

MyLab MIS and MyLab IT educator study examines quiz and exam scores at University of North Colorado

Key Findings

- 55% of students with MyLab quiz scores above average showed mastery of course content by earning an average exam grade of A/B/C, while just 10% of students with MyLab quiz scores below average similarly earned an A/B/C average exam grade.
- Data indicate that successful completion of MyLab IT Access Grader Projects was indicative of higher average MyLab Access exam scores.
- 90% of survey respondents agreed that their understanding of the MIS course material increased as a result of using MyLab MIS.

Study Specifics

School name: University of North Colorado, Greeley, CO
Course name: Information Systems
Course format: Face to face
Course materials: MyLab MIS for *Using MIS* by Kroenke and Boyle and MyLab IT for *Go!* by Gaskin

Timeframe: Spring 2018
Educator: Chris Vegter, Director of Academic Technology and Information Resources
Results reported by: Candace Cooney, Pearson Customer Outcomes Analytics Manager

Setting

- Locale: large, suburban, public, four-year university in northern Colorado, 50 miles northeast of Denver
- Enrollment: more than 12,000 students
- Freshman retention rate: 72%
- Six-year graduation rate: 50%
- Ethnicity: 61% Caucasian, 17% Hispanic, 3% African American, 2% Asian, 17% Other

About the Course

Chris Vegter has been teaching at University of North Colorado for approximately 10 years. Information Systems is a one-semester, three-credit, junior- and senior-level course enrolling approximately 200 students per year, required of students with a business major or minor and software engineering majors. The course is a combination of theoretical concepts of Management Information Systems (MIS) and practical application of Microsoft Office Excel and Access.

Challenges and Goals

Vegter believes students should be responsible for their own learning, including reading the textbook prior to lecture and attending class prepared to participate. Seeking a potential course solution, he adopted MyLab™ MIS and MyLab IT as an optional course component in Fall 2016 to hold students accountable for reading and understanding basic course concepts prior to attending class. However, students continued to attend class regularly without reading or interacting with the chapter material, so in Fall 2017, MyLab became a required component of the course.

The MyLab standalone access code with eText presents an affordable option to print textbooks, although students always have the option to purchase a print book as a companion for the online learning experience in

MyLab. Most students in Vegter's class, however, chose to only purchase access to MyLab. On an end-of-semester survey of his students (53% response rate), 81% (17 of 21 students) chose not to purchase a print textbook for either the MIS or IT portion of the course.

Implementation

Students use MyLab for understanding content, homework assignments, and quizzing. Vegter estimates that students will spend about 2–3 hours per week on MyLab assignments, more if they use the eText, which many do. On the student survey, 57% of respondents indicated they spent 2–3 hours working in the MyLabs each week, and 19% of students said they spent more than three hours in the program each week.

MyLab MIS assignments

[Dynamic Study Modules \(DSM\)](#) are questions that continuously assess student performance and activity, using data and analytics to provide personalized feedback in real time and reinforce concepts that target a student's strengths and weaknesses. These questions provide a balance of questioning, application, and feedback giving students a strong understanding of the chapter concepts. Students complete the DSM continually throughout the week, but their final submission is due by 4 p.m. Friday. On the student survey, respondents shared the following:

- 95% agreed that the test-review-retest pattern of the DSM helped them to learn and remember key chapter concepts.
- 72% agreed that the use of confidence intervals when answering the DSM (*I am sure, I am partially sure, I don't know yet*) helped them identify chapter content they still needed to focus on.

Asked how the DSM supported their learning, students stated:

- *"They make you fully grasp the concept when they ask the question in a different way."*
- *"They gave good explanations for the questions I answered incorrectly."*
- *"They gave me the chance to learn the material other than by reading the book."*

MyLab MIS quizzes are assigned weekly, each comprised of 12 multiple-choice and three true/false questions. Students have nine minutes and one attempt for completion. The lowest score is dropped before recording the final quiz score in the gradebook. The course is delivered in a dual-monitor lab, so students have access to the eText during the quizzes.

