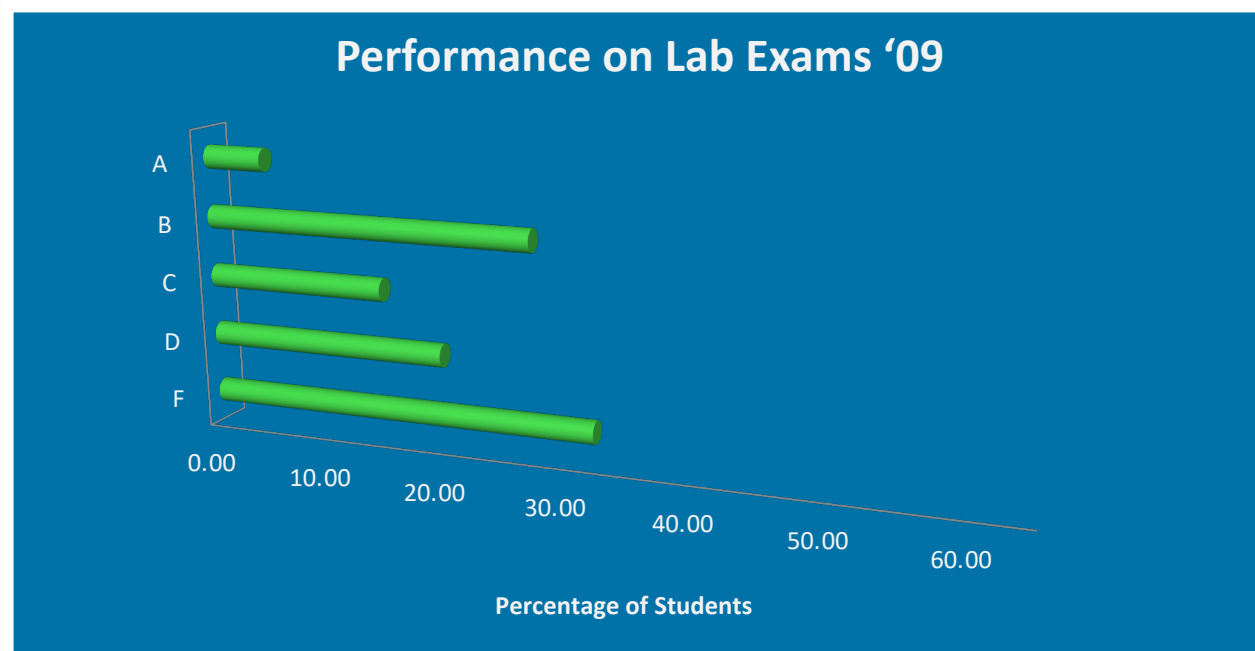


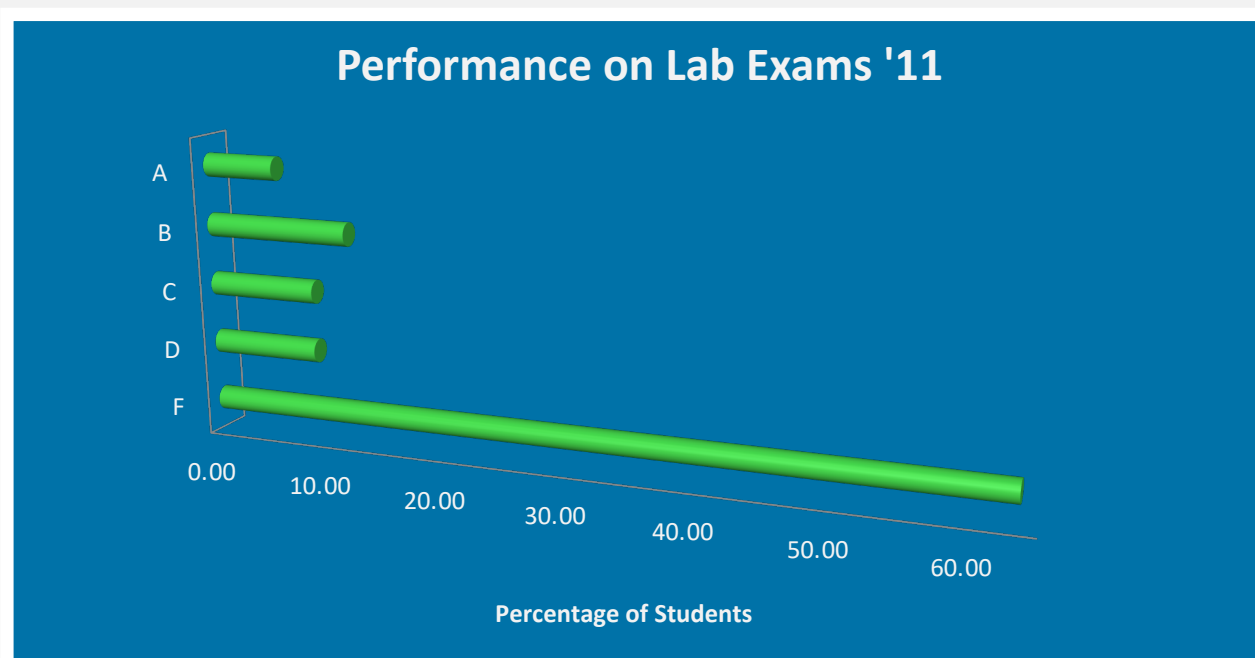
Improving Student Success Through Curriculum Design With OER

