

Ling 70600-1 (58434) *Introduction to Psycholinguistics: Eye-Tracking*

Fall 2021, Monday 4:15-6:15pm

Room TBA, CUNY Graduate Center

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Individual meetings are encouraged, preferably on Mondays before and after the class. Please email me to schedule one. Other days are also occasionally possible.

SYLLABUS**[Subject to change depending on the COVID-19 developments]****Brief Course Description**

Psycholinguistics is a broad field of research ranging from speech perception to sentence processing to language development to bilingualism. Throughout the course we will consider the relationship between theoretical linguistic concepts and constructs and psycholinguistic data through the lens of one particular method, i.e., the *Visual World eye-tracking Paradigm (VWP)*. We discuss what language is, how it is organized, represented, and acquired, and what cognitive factors influence it, with the focus on both production and comprehension. We will delve into current and ongoing issues in psycholinguistics while examining the basic processes underlying speech production and perception, word recognition, processing of morphology, and sentence processing. We will explore these issues from cross-linguistic and cross-population perspectives. The course will also incorporate a lab component that will provide the students with an opportunity to design and conduct their own pilot VWP experiment.

The course has no prerequisites, and does not assume any particular background. Special attention will be afforded to topics of particular interest to students registered for the class. We explore both classic and recent psycholinguistic literature on eye-tracking, the point above all being to clarify what questions are being asked, for what reason, and to assess the arguments that are typically pursued and the evidence on which those arguments are based.

Learning Objectives

- Learn foundations of psycholinguistic research conducted with the Visual World eye-tracking Paradigm (VWP).
- The course is reading-intensive. You will learn to think critically about the VWP research and to summarize research in writing through interactive reading and note taking (Single, 2009).
- Think about the broad theoretical questions, review the literature, read articles and synthesize the material, thinking critically about scientific information.
- Conduct a simple pilot study using an SLI EyeLink eye-tracker. Write an original brief report grounded in a review of relevant literature in the APA-format for an experimental article.
- Practice oral presentation and work in a small research team of two students.

Assigned Reading

There is no prescribed textbook for the course. However, if you feel that you would like to learn more about specific topics in psycholinguistics that we will be covering from the point of view of other behavioral methods, I recommend two general textbooks, Traxler (2012) and Sedivy (2019), listed in the Readings section below. Typically, there will be one obligatory reading and one or more optional readings assigned in support of each class. All assigned/optional readings are made available on Blackboard.

Course Requirements and Assessment

1. Interactive Notes (IN; Individual; 20 pts)

As noted on the Class Meeting Schedule, you are expected to write interactive notes (1-page long) for each of the 11 required readings. The interactive notes approach is presented in the book by Peg Boyle Single (2009), Ch. 3, that you will master in the course of the semester. You need to write interactive notes for 10 out of the 11 required readings of your choice (there is always at least one life event that will preclude you from doing all of the interactive notes). They should be posted on BB in your personal folder by 10pm on Sunday before the class and be accessible for class discussion. The interactive notes are graded from 0 to 2 pts ('0' *no notes*, '1' *satisfactory notes*, '2' *excellent notes*).

2. "Reading" the Relevant Journals (J#; Individual; 10 pts)

Each week you will "read" about the most recent studies in a designated journal. You will access the journal and read through the titles and abstracts for the 2020 volume (in case of journal embargo, "read" the 2019 volume). Find all the articles that used the VWP as a method and create an APA-formatted reference page with these articles. Use an * to mark the articles that you find interesting/important and to which you may want to return later. The J list should be posted on the Blackboard in your personal blog by 10pm on Sunday before the class and be accessible for class discussion. The J lists are graded as 0 (no list) or 1 pt.

I strongly encourage you to start using one of the two reference management software—Mendeley or Zotero, both for this class and beyond, to track references for all your writing projects. This is especially critical if you are already thinking about your Master's thesis or Ph.D. dissertation.

