

## MyAccountingLab

School Name Iowa Western Community College, Council Bluffs, IA

Course Name Principles of Accounting I

Course Format Lab setting, lecture

**Key Results** Data for this course indicate strong positive correlations between MyAccountingLab homework scores and quiz, exam, and comprehensive problem scores. In addition, data show that students who completed most MyAccountingLab quizzes earned exam scores that were 15 percentage points higher and final course grades that were 18 percentage points higher than students who skipped at least two quizzes.

### Submitted by

Chuck Smith, Professor

### Course materials

MyAccountingLab and *Horngrén's Accounting*, Nobles, Mattison, and Matsumura

### Setting

Iowa Western Community College is a two-year community college located in the small plains town of Council Bluffs. The school serves approximately 7,000 students; 10 percent live on campus, 58 percent attend full time, 80 percent receive financial aid (grants or loans), and 22 percent report an ethnicity other than Caucasian.

Professor Chuck Smith has been teaching full-time for 15 years; he has been at Iowa Western since 1988. He has been teaching Principles of Accounting I for 17 years, the last 10 years in the current course format.

Principles of Accounting I, a one-semester, three-credit course, is part of a two-semester sequence that is required of all business students. The course introduces students to the fundamentals of accounting theory and practice as it applies to single-proprietorship businesses. It covers the complete accounting cycle for a service business and merchandising enterprise. Other topics include internal control, special journals, credit sales and receivables, inventory, depreciation, and current and long-term liabilities.

Upon successful completion of the course, a student will be able to do the following:

- Demonstrate an understanding of the framework of accounting and the accounting equation.
- Evaluate internal control procedures and account for cash and cash equivalents.

- Analyze transactions and apply Generally Accepted Accounting Principles (GAAP) to account for merchandising transactions, asset classes including property, plant, and equipment (PP&E), and short-term liabilities.

### Challenges and Goals

Iowa Western Community College has a dedicated lab for teaching. Smith wanted to incorporate more hands-on activities into Principles of Accounting I; it was a natural fit for the direction the college was heading. New online courses were being added in accounting, and the need for a digital support program was essential. MyAccountingLab was adopted about ten years ago as a way to offer students the interactive tools that would promote student collaboration and participation in lecture, while also providing homework and assessment assistance via personalized and contextualized feedback when working on their own.

### Implementation

Smith's use of MyAccountingLab is required; students use the program for additional practice, homework, and summative quizzes and exams. The program is primarily used outside of class for homework and assessments, but also in lab for in-class practice. Smith's implementation allows him to introduce new or complex concepts during lecture in the lab, assign content in MyAccountingLab for homework and assessment, and provide support in the lab during class as needed. Smith anticipates the average student will spend at least two hours per week working in MyAccountingLab, noting that some students will spend up to eight hours, depending on their academic background and study skills. In fact, 46 percent of students in Smith's spring 2015 class who responded to a voluntary end-of-semester survey (33 percent response rate) reported that they spend more than two hours a week in MyAccountingLab.

*According to Smith's spring 2015 student survey, 62 percent of students who responded reported that they "always" or "usually" use the learning aids when they are unable to start or complete a homework problem.*

Lab/lecture includes a combination of course content presentation and problem solving. Smith spends the first 15–20 minutes of lab/lecture reviewing textbook content that is challenging or in need of further explanation; the remainder of lecture is spent working with students on textbook problems and following up with similar problems in MyAccountingLab.

Smith assigns 10 MyAccountingLab homework assignments per semester, each worth 10 points. Assignments include approximately 10 in-depth problems per chapter; students have unlimited attempts at completion, and all learning aids are turned on. (According to Smith's spring 2015 student survey, 62 percent of students who responded reported that they "always" or "usually" use the learning aids when they are unable to start or complete a homework problem.) Students receive a homework grade of 10 points if they complete the assignment; 0 points if they do not. Homework is completed after lab/lecture and students have firm deadlines of about one week. Homework may be submitted up to seven days late for partial credit.

Students complete 10 quizzes throughout the semester; quizzes may be assigned in MyAccountingLab or as surprise paper-and-pencil quizzes in class. Quizzes provides motivation to attend class, as no makeup quizzes are allowed. As an additional incentive, Smith allows students to use the quizzes as notes during the multiple-choice portion of their exams.

Five exams (covering two chapters each) and a final comprehensive exam form the summative assessments for Smith's course; all are completed in MyAccountingLab. Because testing is completed online and automatically graded, Smith is able to create more in-depth exam content. Before implementing MyAccountingLab, exams were limited to 50 minutes in class, which allowed for only 2–3 problems and 20 multiple-choice questions. Exams are now delivered in two parts.

