Learning from Language (Psych 711)

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Fall 2020

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Office Hours: By appt. Everyone should make use of it.

Office: Psych 419

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Class Hours: Tue 1:00pm-3:00pm

Class Room: Psych 338

Course Description

This graduate seminar will focus on the question of what kinds of knowledge are we learning from our exposure to natural language. Consider two thought experiments: (1) Imagine if everything humans knew, they learned from personally doing things and from observing others do things. (2) Now imagine if the only source of information was language: we can talk to others, read, but not experience things for ourselves. The actual case is that people learn from their own experiences, from observing others, and also from language in its various forms. This brings us to the question: What aspects of semantic knowledge, if any, do we learn exclusively from language? Which semantic domains are especially impacted by our experiences with language? What kind of information is especially well-represented in language, and what kind if absent? Do some languages "teach" their speakers things that other languages don't?

Course Learning Outcomes

Students will. . .

1. become familiar with a diverse literature linking language, cognition, and perception

2. be able to think critically about correlational vs. causal claims

3. understand the basics of word embedding models and the core principles of natural language processing

4. design new experiment to test hypotheses about relationships between language and learning

Expectations

Students are expected to read the 2-5 readings assigned for each class. I expect students to critically engage with each reading. Be on the lookout for ideas that challenge your intuitions, and that provoke you into thinking differently. To help you engage with the readings, each student will be randomly assigned to a group of 3-4 for each week. After reading the papers individually, the group should get together to discuss the readings and – working together – fill out a *Response Sheet* (see Template. Each group should upload the completed template to Canvas by 8pm the day before class. I will grade each response sheet on a 1-3 scale ($\checkmark$-, $\checkmark$, $\checkmark$+) and will use it to organize

the discussion for the following class. Please note that some weeks have more/longer readings than other weeks. Plan your schedule accordingly. Final projects will also be completed in groups. Each group has the option of choosing to write a grant proposal, a review paper, or an empirical paper using online data collection, corpus analysis, or simulations.

How credit hours are met by the course

(Times are estimates)

- 28 hrs class-time
- 50 hrs reading
- 10 hrs weekly assignments
- 30 hrs final assignment
  = 118 hrs total

Grading Policy

- **40%** Attendance / in-class participation
- **25%** Reading responses
- **35%** Final assignment

Class Schedule[1]

The order in which the readings are listed is the recommended reading order.

Week 01, Tue, 09/08

Introduction. Human evolution and the cultural niche

- **Readings:** (Boyd et al., 2011; Pagel & Mace, 2004)

Week 02, Tue, 09/15

Varieties of semantic and conceptual knowledge and its connection to language

- **Readings:** Yee et al. (2018); Bedny & Saxe (2012); Levinson (1997); Lupyan & Bergen (2016)

Week 03, Tue, 09/22

The naming ceremony; word learning in WEIRD and non-WEIRD contexts

(Please note the heavier reading load for this week)

Special guest - Elika Bergelson

- **Readings:** Waxman (1999); Bergelson & Aslin (2017); Bergelson et al. (2019); Cristia et al. (2019); Brown & Casillas (2018)

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[1]As this is the first time this class is being offered, the schedule is subject to being revised.

Week 04, Tue, 09/29

Analogical and relational reasoning

- **Readings:** Hofstadter (2001); Gentner & Boroditsky (2001); Loewenstein & Gentner (2005); Gentner et al. (2013)

Week 05, Tue, 10/06

Education, literacy, language, and intelligence.

- **Readings:** Cole (2005); Stanovich & Cunningham (1992); Ritchie et al. (2015)

Week 06, Tue, 10/13

Learning from generics

(Please note the heavier reading load for this week)

- **Readings:** Haward et al. (2018); Hollander et al. (2009); Rhodes et al. (2012); Horowitz & Frank (2016); Leslie (2014)

Week 07, Tue, 10/20

Language and and the reading of minds

- **Readings:** (Gagne & Coppola, 2017; Heyes & Frith, 2014; Samuel et al., 2019)

