

Class meets W 1-2:50 PM Straub 257

**INSTRUCTOR**

Dr. Caitlin Fausey

Office: Straub 465

Office Hours: Wednesday 3:30-5:30p

Email: fausey@uoregon.edu

**COURSE OVERVIEW**

How do we make discoveries about human learning and memory across the lifespan? How do we test mechanistic hypotheses -- and compare/contrast our discoveries -- in people with very different brains, bodies, and life histories? Do our theories address developmental change? Should they? These are some of the questions we will grapple with in this course. We will take an interdisciplinary mindset, in order to stretch ourselves beyond the domain(s), population(s), and skill(s) that we focus on in our own primary scholarship. We will survey a range of methodologies used to study learning and memory across the lifespan, with an eye toward how each approach yields data that advance theory. We will emerge from this course with an integrative view of core issues in infant, toddler, and adult learning and memory.

**COURSE MATERIALS**

All materials will be provided as PDF files on our Canvas site.

**INSTRUCTION PHILOSOPHY**

This is a graduate-level seminar and you are all professional research psychologists. I expect you to treat this collegial seminar as you would any professional endeavor -- prepare, engage, and deliver.

Throughout the course, you should be engaging with the material and using class meetings as opportunities to develop and refine your thinking with colleagues. Your efforts will help you build skills in critical reading, discussing, and implementing next steps in research that matters to you. I expect that you are excited to grapple with the content and plan to make the most of this opportunity to broaden and deepen your research expertise and skills. Welcome.

**EXPECTATIONS & GRADING**

Your job is to do the reading, prepare for and participate in class discussions, get involved in the material and hone your research design skills. If you are taking this course for one credit, your grade will be based on in-class participation. If you are taking this course for three credits, your grade will be based on in-class participation and writing a research proposal that matters to you.

**Readings.** Expect to dedicate considerable time outside of class to the readings -- it will be both demanding and rewarding. You are expected to complete the assigned readings before class and to take an active role in the class. Your best bet is to grapple with the issues presented in the readings before and during class.

**Research proposal (applies only to students earning 3 credits).** You will write a research proposal about a topic that matters to you. You will propose original research. The goal is for you to leave with a top-notch proposal that will be maximally useful to your graduate career. We will discuss specific guidelines and expectations together. Please talk to me early in the quarter to develop a plan.

**Participation.** As a professional research psychologist, you engage in intellectual discussion and debate with colleagues. This class will help you practice and improve these skills. You are expected to attend class and participate in class discussions. For each class, your participation (plus/minus) will be noted.

**To earn an "A" for participation, you must earn a "plus" in at least 8 class sessions.**

**To earn a "Pass" for participation, you must earn a "plus" in at least 6 class sessions.**

Your best bet is to attend every class and contribute to the discussions. On Canvas, you will be able to see the "plus/minus" that you earn for each class. Please note that neither of the following things automatically earns you a "plus": showing up, opening your mouth. You must thoughtfully engage with the material. One strategy that will help you prepare to fully participate in discussions with your colleagues is to write down three questions based on the reading(s) that you'd like to discuss.

No. Plus earned (of 9 sessions)	participation grade	
8	A	[100]
7	B	[89]
6	C	[79] PASS
5	D	[69]
<5	F	[50]

#### FINAL LETTER GRADE

To earn 1 credit, your final letter grade will be your participation grade.

To earn 3 credits, your final letter grade will be:  
In-class participation 85% ; Research proposal 15%

#### FAQ

##### What if I miss a class?

We have nine scheduled class meetings, after the first week. You decide how to best earn the number of "plus" participation marks for the grade that you'd like. No questions asked.

If you have a professional scheduling conflict (e.g., a conference to attend) and you'd like to earn participation for the class session, tell Dr. Fausey at least one week in advance and you can agree on a written assignment. With the exception of extreme and unforeseen circumstances, contacting Dr. Fausey on the day of (or after) a missed class will be considered an unexcused absence and will result in no earned participation. Each class session is designed with you in mind. Your best strategy is to show up and reap the benefits.

