10- Projects Utilizing Our Statistics Skills

Content Area: **Mathematics**
Course(s): **AP Statistics**
Time Period: **May**
Length: **12 blocks**
Status: **Published**

Transfer

Students will be able to independently use their learning to conduct projects utilizing their statistic skills.

Enduring Understandings

Almost all data can be tested for significance

Data must be collected properly for test results to be valid

The internet is a valuable resource but not the only source of data

Learning can be more useful when applied to ones personal interests

Essential Questions

How do you go about proving or disproving a claim?

What are the most effective and accurate techniques for collecting data that meet my goal?

What is the best statistical test to analyze and interpret my collected data?

What conclusions can be drawn from my data and hypothesis tests?

Student Learning Objectives

- Brainstorm project topics.
- Collect data conforming to rules of randomization.
- Organize data using appropriate method.
- Create a data display that best represents the data.
- Perform appropriate hypothesis test for data.
- Analyze and interpret results to draw conclusions about original hypothesis.
- Write up results for formal presentation or create power point.

Vocabulary and Planned Learning Experiences

Vocabulary: optional vocab from course, dependent on project choice

Planned Learning Experiences:

Brainstorm a Project Idea: Students will work in small groups, pairs, or by themselves to choose a project topic. Topics should be based on their interest and should involve an inferential procedure. Teacher will assist as needed.

Project Presentations: Students will create a presentation for their project to present to the class.

Resources

American Statistical Association Poster Project Contest

Assessments

Project: Chi-square Test

Project: Two Sample Test

Project: Experiment

Research Reviews (Students learn to read research articles and review them (including summarizing data and findings, implications of findings, and possible issues).

Modifications (ELL, Special Education, At-Risk Students, Gifted & Talented, & 504 Plans)

ELL:

- Use visuals
- Introduce key vocabulary before lesson
- Provide peer tutoring
- Guided notes and/or scaffold outline for written assignments

Supports for Students With IEPs:

- Allow extra time to complete assignments or tests
- Guided notes and/or scaffold outline for written assignments
- Work in a small group
- Follow all IEP modifications

At-Risk Students:

- Guided notes and/or scaffold outline for written assignments
- Introduce key vocabulary before lesson
- Work in a small group
- Lesson taught again using a differentiated approach
- Use visuals / Anchor Charts

Gifted and Talented:

- Create an enhanced set of introductory activities (e.g. advance organizers, concept maps, concept puzzles)
- Organize and offer flexible small group learning activities
- Teach cognitive and methodological skills
- Organize integrated problem-solving simulations
- Propose interest-based extension activities

Supports for Students With 504 Plans:

- Follow all the 504 plan modifications
- Text to speech/audio recorded selections