

# Learning and Memory Lectures: Stuff You Should Know

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We discussed a number of important topics in class. This is a list of some questions that you ought to be able to address after you have read the text and thought about the material. There is no guarantee that this list is exhaustive; there might well be other things from the class that will appear on an exam.

## Learning — Introduction

1. Explain the difference between associative and nonassociative learning.
2. What is habituation?
3. What is sensitization?
4. Define learning.

## Classical Conditioning

5. What behavioral measure did Pavlov use in his earliest studies of learning?
6. Define each of the following terms: UCS, UCR, CR, CS.
7. Discuss acquisition of a Pavlovian CR.
8. What happens during extinction of a CR?
9. How do we know that even after extinction an association remains between the CS and the UCS?
10. What are generalization and discrimination? Describe the time course of the development of these two phenomena.
11. Why should we be surprised that Watson studied emotions?
12. What was done to Little Albert?
13. Discuss problems that Albert might have had throughout his life.
14. Briefly describe the methodology of the Garcia and Koelling (1969) experiment.
15. How does taste aversion learning differ from other sorts of classical conditioning?
16. One of the most important conclusions from studies of taste aversion is that there are biological predispositions that influence learning. Explain what is meant by this.
17. Can you think of two or three tastes that are often associated with illness when people first encounter them, but that typically do not result in taste aversion.

18. How do we know that the association between taste and illness that occurs with a very long (i.e., 24 hr) interval between the two is not in fact due to the nausea causing the subject to re-experience the taste (as a result of burping or regurgitation)?

## Pudovkin Film

1. Who was Pudovkin?
2. Briefly describe the classical conditioning that was done with the child and the cookies.
3. A monkey learned to approach a drawer to get food. What two types of discriminative stimuli were used to signal food availability?
4. Is this monkey experiment classical conditioning, or is there a reason that we should consider it an example of operant conditioning?

## Operant Conditioning

1. In what fundamental way do responses play differing roles in classical and operant learning?
2. What is “shaping?”
3. Define acquisition and extinction as they apply to operant conditioning.
4. What is a discriminative stimulus ( $S_D$ )?
5. What is Thorndike’s “Law of Effect?”
6. Define “reinforcer.”
7. What is the drive reduction theory of reinforcement?
8. What is the Premack principle?
9. Explain the difference between positive and negative reinforcers.
10. Define escape and avoidance learning.
11. What is the major difference between escape and avoidance learning?
12. How might unsignalled avoidance work?

13. Define “punisher.”
  14. Who first studied learned helplessness?
  15. What serious confound did Wilson discover in the former standard procedure for delivering shock to rats in helplessness studies?
  16. What is a primary reinforcer?
  17. What is a secondary reinforcer?
  18. Briefly describe token economies, and give an example.
  19. What is the primary advantage of partial reinforcement schedules over a continuous reinforcement schedule?
  20. Discuss both fixed ratio and fixed interval schedules. Which will result in a “scallop-shaped” response curve?
  21. We spent an entire class with Sniffy (the virtual rat). We saw Sniffy being shaped to press a lever in order to receive a food reinforcer. You should be able to describe the effects of different schedules of reinforcement on Sniffy’s behavior.
  22. Describe varied ratio and varied interval schedules of reinforcement. Which results in the fastest rate of responding?
  23. Describe Harlow’s work on “learning-to-learn.”
  24. What evidence convinced Tinklepaugh (1920) that nonhuman animals have cognitions?
  25. Describe Tolman and Honzik’s 1930 study on maze learning in rats. What did they do, what did they find, and what do their results suggest about learning and the mind of the rat?
11. Describe Loftus’ research in which she creates a false memory in college students.
  12. What impossible memory did Loftus get a large number of her subjects to remember about their trip to Disneyland?
  13. What is metamemory?
  14. What is the difference between recognition and recall tests of retrieval? Provide an example of each.
  15. What is the tip-of-the-tongue phenomenon?
  16. Discuss the primacy and recency effects.
  17. What is overlearning?
  18. How should one schedule one’s study time to ensure the best retention and retrieval?
  19. What is the effect of meaningfulness on retrieval?
  20. Describe each of the following mnemonic devices: peg-word method, narrative chaining, method of loci.
  21. What is represented by each of the following mnemonics: HOMES, CANU, Roy G. Biv?

## Memory

1. What is sensory memory? Describe its duration and capacity. In what form is sensory memory stored?
2. What is short-term memory? Describe its duration and capacity. In what form is short-term memory stored (and how do we know this)?
3. What is chunking?
4. What is long-term memory? Describe its duration and capacity.
5. What is meant by the term “consolidation?”
6. What are the three major types of long-term memory, and what sort of information is stored in each?
7. How is information in episodic memory organized?
8. How is information in semantic memory organized?
9. What memory problems are experienced by H.M. and by “the Canadian motorcycle guy?”
10. Discuss Loftus’ research on the constructive na-