3. An Eye-Tracking Pilot, Brief Report, and Presentation (Exp; Group; 200 pts)

To give you hands-on experience with designing, conducting, and writing up about an eye-tracking experiment, the program will make accessible to you an EyeLink eye-tracker. It is installed in the Psycholinguistics lab _____. The person to guide you for your eye-tracking pilot is LeeAnn Stover, Ph.D. student in linguistics (lstove21@gmail.com). You will learn how to calibrate a participant, run an experiment, and analyze eye movements. You will have an entire semester to carry out your pilot.

This is a group project to be implemented by groups of two students. Contemporary psycholinguistic research is not conducted as individual projects anymore so you will pair up with another student to practice working in a small team. You are encouraged to team up with a student different from you (different level: Master's or Ph.D.; different program: Linguistics, SLH, Psychology).

Using the general topics from the Class Meeting Schedule and in consultation with me, each group will come up with a simple research question that lends itself well for an investigation with the Visual World eye-tracking Paradigm. It can come from any week (##3-13), a language other than English is preferred. Once you have your research question and design, you will implement it in Experiment Builder, and then run two participants who are the speakers of the language you are working with and who you will need to recruit as volunteers. After conducting the experiment with two participants, you will run simple descriptive statistics and create coarse- and fine-grained time-course graphs (with R or Excel).

As a group, you will write a brief report (between 2,000 and 4,000 words) in the APA-format (7th Ed.), with the required components (title page, Abstract, Introduction, Method, Results, Discussion, References, Tables/Figures, Appendix) and present your work as an oral talk on Dec. 13.

Important Deadlines for the Experiment

(1) Research question and design	25 October, 2021
(2) Data collection (2 participants)	8 November, 2021
(3) Data analysis	29 November, 2021
(4) Report is due	13 December, 2021
(5) PowerPoint presentation	13 December, 2021

(1)-(5) should be submitted electronically through the BB assignments. The deadline for the report is December 13, by 4pm, and it is firm. No late submissions will be accepted unless there is an emergency. The report and the PowerPoint presentations will be graded on the scale of '0' to '100', in the increments of 5 pts.

(1) Grading Scale (Max. 230 pts = 100%)

A	92% >
A-	90-92%
B+	87-89%
B	83-86%
B-	80-82%
C	70-79%
D	60-69%
F	< 60%

The standard components not included into the syllabus are:

Plagiarism

Special accommodation

Ask me for specifics, if you need them.

Class Meeting Schedule and Assignments

DATE	TOPIC	READING	ASSIGNMENTS
1. Aug. 30	Overview	Single (2009): Ch. 3	
Sept. 6	NO CLASS: LABOR DAY		
3. Sept. 13	Visit to the Eye-Tracking Lab	1. Knoeferle & Guerra (2016) 21. Trueswell & Tanenhaus (2004) 22. Ronderos et al. (2019)	IN for 1; J1: <i>JML</i>
4. Sept. 20	How it all began	2. Cooper (1974) 23. Huettig et al. (2011)	IN for 2; J2: <i>Cognition</i>
5. Sept. 27	Spoken word recognition	3. Allopeña et al. (1998) 24. McMurray et al. (2010)	IN for 3; J3: <i>J. of Speech-Lang-Hearing Research</i>
6. Oct. 4	Sentence processing	4. Tanenhaus et al. (1995) 25. Sussman & Sedivy (2003)	IN for 4; J4: <i>Bilingualism: Lang & Cognition</i>
Oct. 11	NO CLASS: COLUMBUD DAY		
8. Oct. 18	New era: Prediction	5. Pickering & Gambi (2018) 26. Huettig (2015)	IN for 6; J6: <i>Applied Psycholinguistics</i>
9. Oct. 25	Language acquisition	6. Trueswell et al. (1999) 27. Sedivy (2010) 28. Trueswell & Gleitman (2013)	IN for 7; J7: <i>Journal of Child Language</i> Exp. (1)
10. Nov. 1	Morphology: Gram. gender	7. Grüter et al. (2012) 29. Hopp (2015)	IN for 8; J8: <i>Aphasiology</i>
11. Nov. 8	Semantics: Anaphora	8. Sekerina et al. (2004) 30. Järvikivi et al. (2014)	IN for 9; J9: <i>J of Communication Disorders</i> ; Exp. (2)
12. Nov. 15	Bilingualism	9. Blumenfeld & Marian 2007 31. Sekerina & Trueswell (2011)	IN for 10; J10: Journal of your choice
13. Nov. 22	Discussion: pilot	10. Stone et al. (2020) 32. Cunnings (2012)	
14. Nov. 29	Language impairments	11. Sheppard et al. (2015) 33. Andreu et al. (2013) 34. Norbury (2017)	IN for 11 Exp. (3)
15. Dec. 6	TBA		
16. Dec. 13	Presentations		Report is due Exp. (4)

