

Incorporating Open Educational Textbook into Business Math Co-requisite Model

UTA CARES Final Report

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Introduction

In the Fall 2019 semester I have incorporated an open educational College Algebra textbook from the OpenStax library in my Business Math co-requisite course. Co-requisite model is offered to students who are not yet TSI complete. Therefore, by successfully passing this class, students receive two credits: TSI completion and credit for Business Math.

Our department has been using Pearson's Mylab online homework platform along with their e-text that is included in the cost of the purchase totaling \$70. Students were also required to purchase the in-house workbook which costs approximately \$30. Adopting a textbook from the OpenStax has brought down students' cost per course to \$0. Total course enrollment reached fifty - five students and the class met for six hours per week.

Procedures

None of the course objectives or procedures were compromised during this open resource adoption. Students were still asked to complete the same course objectives, completed all the required homework assignments, and were assessed on all the topics. Therefore, the quality of education students were provided did not differ from a regular Business Math section.

Students completed weekly homework assignments on paper and pencil and were given feedback from the instructor or grader. Most of the homework assignments came from the back

of the textbook section and others were developed by the instructor. Due to the nature of the co-requisite model which counts for six credit hours, students completed four to five homework assignment per week. They were given the option of turning in the assignments in class or uploading them to Canvas. Students took timed quizzes online in Canvas. I have written two versions of ten quizzes and students could review the first attempt before taking the quiz for the second time to learn from errors. Timed tests were in the paper/pencil format and taken during class time. I wrote all the exam questions.

Accomplishments

Business Math at UT-Arlington has experienced low success rates in the past. Passing rates of 55-60% is a norm for this course. During the open textbook adoption, my success rate (A, B, C) was 87%. After reading students' feedback results it is clear that they were very satisfied with the open textbook adoption that saved them close to \$100. Students have spoken how easy it was to use the PDF version of the book and complete math problems from it. They appreciated the opportunity to use the saved money in other areas of their life and still do well in the math course.

Challenges

The main challenge for me was providing timely feedback to students on homework assignments. Prompt feedback is crucial for student learning and I was not always able to do that with such a large class and multiple assignments per week. Few weeks into the semester I have hired a grader and used most of my adoption stipend to pay his salary. I have thought about decreasing the number of homework assignments but I don't see how that will benefit my students since consistent practice is a salient component of their success.

Conclusion

Adoption of the open text has been eye-opening for me and my students. I am thankful that I have done it because often math instructors think it is impossible to teach this course with an open text because most instructors are used to Pearson products. This experience has helped me see how my choice of course materials can either burden or uplift my students. I know that some of the students in the class were homeless at the time and knowing that they were not required to purchase \$100 materials has reminded me that my work is meaningful.

On the other hand, more work needs to be done in improving open texts and materials in mathematics. It is challenging to sustain open resources and receive faculty buy-in when grading becomes such a hardship. During the recent conversation with my department chair, he has shared with me that due to current budget cuts instructors are limited on receiving help on grading which will further add cost to our students.