Week 08, Tue, 10/27

Distributional Semantics 1: Core Principles and controversies

- **Readings:** Elman (2004); Boleda (2020); Günther et al. (2019); Bender & Koller (2020)

Week 09, Tue, 11/03

Distributional Semantics: Implications for learning

- **Readings:** Lupyan & Lewis (2017); Kim et al. (2019); Lewis et al. (2019); Grand et al. (2018); Lewis & Lupyan (2020)

Week 10, Tue, 11/10

Language and emotions

Special guest - Kristen Lindquist

- **Readings:** (Doyle & Lindquist, 2017; Jackson et al., 2019; Lindquist et al., 2015)

Week 11, Tue, 11/17

Perception 1: Top-down effects (of language) on perception

Special guest - Andy Clark

- **Readings:** ; Lupyan & Clark (2015); Samaha et al. (2018); Lupyan et al. (n.d.);

Week 12, Tue, 11/24

Perception 2: Language and olfaction

- **Readings:** A. Majid et al. (2018); Majid & Burenhult (2014); Asifa Majid et al. (2018); Olofsson & Wilson (2018); Asifa Majid & Kruspe (2018)

Week 13, Tue, 12/01

Writing workshop

Workshopping you group papers. Details TBA.

Week 14, Tue, 12/08

Final presentations

Group paper presentations [17 min presentations + 10 min Q&A].

STUDENTS' RULES, RIGHTS & RESPONSIBILITIES

During the global COVID-19 pandemic, we must prioritize our collective health and safety to keep ourselves, our campus, and our community safe. As a university community, we must work together to prevent the spread of the virus and to promote the collective health and welfare of our campus and surrounding community.

UW-MADISON BADGER PLEDGE

UW-MADISON FACE COVERING GUIDELINES

While on campus all employees and students are required to wear appropriate and properly fitting face coverings while present in any campus building unless working alone in a laboratory or office space.

Face Coverings During In-person Instruction Statement (COVID-19)

Individuals are expected to wear a face covering while inside any university building. Face coverings must be worn correctly (i.e., covering both your mouth and nose) in the building if you are attending class in person. If any student is unable to wear a face-covering, an accommodation may be provided due to disability, medical condition, or other legitimate reason.

Students with disabilities or medical conditions who are unable to wear a face covering should contact the McBurney Disability Resource Center or their Access Consultant if they are already affiliated. Students requesting an accommodation unrelated to disability or medical condition, should contact the Dean of Students Office.

Students who choose not to wear a face covering may not attend in-person classes, unless they are approved for an accommodation or exemption. All other students not wearing a face covering will be asked to put one on or leave the classroom. Students who refuse to wear face coverings appropriately or adhere to other stated requirements will be reported to the Office of Student Conduct and Community Standards and will not be allowed to return to the classroom until they agree to comply with the face covering policy. An instructor may cancel or suspend a course in-person meeting if a person is in the classroom without an approved face covering in position over their nose and mouth and refuses to immediately comply.

QUARANTINE OR ISOLATION DUE TO COVID-19

Student should continually monitor themselves for COVID-19 symptoms and get tested for the virus if they have symptoms or have been in close contact with someone with COVID-19. Student should reach out to instructors as soon as possible if they become ill or need to isolate or quarantine, in order to make alternate plans for how to proceed with the course. Students are strongly encouraged to communicate with their instructor concerning their illness and the anticipated extent of their absence from the course (either in-person or remote). The instructor will work with the student to provide alternative ways to complete the course work.

COURSE EVALUATIONS

Indicate how students can evaluate the course. For example: Students will be provided with an opportunity to evaluate this course and your learning experience. Student participation is an integral component of this course, and your feedback is important to me. I strongly encourage you to participate in the course evaluation.

Digital Course Evaluation (AEFIS)

UW-Madison now uses an online course evaluation survey tool, AEFIS. In most instances, you will receive an official email two weeks prior to the end of the semester when your course evaluation is available. You will receive a link to log into the course evaluation with your NetID where you can complete the evaluation and submit it, anonymously. Your participation is an integral component of this course, and your feedback is important to me. I strongly encourage you to participate in the course evaluation.

