MyLab IT educator study

A look at the impact of missed assignments on course success at University of Oregon

Key findings:

- Students missing three or fewer assignments had an average final course score of 95% — 19 percentage points higher than students who missed four or more assignments and had an average final course score of 76%. Assignment completion is critical to course success, as students must achieve at least 82.5% to pass the course.
- Since implementing MyLab™ IT, course evaluation ratings have increased and remained steady, a testament to the course's new redesigned structure, assignments, and the instructor's teaching methods.
- 100% of student survey respondents agreed that their ability to successfully use Excel increased as a result of using MyLab IT.

Setting

The University of Oregon, renowned for its research prowess and commitment to teaching, is one of two schools in the Pacific Northwest selected for membership in the prestigious Association of American Universities, a consortium of 62 leading public and private research institutions in the United States and Canada. Other key statistics about the university include:

- Nine schools and colleges with 23,634 students
- Average GPA of entering students: 3.58
- 26% of freshmen are first-generation college students
- 31% of freshmen are ethnic and racial minorities

School name: University of Oregon, Eugene, OR

Course name: Managing Business Information

Course format: Face to face and online

Course materials: MyLab IT with eText for *Exploring Microsoft Office 2016* by Grauer & Poatsy

Timeframe: Spring 2018

Educator: Erik Ford

Results reported by: Sara Kasper, Pearson Customer Outcomes Analytics Manager

About the course

Managing Business Information (BA240) is a beginner through intermediate Microsoft Excel course taught within the Department of Operations and Business Analytics. Students not only learn to use the software, but also explore the "how" and "why" of its functionality. The course is a requirement for students majoring in business (sophomore standing required), though students across many disciplines enroll.

Prior to receiving his MBA at the University of Oregon, Professor Erik Ford taught the introductory business course and has been teaching BA240 in the Lundquist College of Business for the past four years. Ford redesigned the course curriculum in the Summer of 2014 to increase student learning and engagement. One of his changes to the course included the addition of authentic business case studies that give students real-world application of Excel skills learned. He also developed an online version of the course in 2016.

Ford teaches two 10-week sections (one online, one face to face) in the Fall, Winter, and Spring quarters, with approximately 150 students in each section. The sections each have a different course in Canvas (University of Oregon's Learning Management System), but share a course in MyLab IT.

Challenges and Goals

In the past, students struggled greatly to succeed in the Managing Business Information course and, as a result, would not pursue subsequent courses in the decision sciences. The course was then handed over to David Dusseau, Ford's mentor, who changed the structure of the course to a more classical approach. He used PowerPoints during lecture and a primitive version of auto-graded homework.

It soon became clear that a better online homework and assessment component was needed. In the 2013 academic year, a competitor's program was incorporated, but, in Ford's terms, the course "collapsed" due to a poor grading system. In Summer 2014, Ford piloted MyLab IT for the first time, and this became the start of the course's revival. Course evaluation ratings jumped, and the course has steadily gained popularity over the past four years thanks to Ford's teaching methods and the flexibility of MyLab IT.

Implementation

MyLab IT homework

Ford uses the assignment calendar in MyLab IT for everything, including assignments due in Canvas. This is how students navigate all assignments and assessments. As Ford says, "There is zero confusion as to what needs to be turned in." All homework is completed through MyLab IT and is due at 8:00 am. There are two types of homework in MyLab IT:

Skill-Based Training Simulations provide assignments in an Office simulation. Students execute the instructions and a simulation provides feedback on whether or not they have completed the instructions successfully. Students may try each step as many times as needed to successfully complete the task. MyLab automatically records the highest score of the activity. On an end-of-semester student survey (17% response rate), 86% of students said they always or often used the available learning aids (Read, Watch, Practice) when unable to start or complete a simulation. One student commented, "Learning aid videos make it easy to follow step by step. It breaks down the big project."

Grader Projects require students to download an Excel or Access file and instructions, complete the instructions, and upload the file back to MyLab for grading. Using the feedback from grading, students have two attempts to maximize their points earned. The average of the two attempts is

recorded as the final score. On the student survey, 77% of students reported they always or often used "View Submissions" to correct their errors before making another attempt on the Grader Project. One student commented that the Grader Projects were, "a great test of the week's skills."