1. At home, students complete between four and six longer accounting problems in MyAccountingLab. Students are allowed two hours over a week's time frame to complete the problems; the calculator and ebook are turned on, the rest of the learning aids are turned off.
2. The multiple-choice component of the exam is delivered in lab. Students have 75 minutes to complete 25 questions.

Make up exams must be completed prior to the start of the next class session after the test has been given.

#### Assessments

60 percent	MyAccountingLab exams (five midterms, one final exam)
15 percent	MyAccountingLab quizzes (10)
10 percent	MyAccountingLab homework assignments (10)
10 percent	Comprehensive problem
5 percent	Research paper

#### Results and Data

Figures 1, 2, and 3 are correlations graphs; they do not imply causation but instead measure the strength of a relationship between two variables. The corresponding  $p$ -value measures the statistical significance/strength of this evidence (the correlation), where a  $p$ -value  $< .01$  confirms the existence of a positive correlation between these two variables.

- Average MyAccountingLab homework scores and average MyAccountingLab quiz grades: strong positive correlation where  $r = .60$  and the  $p$ -value is  $< .01$ .
- Average MyAccountingLab homework scores and average comprehensive problem scores: strong positive correlation where  $r = .58$  and the  $p$ -value is  $< .01$ .
- Average MyAccountingLab homework scores and average exam scores: strong positive correlation where  $r = .65$  and the  $p$ -value is  $< .01$ .

The formative MyAccountingLab homework and quiz grades are intended to help students identify where they stand in terms of completing the summative exam assessments. It appears that performance on MyAccountingLab homework and quizzes could be a leading indicator of exam and course success (more research is needed to develop and test this concept further). As a best practice, MyAccountingLab quiz scores are intended to help Smith identify students early on who are struggling and might be at risk of poor course performance. Data analysis included only students who completed the course by sitting for exams; two students did not take any exams and were removed from the analysis.

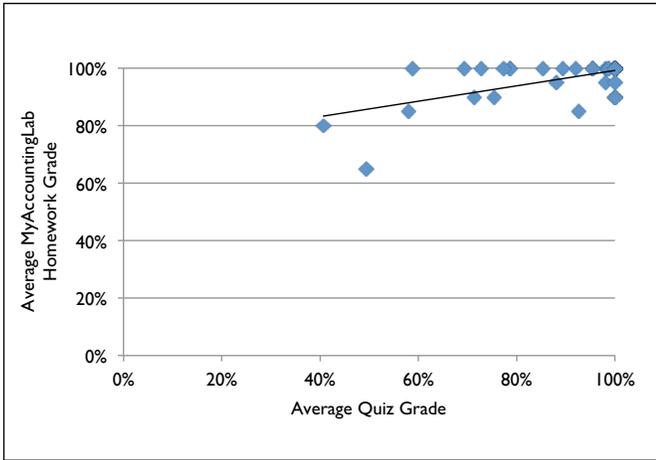


Figure 1. Correlation between Average MyAccountingLab Homework Scores and Average MyAccountingLab Quiz Scores, Spring 2015 (n = 43)

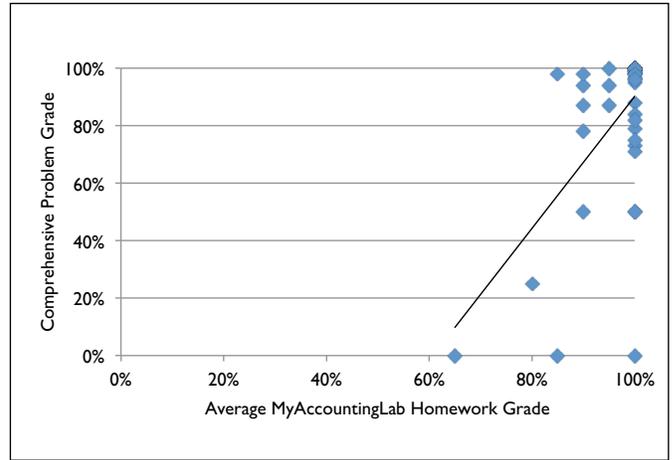


Figure 2. Correlation between Average MyAccountingLab Homework Scores and Average Comprehensive Problem Scores, Spring 2015 (n = 43)

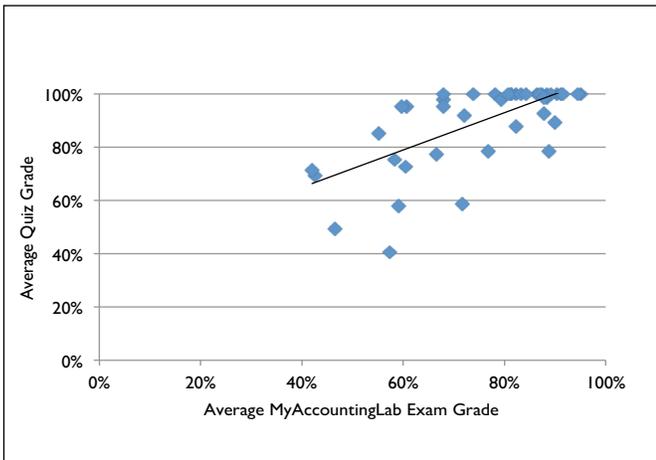


Figure 3. Correlation between Average MyAccountingLab Quiz Scores and Average MyAccountingLab Exam Scores, Spring 2015 (n = 43)

