MyLab Math Inclusive Access study tracks mathematics learning outcomes at Cleveland State University

Key Findings

- Overall student pass rates in all courses implementing Pearson Inclusive Access have increased four percentage points since its implementation in Fall 2014.
- Pass rates in developmental mathematics, which uses MyLab Math in an emporium model, have increased nearly eight percentage points since Inclusive Access was introduced.
- Students, faculty, and administrators have benefited from immediate, more streamlined, and more cost-effective student access to course materials.

School name
Cleveland State University, Cleveland, OH

Course names
Basic Algebra; Applied Algebra; Foundations of Quantitative Literacy; Mathematical Applications in the Real World; Mathematics for Business Majors

Course format
Face to face

Course materials
MyLab Math

Timeframe
Fall 2011–Fall 2015

Educators
Jason C. Stone and Mohsen Manouchehri, Course Coordinators

Results reported by
Dina Yankelewitz, Pearson Program Outcomes Analytics Manager

Setting

Cleveland State University is a large, urban, public university located in downtown Cleveland, Ohio, enrolling approximately 17,700 students. International students make up 8% of the student population, and one-third of the student body participate in graduate programs. Of its undergraduate students, 63% are White, 18% are Black, and 5% are Hispanic. The college offers over one thousand courses in 200 major fields of study. Eighty percent of the university's graduates live and work in the greater Cleveland area.

Challenges and Goals

Cleveland State's mathematics department integrates online mathematics homework for all of its math courses. For its two developmental mathematics course and four college mathematics courses, the department

uses Pearson's MyLab™ Math for homework and exam preparation, comprising 20–25% of students' final grade in each course. At the start of the semester, students often experienced difficulty accessing the course materials as they waited for financial aid, preventing them from completing their coursework on schedule. These obstacles prevented a smooth start for the semester and an inconsistent experience for students. Students also found the cost of the print textbook in addition to the online access prohibitive, hindering their path to optimal learning using both media. Pearson Inclusive Access with MyLabsPlus™ offered a solution to these challenges, providing all students access to online course materials on the first day of class. Students were given the option of obtaining a loose-leaf edition of the textbook, providing cost savings and the opportunity for more students to access all course materials.

When the department adopted MyLab Math without Inclusive Access in Fall 2013, they redesigned their developmental mathematics course, Basic Algebra, to follow an emporium model. When they first implemented this model, there were difficulties registering students, delaying progress in the course for a full week. The following year, Inclusive Access was critical in ensuring the success of this mastery-based,-self-paced learning model.

Implementation

Cleveland State University adopted MyLabsPlus with Inclusive Access for six courses in Fall 2014. The decision was made at the departmental level, and the university administration included the cost of the online materials in a course fee. With Inclusive Access, students access MyLab Math within their Blackboard course site. This eliminates the need for a separate access code, registration, and login.

Benefits Observed

Faculty pointed out the improved learning that the move to Inclusive Access engendered. Jason Stone explained,

> "Inclusive Access enables all students to accessMyLab Math on Day 1. We can address potential issues with student familiarity with the program right away by requiring them to do introductory exercises on the first day of class."

Mohsen Manouchehri, course coordinator of developmental mathematics, commented that pass rates have improved since the emporium model was implemented, which relies heavily on Inclusive Access for its success. An analysis of student outcomes for all courses that have implemented Inclusive Access of MyLab Math follows.

Results and Data

Overall results for students taking math courses implementing MyLab Math (n=3,432) are reported here. Data are available since Fall 2011, and three semesters of post-Inclusive Access data were available at the time of this analysis (Fall 2014, Spring 2015, and Fall 2015). Pass rates in all courses using MyLab Math were aggregated to reflect pre- and post-Inclusive Access pass rates. As shown in figure 1 below, overall pass rates across courses improved from 75% to 79% after Inclusive Access was implemented. This increase is significant (p<.0001).

Overall pass rates, pre- and post-Inclusive Access implementation

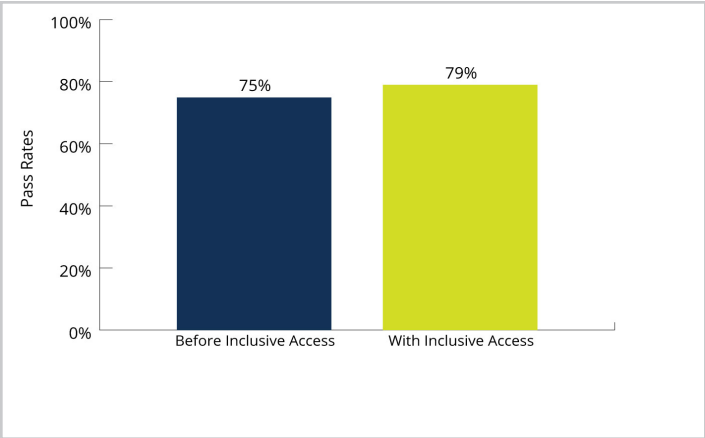

Figure 1. Pass Rates in Courses Using MyLab Math Before and After Inclusive Access implementation