In the first five weeks of the course, MyLab IT Simulation Trainings are completed before the first class of each week, and MyLab IT Grader Projects are completed before the second class of the week. One student summarized the benefits of the homework structure: "The ability for students to walk through certain tasks with the simulation, then perform them on their own through the Grader Projects...sets you up to retain the information far better than instruction alone."

According to the survey, 95% of students reported always or often completing MyLab IT homework prior to class. Furthermore, 84% of students agreed that completing homework before class enhanced their experience during class time. Said one student, "Class time was able to expand on the parts of Excel I still did not quite grasp from MyLab IT, but the lab gave a good foundation going into lecture." Another student confirmed the benefit of this flipped classroom approach: "It was good to have a general understanding of what I was doing before class started."

Applied Analytics Case Studies

For the second half of the course (weeks 5–10), students work on Applied Analytics Case Studies which examine the use of Microsoft Excel in an authentic business context. This is hosted on Canvas. Ford partnered with an industry data scientist to create this series in order to give students exposure to real-world application of the skills they are learning in the course. Says Ford, "Typically this is the deficiency of most Excel courses — many button clicks, but no context." In one exercise, students download a Return Merchandise Authorization, clean data from multiple sources, analyze that data, and give final recommendations. These studies help students develop critical thinking skills and start to think like real business analysts.

Concept quizzes (MyLab IT)

Concept quizzes are drawn directly from the material in the text and consist of 20 multiple-choice questions randomly drawn from a larger pool of questions. Students have up to 20 minutes to complete each quiz. Although Ford has assigned these weekly quizzes in the past, he has decided to drop them moving forward, because students are not required to read the textbook.

Face-to-face course

Class meets in a lecture hall for 80 minutes on Monday and Wednesday. On Monday, Ford goes over that week's schedule of course material to be covered and what is due. He asks students to close their laptops, then shows a few PowerPoint slides that give an overview of that day's demonstration. Ford gives a multiple-choice iClicker question about every six to ten minutes to keep students engaged. Answers to these questions, interspersed throughout the PowerPoint slides and the Excel demo file, count as a quiz grade.

Following the lecture, Ford asks students to open their laptops and download that day's demo file from Canvas. This is a custom Excel file Ford has created for the course. He begins every demo with a professional example of something he has built in Excel using the tools/formulas students are learning that week. For example, it could be the text-to-columns tool, of which he is a huge fan. As Ford says, "The course is all about context. Students crave practicality — they want to know, 'how would a person actually use this?'" The demo file students open has two colored tabs along the bottom — one allows students to do the work step-by-step, the other shows the answers if they fall behind. Ford is a proponent of Professor Michael Girvin's Excel Is Fun YouTube channel (which is how he taught himself Excel) and models much of his in-class work from Girvin's material.

Weekly lab exams

On Thursday or Friday of each week, students meet for an additional 50-minute session in a computer lab and take an exam on that week's material in the form of a MyLab IT Grader Project. "This lets us know that students are doing their work, and it drives participation," says Ford. Lab exams are closed book, closed notes. A total of eight lab exams are worth 40% of the final course grade.

In weeks 6–8, Ford uses the **Project Creation Tool** in MyLab IT to create custom multiple-choice Grader Project exams for the Applied Analytics Case Study. He has students input their answers to multiple-choice questions in an Excel file; the answers are verified through the Grader Project answer key.

Ten weekly lab sessions of 55 students each are managed by one Graduate Teaching Fellow MBA student and 3–5 undergraduate teaching assistants. Ford is an advocate for empowering students and believes that the on-the-job work experience students gain from this role is a valuable add to their resume. Currently he is staffed for the next three years. Having a well-trained staff allows Ford to put his energy into creating course content, a "large investment in time upfront," that is worth the effort.

Comprehensive projects / midterms

In week 4, students take one midterm covering Excel chapters 1–4. This is a modified Capstone Grader Project. In the last week of the course, students complete a comprehensive Grader Project on chapters 1–10, created by Ford using the Project Creation Tool in MyLab IT.

