Case Study

University of Mississippi (UM)

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everylearner everywhere

ASSOCIATION OF PUBLIC & LAND-GRANT UNIVERSITIES

Contents

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About the Supporting Organizations

Every Learner Everywhere is a network of twelve partner organizations with expertise in evaluating, implementing, scaling, and measuring the efficacy of education technologies, curriculum and course design strategies, teaching practices, and support services that personalize instruction for students in blended and online learning environments. Our mission is to help institutions use new technology to innovate teaching and learning, with the ultimate goal of improving learning outcomes for Black, Latinx, and Indigenous students, poverty-affected students, and first-generation students. Our collaborative work aims to advance equity in higher education centers on the transformation of postsecondary teaching and learning. We build capacity in colleges and universities to improve student outcomes with digital learning through direct technical assistance, timely resources and toolkits, and ongoing analysis of institution practices and market trends. For more information about Every Learner Everywhere and its collaborative approach to equitize higher education through digital learning, visit www.everylearnereverywhere.org.

Association of Public and Land-grant Universities (APLU) is a research, policy, and advocacy organization dedicated to strengthening and advancing the work of public universities in the U.S., Canada, and Mexico. With a membership of 244 public research universities, land-grant institutions, state university systems, and affiliated organizations, APLU's agenda is built on the three pillars of increasing degree completion and academic success, advancing scientific research, and expanding engagement. Annually, member campuses enroll 5 million undergraduates and 1.3 million graduate students, award 1.3 million degrees, employ 1.3 million faculty and staff, and conduct $49.2 billion in university-based research.

Introduction

University of Mississippi (UM) is ranked among the nation's fastest-growing institutions. U.S. News & World Report ranks the Professional MBA program at the University of Mississippi School of Business Administration in the top 50 among American public universities, and ranks the online MBA program in the top 25.

Adaptive courseware products have been instrumental in decreasing DFW rates (grades of D, F and Withdrawals) in courses where a consistent course coordinator is in place, along with assurance that instructors be included in the process of continuous change through feedback sessions, training, and course revisions. Achieving success in adopting and implementing adaptive courseware is especially important today as online education modalities surge and become increasingly more widespread due to the COVID-19 pandemic.

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- This case study from the University of Mississippi demonstrates an adaptive learning approach which emphasizes strong faculty support and buy-in and draws on valuable insights from student focus groups.

Key Takeaways

- Showing respect for a department's culture and honoring faculty autonomy are essential for enhancing buy-in

- Highlighting examples and recognizing success of other faculty members helps to maximize efforts overall

- Forming strong partnerships with vendors and other support groups, along with identifying high-impact uses of grant money, will help departments reach faculty development goals

- Taking into account insights derived from student focus groups, faculty members using adaptive courseware were advised to:

  - Be more fully aware of student cost considerations

  - Guarantee that alignment of learning objectives was related to lectures

  - Gain a keener understanding of how courseware works

About the School and Grant

The University of Mississippi (UM), a Public Research University with more than 23,000 students, is Mississippi's largest university, with nearly 50% of the student body from within the state. The student population is 76% white. Twenty-one percent of entering freshmen qualify for Pell grants and 18% of students identify as being members of underrepresented minorities.

The University of Mississippi was awarded the Accelerating Adoption of Adaptive Courseware Grant in 2016 to scale the use of adaptive and other innovative technologies in order to improve student success in general education courses. The grant is administered by the Personalized Learning Consortium at the Association of Public and Land-grant Universities (APLU) and is generously funded by the Bill & Melinda Gates Foundation.

Adaptive courseware technologies are powerful but must be coupled with other critical course pedagogical changes.

Substantial faculty training in how to effectively utilize adaptive **analytics data** from student assessment outcomes is required, and faculty must also learn **active learning pedagogy.** Both approaches are crucial for achieving improved student pass rates.

Adaptive courseware can provide keen insights into student learning regardless of where that learning takes place. Online, blended, and face-to-face teaching and learning environments can all be enhanced through the adoption and implementation of adaptive technologies.

The overriding goal is to meet and engage with student learning where they are.

Goal

The APLU grant established a partnership with the University of Mississippi Center for Excellence in Teaching and Learning (CETL) and a College of Liberal Arts initiative called the Personalized Learning and Adaptive Teaching Opportunities Program (PLATO). The program uses adaptive and interactive lessons to personally engage students in classes such as biology, chemistry, writing and rhetoric, and mathematics, all of which generally have high enrollment. In July 2019, PLATO folded into the office of Academic Innovation.

The office provides faculty development opportunities, including faculty stipends, hands-on workshops, communities of practice, webinars, and conferences. They recruited faculty teams comprised of two to four members per team who were each awarded generous stipends. These early adopters came from the same department and taught identical general education, high-enrollment courses. They were asked to work with APLU to review suppliers, choose adaptive courseware that fit their courses, and scale the use of adaptive courseware so that at least 50% of students who took a particular course were doing so using adaptive technology during any given semester.

Approach

There were several requirements for faculty participating to ensure there was a baseline of participation. Most importantly, they were asked to integrate courseware as the primary delivery source of course content, practice, and review. In addition, they had to have students complete post-semester surveys (distributed by PLATO) regarding the use of adaptive courseware, report up to PLATO on student success rates, and include collaborative problem-based and/or active learning in their classes. They were also asked to use the instructor dashboard to track student progress and intervene when students were falling behind, and use data analytics to review content areas and assessment questions that were giving students trouble.