##### What if I turn in an assignment late?

If you submit an assignment after its due date, your grade on the assignment will be reduced by 50%. This is true whether you submit your assignment 1, 2, 3, 4, or 5 days late. After 5 days, late work will no longer be accepted without some documented medical or family emergency. Your best strategy is to submit assignments on time.

##### Do you grade on a curve? Offer extra credit?

No, I do not grade on a curve. No, I do not offer extra credit. Your best strategy is to focus your energy on doing your best on all of your work.

## **ACADEMIC HONESTY**

The short version: Don't cheat. Don't plagiarize. If you are unsure, please ask me.

As a member of the university community you are expected to be honest and forthright in all of your academic endeavors. To falsify the results of one's research, to present the words, ideas, data, or work of another as one's own, or to cheat on an examination corrupts the essential process by which knowledge is advanced.

All work submitted in this course must be your own and produced exclusively for this course. The use of sources (ideas, quotations, paraphrases) must be properly acknowledged and documented.

One form of academic misconduct is cheating. Among other definitions, it is considered cheating if you lie to Dr. Fausey about a class absence or absence/delay relating to an assignment.

Another form of academic misconduct is plagiarism, or using someone else's ideas and words without appropriate citation on a written assignment. Do not copy from Wikipedia, other students' papers, scholarly articles, websites, and a host of other sources. In this course, all submitted work will be checked by VeriCite. Do not attempt plagiarism because you will be caught. Plagiarism is academic misconduct and cases of plagiarism will be treated as such.

Please note that it is mandatory for instructors to report suspected academic misconduct to the Office of Student Conduct. For the consequences of academic dishonesty, refer to the Schedule of Classes published quarterly. Violations will be taken seriously and are noted on student disciplinary records.

For more information regarding academic honesty and the student conduct code at the University of Oregon, visit the University's Office of Student Life website at: <https://studentlife.uoregon.edu/conduct>

## **STATEMENT FOR STUDENTS WITH DISABILITIES**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring accommodation, please contact UO Accessible Education Center.

## **DISCLAIMER**

This syllabus is an outline of the course and its policies, which may be changed for reasonable purposes during the semester at the instructor's discretion. You will be notified in class and/or via email if any changes are made to this syllabus and an updated syllabus will be provided on Canvas.

Date	Description	Reading(s)
Mar 30	Our favorite experiments.... & how we could test related hypotheses in a different age group	
Apr 6	What do different learners do with the same input?	Hudson Kam & Newport (2005) Braithwaite & Goldstone (2015)
Apr 13	Classic issues in learning & memory	Madole & Oakes (1999) Hintzman (1990)
Apr 20	How does the distribution of exemplars matter for learning? (Part 1)	Posner & Keele (1968)  Graf Estes & Lew-Williams (2015) Baese-Berk et al. (2013)  Twomey et al. (2014) Perry et al. (2010)  <b><i>We won't discuss these; here for your reference</i></b>  <b><i>some adult classics</i></b> <i>Medin &amp; Schaffer (1978); Nosofsky (1984); Hintzman (1988)</i>  <b><i>some infant classics</i></b> <i>Bomba &amp; Siqueland (1983); Eimas &amp; Quinn (1994); Quinn et al., (1993); Quinn (1987); Younger (1985); (1990); Ribar et al. (2004); Mandler &amp; McDonough (1993)</i>
Apr 25**  This is a Monday	How does the distribution of exemplars matter for learning? (Part 2)	Oakes & Spalding (1997) Nosofsky (1988)  Maye et al. (2002) Casenhiser & Goldberg (2005) Barsalou et al. (1998)
May 4	How does language matter for 'carving up' a category space?	Plunkett et al. (2008) Imai & Gentner (1997) Lupyan et al. (2007) Goldstone (1994)
May 11	Now you know it, now you don't? Building knowledge over time	Horst & Samuelson (2008) Yurovsky et al. (2014) Roediger & Karpicke (2006) Karpicke & Roediger (2008)

