

Psychology of Language (PSY 357), Fall 2018

Syllabus and Lab Manual

1-1:50 pm, MWF, 2302 Au Sable Hall

Instructor: Jennifer Gross, Ph.D.

Office: Rm. 2319 Au Sable Hall (ASH)

Office Hours: Noon-12:50 PM on Monday, Wednesday, Friday; and by appointment.

Students with appointments have priority over walk-ins.

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Course Description:

Language plays a central role in our lives. We chat with friends, read novels, enjoy the lyrics of music, convey our feelings, teach our children, and transmit scientific discoveries to future generations via language. Your ability to read these words is just one example of language in action. Most of us, however, don't stop to ponder our linguistic prowess. In this course, we shall scientifically investigate our linguistic feats and foibles by exploring these topics and more:

- What distinguishes language from mere communication?
- How are gestural (sign) languages similar to, and different from, spoken languages?
- How did the human mind develop the capacity for language?
- Is language uniquely human, or do non-human animals or insects have language?
- How do children learn to speak and read their mother tongue?
- Why do children say funny things like 'she giggled me' and 'I broke the toy'?
- Where does language reside in the brain, and is there such a thing as 'being right-brained or left-brained'?
- Are there sex differences in mental aptitude?
- What interventions might help the 21 percent of U.S. adults (per the U.S. Dept. of Education) who read below a 5th grade level?
- What do *tips* of the *slongue* (oops—slips of the tongue) reveal about the mind?
- Can leading questions compromise the accuracy of eyewitness testimony?
- Can subliminal communication influence buying preferences?
- Although equipped with voice activation, why can't our cell phones reliably converse with us?
- Are there risks associated with simultaneously driving and talking on a cell phone?
- Is 'WUG' an entry in your mental dictionary? What about 'WAG'? How can you make these decisions within fractions of seconds considering the vast number of words you know?
- Why do we hear discrete words, even though speakers do not pause between words when speaking (a phenomenon best observed by listening to someone who speaks a language foreign to the listener)?
- Do Eskimos really have several hundred words to describe snow? Do skiers?
- Can we think independently of language, or does language constrain our reality?
- Can language be 'loaded'? For example, should words like 'chairman' and 'freshman' be replaced respectively with gender-free terms such as 'chairperson' and 'freshperson'? What is a 'freshperson' anyway?

Indeed, such fascinating questions deserve compelling, scientific explanations—the highest standard of evidence available. Although we may take our language-savvy minds for granted, we shall explore how language dominates our social and cognitive processes. Simply stated, language may be the essence of humanity.

Objectives: Upon successful completion of this course, students will be able to:

1. Describe theories and research on the linguistic representation of language.
2. Describe theories and research concerning the cognitive processes that foster language acquisition and enable skilled language production and comprehension.
3. Evaluate and explain the scientific study of human language, including critically evaluating psycholinguistic theories and experimental results.
4. Explain the biological, social, and cultural influences on language processes.

Recommended prerequisite: PSY 101

Course homepage on Blackboard (mybb.gvsu.edu):

Class information (e.g., syllabus, announcements, laboratory assignments, required readings, lecture slides, & grades) will be available on Blackboard.

Required book: Trevor A. Harley (2010). *Talking the Talk: Language, Psychology, and Science (Second Edition)*. New York, NY: Psychology Press (ISBN 978-1138800458)

Required Software License: Francis, G. & Neath, I. (2015). *CogLab (5th Edition)*, Instant Access (for one semester; ISBN 9781285461137). **Purchase new license only.**
Available at GVSU bookstore or online: <https://coglab.cengage.com/info/purchase.shtml>

Required readings: Available electronically (see Blackboard).

Weekly laboratory participation via:

- 1) CogLab 5 <https://coglab.cengage.com/>
- 2) APA Online Psychology Lab (<http://opl.apa.org/>)
- 3) Project Implicit (<https://implicit.harvard.edu/implicit/>)

Course Grade Formula: Course grades will be based on scores from the following, weighted activities:

Exam #1	22%
Exam #2	22%
Exam #3	22%
Weekly laboratory participation	34%

Letter Grades will be calculated according to the following scale:

A	93-100%	C	73-76%
A-	90-92%	C-	70-72%
B+	87-89%	D+	67-69%
B	83-86%	D	60-66%
B-	80-82%	F	Below 60
C+	77-79%		

Course Attendance: Although role is not taken, you are expected to attend class. Students who do well in the class attend regularly. By attending class, you benefit by hearing content presented exclusively in lecture.