Readings

Background textbooks:

Sedivy, J. (2019). *Language in Mind: An Introduction to Psycholinguistics*. Sinauer Associates. (2nd Ed.) ISBN: 978-1605357058

Traxler, M. J. (2012). *Introduction to Psycholinguistics*. Wiley-Blackwell. ISBN: 978-405198622

Required

W1 (Aug. 30): Overview

Single, P. B. (2009). *Demystifying Dissertation Writing*. Ch. 3. *Interactive Reading and Note Taking*. (pp. 55-78.

W2 (Sept. 6): --

W3 (Sept. 13): Eye-tracker

1. Knoeferle, P., & Guerra, E. (2016). Visually situated language comprehension. *Language and Linguistic Compass*, 10(2), 66-82.

W4 (Sept. 20): How it all began

2. Cooper, R. M. (1974). The control of eye fixation by the meaning of spoken language. *Cognitive Psychology*, 6, 84-107.

W5 (Sept. 27): Spoken word recognition

3. Allopeña, P. D., Magnuson, J. S., & Tanenhaus, M. K. (1998). Tracking the time course of spoken word recognition using eye movements: Evidence for continuous mapping models. *Journal of Memory and Language*, 38, 419-439.

W6 (Oct. 4): Sentence processing

4. Tanenhaus, M. K., Spivey-Knowlton, M. J., Eberhard, K. M., & Sedivy, J. C. (1995). Integration of visual and linguistic information in spoken language comprehension. *Science*, 268(5217), 1632-1634.

W7 (Oct. 11) --

W8 (Oct. 18): New era: Prediction

5. Pickering, M., & Gambi, C. (2018). Predicting while comprehending language: A theory and review. *Psychological Bulletin*, 144(10), 1002-1044.

W9 (Oct. 25): Language acquisition

6. Trueswell, J. C., Sekerina, I. A., Hill, N. and Logrip, M. (1999). The Kindergarten-path effect: Studying on-line sentence processing in young children. *Cognition*, 73, 89-134.

W10 (Nov. 1): Morphology: Grammatical gender

7. Grüter, T., Lew-Williams, C., & Fernald, A. (2012). Grammatical gender in L2: A production or a real-time processing problem? *Second Language Research*, 28(2), 191-215.

W11 (Nov. 8): Semantics: Anaphora

8. Sekerina, I. A., Stromswold, K. and Hestvik, A. (2004). How do adults and children process referential ambiguity? *Journal of Child Language*, 31(1), 123-152.

W12 (Nov. 15): Bilingualism

9. Blumenfeld, H. K., & Marian, V. (2007). Constraints on parallel activation in bilingual spoken language processing: Examining proficiency and lexical status using eye-tracking. *Language and Cognitive Processes*, 22(5), 633-660.