MyLab IT assignments

Although students complete a 100 level Microsoft Office course covering concepts and applications before the Information Systems course, Excel is covered more in-depth in Vegter's course. Because students have baseline knowledge of Excel, Vegter can now spend more time applying the program to business challenges. Access was actually removed from the 100 level course and added to Vegter's course so students have greater recall of the program as they move toward real-world employment. On the student survey, 95% of respondents agreed that their ability to successfully use Excel and Access increased as a result of using MyLab IT.

MyLab IT Simulation Training assignments provide an authentic learning experience with realistic skill-based training and assessment, and are completed prior to attending lecture. Learning aids include Read (instructions), Watch (video) and Practice, offering students help when needed. 95% of survey respondents said they always or usually benefited from the learning aids when unable to start or complete a Simulation Training assignment.

Live-in-the-application MyLab IT Grader Projects mirror the actual Microsoft environment students will use in the real world. Two types of Grader Projects are assigned:

- Walkthrough Grader Projects: Students have three attempts at completion, and the projects are recorded so students can view and review them as needed. These are completed in class with Vegter roaming the lab, offering assistance when needed. Students complete a total of nine Walkthrough Grader Projects. Students may leave when their project is completed, but many students remain to begin completion of the Challenge Grader Project.
- Challenge Grader Projects: Also known as Capstone Grader Projects in MyLab IT, students have one week and two attempts for completion of these summative assignments. Students complete a total of nine Challenge Grader Projects.

Exams

Online exams are given in two parts: day one covers MIS content and day two covers Excel or Access content. Day one of the midterm exam is comprised of 50 multiple-choice and five short-answer questions which are randomized, and students have 75 minutes for completion. Questions are chosen from the test bank and are generally more comprehensive and scenario based. On day two, students have 75 minutes to complete a comprehensive Grader Project. The final exam is comprised of 50 multiple-choice questions and a comprehensive Grader Project assignment, and students have 2.5 hours for completion. [LanSchool](#) is used as a lockdown browser during exams.

Assessments

- 35.5% Exams (2)
- 33.5% MyLab IT assignments: 9 Simulation Trainings; 18 Grader Projects)
- 21% MyLab MIS assignments (13 DSM; 13 quizzes)

Results and Data

As the core MyLab MIS homework assignment, the Dynamic Study Modules allowed students to review and retest chapter concepts repeatedly, while the MyLab quizzes (one attempt at completion and timed) offered a more challenging bridge between the formative nature of the DSM and the summative exams. Consequently, quizzes and exams for the MIS portion of the course were difficult, with students earning an average exam score of 64% and an average quiz score of 70%. Figure 1 looks at the exam success rate, defined as earning an A, B, or C exam average based on average MyLab quiz scores:

- 55% of students with MyLab quiz scores above average showed mastery of chapter content by earning an average exam grade of A/B/C.
- 10% of students with MyLab quiz scores below average similarly earned an A/B/C, while 90% earned a D or F average exam grade.

Average MyLab score and student success

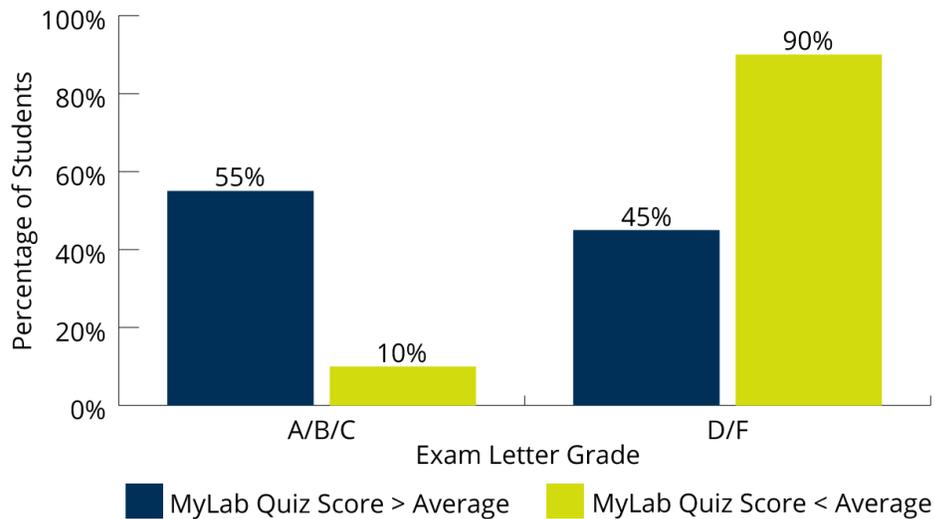


Figure 1. Exam Success Rates Based on Average MyLab Quiz Score, Spring 2018 ($n=40$)