Date	Description	Reading(s)
May 18	How do time, space, & context matter for learning?	<p><i>We will divide &amp; conquer, based on student interest.</i></p> <p><b><u>Time</u></b>  Rovee-Collier (1995); (1980)  Oakes &amp; Ribar (2005)  Vlach et al. (2008)  Cepeda et al. (2008)  Maddox et al. (2011)</p> <p><b><u>Space</u></b>  Herbert et al. (2007)  Samuelson et al. (2011)  Smith et al. (1978)</p> <p><b><u>Context</u></b>  Borovsky &amp; Rovee-Collier (1990)  Vlach &amp; Sandhofer (2011)  Horst et al. (2011)  Roy et al. (2015)  Smith (2013)  Godden &amp; Baddeley (1975)</p>
May 23** This is a Monday	How does order of information matter for learning?	Mather & Plunkett (2011) Schwab & Lew-Williams (in press) Elio & Anderson (1981); (1984) Carvalho & Goldstone (2014)
June 1	Integrative Discussion	

**\*\*Fausey out of town – meet Monday 1-3p instead.**

### Reading List

Note: One quarter is far too little time to cover every relevant and interesting paper on this course topic! We will add to this list throughout the quarter! Everyone should contribute. Bring related papers to class, email the group, get everyone thinking. By the end of the quarter, this list should be even more interesting!

Baese-Berk, M. M., Bradlow, A. R., & Wright, B. A. (2013). Accent-independent adaptation to foreign accented speech. *The Journal of the Acoustical Society of America*, 133(3), EL174-EL180.

Barsalou, L. W., Huttenlocher, J., & Lamberts, K. (1998). Basing categorization on individuals and events. *Cognitive Psychology*, 36(3), 203-272.

Borovsky, D., & Rovee- Collier, C. (1990). Contextual constraints on memory retrieval at six months. *Child Development*, 61(5), 1569-1583.

Braithwaite, D. W., & Goldstone, R. L. (2015). Effects of variation and prior knowledge on abstract concept learning. *Cognition and Instruction*, 33(3), 226-256.

Carvalho, P. F., & Goldstone, R. L. (2014). Putting category learning in order: category structure and temporal arrangement affect the benefit of interleaved over blocked study. *Memory & cognition*, 42(3), 481-495.

Casenhiser, D., & Goldberg, A. E. (2005). Fast mapping between a phrasal form and meaning. *Developmental Science*, 8(6), 500-508.

Cepeda, N. J., Vul, E., Rohrer, D., Wixted, J. T., & Pashler, H. (2008). Spacing effects in learning a temporal ridgeline of optimal retention. *Psychological science*, 19(11), 1095-1102.

Elio, R., & Anderson, J. R. (1981). The effects of category generalizations and instance similarity on schema abstraction. *Journal of Experimental Psychology: Human Learning and Memory*, 7(6), 397.

Elio, R., & Anderson, J. R. (1984). The effects of information order and learning mode on schema abstraction. *Memory & cognition*, 12(1), 20-30.

Estes, K. G., & Lew-Williams, C. (2015). Listening through voices: Infant statistical word segmentation across multiple speakers. *Developmental psychology*, 51(11), 1517.

Godden, D. R., & Baddeley, A. D. (1975). Context- dependent memory in two natural environments: On land and underwater. *British Journal of psychology*, 66(3), 325-331.

Goldstone, R. L. (1994). Influences of categorization on perceptual discrimination. *Journal of Experimental Psychology: General*, 123(2), 178.

Herbert, J., Gross, J., & Hayne, H. (2007). Crawling is associated with more flexible memory retrieval by 9- month- old infants. *Developmental Science*, 10(2), 183-189.

Hintzman, D. L. (1990). Human learning and memory: Connections and dissociations. *Annual review of psychology*, 41(1), 109-139.

Horst, J. S., & Samuelson, L. K. (2008). Fast mapping but poor retention by 24-month-old infants. *Infancy*, 13(2), 128-157.

Horst, J. S., Parsons, K. L., & Bryan, N. M. (2011). Get the story straight: Contextual repetition promotes word learning from storybooks. *Frontiers in Developmental Psychology*, 2(17), 1-11.

Hudson Kam, C. L., & Newport, E. L. (2005). Regularizing unpredictable variation: The roles of adult and child learners in language formation and change. *Language learning and development*, 1(2), 151-195.

