



Inclusive Access study tracks student access and cost savings at University of Iowa

Key Findings

- Pearson Inclusive Access has enabled students to begin working on course assignments before the semester start:
 - 44% of students in 2016 began work on Mastering Chemistry Assignments before the first class session;
 - 70% of students began work by the first class session (compared to 2% in 2014); and
 - 88% of students began by the second class session (compared to 42% in 2014).
- Over the past two years, students enrolled in General Chemistry, one of several courses participating in the Inclusive Access program at University of Iowa, have gained instant access to Mastering Chemistry and an eText and saved over \$146,000, a 47% discount compared to the national price of Mastering Chemistry and an accompanying eText.

School name

University of Iowa, Iowa City, IA

Timeframe

Fall 2015–Fall 2017

Submitted by

Russell Larsen, Associate Professor of Instruction in Chemistry, University of Iowa

Results reported by

Dina Yankelewitz, Pearson Program Outcomes Analytics Manager

Setting

Founded in 1847, the University of Iowa is the oldest and currently the second-largest university in the state. A public research university with 11 colleges and over 200 areas of study, it enrolls over 30,000 students, with close to 25,000 undergraduates. Eighty-two percent (82%) of students are White, 6.5% are Hispanic, 3% are Black, and 4% are Asian. Over 3,400 international students are enrolled at the university, and 23% of its freshmen are first-generation college students. The chemistry department at University of Iowa is comprised of 28 faculty members and boasts about 300 undergraduate and graduate students.

Challenges and Goals

Dr. Russell Larsen specializes in teaching the large enrollment, first-year chemistry courses. These are General Chemistry, an introductory course, and Principles of Chemistry, a two-part foundational course. General Chemistry enrolls over 1,000 students in the Fall semester each year. Dr. Larsen has used Mastering™ Chemistry to enable students to complete online homework and quizzes since 2009.

Before implementing Pearson Inclusive Access in the department, students had Learning Management System (LMS) integration of Mastering Chemistry, but were

required to purchase an access code — either online or at the bookstore — or request 14-day trial access. This posed issues for students who waited for financial aid support to purchase the course materials, and students often were delayed in accessing the course.

With direct integration enabled by the Inclusive Access model, students receive immediate access to the course materials as soon as the instructor opens the Mastering course online. Students are billed automatically for the course materials, enabling a smooth course start. In addition, with Inclusive Access, students receive immediate access to the eText via Mastering Chemistry.

Implementation

The department chose to transition to direct integration in Fall 2014. In that initial model, students accessed the Mastering Chemistry platform via their LMS, but were required to first purchase an access code online or at the bookstore or access the program via a 14-day trial.

In the current Inclusive Access model, implemented in Fall 2015, students register through University of Iowa's LMS (D2L in Fall 2015 and Canvas starting in Spring 2016) using a single access code provided by the instructor at the start of the semester. This allows the department to continue using Modified Mastering, which has a different interface than the standard Mastering platform. At the same time, it links the students' Mastering Chemistry accounts to the university's LMS account, allowing students to access Mastering Chemistry via Canvas and enabling students' scores to be easily transferred to the LMS gradebook.

Unlike previous semesters, students do not need to provide payment upfront in order to access the course materials. Rather, they are billed directly to their student account, and students that need financial aid do not have to wait for access or request a trial account. In this way, all students are able to sign in and interact with the assignments and eText as soon as they receive LMS-course access and the access code from the instructor. In addition, students who change their course enrollment prior to the university census date are not charged for access.

In addition to the immediate access, students receive Mastering Chemistry bundled with the eText. In previous semesters, students could choose to purchase an eText or a print copy of the textbook. This enables instant access to the course text as well.

Results

Access

With Inclusive Access in place, students accessed and began completing course assignments several days earlier than they did before Inclusive Access implementation (figure 1). It is worth noting:

- With Inclusive Access, peak activity for the introductory assignment coincided with the first class session in 2016; in 2014, before Inclusive Access, peak activity for this assignment occurred on the second class session. Students began working on the first (optional) homework assignment by the first day of class in 2016, compared with after the second class session in 2014.
- Student activity on the first required homework assignment began four days earlier in 2015 and 2016 than in 2014.

Student assignment activity at the start of the semester increased dramatically after Inclusive Access was implemented.

- The percentage of students beginning work on an assignment by the second class session increased from 42% to 85% (using first-day enrollment as a baseline).
- In 2016, 665 students (44%) began working on course assignments before the first day of class, compared with only 6% in 2014.
- In 2016, 1062 students (70%) began working on course assignments by the first day of class, compared with only 20 (2%) in 2014 (figure 2).