Identifying the Problem Before OER Use

Assessing Learning in Laboratory

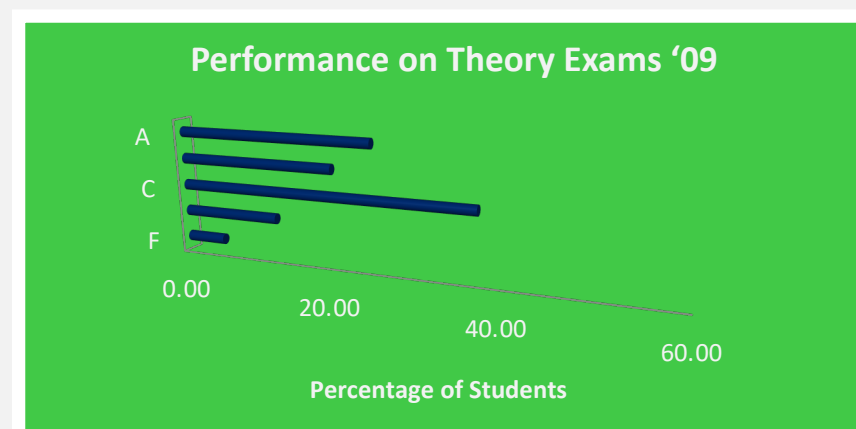


C or Better
47.5%

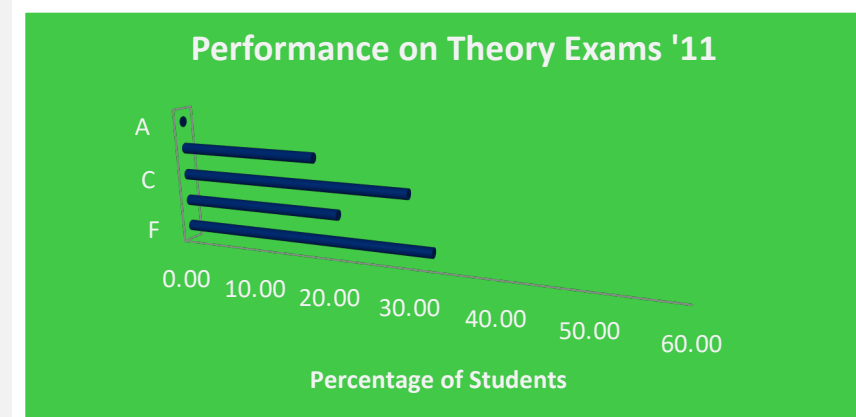


27.3%

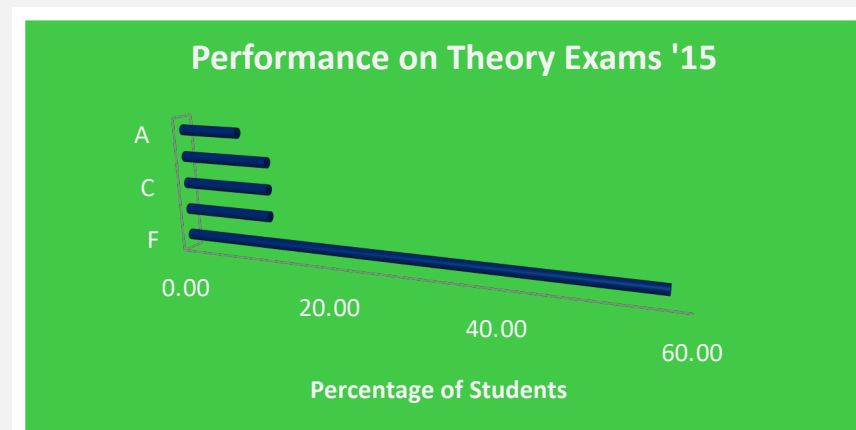
Assessing Learning in Lecture



C or Better
83.5%



47.0%



31.8%

Performance Decline

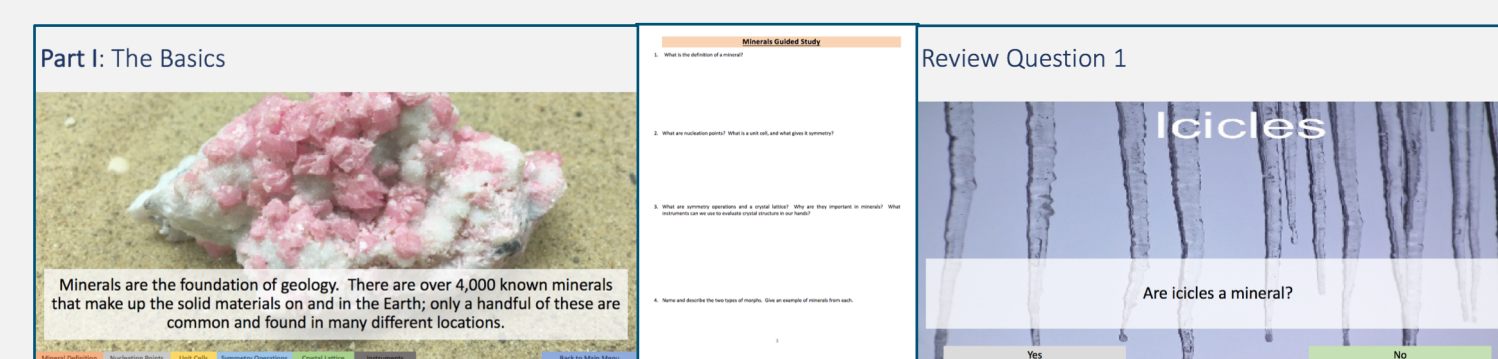
Using traditional publisher materials resulted in drops to scores on exams, as well as other assessments (quizzes, laboratories, and assignments) throughout the course. The success rate (students with a C or better) dropped from 65.3% in 2009 to 55.4% in 2011, the last year before OER development began.

Developing and Designing With OER

Building the Track

Custom OER have allowed a coherent track where students can connect one activity to another, improving learning. Phases I and II are completed independently by the students. Students have ownership of Phase III, where our time together in the classroom is spent. Phase IV is used to reinforce what we've gained.

