



Pearson

# MyLab Math Developmental Math

## Efficacy Report Summary

The MyLab Math product for Developmental Math, a teaching and learning platform that includes homework and practice exercise features, which is predominantly used in higher education by students who need remediation on foundational math skills before taking credit-level math courses.

### Study 1:

#### **Is the use of MyLab Math for Developmental Math associated with students being more likely to pass the course?**

We wanted to explore if the use of MyLab Math for Developmental Math is associated with students being more likely to pass the course. We worked with instructors from five higher education institutions who used MyLab Math in their developmental math course to explore whether the use of MyLab Math was correlated with achievement on independently administered course exams.

### What we found

Making more attempts on MyLab Math homework assignments, and getting higher grades in MyLab Math homework, quiz, or test assignments, was associated with a higher probability of passing the course.

**Figure 1: Overview of findings from Study 1**

MyLab Math factor	Student group	Types of assignments		
		Homework	Test	Quizzes
Time spent	All students	↓	⊘	⊘
	Enrolled before Fall 2015	↓	⊘	⊘
	Newly enrolled Fall 2015	↓	↑	⊘
Number of attempts	All students	↑	⊘	↑
	Enrolled before Fall 2015	↑	⊘	⊘
	Newly enrolled Fall 2015	↑	⊘	⊘
Grades	All students	↑	↑	↑
	Enrolled before Fall 2015	↑	↑	↑
	Newly enrolled Fall 2015	↑	↑	↑
Number of objectives mastered	All students	↑	⊘	↑
	Enrolled before Fall 2015	⊘	⊘	⊘
	Newly enrolled Fall 2015	↑	⊘	↑



Positive association (higher values for factor linked significantly with higher probability of passing the course)



Negative association (higher values for factor linked significantly with lower probability of passing the course)



No significant association (factor unrelated to probability of passing the course)

### How we did the research

We measured usage by looking at the number of additional attempts students made at answering questions across different types of activities (quizzes, tests, and homework). We measured performance by average scores across each of the activities. We also measured the number of learning objectives mastered.

**In the context of the study conducted at five higher education institutions in the US, where MyLab Math was used in the Fall 2015 developmental math course, Pearson is able to make the following relational statements about the efficacy of MyLab Math:**

— On average, for students who were newly enrolled in Fall 2015, an increase of 18 attempts on MyLab Math homework was associated with a fivefold increase in the probability of passing a developmental math course.

— Evidence showed that higher homework, quiz, and test scores in MyLab Math were related to a higher probability of passing the course (for example, getting at least a C letter grade).

*These statements are set out in full in the box titled "Efficacy statements" on page 17 of the Research Report where they have been subject to assurance by PwC, whose report can be found at the end of the Research Report.*

## Study 2:

### ***Is the use of MyLab Math Developmental Math associated with students getting higher course grades?***

We commissioned SRI International, an independent, nonprofit research center, to work with a large state university Arizona State University, where students used MyLab Math in an introductory mathematics course across three campuses, to analyze the relation between student usage and course outcomes.

## What we found

SRI found that increased attempts, higher average scores on quizzes and tests, and mastering a higher number of courseware learning objectives were associated with statistically significant higher course grades.

However, increased attempts and higher scores on MyLab Math QuizMe activities were associated with statistically significant lower course grades. QuizMe is a tool that provides knowledge checks, which can be completed either before or after practice and study. A student who does not score high enough on QuizMe activities is taken back to the Study Plan for additional practice. But students who demonstrate that they've mastered the learning objectives through their QuizMe scores can skip additional study and practice. A possible explanation for this unexpected result could be that lower-skilled learners were trying to avoid additional practice by simply repeating QuizMe activities until they achieved a score greater than 80% without fully mastering the concepts. This type of behavior could result in a large number of QuizMe attempts, and high scores on those activities, but overall low performance in the course.

### **In the context of the study conducted at Arizona State University for students enrolled in an introductory mathematics course, Pearson is able to make the following statements about the efficacy of MyLab Math:**

- Mastering more MyLab Math learning objectives is associated with higher course grades and a higher likelihood of passing the course.
- Making more attempts in MyLab Math quizzes and tests was associated with a higher likelihood of passing the course and receiving higher course grades.
- Earning higher average quiz and test scores in MyLab Math was associated with a higher likelihood of passing the course and receiving higher course grades.
- Making more attempts on MyLab Math QuizMe was related to lower course grades, and receiving higher QuizMe scores was related to lower course grades and a lower likelihood of passing the course.

*These statements are set out in full in the box titled "Efficacy statements" on page 12 of the Research Report where they have been subject to assurance by PwC, whose report can be found at the end of the Research Report.*

## How we did the research

- We measured usage by looking at the number of additional attempts students made at answering questions across different types of activities (quiz, test, and the QuizMe function).
- We measured performance by average scores across each of the activities.
- We also measure the number of learning objectives mastered.

Explore the full report at [Pearson.com/corporate/efficacy-and-research](https://www.pearson.com/corporate/efficacy-and-research)

## Key findings

Students statistically **achieve higher grades** when they:



**Increase exam attempts**



**Achieve higher average scores**



**Master a higher number of courseware learning objectives**



**Achieve higher course grades**

## Pearson's Efficacy Commitment

In 2013, Pearson made a commitment to efficacy: to identify the outcomes that matter most to students and educators, and apply evidence-based approaches to product design, development and implementation support so we could have a greater impact on improving those outcomes. We committed to reporting on the impact of use of products, commencing in 2018 with some of our most frequently used products.

To Pearson, efficacy is more than a commitment to report on the impact of use of our products on outcomes. It is even more than a way to continuously improve our products. Efficacy is a priority for everyone at Pearson. Applying outcomes-focused, evidence-based design to our products, and supporting educators to use them to help more learners learn more, is at the heart of who we are, what we do — and of our vision for the future of learning.