

*by Sara Crawford*

This past year, I advised an undergraduate research team for the first time on a project in applied statistics. Our goal by the end of the year was to conduct a statistical analysis to determine whether or not there was an association between a reduction in teaching load and student evaluation scores provided through end of the semester student surveys, and then to prepare a poster presentation and written summary of our work. Through these surveys, students rate the quality of the course regarding items such as workload, classroom environment, and grading policy as well as the quality of the professor regarding items such as preparation, presentation, and enthusiasm on a 5 point scale. We used a dataset from the department of mathematics and computer science that contained student evaluation information from several years both before and after the department saw a reduction in teaching load. When comparing the average student evaluation scores before and after the reduction, there were very few differences. There was some evidence that the average student perception of instructor preparation and choice of textbook improved after the reduction in teaching load, but the size of the improvements were very small. There were several lessons that I took away from this project. First, it is important to give the students some time to explore the question and the data on their own at the beginning of the project. This allowed the students to put their classroom skills to work outside of the context provided by a textbook or classroom and to gain some ownership of the problem. It also allowed me to see what skills had translated from the classroom and what I might want to emphasize more in the future. Second, while individual work on these projects is sometimes necessary, having students work in groups without supervision in between meetings was very beneficial. Because freshman through seniors participate in these groups, the group environment allowed for students with less background knowledge to benefit from the explanation of others in the group. Third, since the field of statistics relies heavily on software for practical implementation, research projects are a great place for an introduction to other software packages. During the project, we ran into limitations with a statistical package that the students had been exposed to in the classroom, and had to switch to another software package. Since software skills are very important, I would not hesitate to spend some time at the beginning of a project in the future learning new software. Fourth, when investigating new, more advanced ideas, it is important to have ample time and also create a balance between independent reading and teaching. And finally, I think it is important to push the speed of the project during the year to leave more time than you think you need for writing at the end of the project. The process of writing and revising scientific literature can be a great learning tool but you need plenty of time to allow for equal exchange of ideas and critical assessment of items such as phrasing and presentation.