Compared over time, the percentage of students who accessed and began completing course assignments before the first day of class in 2016 is greater than the percentage of students doing so by the second class session in 2014, before Inclusive Access was implemented.

Cost savings

Students are billed \$55 for instant eText and Mastering Chemistry access in General Chemistry. Compared with the national price of Mastering Chemistry and the bundled eText, which is currently \$105.40, students save \$50, or 47% off the list price. This translates to over \$146,000 in student savings over the past two years.

First assignment interactions by day

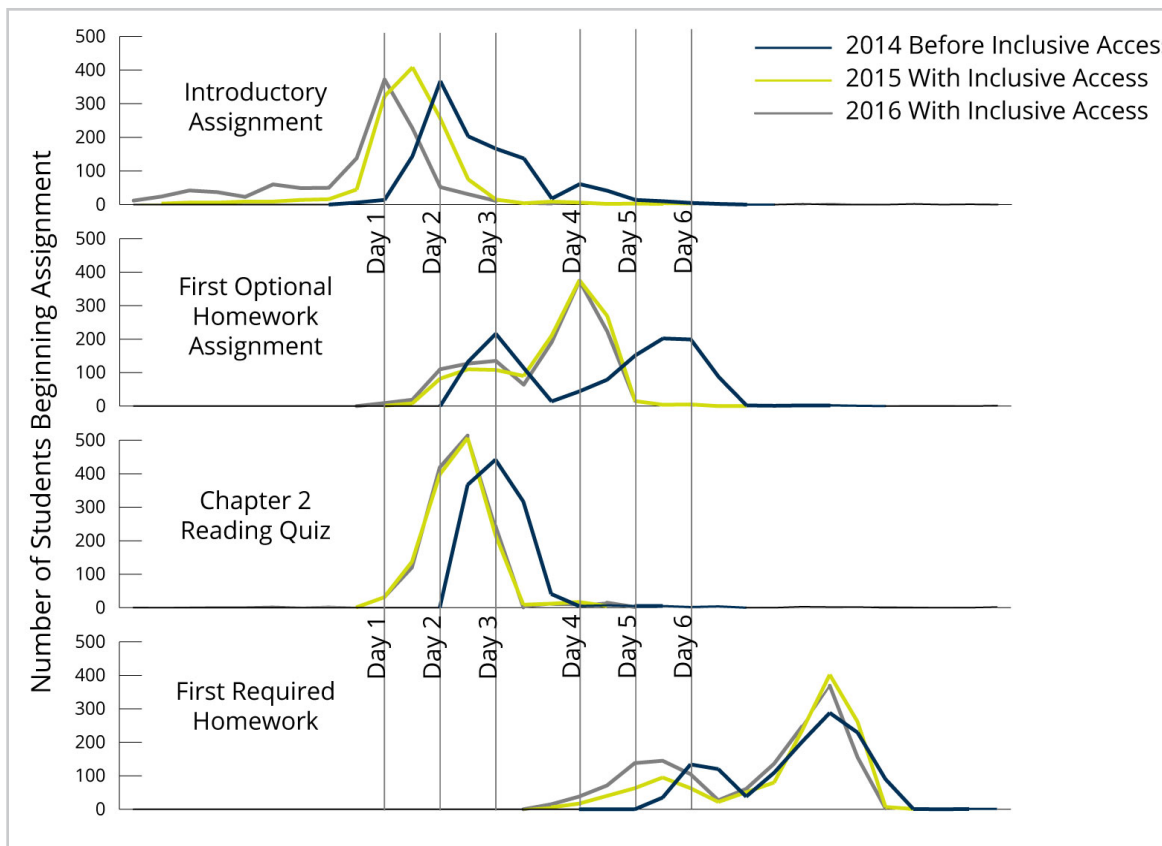


Figure 1. With Inclusive Access in place (2015, $n=1387$; 2016, $n=1528$), students accessed and began completing course assignments several days earlier than they did before Inclusive Access implementation in 2014 ($n=1268$). The vertical reference lines label the course's class sessions for each year. The data has been adjusted so that the course start for each year is aligned to aid comparison across years. The class sessions occur on Monday, Wednesday, and Friday of each week, with two days between class sessions 1, 2, and 3, as well as between sessions 4, 5, and 6.