Imai, M., & Gentner, D. (1997). A cross-linguistic study of early word meaning: Universal ontology and linguistic influence. *Cognition*, 62(2), 169-200.

Karpicke, J. D., & Roediger, H. L. (2008). The critical importance of retrieval for learning. *science*, 319(5865), 966-968.

Lupyan, G., Rakison, D. H., & McClelland, J. L. (2007). Language is not just for talking redundant labels facilitate learning of novel categories. *Psychological Science*, 18(12), 1077-1083.

Maddox, G. B., Balota, D. A., Coane, J. H., & Duchek, J. M. (2011). The role of forgetting rate in producing a benefit of expanded over equal spaced retrieval in young and older adults. *Psychology and aging*, 26(3), 661.

Madole, K. L., & Oakes, L. M. (1999). Making sense of infant categorization: Stable processes and changing representations. *Developmental Review*, 19(2), 263-296.

Mather, E., & Plunkett, K. (2011). Same items, different order: Effects of temporal variability on infant categorization. *Cognition*, 119(3), 438-447.

Maye, J., Werker, J. F., & Gerken, L. (2002). Infant sensitivity to distributional information can affect phonetic discrimination. *Cognition*, 82(3), B101-B111.

Nosofsky, R. M. (1988). Similarity, frequency, and category representations. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 14(1), 54.

Oakes, L. M., & Ribar, R. J. (2005). A comparison of infants' categorization in paired and successive presentation familiarization tasks. *Infancy*, 7(1), 85-98.

Oakes, L. M., & Spalding, T. L. (1997). The role of exemplar distribution in infants' differentiation of categories. *Infant Behavior and Development*, 20(4), 457-475.

Perry, L. K., Samuelson, L. K., Malloy, L. M., & Schiffer, R. N. (2010). Learn locally, think globally exemplar variability supports higher-order generalization and word learning. *Psychological science*, 21(12), 1894-1902.

Plunkett, K., Hu, J. F., & Cohen, L. B. (2008). Labels can override perceptual categories in early infancy. *Cognition*, 106(2), 665-681.

Posner, M. I., & Keele, S. W. (1968). On the genesis of abstract ideas. *Journal of experimental psychology*, 77(3p1), 353.

Roediger, H. L., & Karpicke, J. D. (2006). Test-enhanced learning taking memory tests improves long-term retention. *Psychological science*, 17(3), 249-255.

Rovee-Collier, C. (1995). Time windows in cognitive development. *Developmental Psychology*, 31(2), 147.

Rovee-Collier, C. K., Sullivan, M. W., Enright, M., Lucas, D., & Fagen, J. W. (1980). Reactivation of infant memory. *Science*, 208(4448), 1159-1161.

Roy, B. C., Frank, M. C., DeCamp, P., Miller, M., & Roy, D. (2015). Predicting the birth of a spoken word. *Proceedings of the National Academy of Sciences*, 112(41), 12663-12668.

- Roy, B. C., Frank, M. C., DeCamp, P., Miller, M., & Roy, D. (2015). Predicting the birth of a spoken word. *Proceedings of the National Academy of Sciences*, 112(41), 12663-12668.
- Samuelson, L. K., Smith, L. B., Perry, L. K., & Spencer, J. P. (2011). Grounding word learning in space. *PloS one*, 6(12), e28095.
- Schwab, J.F., & Lew-Williams, C. (in press). Repetition across successive sentences facilitates young children's word learning. *Developmental Psychology*.
- Smith, S. M., Glenberg, A., & Bjork, R. A. (1978). Environmental context and human memory. *Memory & Cognition*, 6(4), 342-353.
- Smith, S. M. (2013). Effects of environmental context on human memory. *The SAGE handbook of applied memory*, 162-182.
- Twomey, K. E., Ranson, S. L., & Horst, J. S. (2014). That's more like it: multiple exemplars facilitate word learning. *Infant and Child Development*, 23(2), 105-122.
- Vlach, H. A., Sandhofer, C. M., & Kornell, N. (2008). The spacing effect in children's memory and category induction. *Cognition*, 109(1), 163-167.
- Vlach, H. A., & Sandhofer, C. M. (2011). Developmental differences in children's context-dependent word learning. *Journal of Experimental Child Psychology*, 108(2), 394-401.
- Yurovsky, D., Fricker, D. C., Yu, C., & Smith, L. B. (2014). The role of partial knowledge in statistical word learning. *Psychonomic bulletin & review*, 21(1), 1-22.