ACADEMIC CALENDAR & RELIGIOUS OBSERVANCES

• See: https://secfac.wisc.edu/academic-calendar/#religious-observances

Ethics of Being a Student in the Department of Psychology

The members of the faculty of the Department of Psychology at UW-Madison uphold the highest ethical standards of teaching and research. They expect their students to uphold the same standards of ethical conduct. By registering for this course, you are implicitly agreeing to conduct yourself with the utmost integrity throughout the semester.

In the Department of Psychology, acts of academic misconduct are taken very seriously. Such acts diminish the educational experience for all involved – students who commit the acts, classmates who would never consider engaging in such behaviors, and instructors. Academic misconduct includes, but is not limited to, cheating on assignments and exams, stealing exams, sabotaging the work of classmates, submitting fraudulent data, plagiarizing the work of classmates or published and/or online sources, acquiring previously written papers and submitting them (altered or unaltered) for course assignments, collaborating with classmates when such collaboration is not authorized, and assisting fellow students in acts of misconduct. Students who have knowledge that classmates have engaged in academic misconduct should report this to the instructor.

Academic Integrity

By enrolling in this course, each student assumes the responsibilities of an active participant in UW-Madison's community of scholars in which everyone's academic work and behavior are held to the highest academic integrity standards. Academic misconduct compromises the integrity of the university. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these acts are examples of academic misconduct, which can result in disciplinary action. This includes but is not limited to failure on the assignment/course, disciplinary probation, or suspension. Substantial or repeated cases of misconduct will be forwarded to the Office of Student Conduct & Community Standards for additional review. For more information, refer to studentconduct.wiscweb.wisc.edu/academic-integrity/.

Accommodations Policy:

McBurney Disability Resource Center syllabus statement: "The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW-Madison policy (Faculty Document 1071) require that students with disabilities be reasonably accommodated in instruction and campus life. Reasonable accommodations for students with disabilities is a shared faculty and student responsibility. Students are expected to inform faculty [me] of their need for

instructional accommodations by the end of the third week of the semester, or as soon as possible after a disability has been incurred or recognized. Faculty [I], will work either directly with the student [you] or in coordination with the McBurney Center to identify and provide reasonable instructional accommodations. Disability information, including instructional accommodations as part of a student's educational record, is confidential and protected under FERPA." http://mcburney.wisc.edu/facstaffother/faculty/syllabus.php

UW-Madison students who have experienced sexual misconduct (which can include sexual harassment, sexual assault, dating violence and/or stalking) also have the right to request academic accommodations. This right is afforded them under Federal legislation (Title IX). Information about services and resources (including information about how to request accommodations) is available through Survivor Services, a part of University Health Services: https://www.uhs.wisc.edu/survivor-services/

Diversity and Inclusion

Institutional statement on diversity: "Diversity is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals.

The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world." https://diversity.wisc.edu/

Complaints

Occasionally, a student may have a complaint about a TA or course instructor. If that happens, you should feel free to discuss the matter directly with the TA or instructor. If the complaint is about the TA and you do not feel comfortable discussing it with him or her, you should discuss it with the course instructor. Complaints about mistakes in grading should be resolved with the TA and/or instructor in the great majority of cases. If the complaint is about the instructor (other than ordinary grading questions) and you do not feel comfortable discussing it with him or her, make an appointment to speak to the Associate Chair for Graduate Studies, Professor Kristin Shutts, kshutts@wisc.edu.

If your complaint concerns sexual harassment, you may also take your complaint to Dr. Linnea Burk, Clinical Associate Professor and Director, Psychology Research and Training Clinic, Room 315 Psychology (262-9079; burk@wisc.edu).

If you have concerns about climate or bias in this class, or if you wish to report an incident of bias or hate that has occurred in class, you may contact the Chair of the Department, Professor Craig Berridge (berridge@wisc.edu) or the Chair of the Psychology Department Climate & Diversity Committee, Professor Catherine Marler (catherine.marler@wisc.edu). You may also use the University's bias incident reporting system, which you can reach at the following link: https://doso.students.wisc.edu/services/bias-reporting-process/.

References

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