Observe behavior

- Students with ADD have problems sitting in a classroom for entire class period

Formulate a research question

- What strategy(s) could a teacher implement that could reduce student distraction?
Formulate hypothesis

• If the teacher has the student assigned to tasks to get the child out of their seat periodically the child will be able to pay attention for the rest of the amount of time

Test/Collect/Analyze data

• Create the tasks for the student and have them complete the tasks
• Document the child’s attention span during “learning times”
• Analyze Date

Draw conclusions/Refine

• Was there a change in the students attention?

Research

• Samples – selecting a small group to study
• Must represent wide variety of population

Biased sample

• When your sample isn’t representative of entire population
• Avoiding biased sample
• Random sampling
• Ex. Draw from a hat
• Stratified sampling
• Ex. Researcher picks to represent all subgroups
• Sample size
Types of research

- Correlation
- Experiment
- Naturalistic observation
- Case study
- Survey
- Longitudinal study
- Cross-cultural

Correlation

- Positive correlation – high value for one variable corresponds to a high value of another variable
- Negative correlation – high value for one variable corresponds to a low value of another variable

Measuring the Correlation

- The correlation coefficient

Understanding Causation

- The third variable problem
Experiment

- Independent variable (IV) – variable the experimenter deliberately controls
- Dependant variable (DV) – variable researchers believe will be affected by the IV

Designing an Experimental Study

- Manipulate one variable and observe changes in others
  - Independent variable: the cause
  - Dependent variable(s): the effect

Assigning Participant Groups in a Study

- Randomly assign participants to:
  - Experimental groups, who experience the independent variable
  - Control groups, who do NOT experience the independent variable

Naturalistic observation

- Observing human/animals in natural setting
- Ad. Get accurate behavior
- Dis. Hard to be in natural setting
Case study
- Intense study of an individual or small group over a period of time
- Ad. Look at individual problem
- Dis. Sample size too small

Survey
- Practical way to gather data on beliefs, attitudes, actions of a large group
- Ad. eliminates research bias
- Dis. Subjects could lie

Longitudinal study
- Study the same group of subjects over a long period of time
- Ad. Consistent and inconsistent behavior
- Dis. Time consuming
Cross-Cultural Study
• Comparison of people’s beliefs, values, behaviors from different cultures

https://www.youtube.com/watch?v=BTQekF4A-WQ

Conducting Ethical Research

American Psychological Association Guidelines
- Do no harm.
- Accurately describe risks to potential participants.
- Ensure that participation is voluntary.
- Minimize discomfort to participants.
- Maintain confidentiality.
- Do not unnecessarily invade privacy.
- Use deception only when absolutely necessary.
- Provide debriefing to all participants.
- Provide results and interpretations to participants.
- Treat participants with dignity and respect.
- Allow participants to withdraw at any time for any reason.

Ethically Questionable Research: The Tuskegee Syphilis Experiments
- Prisoners, soldiers, and mental patients were deliberately exposed to syphilis and gonorrhea to test the effectiveness of penicillin

Conducting Animal Research
- Can be controversial
- APA guidelines for what kind of research is permissible