Equity Online: Technological Efficacy and Satisfaction with Online Courses for Underserved and Underrepresented Students

Mita Banerjee, Sociology Department | University of Wisconsin - Parkside

Abstract

As the push to move course offerings online intensifies, how can educators minimize the impact of the digital divide and ensure equitable student success in an online environment? This study looks at the technological efficacy of students at a small public university that caters to underserved and underrepresented populations. Additionally, it explores course relevance and environmental factors that influence students to choose online courses. Survey data was collected from 535 students from various disciplines across campus. Students were grouped based on whether or not they had successfully completed an online course or never enrolled in an online course. Analysis indicates lower-income and Pell recipients had significantly lower technological efficacy scores, suggesting at least in part a socioeconomic dimension to the problem of the digital divide. Satisfaction and barriers related to online course completion were also investigated. This study should provide useful data for universities seeking to expand their online course offerings.

Introduction

- ❖ As the traditional pipeline of high school student population is stagnating or declining, many institutions of higher education are expanding their online course offerings to attract nontraditional students.
- ❖ A primary assumption underpinning the increase in online courses is that they increase educational access. However, access alone is not sufficient. What steps do institutions need to take to ensure student success?
- ❖ Some evidence suggests that, without adequate support, online learning may undercut progression among underserved and academically underprepared students.

UW – Parkside Student Profile

- ❖ **First generation - 55%; Pell Grant recipients - About 40%; Minority – About 35%; Nontraditional – Over 20%; Academically underprepared - About 70%**
- ❖ The most diverse campus in the state of WI serving a proportionately higher number of underrepresented, underserved, and academically underprepared students.
- ❖ Thus, the university's student demographics may serve as a prototype to study how online course delivery may affect access and success in higher education for such underserved and academically underprepared student populations.

Methodology

An email with an anonymous Qualtrics survey link was sent out to 2800 students from across disciplines who had successfully completed at least one semester at Parkside. The survey response rate was 19.1% (n = 535).

Research Questions

1. What are the personal characteristics of students who successfully completed an online course, enrolled but dropped an online course, or never enrolled in an online course in a small public Midwestern university that serve underrepresented and underserved population?
2. What are the technological efficacy levels of students who successfully completed an online course, enrolled but dropped an online course, or never enrolled in an online course?
3. What are the course relevant and environmental factors that influenced students to enroll in online courses in a small public Midwestern university that serve underrepresented and underserved population?
4. What are some pedagogical factors related to course satisfaction in an online environment?

Findings

- ❖ **Survey Respondent Profile** (n = 535)
  - **Age** - 71% were 24 years or younger
  - **Gender** - 69% female
  - **Race/Ethnicity** - 8% African American, 15%, Hispanic, 67% White, 5% Asian, Native American/Hawaiian/Multiracial – 4%
  - **Independent** - 43% based on Federal Income Tax guidelines
  - **Income** – 52% reported family income of $50,000 or less
  - **Workload** - 45% worked 20 + hours per week
  - **Pell Grant Recipient** - 46%
  - **First Generation** - 38%
  - **Transfer** - 37%
  - **Full Time** - 82%
- ❖ **Online Course Enrollment Statistics** (n = 535)
  - Successfully completed an online course – 233 (43.6%)
  - Enrolled but dropped an online course – 77 (14.4%)
  - Never enrolled in an online course – 225 (42%)
- ❖ **Mean Technological Efficacy Score Significance**
  - Successful completion of online courses (p =.000)
  - Pell Grant Status (p =.05)
  - Federal Income Tax Status – Independent vs. Dependent Students (p =.04)
  - Transfer Status (p =.01)
- ❖ **Course Relevance Factors Influencing Online Enrollment** (n = 310)
  - Requirement for major/minor – 220 (71%)
  - Personal interest/career goal related – 158 (51%)
  - Online was the only option – 99 (32%)
  - Online was the only option financial aid – 68 (22%)
  - Online was the only option to graduate in time – 64 (21%)

- ❖ **Environmental Factors Influencing Online Enrollment** (n = 310)
  - Ability to work and pursue education – 211 (68%)
  - Convenience of 24/7 access – 180 (58%)
  - Convenience of not going to campus – 137 (44%)
  - On campus courses did not fit my schedule – 97 (31%)
  - Ability to save on gas expenses – 61 (20%)
- ❖ **Mean Score of Pedagogical Factors Influencing Course Satisfaction** (n = 310), Min = 1, Max = 5
  - The instructor was available – 3.78
  - The instructor's presence was evident – 3.85
  - The instructor's feedback was helpful – 3.7
  - The instructor's feedback was timely –3.81
  - Felt encouraged to participate in discussions – 3.57
  - Online discussion forums were stimulating – 3.35
  - Easy to download course materials –3.99
  - Course layout was easy to follow – 3.83 (p =.05)
  - Lectures were easy to follow – 3.84 (p = .02)
  - Assignment instructions were easy to follow – 3.87
  - Exams/quizzes were easy to complete – 3.89
  - Easy to submit assignments – 4.2 (p =.08)
- ❖ **Barriers - Reasons for Withdrawing from an Online Course** (n = 77)
  - Course load was too high – 40 (52%)
  - Had difficulty navigating the course – 31 (40%)
  - Life got in the way – 25 (33%)
  - Prefer learning face to face – 17 (22%)
  - Instructor's presence and feedback was not evident – 16 (21%)

Conclusion

- Pell grant recipients and students who had dependent status according to federal income tax guidelines had lower technological efficacy scores. Over half of the students (52%) who reported dependent status, had family income less than $50,000, well below the federal median income.
- Almost two-thirds (68%) reported that online courses provided them the opportunity to honor job obligations while pursuing their education.
- Round the clock access (58%) and convenience of not having to disrupt family obligations (44%) were cited as the second and third largest reasons to pursue online education.
- Overall, online course completers had a high mean satisfaction score with their learning experiences.
- Those who dropped or withdrew from online courses, difficulty in course navigation (40%), and instructor unavailability and absence of timely feedback (21%) were the strongest reasons for discontinuation. However, that number was small.
- For a third of the participants, personal life circumstances posed a bigger challenge in successfully completing an online course.