Improving Student Success Through Curriculum Design With OER

Identifying the Problem Before OER Use

Assessing Learning in Laboratory

- **Phase I: Growing Content Knowledge**
  - Interactive online learning modules are coupled with guided studies on developing new knowledge in the lab.

- **Phase II: Begin Skill Building**
  - Instructional videos, 2.5 to 30 minutes in length, focus on applying new knowledge in real-world geologists.

- **Phase III: Becoming the Expert**
  - Students teach peers skills learned from the videos. While working on application 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.

Building the Track

Custom OER have allowed a coherent track where students can engage the 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.

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.

Teaching, Learning and Educational Technology Center