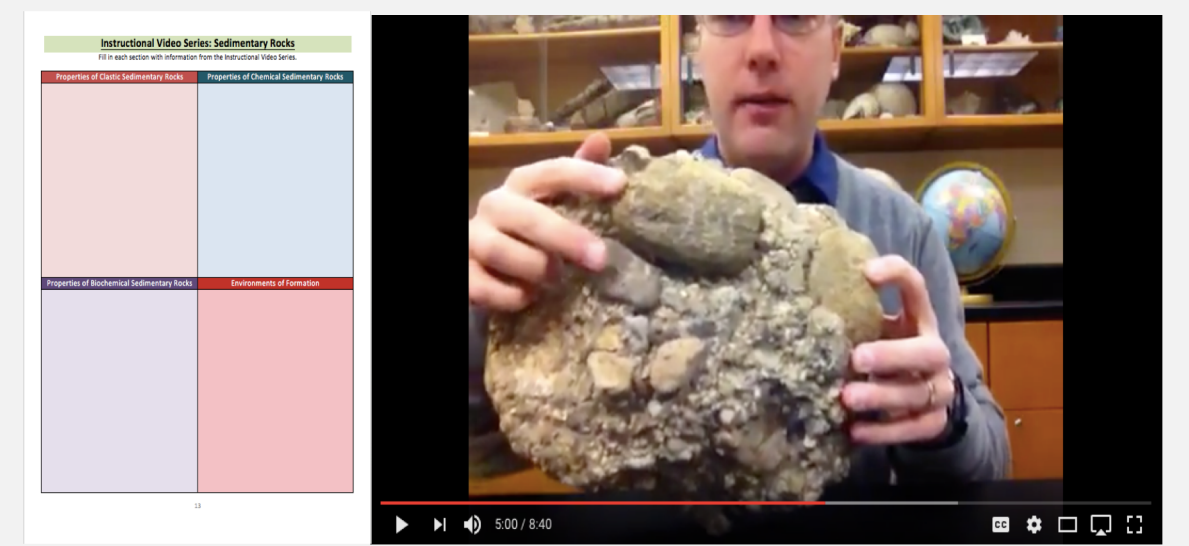
Phase I: Growing Content Knowledge



Interactive online learning modules are coupled with guided studies that students complete for targeted note taking. Review questions are also embedded to give students practice before graded assessments.

Phase II: Begin Skill Building

Instructional videos, 2.5 to 30 minutes in length, focus on developing skills that will be needed to applying new knowledge in the lab.

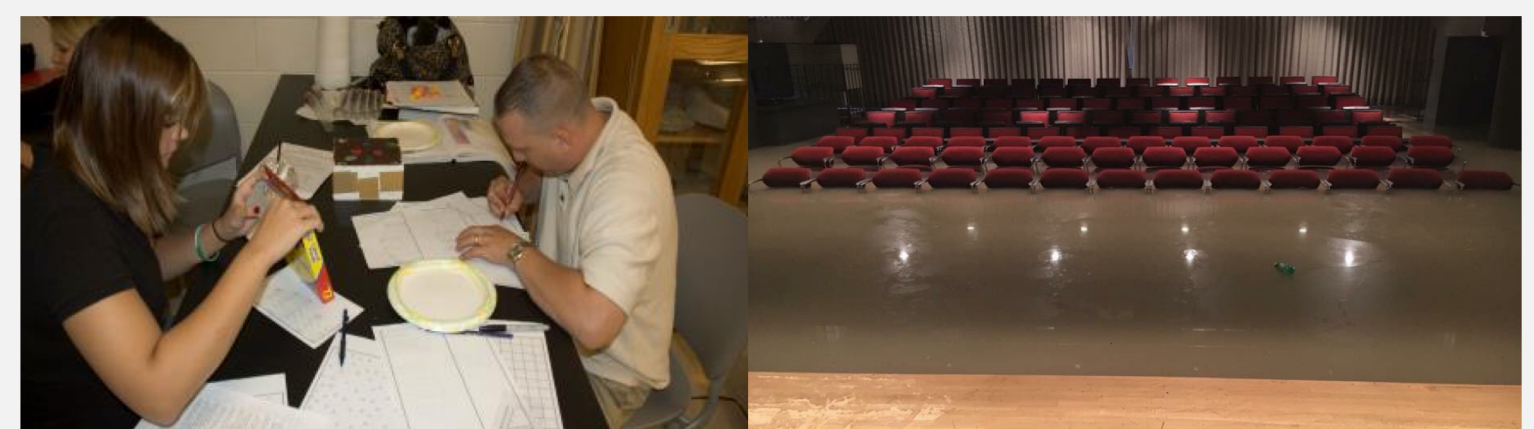


Phase III: Becoming the Expert



Students teach peers skills learned from the videos. While working on problems, students will lead the team when their skill is required.

