students lagged far behind Asian (68.9%) and White (66.1%) in six-year completion rate for cohort 2011. Inversely, Black students had the highest dropout rate of 48%, followed by 36.8% for Hispanic students (National Student Clearinghouse Research Center, 2017).

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