



Other Aspects of Memory Forgetting, Retrieval, and Recall

Psychology 390

Psychology of Learning

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Forgetting

- How do we forget information.
- Many theories
 - Decay
 - Interference
 - Changes in Retrieval Cues

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Decay

- Memory traces decay as time passes
- Problem, little evidence

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Interference Theory

- a. Retrograde Interference
New learning interferes with the recall of old information
- b. Proactive Interference
Old information interferes with the recall of new information

Theory contends memory traces are lost as other memory traces occur both before and after the stimulus is present.

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Changes in retrieval cues

- Different cues – can't recall the information

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So, How Accurate is Memory?

- Is often inaccurate
- Early Studies
 - Easterbrook
 - Showed that arousal in animals narrowed their attention
 - Contended that humans tend to focus on just a few details and not the entire situation
 - Called the weapon of focus hypothesis

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Yerkes-Dodson Law

- Contends there is an optimal level of arousal for any task.
- Performance is poorer at low or very high levels and optimal in the middle.

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Application to Memory

- Higher arousal leads to better retention.
- But as arousal increases, you become more narrowly focused.
- Thus, you only encode the smaller amount of information.
- Conclusion - Intermediate arousal is best.

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Implications for Testing

- A little anxiety may increase performance.
- Too much is detrimental.

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Flashbulb Memories

- Are sudden significant events that people feel are in their minds forever.
- Oklahoma City Bombing
- Challenger Explosion
- Mount St. Helens Eruption
- Kennedy Assassination
- Pearl Harbor

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Flashbulb Memories

- Memories are highly emotionally charged.
- People contend they vividly recall many details of their receipt of the news.
 - Where they were
 - What they were doing
 - Who they were with

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Problem

- Often the memories are distorted and some information is forgotten.

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May be the way you get the information

- Were you there or saw it on TV?
 - If you were there, accuracy increases
- May be a special case of increased accuracy under high stress conditions.

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Task to Recall Information

- Many ways you get to recall information.
- Discussed earlier
 - Free Recall Task
 - Recognition Task
 - Relearning Task

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Free Recall Task

- Recall words in any order
- Is not the same as a serial learning task
- Is very difficult
 - Recall all of the structures in the brain.
- Fill in the blank exam

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Can be Increased

- Mnemonic techniques can increase the number of words that can be recalled.

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Recognition Task

- Here you are provided a cue to assist your recall
- Multiple Choice Task
- Cues can be anything
 - Words
 - Pictures

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Problem

- The more cues, the more difficult the recall
- The more multiple choice items there are, the harder it is to recall the correct item.
- Relates to false alarms in signal detection theory

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Problem

- Depends on the cues provided
- Also depends on the distracters as well
 - Close distracters decrease recall
 - More distracters decrease recall

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Mood

- The mood the person is in will have an effect on memory.
- Called Mood-congruency Effect
- Eich and Metcalf (1989)
 - Subjects studied and recalled happy or sad words while listening to happy or sad music.
 - Found better recall when the test words matched the study mood

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Mood

- Happy words with happy music
 - Good Recall
- Sad words with sad music
 - Good Recall
- Happy words with sad music or sad words with happy music
 - Poorer recall.

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Reconstructive Memory

- People try to inferentially recreate memories from what they can recall.
- Can be very accurate

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Reconstructive Memory

The procedure is quite simple. First arrange items into different groups. Of course one pile may be sufficient depending on how much there is to do. If you have to go somewhere else due to the lack of facilities that is the next step; otherwise, you are pretty well set. It is important not to overdo things. That is, it is better to do too few things at once than too many. In the short run this may not seem important but complications can easily arise. A mistake can be expensive as well. First the whole procedure may seem complicated. Soon, however, it will become just another facet of life. If it difficult to foresee any end to the necessity of this task in the immediate future, but then one can never tell. After the procedure is completed, one arranges the material into different groups. Then they can be placed in their appropriate places. Eventually the process will need to be repeated again. However, that is part of life.

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Reconstructive Memory

- If provide information, you can enhance your recall.
- However, if you provide the information about the topic at the beginning of the material, recall is better than after reading the material.

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Doing the Laundry

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Inferential Intrusions in Recall

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Explicit vs. Implicit Memories

- Explicit Memories
 - Are memories that we are consciously aware of when we retrieve them.
- Implicit memories
 - Memories of experiences that we cannot consciously retrieve.

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Examples

- Feeling of knowing something.
- Tip of Tongue state.
- Almost recalling someone's name but not quite being able to recall it.

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Examples

- Can be fairly accurate
- Game shows - we guess at the answer.
- We judge we know the answer much faster than we can accurately recall the answer.

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Conclusion

- Lots of issues in memory/cognition.
- Has a lot of applications.
 - School
 - Work load
 - Other

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