Textbook Activity
Day 6

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These questions will be completed by the student and will count as class time. The students will be responsible for completing the work related to these activities and this work will count as attendance.

This work is due first thing during class on Day 7. Failure to turn in this work will cause you to be 2 hours out without an excuse.

Directions:
Read Chapter 6 of EYCLS, page 103-123

Please use the lecture slides, the NDT table, the t-table, and your textbook to answer the following questions:

1. Explain, in your own words, the concept of sampling error.

THE VARIANCE THAT OCCURS DUE TO SELECTING A SINGLE SAMPLE FROM A POPULATION.

2. Explain, in our own words, the concept of interval estimate.

A RANGE WITH AN EXPLICIT LOWER AND UPPER LIMIT, STATED WITH A SPECIFIC DEGREE OF CERTAINTY, THAT REPRESENTS AN ESTIMATE OF A POPULATION PARAMETER.

3. Explain, in your own words, what an interval estimate is.

A CONFIDENCE INTERVAL ESTIMATE CREATES A RANGE CENTERED ON A SAMPLE STATISTIC. AND IDENTIFIES THE LIKELIHOOD THAT THIS RANGE INCLUDES THE ACTUAL POPULATION PARAMETER.

4. How does the sample size affect the precision of the interval estimate? How can we improve the precision of our estimates?

THE PRECISION IS DETERMINED BY THE LEVEL OF CONFIDENCE IN AN ESTIMATE. THE WIDER THE INTERVAL (SIZE OF SAMPLE), THE MORE CONFIDENT IT WILL BE.

5. When is it appropriate to use the t-distribution? Hint: look at the decision tree that is available in the lecture slides.

IT CAN BE USED TO ESTIMATE THE POPULATION MEAN OF A NORMALLY DISTRIBUTED POPULATION, AS LONG AS THE SAMPLE SIZE IS LARGE ENOUGH.

6. Explain, in your own words, what a population proportion is.

THE PROPORTION THAT ALLOWS YOU TO DEVELOP A CONFIDENCE INTERVAL ESTIMATE USING THE SAMPLE PROPORTION OF SUCCESSES.

7. Explain how to use the t-table to determine critical values.

YOU LOOK UP THE CONFIDENCE LEVEL IN THE T-TABLE TO DETERMINE THE CRITICAL VALUE.

8. What are the common levels of confidence used? What are their z-values?

95% IS THE MOST COMMON LEVEL OF CONFIDENCE, HOWEVER, 90% AND 99% ARE ALSO USED.

90% = 1.645
95% = 1.960
99% = 2.576