

MyLab Accounting educator study examines quiz and exam scores at Spokane Community College

<p>School name Spokane Community College, Spokane, WA</p> <p>Course name Principles of Accounting I</p> <p>Course format Online</p> <p>Course materials MyLab Accounting with <i>Financial Accounting</i> by Kemp and Waybright</p>	<p>Timeframe Fall 2017</p> <p>Educator Rick Street, Instructor</p> <p>Results reported by Candace Cooney, Pearson Customer Outcomes Analytics Manager</p>
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Key Findings

- Data show a strong correlation between average MyLab homework scores and average MyLab quiz scores.
- Students earning MyLab quiz scores above average had average exam scores 16 percentage points higher than students earning below average MyLab quiz scores.
- 100 percent of respondents on the student survey agreed that the Dynamic Study Modules pattern of test-learn-retest helped them retain information about important chapter concepts.

Setting

- Locale: large, public, urban, two-year college located in eastern Washington, matriculating on a quarter system.
- Enrollment: more than 6,000 students
- Full-time retention rate: 52 percent
- Graduation rate (three year): 26 percent
- Full-time, first-time students: 12 percent
- Student-faculty ratio: 18:1
- Age: 53 percent of students are 25 years or older

- Gender: 52 percent female
- Ethnicity: Caucasian – 69 percent; Hispanic – 5 percent; African American – 2 percent; Other – 24 percent

About the Course

Rick Street has been teaching for approximately 17 years and has been at Spokane Community College for 14 years. Principles of Accounting I is a five-credit, one-quarter course that is the first semester of a two-semester sequence, enrolling approximately 200 students per year. The course is required of business students, and is transferable to all four-year Washington state universities.

Principles of Accounting I teaches basic principles of accounting theory and practices currently used in accounting information systems. The processes of analyzing, journalizing, and posting are covered in depth, as well as adjusting accounts and preparing financial statements, and completing the accounting cycle. Deferrals, accruals, accounting for merchandise inventory, cash, and receivables are also covered.

Challenges and Goals

MyLab™ Accounting was originally adopted in 2007 to hold students accountable for their own homework progress — too many students were falling behind. However, when the department was tasked with creating an online course, MyLab offered additional benefits, as the fully prepared assignments and assessments would mirror the experience of students in the face-to-face course. Because online students often work at individually convenient times, a flexible testing schedule was important, and MyLab also allowed for this. Finally, auto-graded homework in MyLab offered Street the option to assign more practice opportunities to help students improve their understanding and exam scores.

Student feedback on end-of-year course evaluations may be a consideration for many instructors as they integrate technology. Prior to adopting MyLab, Street believed students would find the assets in the program valuable and would review the course accordingly. While some students over the years have objected to the use of an online homework program, Street's course evaluations about MyLab are very positive overall. In fact, on a Fall 2017 end-of-semester survey of Street's students (83 percent response rate), 100 percent of respondents said they would recommend use of MyLab Accounting to another student.

Implementation

Street's online course is a combination of virtual, lecture-replacement lessons and MyLab assignments. MyLab Accounting is required; the program is used primarily by students working at home on a personal computer. Students use MyLab for understanding content, homework assignments, and assessments. Street's goal in assigning MyLab homework is to provide students with sufficient exposure to quantitative material necessary to prepare for tests and to provide adequate practice opportunities. He believes that the real learning occurs during this practice and anticipates that students will spend about three hours per week using MyLab and its resources. On the student survey, 37 percent of respondents said they spent 3–4 hours in MyLab, while 47 percent

spent more than four hours in the program. MyLab instruction consists of the following assignments and assessments:

MyLab DemoDocs: Students are encouraged to read the textbook chapter and then review the DemoDocs, which are video presentations of fully worked-out problems. DemoDocs must be reviewed before attempting Homework Assignment 1 and can be replayed at any time. On the student survey, 63 percent of respondents said the DemoDocs helped them track their mistakes and confirmed that they understood how to complete the problem.

MyLab Homework Assignment 1: Homework 1 consists of algorithmic problems, allowing students to work through similar problems repeatedly until they master the concept. This assignment is where learning takes place, so students have unlimited attempts and learning aids are turned on. Learning aids offer students just-in-time support while providing helpful feedback when students enter incorrect answers. On the student survey, 79 percent of respondents indicated that they always or usually enable the learning aids when unable to start or complete a homework problem. This assignment is due three days prior to the MyLab chapter quiz; students may continue to work the assignment after the due date, incurring a 10 percent deduction for late work.