Phase IV: Reinforcing What's New

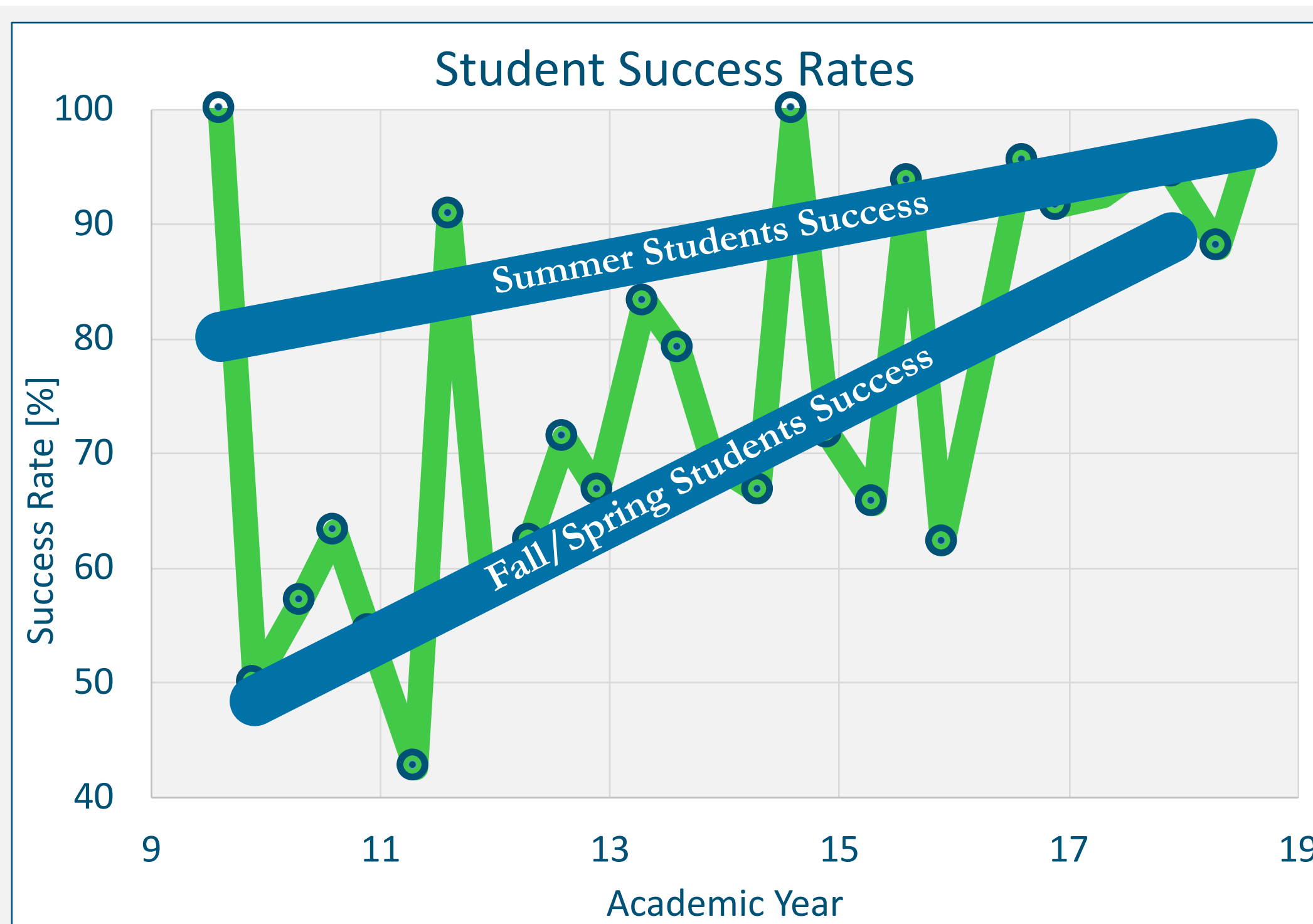


Students work through application problems using new knowledge and skills to complete tasks "real world" geologists must. Students also bring case studies to expand our work into the world.

Results With a Completely OER Course

Closing
- 27.3%
the Gap

Summer students are more self-directing compared to fall/spring. With the OER the two populations are achieving the same success.



Gaining
+ 37.9%
Success

Following the start of the 2016-17 school year when OER development ended, students are averaging a 93.32% success rate.