Forms of Evaluation:

1. Exams: To formally assess your understanding of course material, there will be three exams, including a noncumulative final exam. Questions on the exam will be based on the material covered in the: 1) lectures, 2) assigned readings, and 3) laboratory assignments. See ***Weekly Schedule*** for exam dates. ***Make-up exams*** will be given for the following circumstances: Official university activities (e.g., participating in sporting events), illnesses, and extenuating circumstances. Please email the professor as soon as possible to explain the situation and request permission for an alternate exam date.

2. Laboratory Reports: The primary goal of the laboratory component is to foster your understanding of the scientific process in Psychology. Outside of class time, you will participate in web-based, experimental investigations of classic experiments in Cognitive Science via **CogLab 5** (license fee), the **Online Psychology Lab** (free), and **Project Implicit** (free). You may complete these weekly experiments by using the GVSU computer labs or your own computer.

Take the time to read the background material for each lab at the host sites. For all assigned experiments, you are expected to understand the theoretical underpinnings motivating the investigation; the procedures and methods of investigation, including the independent and dependent variables; the predicted experimental outcome (i.e., hypothesis); the results of the experiment expressed in statistics and graphs; potential limitations of the investigation; and how each experiment is related to material covered in class and the assigned readings.

Submit your Laboratory Reports to Blackboard by midnight on the due date to earn full credit. Late labs automatically receive ½ credit. No email submissions will be accepted. You are encouraged to submit proof of completion up to two weeks early. You are encouraged to keep a copy of the laboratory assignment for your personal records (backup proof of completion; helpful when preparing for exams).

Laboratory Report Format: Answer the following questions, numbering your responses. Choose your words carefully. Write clearly, concisely, and with complete sentences. Check your grammar and spelling. I recommend preparing your responses in Word or other word processing program. Submit your ***Lab Reports*** to Blackboard.

1. State the **name of the lab** and the **date of your participation**
2. Find, copy, and paste your **summary data**.
 - a. CogLab automatically provides your summary data upon completion of the experiment.
 - b. At the Online Psychology Lab site, use your UserID to look up your summary data. Never report “Trial-by-trial data.”
 - c. Project implicit typically provides a summary statement such as “your data suggest...”
3. Identify and operationally define the **independent and/or predictor variable(s)**.
4. Identify and operationally define the **dependent variable(s)**.
5. State the experimental **hypothesis**.
6. Determine if your data is consistent with the **predicted outcomes**.
7. **Critique** the experiment. Offer potential, alternative explanations for the phenomenon observed that the researchers may have failed to consider. Consider the role of confounding variables, methodological limitations, or other weaknesses of the experiment.
8. Suggest **future directions**, such as how the experiment might be modified to improve the investigation.

Please note:

1. Participation in all assigned labs is expected. Thus, failure to complete any lab report results in a corresponding grade deduction (as shown in the **Laboratory Report Grade**).
2. This course is subject to the GVSU policies listed at <http://www.gvsu.edu/coursepolicies/>

Laboratory Report Grade will be awarded, according to the following schedule:

Lab Points	Lab Grade	Lab Points	Lab Grade
20	100%	14	70%
19	95%	13	65%
18	90%	12	60%
17	85%	11	55%
16	80%	10	50%

Instructions for getting started with, and obtaining proof of completion from, CogLab 5:

1. Open your Web browser and go to <http://coglab.cengage.com/help/register.shtml>
2. Look towards the bottom of the page for a form that asks for three pieces of information. If you do not see the form, your Web browser probably has JavaScript disabled. Please enable JavaScript and re-load the page to continue.
3. Enter the requested information:
 - o In the Group Name text field, enter the Group ID: **PsyLangF18**
 - o In the Group Password text field, enter: **noamchomsky**
 - o In the Registration Code text field, enter your **registration code**. The registration code could be in one of several formats. It may be on a sticker on the inside front cover of your CogLab Student Manual. It may have been bundled with your textbook on a postcard. Or, you may have purchased a registration code electronically (sometimes this is also called an e-Pin). There are two types of codes:
 - A CogLab2 code: This is made up of 11 letters and numbers, and will look something like this: y i j 2 d 9 v 6 f u 0
 - A CogLab5 code: This is made up of 16 letters and numbers, and will look something like this: s j k q 8 b 6 3 2 d v h d 4 u 0

Both are valid on this website. However, do not purchase used CogLab registration codes! If the registration code has already been used, it will not work for you. Each valid registration code can be used only once.

