

**Psychology 4210: Speech development**  
Fall 2019

**Class meetings:** MW 9:25 am-10:40 am W870  
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**Course description:** This is an advanced seminar course on child speech acquisition. The course will introduce basic concepts in speech science, evaluate classical theories and recent findings in child phonological development, and provide hands-on practice in the application of acoustic analytical tools.

**Textbook:**

Marilyn M. Vihman (2014) *Phonological development: The first two years*. 2<sup>nd</sup> Edition. Blackwell Publishers.

**Coursework and grading:**

Your final grade is accumulated through several components. First, you will be assigned five labs throughout the semester, with each of them worth 6%. Second, as this is a seminar course, you are expected to actively participate in all aspects of this course, i.e., raising intelligent questions, offering critiques to the readings, relating the course materials to major social issues, etc (5%). Third, each of you will be responsible to lead discussions on selected articles (5%). In addition, you will be quizzed over some critical concepts introduced in class (10%). Finally, you are required to conduct a child language project, for which you'll present your findings orally (5%) and through a poster (5%), as well as to turn in a consent form (2%), an Introduction part (3%), and a five-page research paper related to your study (35%).

Labs	5*6 = 30 %
Participation	5 %
Discussion leading	5 %
Oral presentation	5 %
Poster presentation	5 %
Written reports	40%
Quizzes	5*2%=10 %
Total	100 %

**Grading scale:**

A+	95 – 100	B+	82 – 85.9	C+	70 – 73.9	D+	58 – 61.9	F	0 – 49.9
A	90 – 94.9	B	78 – 81.9	C	66 – 69.9	D	50 – 57.9		
A-	86 – 89.9	B-	74 – 77.9	C-	62 – 65.9				

**Labs:** We will have five lab sessions with associated assignments throughout this semester. These labs are designed to equip you with hands-on experiences of using *Praat* and *Phon* to analyze children's data. The lab sessions will be held in a computer lab. The assignment will be distributed in class time. During each lab, please bring with you a set of earphones and a thumb drive.

**Thought questions:** For each class, you are required to bring a list of at least three thought questions related to the course materials to be discussed. The questions can be anything that came up during your reading of the assigned material, such as difficulty in understanding a particular concept, a methodological detail, or on experimental designs and statistical analysis. The questions can also reflect your deeper thinking of the reading and may relate to your own previous experience or larger social issues. Coming to class with the prepared thought questions will allow you to ask better questions during class and gain a deeper understanding of the materials during in-class discussion. These questions will be collected at the end of each class.

**Leading discussions:** Every student is required to lead discussions on selected papers. You will FAIL the course if you are absent on your scheduled discussion-leading day. Be creative on the format of discussion. No matter how you organize it, however, you should cover three major aspects. First, you should make sure all students have a basic understanding of the article to be discussed. To achieve this end, you are encouraged to bring out questions related to the main points of the article. Second, you should check with the audience whether they have any questions in regard to the technical jargons in the article. And if they do, you can either clarify them yourself or invite others to make comments. Last but not least, you should prepare some major theme questions to propose to the audience. The theme questions could be about the implications of the work and its relation to a larger topic. Please remember that when leading a discussion, you are not to lecture, but to facilitate a conversation. Therefore, you will need to find ways to encourage people to think and talk.

***Child language project:***

Part 1 -- You are expected to conduct an interview with people who have children or who work with children. They can be parents, daycare teachers, clinicians, etc. The interview can be unstructured, surrounding a broad topic on the challenges of communicating with children and lessons learned based on their experience with children. You'll report the interview through an oral presentation of roughly 15 minutes (including the question period).

Part 2 -- You are also expected to gather information about a child's speech production by observing them interacting with their peers, parents, or teachers in their natural environment. If you have no access to children, you can discuss the speech development profile of a specific child population by reviewing some literature or by interviewing more people who have children or work with children. The kind of information you'll need to report include the sounds that children can make (or cannot make), the words they are able to produce, grammatical formations of words and sentences, sentence length, the use of pragmatics, and the gestures they use, whenever applicable. You can target at typical- or atypical-developing children or children from minority background

such as immigrants, refugee, or First Nations. You'll need to present it in the format of a poster presentation on the last two days of class.

**Written assignments** – You'll need to submit an abstract and consent form(s) BEFORE conducting your project. Once your project idea is approved, you can start to work on literature review and will need to submit the Introduction part of your research paper. I will provide feedback on this part of the writing and also check to make sure that you are on the right track. At the end of the semester, you should submit the entire five-page research paper about your project. Your research paper should be written in academic English with formal writing style, free of grammatical errors, and synthesize succinctly and comprehensively of your findings.

**Important to note:** All written assignments have to be typed. No handwritten work is accepted.

**Late and make-up policy:** There is a late submission penalty for lab assignments and the final research proposal (50% reduction to your received grade if received within two days after the due date; no credits thereafter). In order to avoid the disadvantage of this policy, please provide official written documents to justify your absence or late submission. No make-up quiz will be offered without valid excuses accompanied by supporting documentations.