MyLab Homework Assignment 2: Homework 2 is comprised of five multi-part problems. Students may use Check My Work up to three times for each part of the problem, but only have one attempt at completion of the full problem. Prior to attempting Homework 2, students must earn at least 25 percent on Homework 1. On the student survey, 95 percent of respondents strongly agreed or agreed that the MyLab homework assignments positively impacted their quiz and exam scores.

Dynamic Study Modules: As a prerequisite to taking the MyLab chapter quiz, students must earn at least 80 percent on the [Dynamic Study Modules](#) (DSM). DSM are questions that continuously assess student performance and activity, using data and analytics to provide personalized feedback in real time, to reinforce concepts that target a student's strengths and weaknesses. The Dynamic Study Modules give Street's students additional practice in the content areas where they struggle the most. On the student survey, 100 percent of respondents strongly agreed or agreed that the test-learn-retest pattern of the DSM helped them retain important information about chapter concepts. One student comment was representative of many: *"The Dynamic Study Modules were very beneficial in helping me learn and make sure I understood information before completing the test."*

MyLab quizzes: Quizzes in MyLab are similar to the homework assignments, and are comprised of 15 multiple-choice questions and two problems. Learning aids are turned off. This helps bridge the gap between homework assignments, which are more quantitative problem-solving, and exams, which are generally multiple-choice. Students have one attempt and 60 minutes for completion, and must finish the quiz once it has been opened.

Additional course assessments: Students complete a midterm and final exam in MyLab, which is proctored and administered at the campus Media Center. Both exams are comprised of 50 multiple-choice questions, and the final exam is cumulative.

Assessments

- 28% MyLab quizzes
- 25% MyLab final exam
- 20% MyLab midterm exam
- 20% MyLab homework 2
- 7% MyLab homework 1

Results and Data

Figure 1 is a correlation graph; correlations do not imply causation but instead measure the strength of a relationship between two variables, where r is the correlation coefficient. The closer the r -value is to 1.0, the stronger the correlation. The corresponding p -value measures the statistical significance/strength of this evidence (the correlation), where a p -value $<.05$ shows the existence of a positive correlation between these two variables.

- A strong positive correlation exists between average MyLab homework scores and average MyLab quiz scores, where $r=.69$ and $p<.001$.

For students, the formative MyLab assignments are intended to help them identify where they are in terms of successfully completing the summative quizzes and exams. Street believes that the MyLab assets do have a positive impact on quiz and exam scores, noting that retention is high in his online sections.

Correlation between average MyLab homework score and average MyLab quiz score

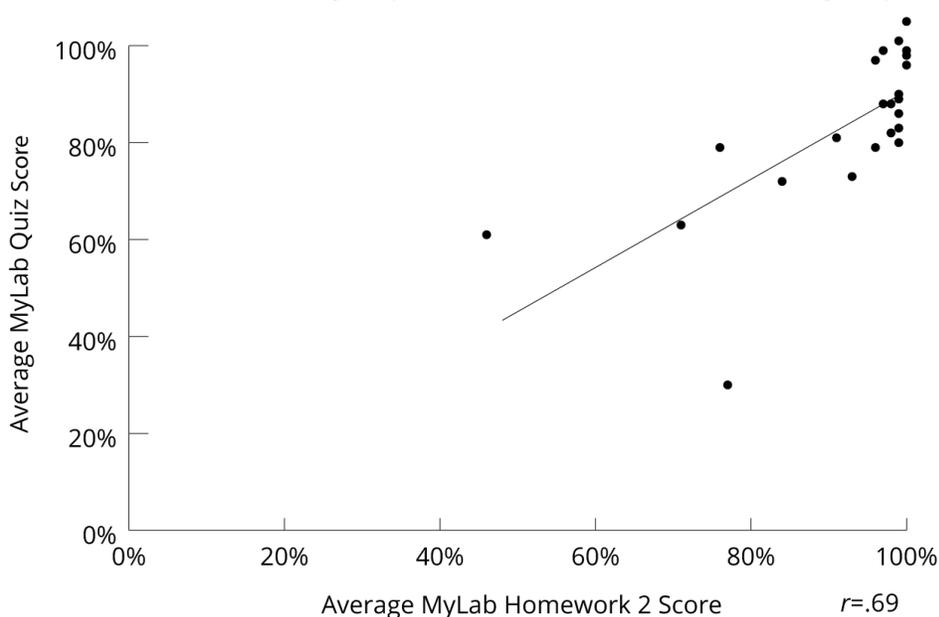


Figure 1. Correlation between Average MyLab Homework Score and Average Exam Score, Fall 2017 ($n=23$)

Students were divided into two groups based on their average MyLab quiz score. Data show that students who earned above average MyLab quiz scores had average exam scores 16 percentage points higher than students who scored below average (figure 3).

