

Psychology 433/533 Learning & Memory

Spring, 1994
Hintzman

Text: Wilhite, S.C. & Payne, D.E. (1992) Learning and Memory: The Basis of Behavior

Tentative Schedule:

Week of	Readings	Exams, Paper etc.
Mar. 28	Ch. 1	
Apr. 4	Ch. 2	
Apr. 11	Ch. 3	
Apr. 18	Ch. 4 (except pp. 110-130)	
Apr. 25	Ch. 5	Quiz #1, Monday (Ch 1-4)
May 2	Ch. 6	
May 9	Ch. 7	
May 16	Ch. 9	Quiz #2, Monday (Ch 5-7)
May 23	Ch. 10	Paper due Friday
May 30	Ch. 11	(No class Monday)
Exam Week		Final Exam, 10:15, Th. June 9

Learning and memory have always been viewed as among the most basic topics in psychology. These processes have therefore been the subject of a great deal of theorizing and experimental research, extending over more than 100 years. Because humans share many learning abilities with other animals, much of the most important research in the field has been done on non-humans organisms. Of course, processes that depend on natural language can only be studied in humans. Roughly half of the research covered in this course was done on animals and half on humans.

The textbook does not read like a novel. To get the most out of it, will you need to think analytically about theories and how they relate to experimental designs and experimental outcomes. That kind of reading requires both effort and time, so you should plan your study schedule accordingly. The reading includes all of the text except part of Ch. 4 (as indicated), and all of Ch. 8.

Exams: There will be two mid-term quizzes and a final exam (either all multiple choice or a combination of multiple-choice and short-answer). The midterms will be worth 40 points each, and the final, which will be comprehensive, will be worth 70. The exams will cover material from lecture, as well as the indicated readings.

Paper: There is one paper assignment, due Friday, May 27, and worth 25 points. Late papers will be docked 3 points per week-day that they are late (so, for example, a paper turned in as late as the final exam will be worth 0 points). There are two options for your paper, described on the back page. You should decide soon which one you want to do.

Grading: Grading will be based on your total points from the exams and the paper. The total possible is $40 + 40 + 70 + 25 = 175$.

You have a choice of two paper topics. One involves collecting data on yourself over a period of about a month and writing up the results. The other involves reviewing an article published last year in *Psychological Review*. In either case, please give yourself plenty of time to do a good job, and don't turn in a poorly organized or ungrammatical paper. Due Friday, May 27. The two choices are as follows:

Alternative #1: Retrieval Failure (tip-of-the-tongue) Diary

The purpose is to study characteristics of the tip-of-the-tongue (TOT) state--that state of mind where you are unable to think of a word that you are certain you know, and the word seems to be on the verge of coming back to you. Your job is twofold: First, to record your TOT experiences for a period of 5 weeks. The best way is to record them in a small notebook you carry with you. Otherwise you may forget having them before the end of the day. Most people who record TOTs diligently report having several such experiences per week, so you should end up with a fair sized sample of TOT states.

For each TOT experience, please record in your TOT diary the following:

1. Date and approximate time.
2. What were you doing when the TOT occurred?
3. What was the type of word (e.g., name, place, object, adjective)?
4. What characteristics of the word, if any, were you aware of (e.g., first letter, number of syllables)?
5. Did any alternate words occur to you, and if so, what were they?
6. Were there any strategies you used to try to resolve the TOT state?
7. Did you eventually recall the word? If so, (a) What was the word? (b) How did you recover the word? (c) How long did it take to recall the word? (d) How familiar is the word to you?

The second part of your job is to write a paper of approximately 4-5 pages summarizing your findings. All the individual TOT experiences should be listed (as recorded in the diary) in an appendix. In the body of the paper you should discuss the set of findings as a whole, drawing whatever generalizations seem warranted and commenting particularly on the results you consider most interesting or unusual, or most revealing of how memory retrieval (or at least *your* memory retrieval) works. Caution: Some people may not have many TOT experiences. If this is true of you, then you may need to deliberately engage in activities that are likely to trigger TOTs, such as working crossword puzzles, or trying to remember the names of songs or of people, etc. If you still don't have any TOTs you had better choose the other assignment!

(Outside reading is not required for this assignment. However, if you want to read about research on the TOT phenomenon, a good reference is Brown, A.S. (1991) A review of the tip-of-the-tongue experience. *Psychological Bulletin*, 109, 204-223.)

Alternative #2: Review of Target Article on Expert Performance

The purpose is to write a review of a recent article (available at campus copy): Ericsson, K. A., Krampe, R. T. & Tesch-Römer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review*, 100, 363-406.

This article addresses the interesting question of how the top people in various skilled tasks (e.g., in music, sports, chess) got to the top. The provocative hypothesis is that innate "talent" has little or nothing to do with it, and that practice is (practically) everything. The article also provides some good examples of methods for studying learning in everyday life, where controlled experiments cannot be done. Your job is, in a 7-10 page paper, to summarize the authors' argument and evidence, and provide your own perspective. You might, for example, criticize the research methods used (and suggest better ones), propose related studies that could be done in other domains, or relate the authors' hypothesis to your personal experience. The full abstract of the target article is as follows:

The theoretical framework presented in this article explains expert performance as the end result of individuals' prolonged efforts to improve performance while negotiating motivational and external constraints. In most domains of expertise, individuals begin in their childhood a regimen of effortful activities (deliberate practice) designed to optimize improvement. Individual differences, even among elite performers, are closely related to assessed amounts of deliberate practice. Many characteristics once believed to reflect innate talent are actually the result of intense practice extended for a minimum of 10 years. Analysis of expert performance provides unique evidence on the potential and limits of extreme environmental adaptation and learning.