How MyMathLab Builds Up Student Skill in Math

**Type:** Courseware  
**Age/Stage:** Higher Education

MyMathLab, an online tutorial and assessment tool for teaching and learning mathematics, is designed to provide an engaging and personalized learning experience for every student. As Pearson’s best-selling product, MyMathLab has reached 37 million higher education students since launching in 2001 and offers interactive content in subjects ranging from developmental math to calculus.

The online tutorial is designed to create a positive experience for student users, using more than 30 years of research to help students study regardless of their previous achievement levels in mathematics. MyMathLab features provide immediate feedback, aim to reduce cognitive load for the student, and include hints, videos, and animations to further explain mathematical concepts for those students who may not have confidence or full proficiency in mathematics. All of these strategies and features combine to help enable the student to succeed in math, often for the first time, so they begin to develop a positive mindset and enjoy more successes.
Wor-Wic Community College in Maryland has implemented MyMathLab with the hopes of increasing exam scores, and retention and pass rates.

“Students’ attitudes about doing math is more positive since we began the redesign. They come to class early and begin completing their work right away... They are more excited about moving through the developmental series than I ever saw them in the traditional class because they know they can move quickly through the concepts they have mastered and slow down in their particular area of difficulty.”

Susan Twigg, developmental math coordinator, Wor-Wic Community College

A number of peer-reviewed studies published since the launch of MyMathLab have associated it with better scores in math courses for students who have demonstrated prior aptitude in math, compared to non-users. To continue this efficacy work, Pearson is undertaking a number of longitudinal studies designed to uncover how well MyMathLab works for students in developmental math courses and with lower mathematics abilities.
Several independent studies have been conducted, with at least one demonstrating a positive correlation between using MyMathLab and developing skills and high test scores in mathematics. In a study of students taking intermediate algebra in a mid-sized U.S. university, students with high prior math ability scored higher on final exam scores than students who did not use MyMathLab.\footnote{Krupa, E. E., Webel, C., & McManus, J. (2015). Undergraduate students’ knowledge of Algebra: Evaluating the impact of computer-based and traditional learning environments. PRIMUS, 25(1), 13-30.} Another study, which tracked algebra students from fall 2007 to fall 2008 found that time spent in MyMathLab's Math Zone was positively associated with those students’ final exam scores.\footnote{Ye, N., & Herron, S. S. (2010). A comparison of computer-based and traditional College Algebra courses. Journal of Applied Global Research, 3(7).} In a later study, conducted at Maastricht University, found that frequency of MyMathLab use is positively associated with a student’s final exam and quiz scores.\footnote{Tempelaar, D. T., Rienties, B., & Giesbers, B. (2015). In search for the most informative data for feedback generation: Learning analytics in a data-rich context. Computers in Human Behavior, 47, 157-167.} While these data points suggest that MyMathLab may contribute positively to students’ final grades, only the first of these studies results in a causal statement. In order to uncover more causal relationships, Pearson is planning two large-scale studies for 2016: a quasi-experimental study to determine how well MyMathLab works for remedial math students, and a two-year, longitudinal, case-control quasi-experimental study designed to isolate the contribution of MyMathLab when all other predictors of student success are statistically controlled.
Brad Stetson, an assistant professor at Schoolcraft, an open door, community-based college, implemented MyMathLab’s personalized homework feature in his intermediate algebra courses. Stetson says that, with this feature, he no longer has to cover as much detail in lecture.

“I know and rest assured that if students don’t understand a concept or a homework question, they can use the View an Example feature in MyMathLab... I get to work with students more and actually teach in class, rather than simply writing down problems and grading.”

Brad Stetson, assistant professor, Schoolcraft

MyMathLab has ambitious plans to conduct research that will further demonstrate the impact of the program on learner outcomes. For an overview of these plans, please see the accompanying Impact Evaluation Report.