

Psychology of Language (PSY 357), Winter 2018

Syllabus and Lab Manual

1-1:50 p.m. on MWF in rm. 1310 Au Sable Hall

Instructor: Jennifer Gross, Ph.D.

Office: Rm. 2319 Au Sable Hall (ASH)

Office Hours: 11-11:50 AM on Mondays and Wednesdays; 1-1:30 PM on Fridays, and by appointment. Students with appointments have priority over walk-ins.

Office Phone: 616-331-3511

Email Address: grossj@gvsu.edu

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.

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 posted 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 Readings: Available electronically (see Blackboard).

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 Weekly Laboratory Participation via:

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

Course Grade Formula:

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

Exam #1	22%
Exam #2	22%
Exam #3	22%
Laboratory Reports	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.

Three 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 provides, at minimum, 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 the class 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: 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**).

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. Towards the bottom of the page is 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: *PsyLangW18*
 - 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: *yij2d9v6fu0*
 - A CogLab5 code: This is made up of 16 letters and numbers, and will look something like this: *sjkq8b632dvhd4u0*

Each valid registration code can be used only once. Do not purchase used CogLab registration codes! If the registration code has already been used, it will not work for you.

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!

To **start doing labs**, just click or tap on the Labs menu and select the lab.

Instructions for getting started with Online Psychology Lab (<http://opl.apa.org/>):

1. Working from a GVSU computer lab, look for and open the 'Application Folder' on the desktop.
2. Next, open the 'Psychology Folder'.
3. Launch the Online Psychology Lab (OPL; <http://opl.apa.org/>). If working from your own computer, be sure to download Adobe Flash plugin (available at host site) and permit pop-ups before launching a lab.
4. Select 'Students Begin Here' and then select assigned experiment.

5. Enter Lab ID: 11584

6. Enter requested demographic (e.g., age; handedness) information to proceed with experiment.
7. Upon completion of the experiment, write down the UserId (e.g., 47981) furnished with a big red check mark upon completion.

To retrieve data from the Online Psychology Lab (<http://opl.apa.org/>):

1. Select the 'Data' tab on the homepage:
2. Select 'data format' by scrolling down to 'Microsoft Excel'.
3. Select the assigned experiment by scrolling through options.
4. Select our class '**Grand Valley State University - 101 & 357, W18**' from the list.
5. Select 'Download Data' option. An Excel data file will open in a separate tab.
9. By using the **UserId**, look up your summary data in the Excel data file. Copy and paste your summary data to be submitted with your proof of completion. 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, at minimum, 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, 1/17)

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.

Dr. Martin Luther King, Jr. Day Recess on Monday, January 15

Commemoration week event schedule: <http://www.gvsu.edu/mlk/>

Week 2: Is language innate?

Lab #2: Statistical Learning (due Friday, 1/19)

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, 1/26)

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, 2/2)

Lab #5: Categorical Perception – Discrimination (Requires headphones/earbuds; due Friday, 2/2)

Required readings:

Harley, Chapter 3, Children, pp. 42-67 (up to “Is there a critical period for language acquisition”).

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, February 9**Lab #6: Memory Span (due Friday, 2/9)****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 “brea~~k~~ed?” *Current Directions in Psychological Science*, 5(3), 81-85.

Week 6: Role of working memory in language.**Lab #7: Word Length Effect (due Friday, 2/16)****Lab #8: Phonological Similarity Effect (due Friday, 2/16)****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 #9: Modality Effect (due Friday, 2/23)****Lab #10: Mental Rotation (due Friday, 2/23)****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, 3/2)

Lab #12: Word Superiority Effect (due Friday, 3/2)

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 huamn mnid raed wrods as a wlohe? *TRENDS in Cognitive Sciences*, 8(2), 58-59.

Week 9: Spring Break! March 4-11

Drop Deadline with a grade of 'W', March 9

Week 10: Meaning in network theories.

Lab #13: Lexical Decision (due Friday, 3/16)

Lab #14: Lexical Decision Making via the Online Psychology Lab (due Friday, 3/16)

Your Lexical Decision Making 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 Making Data, Part 2:

Did both Lexical Decision Labs reveal spreading activation (priming)? If not, with your Sherlock Holmes' hat on, figure out the mystery of why one lab flopped. The two labs are remarkably similar. What methodological differences might explain why one version of the lab yielded the predicted findings, and the other version of the lab did not.

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 11: Connotation, denotation, and false memory.

Exam 2, Friday, March 23**Lab #15: False Memory (due Friday, 3/23)****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 12: 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, 3/30).**

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 13: Speaking and inattention blindness.**Lab #17: Operation Span (due Friday, 4/6)****Lab #18: Change Detection (due Friday, 4/6)****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.

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

Week 14: Language on the brain: Asymmetry, plasticity and critical periods

Lab #19: Brain Asymmetry (due Friday, 4/13)

Required readings:

Harley, Chapter 3, pp. 67-78 (begin at “Is there a critical period for language acquisition”)

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

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, 4/20)

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, April 24, 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