4. After filling in all the text fields, click or tap on the Start Registration button.
5. Your Web browser will connect with the CogLab server to verify your information. If the information is correct, a new window will appear. The first line, highlighted in yellow, is your User ID. You should write this down because you will need to access CogLab.
6. The second line is your registration code.
7. The next two lines ask for your first name and your last (family) name.

8. Next, enter a password. You'll use this when you login. The password must be at least 8 characters long. It is best not to enter a password you use on other web sites. The next line asks you to re-enter the password.
9. The next two lines ask for your email address and then confirmation of this address. This email address will be used if you forget your password.
10. Next, enter a security question and answer. Make sure to use an question that only you can answer correctly. Also, remember whether you use uppercase or lowercase letters in your answer: you'll need to enter your answer exactly the same if you forget your password.
11. If necessary, select your keyboard layout (for keyboard help, see <http://coglab.cengage.com/info/keyboards.shtml>).
12. Finally, decide if you want CogLab to remember you so that you don't need to login each time. If not, uncheck the box next to Remember Me.
13. After filling in all the text fields, click or tap on the Complete Registration button. Done!
14. To **start doing labs**, just click or tap on the Labs menu and select the lab. Please see “Weekly Schedule” for lab assignment due dates.

Instructions for getting started with, and obtaining proof of completion from, the Online Psychology Lab (<https://opl.apa.org/>):

1. Navigate to the Online Psychology Lab (<https://opl.apa.org/>).
2. Select “Student Login”.
3. Register with Google (recommended) or your pre-existing APA account.
4. Find our class: **Grand Valley State University F18, PSY 357 & PSY 101, 367195**
5. Participate in experiments! Please see “Weekly Schedule” for laboratory assignments and due dates.
6. Record (e.g., take a screen shot) of your **User Id** and any **Summary Data** at the completion of experiment, which will be submitted as part of your lab report.
7. When your summary data is not provided automatically at the completion of the experiment, look up your data in the Excel file by using the **UserId**.
8. Copy and paste your summary data into your lab report. Never report trial-by-trial data.

Instructions for getting started with, and obtaining proof of completion from, Project Implicit:

1. Open your Web browser and go to <https://implicit.harvard.edu/implicit/>
2. You have the option of [registering for research at Project Implicit](#) “to gain access to dozens of studies and tests on a wide variety of topics.” If you prefer, you can participate as a guest in a limited array of demonstration studies on social attitudes.
3. Proof of completion is typically a summary statement provided upon completion of an experiment.

Weekly Schedule:

Week 1: The nature of language and metacognition.

Lab #1: Memory Judgment (due no later than Wednesday, 9/5)

Required readings:

Harley, Chapter 1, Language, pp. 1-26

Ramus, F., Hauser, M. D., Miller, C., Morris, D., Mehler, J. (2000). Language discrimination by human newborns and by cotton-top Tamarin Monkeys. *Science*, 288, 349-351.

Labor Day Recess, Sept. 2-4**Week 2: Is language innate?****Lab #2: Statistical Learning (due Friday, 9/7)****Required readings:**

Aslin, R. N., & Newport, E. L. (2012). Statistical learning: From acquiring specific items to forming general rules. *Current Directions in Psychological Science*, 21(3), 170-176.

Goldin-Meadow, S. & Mylander, C. (1998). Spontaneous sign systems created by deaf children in two cultures. *Nature*, 391, 279-281.

Petitto, L. A., Holowka, S., Sergio, L. E., & Ostry, D. (2001). Language rhythms in baby hand movements. *Nature*, 413(6851), 35-36.

Senghas, A., Kita, S., Ozyurek, A. (2004). Children creating core properties of language: Evidence from an emerging sign language in Nicaragua. *Science*, 305, 1779-1782.

