

PROJECT BACKGROUND

Scaling OER over Math 119 College Algebra

Motivations for adopting and scaling OER

- Decreased student cost of course materials.
- Coordination of college algebra courses.
- Enriched, student-centered, research-based learning environment.
 - Content contextualized to a specific course and student population.
 - Customized active-learning materials.
 - Sustained undergraduate learning assistants in the classroom by replacing high textbook cost with a low course fee.

IMPACT

175 Students Impacted in Fall 2017

- 175 students in seven sections of Math 119
- Estimated cost saving of at least \$120 per student.
- Improved student engagement and outcome possibly correlated with stronger pedagogical alignment of materials (potentially researchable).
- Students engaged in providing feedback on their experience positively impacted their agency in their learning environment.
- Suspected positive impact on retention, learning, self-efficacy (potentially researchable).

RESOURCES

LMS integrated, editable textbook and online homework manager (OHM)

- Piloted a Lumen Learning technology that integrated an editable digital text and online homework manager seamlessly into the Blackboard LMS.
- OHM, derived from MyOpenMath open-source homework manager, includes numerous libraries of OER homework problems created over 12 years.
- Utilized existing CC-licensed videos available on YouTube.
- Utilized various interactive graphs.
- Created original problems, digital interactive graphs, reading notes outlines, and videos.

IMPLEMENTATION

Review – Curate – Adopt – Integrate – Scale

Time Prior to Semester	Action
4 – 3 Months	Reviewed textbooks and online homework platforms with instructors and department chair.
3 – 2 Months	Gained familiarity with available digital content, chosen textbook and homework manager; located and reviewed OER materials such as problem sets that support current course content; team-briefing with instructors and department chair.
2 – 1 Months	Aligned <i>editable</i> text with course sequence and pacing; contextualized chosen OER exercises as needed; finalized online homework sets; replaced existing classroom activities with CC-licensed OER versions; team-briefing with instructors and department chair.
Crunch time!	Collected OER videos into digital folders; received course cartridges from platform provider; built and personalized individual courses with course instructors; produced guidance materials for students.
Debut and ongoing	Continued to refine and curate materials during semester; met with departmental colleagues and platform provider for future-planning.

SCALING PROJECT DETAILS

- Seven sections of Math 119.
- Three instructors.
- We have begun to develop a set of guidelines for OER adoption.
- We will continue the scaling project in spring 2018 with four of the seven sections.

LESSONS LEARNED AND FUTURE PLANS

Lessons Learned

- OER adoption/scaling should be undertaken for the very worthy reasons of creating a unique, student-centered, pedagogically sound, cost-effective environment. But it should be understood that in the short run, the curation, creation, and organization of the course materials are significantly time-consuming.
- If possible, extend the process of reviewing and selecting materials to allow a summer for the initial course creation.
 - OER is new and often ungroomed with regard to technological glitches and formal organization.
 - Chosen texts and homework sets should be reviewed from a student perspective to ensure a high-quality presentation. This requires significant time.
 - A great advantage of OER lies in collecting excellent CC-licensed digital media. It always takes longer to locate and review such material than it appears it will take.
- Transparency of course vulnerabilities to your students cannot be overvalued. Involve them in the process. Frequently request feedback and make some course adjustments based on it. The students may gain confidence from being included in a interesting experimental model and their insight into their experience will very likely prove to be valuable to the instructor.

Future Plans

- Continue to enrich and refine the Lumen Learning model in the spring of 2018 with four sections.
- Develop and CC-license our own library of materials specific to our curriculum.
- Establish guidelines and best practices for OER adoption.
- Re-establish the full scale with a target of fall 2019.