

Introduction to Psychology

APA IPI Tags: Theme 1 - Psychological science relies on empirical evidence and adapts as new data develop

Content Area Tags: cognition, perception, empirical, evidence, scientific thinking, critical thinking

Estimated Time: ~20 minutes total

Developing Hypotheses from Empirical Data: An Investigation of Selective Attention & Change Blindness**Activity Instructions**

- Introduce students to the concepts of selective attention & change blindness
- Show students the classic Monkey Business Illusion:
https://www.youtube.com/watch?v=IGQmdoK_ZfY
 - Make it clear that there were changes that people familiar with the illusion may even have missed! (e.g., even if they saw the gorilla, did they see the curtains changing color? what about the person leaving the game?)
 - Ask students to reflect on why people might miss these changes. And more specifically, why might people miss some of these changes more easily than others?
 - Formalize the prior discussion into a hypothesis that you can test with additional data collection/empirical evidence: “Changes that happen in the background are less likely to be noticed than changes in the foreground.”
- Next, have students watch this Whodunnit clip (with 21 changes!):
<https://www.youtube.com/watch?v=ubNF9QNEQLA>
 - Now have them answer (with hands up, through polling software, etc. as you prefer) whether they saw the following changes in the video (note that you wouldn’t show the students background/foreground in the poll--this is just for your reference):
 - Tablecloth switch (background)
 - Knight/bear (background, maybe foreground)
 - Different coat on investigator (foreground)
 - Different flowers in vase (background)
 - Different picture in frame (background)
 - Different rug (background)
 - Different murder victim (foreground)
 - Butler holding rolling pin vs. candlestick (foreground)
 - Mrs. Smythe different hat (foreground)
 - Compare the results of the background vs. foreground items--did a higher proportion of students notice changes in the foreground vs. the background?

- If evidence supported the hypothesis, discuss how the original claim about selective attention and change blindness might be amended in light of these new data
 - Could also ask them to gather additional data by watching this video at 1:24: https://www.youtube.com/watch?v=bh_9XFzbWV8
 - Background of the president changes, but students are asked to look right in the center of the image! Does this change their understanding of change blindness? Why or why not?
 - If evidence did not support the hypothesis, have students discuss why
 - Bring discussion back to understanding that knowledge is cumulative and changes over time as we ask new questions and gather new data
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Student Learning Objectives

By completing this assignment, you will be able to...

- Explain in your own words how science is a cumulative process that relies on the collection of data.
 - Begin formulating hypotheses about psychological phenomena.
 - Begin thinking about ways to collect empirical data to answer self-generated hypotheses about psychological phenomena.
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Post-Activity Discussion Questions

1. In class, we tested the idea that changes in the foreground are noticed more readily than changes in the background. What is another hypothesis that you have about change blindness?
 2. How might you collect empirical data to support or refute your hypothesis, using the Whodunnit video in class?
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Activity Notes (for Instructors Only)

- Scalable to any class size
 - Might be challenging to do with a very large class--I suggest using the follow-up questions as a take-home assignment to make sure that all students are engaged with this topic
 - Works with synchronous classes only (unless live data collection via hands/polling is translated into a graph for asynchronous students to review on their own)
 - Works both online and in-person
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