Grouping students based on the average score of 12 Access Grader Projects identifies that students scoring above average on Access Grader Project assignments earned average Access exam scores five percentage points higher than students who scored below average on Access Grader Project assignments (figure 2). Results of a t -test, which compares the mean of both groups of students, confirms that the results are repeatable and not random, where $t(55)=4.89$ and p -value $<.001$, indicating statistical significance. This analysis does not apply to Excel because no Excel exams are administered.

Average Access Grader Project score and average Access exam score

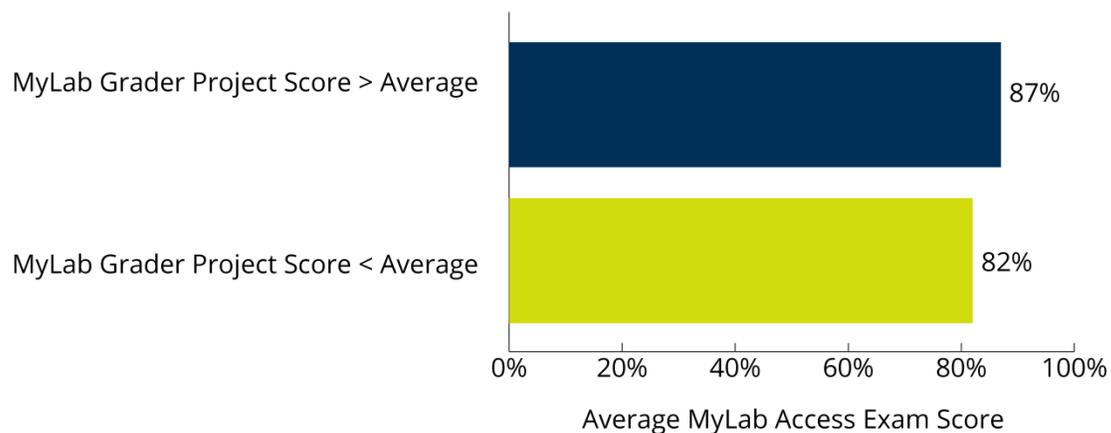


Figure 2. Relationship between Average MyLab Grader Project Score and Average MyLab Exam Score, Spring 2018 ($n=40$)

The Student Experience

Responses from the end-of-semester MyLab MIS and MyLab IT survey of Vegter's students indicate that the majority of responding students recognize the value of MyLab:

- 90% of respondents agreed that their understanding of the MIS course material increased as a result of using MyLab MIS.
- 95% of respondents agreed that the test-review-retest pattern of the Dynamic Study Modules in MyLab MIS helped them learn and remember chapter concepts.
- 95% of respondents agreed that their ability to successfully use Excel and Access increased as a result of using MyLab IT.
- 86% of respondents agreed that the use of MyLab MIS positively impacted their exam scores.
- 86% of respondents agreed they would recommend the use of MyLab to other students.
- 95% of respondents agreed that the resources in both MyLab MIS and MyLab IT made them a good value for the course.

Student comments when asked, “What were the benefits of MyLab?” include:

- *“MyLab gave me a lot of experience and practice using the Microsoft Office programs. I felt prepared and knew what I was doing when I completed my graded assignments.”*
- *“The training simulations gave me the opportunity to apply the skills discussed in the chapters.”*
- *“MyLab was very helpful in getting me to learn the material and get familiar with Microsoft Office.”*
- *“This is the best and most efficient way to learn the material and prepare for exams.”*

Conclusion

Vegter hoped to hold students accountable for their own learning, which includes being prepared by reading the textbook prior to lecture and participating during class. Use of MyLab as an optional course component after initially being adopted did not necessarily achieve those goals, but required implementation of MyLab appears successful — students overwhelmingly confirmed that their understanding of the course content increased as a result of using MyLab MIS and MyLab IT, and data indicate that students with above average MIS quiz scores and MyLab IT Grader Project scores also earned higher average exam scores.