Percentage of students beginning course assignments

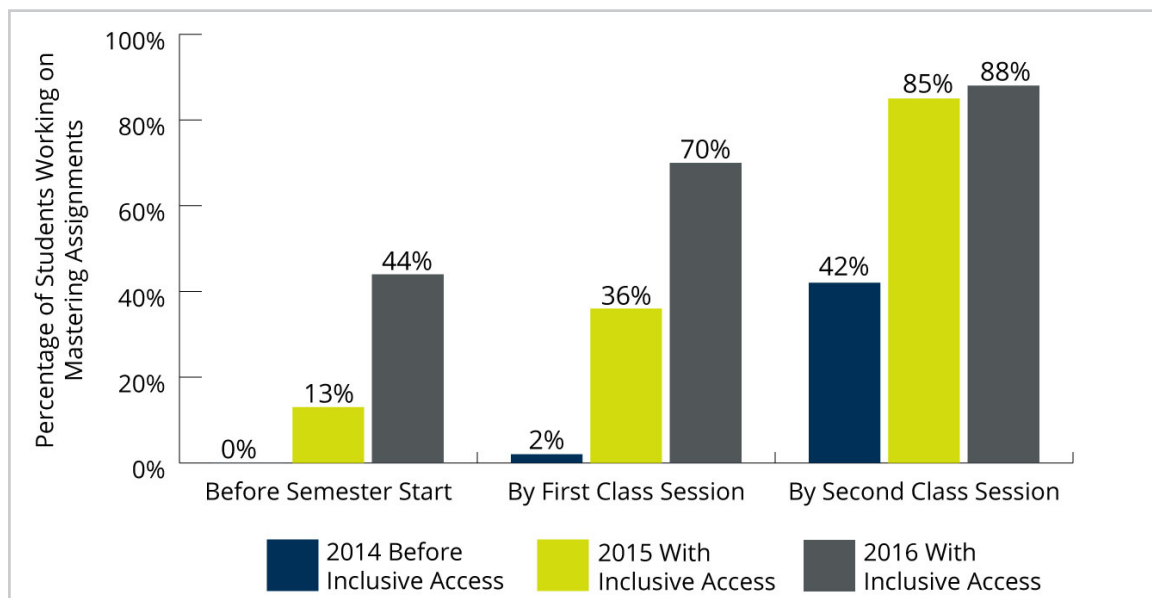


Figure 2. Before Inclusive Access in 2014 ($n=1268$), less than 1% of students began working on course assignments before the first day of class, only 2% began by the first day of class, and 42% by the second class session. After Inclusive Access was implemented, these numbers increased, with 44% of students beginning work on course assignments before the first day of class in 2016, 70% by the first day of class, and 88% by the second class session (2015, $n=1387$; 2016, $n=1528$).

The Student Experience

According to Dr. Larsen, students are happy with the Inclusive Access arrangement in their General Chemistry course. Students now have immediate access to the eText, which ensures that all students can access the textbook from the start of the semester. Dr. Larsen explained that students generally have access to a laptop or mobile technology, and that student access to prerequisite technology has not been an issue in the past five years.

Instructor Experience

Dr. Larsen reports that instructors in the department are happy with the new arrangement. The student onboarding experience has become more straightforward and hassle free, and faculty members don't have to get involved with the bookstore to coordinate textbook purchases each semester. Students access the course materials immediately at the start of the semester, and the complications that financial aid have posed in the past are now irrelevant.

“Eighty-five percent of students are now logged into Mastering prior to the end of the first day of class and 95 percent before the second class session.”

**—Dr. Russell Larsen, Associate Professor,
Department of Chemistry**

Dr. Larsen anticipates leveraging instant access to course assignments to help students self-assess — before the semester begins — whether they should enroll in General Chemistry or in the next-level course, Principles of Chemistry I. In the traditional model, many students enroll in Principles of Chemistry, only to find out several weeks into the course that they are not prepared for success in the course. The department hopes to begin opening the Mastering assignments for Principles of Chemistry several weeks before the start of the semester to help students gauge their readiness for the course before it begins and allow them to instead enroll in the preparatory course, General Chemistry, before it is too late.

Conclusion

Inclusive Access via the Direct Integration program at University of Iowa has enabled all students to access the course text and assignments at the start of the semester and at an affordable price. Because exam scores and grades in the department are normed, it is impossible to determine the impact of this access on student success in the course. However, the data indicates that students have been able to access and complete course assignments early in the semester, giving them a head start on their journey of learning and course completion.