MIDTERM PROJECT - ROLE SWITCH

Jing Chang
College of Saint Mary
6/28/21

About College of Saint Mary (CSM)

The region's only Catholic university for **women**.

About 1100 students
- About 30% graduate students

Top 5 undergraduate majors:
- Nursing, Occupational Therapy, Education, Sciences, Legal Studies

Located in Omaha, NE

Learning Outcomes of Elementary Statistics
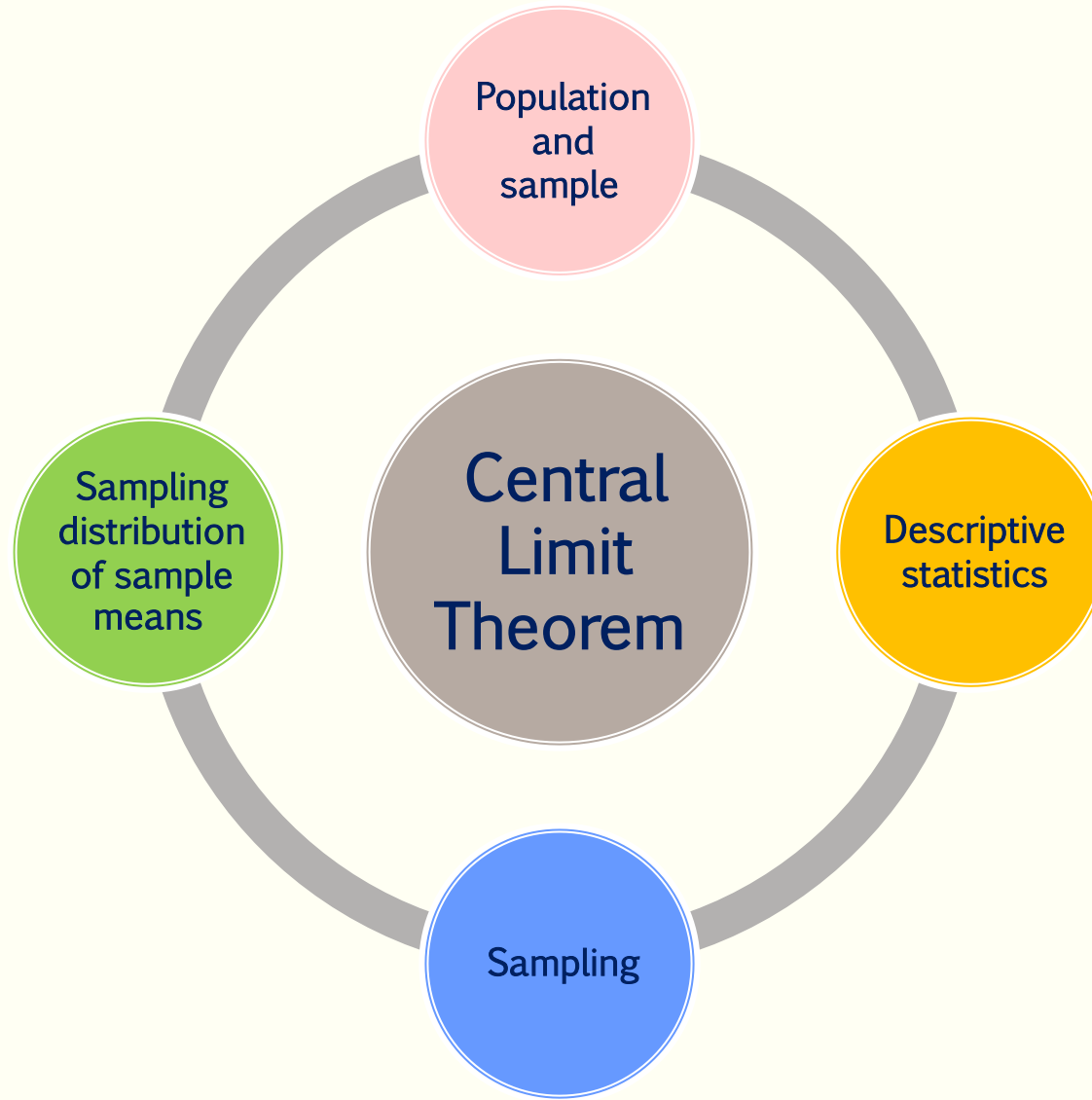
Interpret statistics results

Describe real data using graphs and numerical statistics

Make informed decision using statistics

Use a Midterm Project to Replace the Midterm Exam

Population and sample

Sampling distribution of sample means

Central Limit Theorem

Descriptive statistics

Sampling

Record a video to teach sampling distribution of sample means and Central Limit Theorem (CLT).

Description

Midterm project - putting all together

Instruction:

In this assignment, you will record a video **(5 - 7 minutes)** to explain sampling distribution of sample means and Central Limit Theorem (CLT) to someone who is not familiar with statistics (for example, your parents, siblings, granny, spouse, boyfriend, or neighbors). The instructions are given as below.

1. Think of one quantitative variable which you are interested in and collect a data set with 20 or more entries. For example, 20 or more women's (ages 20 - 50) heights, numbers of kids of 20 or more families in your neighborhood, selling prices of 20 or more houses in some area, and so on. I suggest you to collect some data which you are interested in. This way, you will be more motivated to work on this project.

2. You need to explain your data set to your audience first.

   - **What variable did you collect?**
   - **How did you get your data?**
   - **Make a relative frequency histogram to describe your data set. Please click** [here](#) to review how to make a relative frequency histogram. **This is the**

An example

- https://app.vidgrid.com/embed/a0zJRtTfqG7z

- https://app.vidgrid.com/embed/SX6JSY6p9ACy

Suggestions for Future Improvements

o Ask more questions instead of giving instruction

o Ask students to explain how to use CLT to solve problems

o Give students more time to work on this project

o Make a grading rubric

References

- Christie B. & Miami-Dade County Public Schools Department of Research Services. (2011). Strategies for Reducing Math Anxiety. *Information Capsule*. volume 1102. Distributed by ERIC Clearinghouse.
- Beasley, M.A., Fischer, M.J. Why they leave: the impact of stereotype threat on the attrition of women and minorities from science, math and engineering majors. Soc Psychol Educ 15, 427–448 (2012)