**Extras. Please add to this as we go!**

- Benitez, V. L., & Smith, L. B. (2012). Predictable locations aid early object name learning. *Cognition*, 125(3), 339-352.
- Bomba, P.C. and Siqueland, E.R. (1983) The nature and structure of infant form categories. *J. Exp. Child Psychol.* 35, 294–328.
- Choi, S., & Bowerman, M. (1991). Learning to express motion events in English and Korean: The influence of language-specific lexicalization patterns. *Cognition*, 41(1), 83-121.
- Choi, S., McDonough, L., Bowerman, M., & Mandler, J. M. (1999). Early sensitivity to language-specific spatial categories in English and Korean. *Cognitive Development*, 14(2), 241-268.
- Eimas, P. D., & Quinn, P. C. (1994). Studies on the formation of perceptually based basic-level categories in young infants. *Child development*, 65(3), 903-917.
- Haith, M. M. (1998). Who put the cog in infant cognition? Is rich interpretation too costly?. *Infant behavior and development*, 21(2), 167-179.
- Hintzman, D. L. (1988). Judgments of frequency and recognition memory in a multiple-trace memory model. *Psychological review*, 95(4), 528.
- Kurumada, C., Meylan, S. C., & Frank, M. C. (2013). Zipfian frequency distributions facilitate word segmentation in context. *Cognition*, 127(3), 439-453.
- Mandler, J. M., & McDonough, L. (1993). Concept formation in infancy. *Cognitive development*, 8(3), 291-318.
- Mareschal, D., & Quinn, P. C. (2001). Categorization in infancy. *Trends in cognitive sciences*, 5(10), 443-450.
- Mather, E., & Plunkett, K. (2009). Learning words over time: The role of stimulus repetition in mutual exclusivity. *Infancy*, 14(1), 60-76.
- Medin, D. L., & Schaffer, M. M. (1978). Context theory of classification learning. *Psychological review*, 85(3), 207.
- Nosofsky, R. M. (1984). Choice, similarity, and the context theory of classification. *Journal of Experimental Psychology: Learning, memory, and cognition*, 10(1), 104.
- Quinn, P. C. (1987). The categorical representation of visual pattern information by young infants. *Cognition*, 27(2), 145-179.
- Quinn, P. C., & Eimas, P. D. (1986). On categorization in early infancy. *Merrill-Palmer Quarterly* (1982-), 331-363.
- Quinn, P. C., Eimas, P. D., & Rosenkrantz, S. L. (1993). Evidence for representations of perceptually similar natural categories by 3-month-old and 4-month-old infants. *Perception*, 22(4), 463-475.
- Ribar, R. J., Oakes, L. M., & Spalding, T. L. (2004). Infants can rapidly form new categorical representations. *Psychonomic bulletin & review*, 11(3), 536-541.
- Smith, L. B. (2013). It's all connected: Pathways in visual object recognition and early noun learning. *American Psychologist*, 68(8), 618.
- Smith, S. M., & Vela, E. (2001). Environmental context-dependent memory: A review and meta-analysis. *Psychonomic bulletin & review*, 8(2), 203-220.
- Vales, C., & Smith, L. B. (2015). Words, shape, visual search and visual working memory in 3-year-old children. *Developmental science*, 18(1), 65-79.
- West, M. J., & King, A. P. (1987). Settling nature and nurture into an ontogenetic niche. *Developmental psychobiology*, 20(5), 549-562.
- Williams, S. E., & Horst, J. S. (2014). Goodnight book: Sleep consolidation improves word learning via storybooks. *Frontiers in psychology*, 5(184), 1-12.
- Younger, B. A. (1985). The segregation of items into categories by ten-month-old infants. *Child Development*, 1574-1583.
- Younger, B. (1990). Infants' detection of correlations among feature categories. *Child Development*, 61(3), 614-620.