Exam 1 results

Score out of 50
Mean = 39.7/50

Final paper

- Propose a simple extension or follow-up to some study discussed in class or in the book
- Follow the guidelines on the course webpage
  - Pay special attention to the design section
  - Treat this as a take-home exam
  - Include the section headings
  - Cite original study in Section 1 in enough detail that I can find it

Long-term memory

The stage theory

Outline for LTM classes

- Comprehension and memory
- Different types of long-term memory
- False memory
- Autobiographical memory

Recall test

- Count backwards by 3s, for 30 seconds
  - Start with 311
  - Stop
- Questions:
  - What would happen if the balloons popped?
  - What role does insulation play?
  - What would happen if the wire broke?
  - What would be better conditions?
Context

Recall test

- Count backwards by 3s, for 30 seconds
  - Start with 413
  - Stop
- Questions:
  - What would happen if the balloons popped?
  - What role does insulation play?
  - What would happen if the wire broke?
  - What would be better conditions?

Comprehension and recall

(Bransford & Johnson, 1972)

- Research questions:
  - Does understanding a story improve memory for story details?
  - Does repeatedly hearing the story help if there’s no understanding?

Conditions

- Five conditions:
  - Context before: Full picture, before story
  - No context: No picture
  - No context 2: No picture, heard story twice
  - Context after: Full picture, after story
  - Partial context: Partial picture, before story
- Design:
  - Between subjects

Procedure

- Context before and partial context participants saw their respective pictures
- All participants heard the story
- Then a 2 minute interval
  - Instructions for next phase were distributed
  - Context after participants saw their picture
Procedure

- Then all participants rated **comprehensibility**
  - 1 = very difficult to understand, 7 = very easy
  - This was a **manipulation check**: Did the manipulation do what it was supposed to do?
- ... and then wrote out as much of the story as they could remember
  - Told that paraphrasing was ok
  - Raters coded each text for 14 “ideas”
    - From the story, not the full picture

Comprehensibility

![](chart.png)

Only statistically significant difference: **Context before** vs. others

Recall

![](chart.png)

Only statistically significant difference: **Context before** vs. others

Results

- **Context before** was the only group that showed:
  - Improved comprehension
  - Improved memory for story details
- Repetition without understanding didn’t help

Levels-of-processing procedure

- Sample stimulus: **plate**
- Shallow processing question:
  - Does it rhyme with **fate**?
- Deep processing question:
  - Does it fit: **She put the ____ on the table**.
- Deep processing question at study generally leads to better memory at test

Deep processing

- Connecting new material to things you already know
  - Helps encode **retrieval paths**
  - Testing effect: Paths get stronger through use
- Implications:
  - Learning in a new domain is hardest at first
    - Because you have to memorize the basics
  - The more you know the easier it is to learn
The story

If the balloons popped, the sound wouldn’t be able to carry since everything would be too far away from the correct floor. A closed window would also prevent the sound from carrying, since most buildings tend to be well-insulated. Since the whole operation depends on a steady flow of electricity, a break in the middle of the wire would also cause problems. Of course, the fellow could shout, but the human voice is not loud enough to carry that far. An additional problem is that a string could break on the instrument. Then there could be no accompaniment to the message. It is clear that the best situation would involve less distance. Then there would be fewer potential problems. With face to face contact, the least number of things could go wrong.

Different types of memory

- Different brain regions store different information
- A case study: Clive Wearing
  - Hippocampus largely destroyed by viral encephalitis
    - Similar to H.M., though that was surgery
  - What memories destroyed? Preserved?
- “Patience” = solitaire