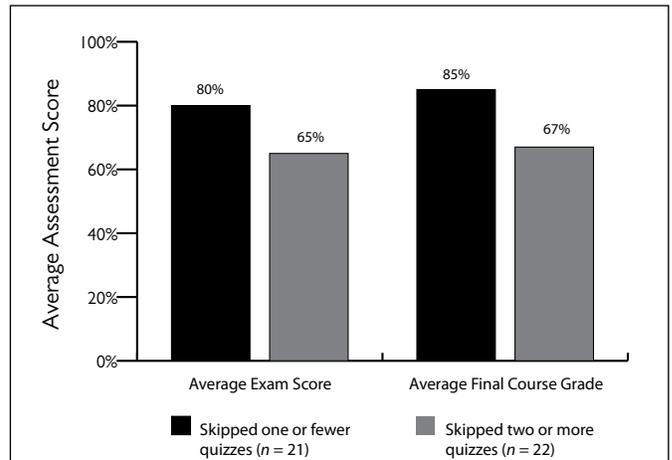


Figure 4. Relationship between MyAccountingLab Quiz Completion and Average Exam Scores and Final Course Grades, Spring 2015 (N = 43)

MyAccountingLab chapter quiz completion rates were analyzed to determine if a relationship exists between quiz completion and average exam grades and final course grades. Students were placed into two groups based on the average number of skipped quizzes; students who completed more than the average number of skipped quizzes earned substantially higher average exam and final course grades (Figure 4).

- Average number of skipped quizzes: 1
- Forty-nine percent of students (n = 21) completed all quizzes.

- Students who skipped 1 or fewer MyAccountingLab quizzes had average exam grades 15 percentage points higher than students who skipped 2 or more quizzes.
- Students who skipped 1 or fewer MyAccountingLab quizzes had final course grades 18 percentage points higher than students who skipped 2 or more quizzes. (MyAccountingLab quizzes count for 15 percent of the final course grade, influencing this relationship.)

*Smith reports that working in MyAccountingLab requires his students to participate, and helps them retain more of what they are learning.*

## The Student Experience

Responses from a spring 2015 voluntary survey of Smith's students indicate that the majority of responding students recognize the value of MyAccountingLab. Of those students who participated in the survey:

- 100%** Agree or strongly agree that the use of MyAccountingLab positively impacted their quiz and exam scores.
- 100%** Agree or strongly agree that their understanding of the course material increased as a result of using MyAccountingLab.
- 92%** Agree or strongly agree that MyAccountingLab provided additional resources that helped them learn more than they would have from traditional pencil-and-paper homework.

When asked what they liked best about MyAccountingLab, students shared the following comments:

*"The explanations when you get a problem wrong, and the resources you can use when you just can't seem to get the material down."*

*"I like that if I needed help, I could click Help Me Solve This and get an in-depth description of how the problems were done."*

*"It tells when I have made a mistake and helps me to correct it."*

## Conclusion

Having a dedicated lab in which to teach Principles of Accounting I enables Smith to incorporate more activities in his lab/lecture. This, in turn, keeps his students more involved and engaged. Smith reports that working in MyAccountingLab requires his students to participate, and helps them retain more of what they are learning. As a result, Smith is assigning more hands-on work in MyAccountingLab each semester. While he allows the possibility that students in a lab setting may wander online, he finds that MyAccountingLab activities keep students honest in lecture, since they must submit their work. The key, he explains, is having an ample supply of problem-solving and other activities to keep students busy.

Smith urges instructors planning to use MyAccountingLab to follow the critical best practice of prescribing and enforcing homework and quiz deadlines; many students have time management challenges, particularly those at community colleges who frequently juggle work, family, and school responsibilities. Dictating due dates keeps students both on schedule and on pace in order to successfully complete the course.

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Implementation and results case studies share actual implementation practices and evaluate possible relationships between program implementation and student performance. The findings are not meant to imply causality or generalizability within or beyond these instances. Rather, they can begin to provide informed considerations for implementation and adaptation decisions in other user contexts. For this case study, mixed-methods designs were applied, and the data collected included qualitative data from interviews, quantitative program usage analytics, and performance data. Open-ended interviews were used to guide data collection.