

Recommendation 6: Integrate assessments that are aligned with the course goals to improve as well as evaluate student learning

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In this article, the author discusses many of the advantages of using projects in a statistics class. The projects are designed with the intent to emphasize a “learning by doing” approach to statistics. The author points out that “several authors have recommended laboratory-based courses, in-class activities, or course-long projects.” Statistics courses should have balance of lectures and of activities or projects for the students to complete. Many researchers believe that “statistical reasoning should take precedence over statistical methods.” If designed properly, projects and active learning activities force the student to think with a statistical mindset instead of just learning how to crunch numbers. These kinds of assignments are a great supplement to a lecture class and promote a “learning by doing” style of learning

The author of this article outlines the format of a university statistics class. The instructor used bi-weekly presentations to reinforce the lecture during class time. The students were divided into teams that they worked with all semester and completed a reported and a short presentation every other week. The thing that I found most interesting about these projects was that the students had to do all the data collection. The professor gave the students suggestions for the projects but the students had to collect and analyze the data on their own. I think this was a good strategy because the students are much more likely to remember and learn from their results if they collect the data on their own, instead of just being handed a list of numbers. The group members also had to take turns writing a report for the project and then another student

had to present the project to the class. These two aspects of the projects force the students to communicate in a statistical language. Accurately and effectively communicating the results of the projects shows the students truly understand the results and their conclusions.

This article aligns with the GAISE recommendation in that the teacher incorporated a form of assessment that was not the traditional test. Although there was a midterm and final exam for the course, the projects still counted 40% of the student's final grade. One interesting part of the article was that the instructor found that there may be a relationship between higher exam grades when the course involved the projects as opposed to when the course did not include projects. Although it cannot be shown that the projects cause the grade improvements, the increase in exam scores is an encouraging result.

The most beneficial thing I got from this article was the idea of having the students collect the data on their own. Some modification would need to be done for a high school class but I think the emphasis on "learning by doing" would certainly benefit high school students.