Online course

Two years ago, Ford created an online course which is a close replication of the face-to-face class experience. In Canvas, prerequisites are set so students must go through the course work in order. There is a weekly calendar listing all items due and lecture topics/demos for that week. After students watch a recorded lecture video, they take a quiz. Next, they download the demo file from Canvas and work through the project while watching a recorded demo video. Both long and short versions of the video recordings are provided, as well as a PDF of the lab solution with instructions. Ford is pleased that course evaluation ratings between the lecture course and online course are indistinguishable. Ford mentions how the students in the lecture course have benefited from the creation of the online course. "If students miss a face-to-face class session, they can view the recorded demo in the online course materials."

Assessments

The course is designated pass/no pass so that students focus on skill acquisition instead of point acquisition. To pass the course, students must earn 825 or more points (final course score of 82.5%), pass both comprehensive midterm projects, and complete all of the Applied Analytics assignments.

40% / 400 points	Lab exams (8) include MyLab IT Grader Projects and Applied Analytics projects
33% / 300 points	Homework (33) includes MyLab IT and Applied Analytics homework
20% / 200 points	In-class iClicker quizzes (20)
70% / 70 points	Concept quizzes (8)
Pass / Fail	Midterm projects (2): Chapters 1–4; Chapter 1–10

Results and Data

Ford tracks missing assignments closely. Any student who has fewer than four missing assignments (out of a total of ~70) at the end of the term will qualify for make-up work. One student commented regarding the benefit of this approach: "Practice that doesn't put pressure on

me, but I also always wanted to do the practice because it helps my grade if I complete all assignments."

Students who passed the course (*n*=259) missed an average of 2.6 assignments; students who failed the course (*n*=31) missed an average of 37.4 assignments. Results show the average final course score for students with three or fewer missed assignments versus those who missed four or more, a critical difference of 19 percentage points, as students must achieve at least 82.5% to pass the course.

Pass rates in the Spring 2018 quarter remained high, with a combined pass rate of 89%. As mentioned previously, course evaluation ratings since using MyLab IT have increased and remained steady.

Finally, for the purpose of examining the potential impact of MyLab IT Training Simulation performance on the subsequent Grader Projects, results include the average Grader Project score (overall score of eight Grader Projects) based on an overall Training Simulation Score of 90% or greater and an average Simulation score less than 90%. The Simulation score is the average of eight Simulations. Nearly three-quarters of students scored 90% or higher on Simulations, and the difference in the average score was 27 percentage points, from 86% to 59%. The correlation between Simulations and Grader Projects was strong, with an *r*-value of 0.79 and a *p*-value <.001.[1]

[1] 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 positive *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.

The Student Experience

Responses from the Spring 2018 end-of-semester survey of Ford's students indicate that the majority of responding students recognize the value of MyLab IT.

100% of students agreed that their ability to successfully use Excel increased as a result of using MyLab IT.

98% of students would recommend MyLab IT to other students.

At the end of the course, 70% of students reported feeling very confident in their ability to use Excel.

As Ford emphasizes, "What matters to me is that students acquire the course skills. They acquire skills through practice." A majority of student responses to the question, "What are the benefits of MyLab IT?" echoed Ford's goal:

> "It provides an opportunity to apply the techniques that we learned in class in a practice situation."
>
> "It was nice to be able to practice different skills in a low-risk environment."

Many students also commented on the benefits of skill acquisition via MyLab IT:

> "It was a real-world skill that comes in handy for many different jobs, and it is a very popular skill to have coming out of college."

"Interactive learning experience that helps you to be successful in the future through the learned skills."

"Excellent way of learning skills (especially computer skills). This has been my favorite class so far in college, and I think being able to work online in MyLab IT was a big part of it."

Conclusion

Over the past four years, the Managing Business Information course has become a popular offering among students, and course evaluation scores have remained consistently positive since MyLab IT was implemented. Ford states that one of the biggest advantages of MyLab IT is having the ability to edit problems, answers, logic, and more. He concludes, "I have reviewed all the available platforms, and MyLab IT offers the most flexibility. The technology has empowered me to build a great course."