Average MyLab exam scores as related to MyLab quiz scores

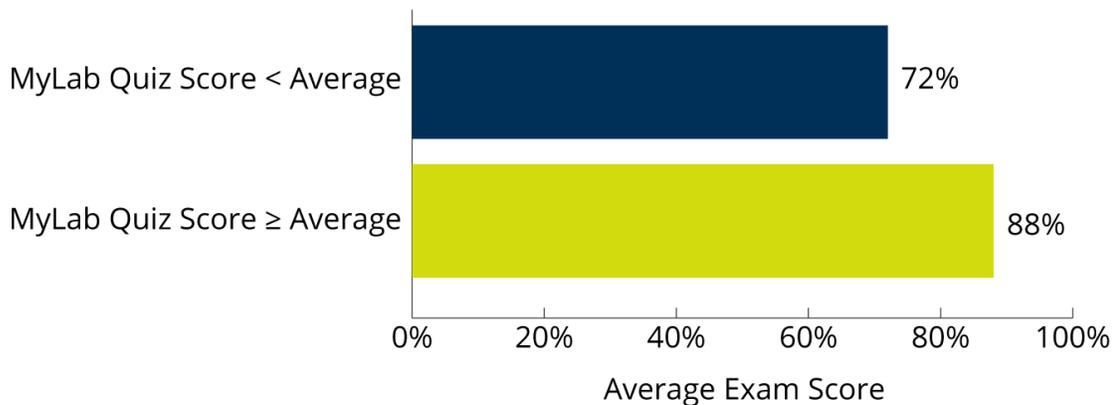


Figure 2. Average MyLab Exam Score for Students Scoring Above and Below the Average MyLab Quiz Score, Fall 2017 (n=23)

The Student Experience

Responses from the Fall 2017 end-of-semester survey of Street's students indicate that the majority of responding students recognize the value of MyLab Accounting.

- 95 percent of respondents strongly agreed or agreed that MyLab provided additional resources that helped them learn more than they would have from traditional paper and pencil homework.
- 89 percent of respondents strongly agreed or agreed that their understanding of the course material increased as a result of using MyLab.
- 95 percent of respondents strongly agreed or agreed that MyLab homework assignments positively impacted their quiz and exam scores.
- 100 percent of respondents strongly agreed or agreed that they would recommend MyLab to another student.

Students responses to the question, "What were the benefits of MyLab?" include:

- *"I am a hands on learner, and the MyLab helped me tremendously. It helped me retain information faster and more efficiently."*
- *"I believe that even though the homework assignments seemed to take a long time, they helped me study the material I had read, and put that information to practice."*
- *"The format of the homework assignments was similar if not the same as the format for the quizzes, which allowed me to focus on showing my mastery of the material rather than forcing me*

to decipher what the question was asking. I like that the format of MyLab isn't trying to 'trick' students."

- *"The multiple attempts during the homework assignments turned into a tool for me to figure out what I did wrong and then learn from it."*

Conclusion

Online courses can pose a challenge, as students miss out on regular face-to-face interaction with their instructor. The combination of Street's online virtual lessons and MyLab assignments, however, gave students the background and practice necessary to be successful. Recognizing that students need practice, Street created two different homework assignments, setting his students up for a positive experience. Quizzes and Dynamic Study Modules bridged the gap between problem solving and conceptual understanding, leading students to validate that their understanding of the course material increased as a result of using MyLab Accounting. *"I believe that even though the homework assignments seemed to take a long time, they helped me study the material I had read, and put that information to practice,"* confirmed a student on the end-of-semester survey.

"I believe that even though the [MyLab] homework assignments seemed to take a long time, they helped me study the material I had read, and put that information to practice."

—Anonymous student, Spokane Community College