Week 3: Smart, albeit alingual animals and insects.**Lab #3: Monty Hall (due Friday, 9/14)****Required readings:**

Harley, Chapter 2, Animals, pp. 26-42

Herbranson, W. T. (2012). Pigeons, humans, and the Monty Hall dilemma. *Current Directions in Psychological Science*, 21(5), 297-301.

Ladewig, J. (2007). Clever Hans is still whinnying with us. *Behavioural Processes*, 76(1), 20-21

Pepperberg, I. M. (2002). Cognitive and communicative abilities of grey parrots. *Current Directions in Psychological Science*, 11(3), 83-87.

Riley, J. R., Greggers, U., Smith, A. D., Reynolds, D. R., & Menzel, R. (2005). The flight paths of honeybees recruited by the waggle dance. *Nature*, 435(7039), 205-207.

To watch a live “bee dance,” check out the following link compliments of NOVA and PBS: <http://www.pbs.org/wgbh/nova/bees/dances.html>

Wynne, C. D. L. (2007). What the ape said. *Ethology*, 113(4), 411-413.

Week 4: No formal instruction necessary in early language acquisition

Lab #4: Categorical Perception – Identification (Requires headphones/earbuds; due Friday, 9/21)

Lab #5: Categorical Perception – Discrimination (Requires headphones/earbuds; due Friday, 9/21)

Required readings:

Harley, Chapter 3, Children, pp. 42-79

Kuhl, P. K. (2004). Early language acquisition: Cracking the speech code. *Nature Neuroscience*, 5, 831-843.

Week 5: My teacher ‘holded’ the rabbits.

Exam 1, Friday, September 28

Lab #6: Memory Span (due Friday, 9/28)

Lab #7: Mental Rotation (due Friday, 9/28)

Required readings:

Jusczyk, P. W. (1997). Finding and remembering words: Some beginnings by English-learning infants. *Current Directions in Psychological Science*, 6(6), 170-174.

Marcus, G. F. (1996). Why do children say “brokeed?” *Current Directions in Psychological Science*, 5(3), 81-85.

Week 6: Role of working memory in language.

Lab #8: Word Length Effect (due Friday, 10/5)

Lab #9: Phonological Similarity Effect (due Friday, 10/5)

Required readings:

Baddeley, A. (2003). Working memory and language: An overview. *Journal of Communication Disorders*, 36(3), 189-208.

Boutla, M., Supalla, T., Newport, E. L., & Bavelier, D. (2004). Short-term memory span: Insights from sign language. *Nature Neuroscience*, 7(9), 997-1002.

Week 7: The ‘bottleneck’ of information processing.

Lab #10: Modality Effect (due Friday, 10/12)

Required readings:

Harley, Chapter 6, Words, pp. 129-164

Treiman, R. (2000). The foundations of literacy. *Current Directions in Psychological Science*, 9(3), 89-92.

Anthony, J. L., & Francis, D. J. (2005). Development of phonological awareness. *Current Directions in Psychological Science*, 14(5), 255-259.

Week 8: The science of reading.

Lab #11: Stroop (due Friday, 10/19)

Lab #12: Word Superiority Effect (due Friday, 10/19)

Required readings:

Grainger, J., Bouttevin, S., Truc, C., Bastien, M., & Ziegler, J. (2003). Word superiority, pseudoword superiority, and learning to read: A comparison of dyslexic and normal readers. *Brain and Language*, 87, 432-440.

Grainger, J. & Whitney, C. (2004). Does the human mind read words as a whole? *TRENDS in Cognitive Sciences*, 8(2), 58-59.

Fall Breaker on October 20 and 21—No academic homework for the entire weekend. Practice the three “R”s: Relax. Restore. Reinvigorate.

Week 9: Meaning in network theories.

Drop Deadline - grade W, October 26

Lab #13: Lexical Decision (due Friday, 10/26)

Lab #14: Lexical Decision via the Online Psychology Lab (due Friday, 10/26)

Your Lexical Decision Data, Part 1:

Related Accuracy: Words= ____%; Nonwords= ____%

Related Reaction Time: Words= ____ sec; Nonwords= ____ sec

Unrelated Accuracy: Words= ____%; Nonwords= ____%

Unrelated Reaction Time: Words= ____ sec; Nonwords= ____ sec

Your Lexical Decision Data, Part 2:

Lexical decisions to the second stimulus are faster (called priming) when the pair of stimuli are related. For example, “nurse” primes “doctor”, but not “horse”, signifying that “nurse” and “doctor” are associates in semantic memory (Collins & Loftus, 1975). Did both lexical decision labs reveal priming? If not, with your Sherlock Holmes' hat on, figure out the mystery of why one lab flopped. Even though the two labs see remarkably similar, what methodological strengths or weaknesses might explain why one version of the lab yielded the predicted findings, and the other version of the lab did not. By the way, what is revealed about our semantic networks if “male” and “female” do not equally prime “doctor”, or if negative words (e.g., “vomit”) are stronger primes for faces of one race compared to another?

