The University of Toledo Case Study

Toledo, OH



Study Specifics

School Name
The University of Toledo

Educator
Kristi Mock

Course Name
General Chemistry I

ALEKS Implementation
Placement and Remediation for Gen Chem I

Average Enrollment
General Chemistry I Fall Semester (CHEM1230) = 900-1000

Introduction

Prior to ALEKS, the University of Toledo was using multiple measures for placement into General Chemistry I: the ACS California Diagnostic Exam, high school GPA, ACT math score, and the university's own trig placement score. Each of these measures were plugged into a website created by faculty member Andy Jorgensen that could make a statistical prediction of a student's success in General Chemistry I. If the chance of achieving a C or above was 80% or higher, then the student would be allowed to enroll in the course.

It was decided the placement model with multiple measures was too complex. In the spring of 2015, the faculty, led by Andy Jorgensen, reviewed other options and decided to switch **to ALEKS because they saw how well it worked as a supplement to their general chemistry course, as well as a placement program at Kent State. They also liked the convenience it provided to students.**

ALEKS Experience

Using ALEKS for placement has been a major positive change. Students can now access and complete the placement exam online and do not have to visit the university to do so. The most notable impact ALEKS has had is that students who miss the cutoff are given the opportunity to earn their way into General Chemistry by working in the system to remediate and learn critical general chemistry topics.

Implementation

An ALEKS General Chemistry course was setup with 78 topics to be used for the placement tool. If students achieve 50% on the Initial Assessment, they can enroll in General Chemistry I. If the score is below this threshold, they can spend time in ALEKS to learn more topics in order to reach 50% or higher. The school's website includes a direct link to the ALEKS placement tool for easy access.

> "ALEKS has streamlined our placement exam, making it easier on the students, faculty, and advisors, without losing any effectiveness in determining who is ready to enter General Chemistry I."
>
> – Kristi Mock



Results Achieved

In the spring of 2015, 1488 students took the ALEKS placement assessment to enroll in general chemistry for the fall. Out of the 1488 students, 700 never achieved 55% (the cutoff score). However, 83% of students who made it to the course were successful (achieved a C or higher). Additionally, there was an increase in the average ACS final scores compared to the previous fall semester (see Figure 1).

Even though the success rate rose, faculty felt that a decrease in enrollment (15%) was too much, and wanted to give more students the opportunity to be successful in the course. The cutoff score in ALEKS was lowered to 50%. Students who score below 50% are given the opportunity over the summer to remediate in ALEKS and reassess. If they reach 50% they are allowed to enroll in the course with the stipulation that they must also take the Peer Led Team Learning Supplement course.

ALEKS has also had a positive affect on the Drop/Fail/Withdrawal rates for general chemistry. Starting the year ALEKS was implemented for placement, the D/F/W rate has decreased by nearly 10% (see Figure 2). This has prompted the instructor for the Elementary Chemistry course to raise her grades and push her students harder to get into general chemistry.

Overall, the faculty believe that ALEKS as a placement tool works more efficiently than the previous complex 3-variable method, and provides more students the opportunity to suceed in general chemistry. Additionally, Toledo is looking to use ALEKS as a placement tool for the GOB course.

Figure 1:
Average ACS Final Results

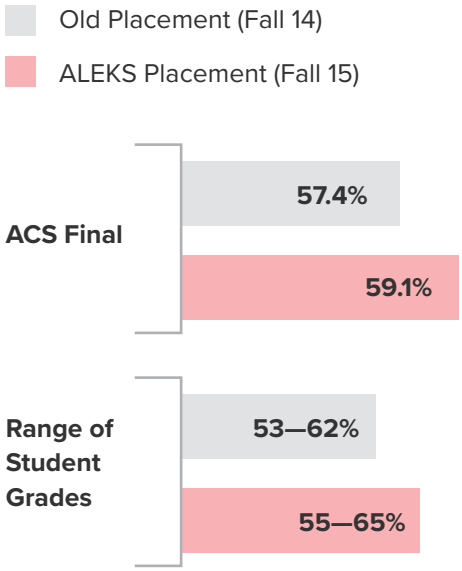
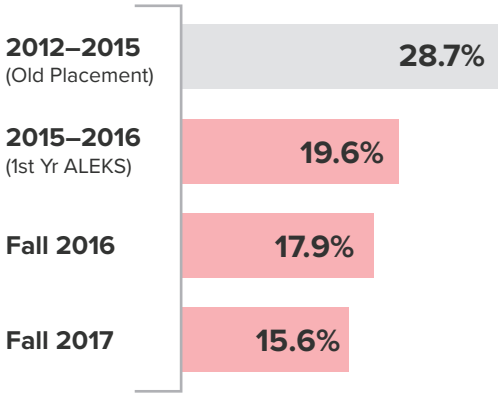


Figure 2:
D/F/W Rates for Gen Chem I



Institution Profile

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Instructor Profile

In graduate school, Kristi's focus was on analytical chemistry. There she worked on choline modified quantum dots and beta-cyclodextrin gold nanoparticles for chiral separation. Since then she has been teaching mainly first-year chemistry courses at the University of Toledo. Kristi was instrumental in getting ALEKS adopted at the University.

