

Affordable Learning Implementation Grant Report

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MATH 204 *Introduction to Statistics*

Fall 2021

During fall semester 2021 I taught MATH 204 *Introduction to Statistics* using the following open education resources: [OpenIntro Statistics](#) textbook together with its associated teaching materials, and the R statistical computing environment via [RStudio Cloud](#). The teaching materials associated with the OpenIntro Statistics textbook provided me no-cost access to supplementary lecture videos, data sets, and sample homework, quizzes, and exams. Further, I was able to provide the students with cost-free access to the lecture videos and data sets. Using these materials together with R, I was able to develop lecture slides that are posted on my [course webpage](#) from which students could access the slides which include the lecture videos embedded within the slides. The data sets corresponding to the OpenIntro Statistics textbook made it possible for the students to engage with realistic data and helped them to gain hands-on experience in data analysis as it relates to introductory level statistics. Because of free access to data, I was also able to develop interactive lab assignments in the course to assess students ability to apply the concepts covered in the course to solve fairly realistic and interesting problems.

Student Engagement with OER Materials

In order to learn about students' perception of the OER materials I used for MATH 204, I conducted a survey to gauge how they viewed the assignment of OER materials for the course. Out of 21 students enrolled in the course, 15 responded to the survey. Overwhelmingly, students indicated that they were more satisfied with and made greater use of the free materials than they would have with for-cost materials. Further, the students responding to the survey indicated that they perceived the free materials to be of high quality and effective in helping them to learn the material taught in the course. In addition to the survey results, students made many positive comments about the use of OER course materials in the online course evaluation given for MATH 204 in Fall 2021.

Future OER Plans

I am scheduled to teach MATH 204 again in Fall 2022 and my intention is to use the OER materials that I have already used again then. There are two modifications that I would like to make in the future. When teaching MATH 204 in Fall 2021, I relied a lot on the course learning management system for assessment purposes and to facilitate making the class interactive. My issue with this is that it restricts access to some course materials to only students enrolled in the course and only for the duration of enrollment. In the future I would like to put more materials on the web to provide broader and longer term access to all course materials. I plan to work with Information Technology to find a way to do this in the future. The other adjustment I will probably make in the future has to do with the use of RStudio Cloud. The free tier level subscription to RStudio Cloud was a little limiting for some students so in the future I will make sure that students have sufficient access to computing resources for the course.

Conclusion

I found using OER materials for MATH 204 rewarding in a number of ways. It was particularly useful for me to be fully confident that all students had complete access to the textbook at all times. Further, I am convinced by assessment results that the students in MATH 204 in Fall 2021 learned well from the OER course materials and developed useful problem solving skills that I was able to foster because of the particular course materials I used. Overall, the experience was sufficiently positive to encourage me to attempt to implement the use of OER materials in some of my other courses.