Required readings:

Harley, Chapter 5, Meaning, pp. 103-129

Landauer, T. K. (1998). Learning and representing verbal meaning: The Latent Semantic Analysis Theory. *Current Directions in Psychological Science*, 7(5), 161-164.

Week 10: Connotation, denotation, and false memory.**Exam 2, Friday, November 2****Lab #15: False Memory (due Friday, 11/2)****Required readings:**

Harley, Chapter 7, Understanding, pp. 164-193

Zaragoza, M. S., Payment, K. E., Ackil, J. K., Drivdahl, S. B., & Beck, M. (2001). Interviewing witnesses: Forced confabulation and confirmatory feedback increases false memories. *Psychological Science*, 12(6), 473-477.

Week 11: The relationship between language and thought.**Lab #16: Implicit Association Test (IAT) of your choice at Project Implicit (<https://implicit.harvard.edu/implicit/>; due Friday, 11/9).**

Your IAT Summary Data: A one-sentence summary of your attitudes

Required readings:

Harley, Chapter 4, Thought, pp. 79-103

Davidoff, J, Davies, I, Roberson, D. (1999). Color categories in a stone-age tribe. *Nature*, 398, 203-204.

Thibodeau PH, Boroditsky L (2011). Metaphors We Think With: The Role of Metaphor in Reasoning. *PLoS ONE* 6(2), 1-11.

Week 12: Speaking and inattention blindness.

Lab #17: Change Detection (due Friday, 11/16)

Lab #18: Operation Span (due Friday, 11/16)

Required readings:

Harley, Chapter 8, Speaking, pp. 191-221

Strayer, D. L., & Drews, F. A. (2007). Cell-phone-induced driver distraction. *Current Directions in Psychological Science*, 16(3), 128-131.

Week 13: Language on the brain.

Thanksgiving Break, November 21 – 25.

Required readings:

Wagner, L. (2001). Acquiring languages—two for the price of one? *TRENDS in Cognitive Sciences*, 5(12), 509.

Marcus, G. F., Vouloumanos, A., & Sag, I. A. (2003). Does broca's play by the rules? *Nature Neuroscience*, 6(7), 651-2.

Week 14: Asymmetry, plasticity and critical periods

Lab #19: Brain Asymmetry (due Friday, 11/30)

Required readings:

Mayberry, R. I, Lock, E., & Kazmi, H. (2002). Linguistic ability and early language exposure. *Nature*, 417, 38.

Newman, A. J., Bavelier, D., Corina, D., Jezzard, P., & Neville, H. J. (2001). A critical period for right hemisphere recruitment in American Sign Language processing. *Nature Neuroscience*, 5(1), 76-80.

Nicholls, E. R., Searle, D. A., Bradshaw, J. L. (2004). Read my lips: Asymmetries in the visual expression and perception of speech revealed through the McGurk Effect. *Psychological Science*, 15(2), 138-141.

Week 15: Assorted language facts and fallacies

Lab #20: Mirror Drawing at Online Psychology Lab (due Friday, 12/7)

Your Data: Hand Preference: ____ [Right/Left]; Time for Left: ____ sec; Time for Right: ____ sec

Required readings:

Harley, Chapter 9, End, pp. 221-229

Halpern, D.F. (2004). A cognitive-process taxonomy for sex differences in cognitive abilities. *Current Directions in Psychological Science*, 13, 135–139.

Fenn, K. M., Nusbaum, H. C., & Margoliash, D. (2003). Consolidation during sleep of perceptual learning of spoken language. *Nature*, 425, 614-616.

Final Exam, Tuesday, December 11, 2:00-3:50 PM

“Talk is cheap, but understanding how and why is priceless.”

Brian Bartek, Psychology Major, Honors College, Grand Valley State University, '04