The most notable improvement can be found in the Basic Algebra and Applied Algebra pass rates. Basic Algebra is the most basic developmental mathematics course offered in the department, while Applied Algebra is a credit-bearing course for graduation purposes but does not fulfill the college mathematics requirement. Results for the Fall semester only are provided here, as Manouchehri noted that students taking these courses during the Spring usually do so after failing the course in the Fall. As a result, pass rates in the Spring are typically lower and not representative of standard student performance in these courses.

Pass rates rose nearly eight percentage points in Basic Algebra (figure 2) and Applied Algebra (figure 3).

Pass rates, Basic Algebra

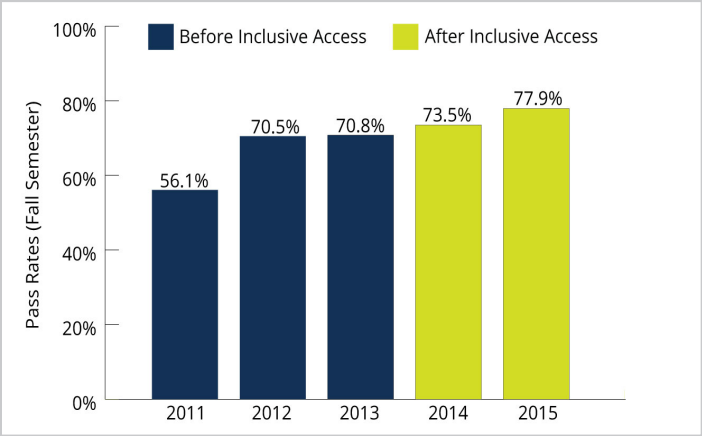

Figure 2. Pass rates During Fall Semester, Basic Algebra

Pass rates, Applied Algebra

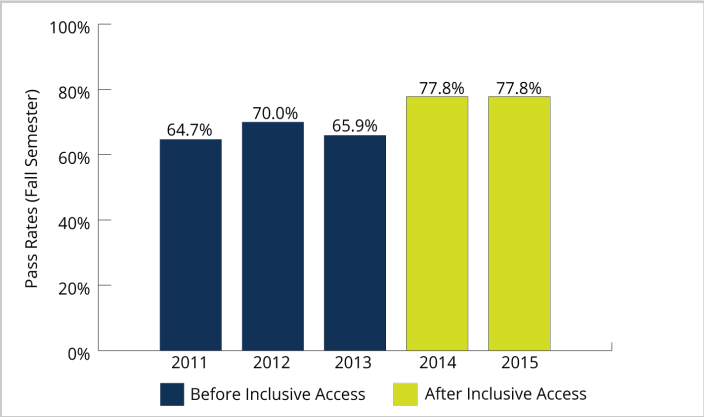

Figure 3. Pass Rates During Fall Semester, Applied Algebra

As noted above, the developmental mathematics courses follow an emporium model, thereby relying more heavily on MyLab Math as an integral part of the student learning experience. As a result, Inclusive Access acts as an enabler for much of student learning in these courses, and it is interesting to note the improved student outcomes after Inclusive Access was implemented.

The Student Experience

Faculty have found that students are more able to access course materials now that they are integrated in the Blackboard course site. Dr. Stone explained that there is a significant non-traditional student population at the university that is often not as tech-savvy as traditional college students.

"There are fewer things to click on, fewer accounts and passwords, and it's more user friendly."
—Dr. Jason Stone, Cleveland State University

Administrator and Instructor Experience

Dr. Stone noted that course starts are much smoother with Inclusive Access, and that instructors can now focus on instructional content and student learning rather than student access. Instructors also appreciate that the course materials are included in the course fee and not presented as an additional cost to students at the start of the semester.

Faculty and administrators involved in developmental mathematics commented that before Inclusive Access was implemented, significant instructional time was lost due to access issues at the start of the semester. After Inclusive Access was introduced, students began completing assignments and reaching mile markers as early as the first week of the semester. The department is working on designing a second course that students who complete the first set of modules early can use to further develop their quantitative literacy.

Conclusion

Inclusive Access has played a role in accelerating student learning and increasing student success at Cleveland State University. Immediate, more streamlined, and more cost-effective access to course materials for all students has allowed students to learn for mastery, master more content, and meet faculty expectations in foundational mathematics courses. As student pass rates indicate, Cleveland State University has leveraged Inclusive Access to positively impact student success in their developmental and college-level mathematics courses.