



Course Template:

Introduction to Statistics, PSY 230

Abstract:

Students collected, analyzed, and evaluated survey data about student retention and unplanned pregnancy. Analyses included descriptive and inferential statistics, which provided students with the opportunity to learn how the course applies to real-life situations.

Academic Objectives:

Students will learn to:

1. Conduct ethical research using human subjects
2. Create a database of survey responses
3. Analyze the data on SPSS, with descriptive and inferential statistics
4. Present the data using a poster format
5. Discuss the survey results with students from other courses

Pregnancy Planning/Prevention Objectives:

After completing this lesson, students will

1. Understand how unplanned pregnancy can affect college completion
2. Understand the importance of healthy relationships
3. Know what campus and community resources are available to pregnant and parenting college students and their partners
4. Be familiar with a variety of birth control options and where to get them in the community (e.g., www.bedsider.org)
5. Be exposed to various electronic information sources (e.g., www.TheNationalCampaign.org)

Preparation:

Databases from the National Campaign to Prevent Teen and Unplanned Pregnancy were used as background information. We compared/contrasted different states' teen pregnancy rates, using frequency tables and graphs, and measures of central tendency. Students selected a question to ask peers, and analyzed their results (n = 20 students).

Opening/Introduction:

Students were trained in ethics of human subjects research using www.citiprogram.org. This helped students understand that we could not ask highly personal questions, and had to instead ask opinion questions.

Student Activity:

My course has a lab. My course syllabus did not change, but I modified my lab syllabus to accommodate the work on this project. This was not difficult. I used data about unplanned pregnancy to teach course concepts. I had students gather data about unplanned pregnancy instead of about random topics. I used my existing applications to involve analyzing the project

data instead of students' own data. Students mostly worked in lab to complete assignments, although they had to distribute surveys on their own time.

Service Learning Activity:

Students had the option of presenting their work to other students and faculty at the college's pregnancy planning and prevention fair.

Teaching:

I found that having a topic to work toward enhanced my class and was well worth any extra time on my part. My goals for this project were for students to learn the pitfalls and benefits of survey research, to work with a large data set instead of the usual 10-20 subjects, to learn the course content, including t-tests and correlation, and to participate in a project that serves to help people. My students wanted to ask very personal questions on our survey, but that was not an option. Instead, they were able to see what could be gathered in an ethical manner.

Each student could conduct his or her own analysis. Out of my 50+ students, only a few ran the same t-test! This allowed students to focus on questions that interested them. Each student contributed to our knowledge base. I could not have asked for better collaboration. One result showed strong significant differences in where males and females first learn about sex. This was very meaningful and interesting for my students.

Reconnection to Opening/Lesson Objective:

Once we created our master SPSS file, I was able to relate all further course work to the database. I could talk about Anova, Chi square, and correlation by simply mentioning some of the variables we measured. This really helped my students since they had been so involved in gathering that data.

Connection to the Real World:

Students learned that survey research has its pitfalls. Subjects rushed through the surveys or were not honest. They were self-reported, anyway. Students had to work around these issues. Some were disappointed, but it really allowed them to understand the connection between statistics and real life. Where does data come from? How accurate is it? Is it valid? We had difficulty getting our survey approved through the IRB. We discussed working within an institution, and how biases and misperceptions color the world in which we work. Our large sample size overcame many of the issues with data collection. These concepts would not have made sense to the students if it weren't for the project.

Materials about Unplanned Pregnancy:

I used the databases on teen pregnancy by state. I did not use any of the survey questions on the materials from the National Campaign because of their sensitive nature.

Assessment:

I have a rubric I use for my lab applications. The applications in total encompass 30% percent of the lab grade, but only three of the applications related to this project. The posters related to this project are 10% of the lab grade.

Student Engagement:

I was delighted that many of my students wanted to show their posters at the fair. This topic relates to everyone and I believe my students could see that. Not all students were fully engaged or interested in the topic, but all benefited from the application of our course content to a real-life study.

General Comments/Advice:

I would strongly suggest to all stats instructors to incorporate service learning into your course. It brings the course to life so much more than having students gather data on random topics. The large sample size alone increased learning. After the pre-learning activities, write one survey that can be used for dozens of t-tests, correlations, Anovas, and chi-squares. That way, each student can run an analysis on questions that interest them. Remember to get IRB approval so that your students can discuss and publish their work, and also because unplanned pregnancy is a sensitive topic.

Instructor Name: Kari Taylor
College: Mesa Community College, Arizona
Contact: kari.taylor@mcmail.maricopa.edu