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Early adopters fit at least one of the following categories:

- **They had worked with vendors in building or customizing adaptive courseware for their classes.**

- **They had been involved in previous APLU adaptive courseware grants.**

- **They had experience as beta-testers for adaptive learning platforms associated with textbook publishers such as Pearson and McGraw-Hill (O'Sullivan 2018).**

Relationship-building with department chairs, along with recognizing adaptive learning's promise to improve DFW rates, brought about increased buy-in by faculty members.

In 2016, the project originally identified nine courses that enrolled relatively large percentages of Pell-eligible students and had comparatively low retention rates to be redesigned using adaptive courseware. The implementation has since grown to 25 redesigned courses and has created a strong association with recognized campus leaders in teaching innovation.

A total of 81 sections implemented adaptive courseware through the APLU grant during the Fall 2016 semester. The implementation rate increased to 303 sections by the Fall 2019 semester.

The 25 courses in the following disciplines have been successfully redesigned and implemented through the utilization of 10 different adaptive courseware providers:

Discipline	# of Courses	Adaptive Courseware Providers
Mathematics	6	Pearson My Lab, Hawkes Learning, McGraw-Hill Education ALEKS
Biology	6	McGraw-Hill Education LearnSmart, Macmillan Learning Curves, Pearson MyLab & Mastering with Adaptive Practice
Chemistry	6	Pearson MyLab & Mastering with Adaptive Practice, Wiley Plus with ORION Snapwiz
English Composition	2	Lumen Waymaker
Accountancy	2	Cengage Learning Mindtap
Engineering	1	Smart Sparrow
Pharmacy	1	Realizeit
Business	1	McGraw-Hill Education LearnSmart

"Early in the process of trying to gain faculty buy-in, it became apparent that instructor-ranked faculty [as opposed to tenured faculty] were far more interested in piloting sections with adaptive courseware." Additionally, "within departments, course directors were instrumental in gaining buyin from instructors and arranging course-specific vendor training. Several course directors have taken on the role of in-house trainer in the use of the adaptive features of courseware, while others are more comfortable leaving all training matters to vendor representatives" (O'Sullivan 2018).

Using lessons learned from a previous attempt at piloting adaptive courseware with the APLU, the Department of Writing & Rhetoric applied mini modules to their first-year Writing 101 and 102 courses with Lumen Learning's Waymaker courseware. These modules featured foundational rhetorical knowledge and skills without adding to in-class lecture time. Surveys revealed that 69% of students felt that this courseware adoption helped improve their success with major writing projects. After completing a 1000-student pilot, Waymaker is now utilized across all sections of first-year composition. In 2018, the adaptive learning team leading this effort was awarded a Digital Learning Innovation Award from the Online Learning Consortium (Lumen 2019).

Relevant Findings

Sixteen student focus groups were managed by the University of Mississippi program manager in order to gain important insights about adaptive learning implementations. The survey results revealed an informative variety of challenges related to effectively implementing an adaptive learning system.

What Do Students Think?

Students identified which courseware features were most and least useful to them:

Three MOST useful courseware features	Three LEAST useful courseware features (as identified by students)
1. Multiple attempts at quizzes 2. Homework practice 3. Instant feedback and viewing solutions to problem sets	1. Encouraging messages from the system 2. Links to learn more about a given topic 3. Metacognition (checking in with students self-assessment)

Students responded to a question regarding how they thought courseware impacted their final grades:

- 42% believed courseware had no effect on their final grades.

- 46% believed courseware had a positive effect on their final grades.

- 48% of minority students believed that courseware had a positive effect on their final grades.

Other insights gained from student focus groups included the following:

- Students are frustrated by a **misalignment of courseware** with course lectures and assessments.

- Students find the courseware to be helpful in learning and in course completion because of features that provide **student autonomy.**

- Students do not believe that the courseware itself is adaptive. **It is the student or instructor who are adaptive**, not the software or the machine.

- Students want **better purchasing options and guidance** for courseware.

- Students are looking for just-in-time resources.

Based on student survey data, faculty members using adaptive courseware were advised to be more fully aware of student cost considerations, guarantee that alignment of learning objectives was related to lectures, and gain a keener understanding of how courseware works.

Three Faculty-oriented Lessons Learned

There were also many valuable lessons learned from the experience of faculty members throughout the first year of implementation:

- Showing respect for a department's culture and honoring faculty autonomy are essential for enhancing buy-in for any adaptive learning initiatives.

- Highlighting examples and recognizing success of other faculty members, rather than providing evidence-based pitches about teaching and administrative change management Initiatives, helps to maximize efforts overall.

- Forming strong partnerships with vendors and other support groups, along with identifying high-impact uses of grant money, will help departments reach faculty development goals (O'Sullivan 2018).

It has also been noted that learning analytics fail when reports are not easy to generate, when data is not always actionable or useful, when faculty members resist last-minute changes to teaching plans, and when faculty members resist individual student interventions.

Five Key Findings

Through its participation in the grant, the University of Mississippi learned the following valuable lessons:

- **Courseware needs to solve a problem.**

- **Courseware implementation needs to be tied to course redesign.**

- **Course redesign should be collaborative.**

- **Implementation needs to be tied to research.**

- **For students it's not cost, it's value.**

References and Notes

Lumen (2019) "Addressing College Readiness Gaps in First-Year Composition." Available at https://lumenlearning.com/university-of-mississippi/.

O'Sullivan, Patti (2018) "APLU Adaptive Courseware Grant, A Case Study: Implementation at the University Of Mississippi," Current Issues in Emerging eLearning: Vol. 5: Iss. 1, Article 5. Available at: https://scholarworks.umb.edu/ciee/vol5/iss1/5.