W13 (Nov. 22): Analyzing eye-tracking data

10. Stone, K., Lago, S., & Schad, D. (2020). Divergence point analyses of visual world data: applications to bilingual research. *Bilingualism: Language & Cognition*. FirstView.
[doi:10.1017/S1366728920000607](https://doi.org/10.1017/S1366728920000607)

W14 (Nov. 29): Language impairments

11. Sheppard, S. M., Walenski, M., Love, T., & Shapiro, L. P. (2015). The auditory comprehension of wh-questions in aphasia: Support for the Intervener Hypothesis. *Journal of Speech, Language, and Hearing Research*, 58(3), 781-797.

Optional**W3 (Sept. 13): Eye-tracker**

21. Trueswell, J. C., & Tanenhaus, M. K. (2004). Ch. 1. Eye movements as a tool for bridging the language-as-product and language-as-action traditions. In J. C. Trueswell & M. K. Tanenhaus (Eds.), *Approaches to Studying Word-Situated Language Use*. (pp. 1-35). The MIT Press.
22. Ronderos et al. (2019). Eye Tracking During Visually Situated Language Comprehension: Flexibility and Limitations in Uncovering Visual Context Effects. *JoVE*, 141. DOI: 10.3791/57694

W4 (Sept. 20): How it all began

23. Huettig, F., Rommers, J., & Meyer, A. S. (2011). Using the Visual World Paradigm to study language processing: A review and critical evaluation. *Acta Psychologica*, 137, 151-171.

W5 (Sept. 27): Spoken word recognition

24. McMurray, B., Samelson, V. M., Lee, S.H., & Tomblin, J. B. (2010). Individual differences in online spoken word recognition. Implications for SLI. *Cognitive Psychology*, 60, 1-39.

W6 (Oct. 4): Sentence processing

25. Sussman, R. S., & Sedivy, J. C. (2003). The time-course of processing syntactic dependencies: Evidence from eye movements. *Language and Cognitive Processes*, 18(2), 143-163.

W8 (Oct. 18): New era: Prediction

26. Huettig, F. (2015). Four central questions about prediction in language processing. *Brain Research*, *1626*, 118-135.

W9 (Oct. 25): Language acquisition

27. Sedivy, J. C. (2010). Using eyetracking in language acquisition research. In E. Blom & S. Unsworth (Eds.), *Experimental Methods in Language Acquisition Research*. (pp. 115-138). Amsterdam/Philadelphia: John Benjamins.
28. Trueswell, J. C., & Gleitman, L. R. (2013). Children's eye movements during listening: Developmental evidence for a constraint-based theory of sentence processing. In J. M. Henderson & F. Ferreira (Eds.), *The Interface of Language, Vision, and Action*. (pp. 319-346). Psychology Press.

W10 (Nov. 1): Morphology: Grammatical gender

29. Hoop, H. (2015). Semantics and morphosyntax in predictive L2 sentence processing. *International Review of Applied Linguistics*, *53*(3), 277-306.

W11 (Nov. 8): Semantics: Anaphora

30. Järvikivi, J., Pyykkönen-Klauck, P., Schimke, S., Colonna, S., & Hemforth, B. (2014). Information structure cues for 4-year-olds and adults: Tracking eye movements to visually presented anaphoric referents. *Language, Cognition and Neuroscience*, *29*(7), 877-892.

W12 (Nov. 15): Bilingualism

31. Sekerina, I. A., and Trueswell, J. C. (2011). Processing of contrastiveness by heritage Russian bilinguals. *Bilingualism: Language and Cognition*, *14*(3), 280-300.

W13 (Nov. 22): Analyzing eye-tracking data

32. Cummings, I. (2012). An overview of mixed-effects statistical models for second language researchers. *Second Language Research*, *28*(3), 369-382.

W14 (Nov. 29): Language impairments

33. Andreu, L., Sanz-Torrent, M., & Trueswell, J. C. (2011). Anticipatory sentence processing in children with specific language impairment: Evidence from eye movements during listening. *Applied Psycholinguistics*, *34*, 5-44.
34. Norbury, C. F. (2017). Eye-tracking as a window on language processing in ASD. In L. R. Naigles (Ed.), *Innovative investigations of language in autism spectrum disorder*. (pp. 13-33). APA.