EVALUATING THE IMPACT OF DIGITAL COURSE MANAGEMENT ON PROFESSORS' INSTRUCTIONAL EFFICACY AND STUDENTS' ACADEMIC PERFORMANCE

Lauren Beitelspacher, Portland State University

Donielle Xu, McGraw Hill Education

Faculty and administration at higher education institutions have long understood the need to engage students in their coursework inside and outside of lecture halls because of the multiple benefits that student engagement brings. Instructors want students to fully understand the course material; come to class well prepared, ready to learn and discuss more advanced topics of study; improve their academic performance and, in turn, increase their long-term retention at the institution and their ability to succeed post-graduation. In today's digital era, engagement necessarily means connecting students, faculty and the coursework in a digitally interactive, real-time, full-circle way that extends beyond the physical and virtual classrooms.

Instructor impact: More effective teaching

Digital teaching and learning platforms, like McGraw-Hill's Connect, are being implemented to increase teaching and learning effectiveness in thousands of colleges and universities throughout the country. In order to determine Connect's effectiveness in these areas, data were aggregated and analyzed from 18 case studies featuring diverse colleges and universities in the United States. The resulting analysis outlines the benefits of Connect and highlights how instructors and students alike have experienced improvements in grades and class averages, student engagement, time management, in-class discussions and lectures, and overall satisfaction with the course and coursework.

Summation of Findings:

Throughout this analysis four major areas of improvement were consistently identified:
1. Reduction in administrative time for instructors;
2. Increase in effectiveness of lectures and engagement of students;
3. Rise in student confidence and retention rates; and
4. Improvement in test scores and overall grades.

In all 18 case studies, instructors reported that using Connect improved students' overall performance. This was exemplified through increased engagement, improvement in test scores and course grades, attendance, and/or retention rates. A majority of the case studies showed

an average grade increase of more than five points, often equal to half a letter grade. In addition, several of the studies highlighted an average increase of student retention rates by nearly 23%.

How Digital Resources Benefit Instructors

Overall, digital assignment and assessment platforms like Connect allow instructors to be more efficient and effective both in and out of the classroom. Connect guides students through the course material which ultimately helps them come to class well prepared and ready to engage in thoughtful discussions for more meaningful and higher level learning. Once the course outline and coinciding materials have been created using the Connect platform, time spent refining and grading class assignments and tests is reduced to a fraction. Connect also gives instructors the ability to track their students' progress and concept comprehension throughout the semester, allowing them to adapt lectures accordingly and provide additional support to those students who exhibit greater need. With Connect, instructors no longer lose valuable lecture time to the extensive review of homework or the administration of quizzes and in many cases even tests.

Reducing Administrative Time

Because Connect automatically grades students' assignments, providing students with immediate feedback, instructors are no longer burdened by these administrative tasks, and can focus almost exclusively on teaching. Over half the case studies performed highlight the marked reduction in time spent grading. Instructors use this additional time preparing and refining lessons, spending one-on-one time with students, covering more key concepts and critical material in class, and bringing in current, real-time events and topics.

Creating More Effective Lectures

While instructors no longer need to grade assignments, they can still track their students' comprehension and progress both individually and collectively. Connect's robust reporting functionality allows instructors to see which concepts their students have mastered and where they lack understanding and/or confidence. This enables instructors to adjust lecture content accordingly in order to be more effective in class.

Not only does Connect empower instructors to craft more meaningful lectures based on data, it also helps students fully engage in the course material thus allowing them to come to class better prepared.

How Connect Benefits Students

Connect offers students a variety of features and tools in order to support and aid them throughout the learning process. Connect acts as a virtual study partner through adaptive learning tools such as LearnSmart that provide students with individualized instruction while giving them access to recorded class lectures through Tegrity and a fully interactive McGraw-Hill e-book. Connect allows students to learn at their own pace and on their own schedule. It's easy to see why so many students using Connect feel more confident with class material and have improved their grades. In fact, 16 of the 18 case studies highlighted a marked improvement in students' overall grades and test scores.

Increasing Students' Confidence and Retention

Learning new concepts can be challenging and when students are uncertain in their work, it can inhibit full participation in class and limit their learning potential. Greater confidence in course material coupled with access to a variety of learning tools, such as LearnSmart and Tegrity lecture capture, has proven to increase student retention rates. By creating a platform that builds student confidence, engagement, and retention, the end result is a more connected student, often producing a higher scoring student.

Conclusion

By creating a digital connection between students, instructors, and the course, McGraw-Hill's Connect digital learning platform has proven to improve teacher and student performance across a variety of metrics. Because Connect provides tools to reduce administration time, instructors focus on creating engaging lectures and leading in-depth discussions, covering more advanced content throughout a course. When instructors have access to real-time data they modify their teaching methodologies for each class, which has shown to improve students' academic performance and concept retention. Students are able to stay connected to the course and get real-time feedback while they're learning, allowing them to be better prepared for higher level learning in and outside of the classroom. Based on this aggregation of data from a cross-section of higher education institutions, it's clear that digital learning platforms like McGraw-Hill's Connect increase teaching productivity and learning outcomes for instructors and students, which will ultimately lead to institution-wide improvements such as increasing graduation rates and post-graduate success of students.

Methodology

The performance data described in this study is based on case studies conducted by instructors from 18 different institutions of higher education independently from one another. Professors measured the effect of Connect on a set of performance indicators such as student engagement, student performance, student retention, or instructor efficiency based on measurable metrics such as grades, pass rates, retention rates, time spent on activities, and attendance rates. Control and test groups were determined according to context. In some cases, performance metrics were recorded simultaneously between two groups of the same class, one using Connect while the other did not. In other cases, professors recorded the differences between the same course before and after implementing Connect. While each professor had control over what to focus the case study on, and on how to define control and test groups, the methodology for computing performance metrics was consistent across the board.