**Students with Special Needs:** If you have any special needs that require accommodation, it is your responsibility to contact Counseling Services to acquire an official letter concerning your situation. Accommodations will only be given upon receiving the official notification from that office.

**Academic misconduct:** I am required by my contract with the university to report suspected cases of academic misconduct to the University. The most common form of misconduct is plagiarism. Remember that any time you use the ideas or the statements of someone else, you must acknowledge the source in a citation.

### **Reading list:**

Curtin, S., Fennell, C., & Escudero, P. (2009). Weighting of vowel cues explains patterns of word-object associative learning. *Developmental Science*, 12(5), 725-731.

Fennell, C., & Waxman, S. R. (2010). What paradox? Referential cues allow for infant use of phonetic detail in word learning. *Child Development*, 81, 1376-1383.

Flege, J. E. (1995). Second-language speech learning: Theory, findings, and problems. In W. Strange (Ed.), *Speech Perception and Linguistic Experience* (pp. 233-277). Timonium, MD: York Press. ([http://jimflege.com/files/Flege\\_in\\_Strange\\_1995.pdf](http://jimflege.com/files/Flege_in_Strange_1995.pdf))

Gibbon, F. (1999). Undifferentiated lingual gestures in children with articulation/phonological disorders. *Journal of Speech, Language, and Hearing Research*, 42, 382-397.

Harada, T. (2007). The production of voice onset time (VOT) by English-speaking children in a Japanese immersion program. *IRAL - International Review of Applied Linguistics in Language Teaching*, 45, 353–378.

Gonzalez, G. L. R., Li, F., Mills, K. J., Rosen, N., & Gibb, R. L. (2014) Speech in action: Degree of hand preference for grasping predicts speech articulation competence in children. *Frontiers in Psychology*, <http://dx.doi.org/10.3389/fpsyg.2014.01267>.

Kuhl, P. K., Andruski, J. E., Chistovich, I. A., Chistovich, L. A., Kozhevnikova, E. V., Ryskina, V. L., Stolyarova, E. I., Sundburg, U., Lacerda, F. (1997). Cross-language analysis of phonetic units in language addressed to infants. *Science*, 277, 684-686.

Li (2012). Language-specific developmental differences in speech production: A cross-Language acoustic study. *Child Development*, 83, 1303-1315.

MacNeilage, P. F., & Davis, B. L. (2005). The frame/content theory of evolution of speech. *Interaction Studies*, 6(2), 173-199.

Nip, I. S. B., Green, J. R., Marx, D. B. (2011) The coemergence of cognition, language, and speech motor control in early development: A longitudinal correlation study, *Journal of Communication Disorders*, 44(2): 149–160.  
doi:10.1016/j.jcomdis.2010.08.002

Pierce, L. J., Klein, D., Chen, J. K., Delcenserie, A., Genesee, F. (2014) Mapping the unconscious maintenance of a lost first language. *Proceedings of the National Academy of Sciences of the United States of America*, 111 (48): 17314–17319.

Stager, C. L., & Werker, J. F. (1997). Infants listen for more phonetic detail in speech perception than in word-learning tasks. *Nature*, 24, 381-382.

Simon, E. (2010). Child L2 development: a longitudinal case study on Voice Onset Times in word-initial stops. *Journal of Child Language*, 37(1), 159–173.

Vouloumanos, A., Hauser, M. D., Werker, J. F., & Martin, A. (2010). The tuning of human neonates' preference for speech. *Child Development*, 81, 517-527.

Werker, J. F., Pons, F., Deitrich, C., Kajakawa, S., Fais, L., & Amano, S. (2007). Infant-directed speech supports phonetic category learning in English and Japanese. *Cognition*, 103, 149-162.

Zharkova, N, Hardcastle, W. J., & Gibbon, F. E. (2018) The dynamics of voiceless sibilant fricative production in children between 7 and 13years old: An ultrasound and acoustic study. *Journal of the Acoustical Society of America*, 144, 1454–1466.

### Tentative weekly schedule

Topic	Date	Day	Reading	Assignment
Introduction	Sept 4	W	Chapter 1	
	Sept 9	M		
Precursors to language	Sept 11	W	Chapter 2	
	Sept 16	M	Lab tutorial (E648)	Quiz 1
Development in perception	Sept 18	W	Chapter 3 & 5	
	Sept 23	M	Vouloumanos (2010) Stager & Werker (1997)	Quiz 2
	Sept 25	W	Curtin et al (2009); Fennell & Waxman (2010)	
	Sept 30	M	Lab 1 (E648)	Abstract and consent forms due
Development in production	Oct 2	W	Chapter 4 & 6	
	Oct 7	M	Lab 2 (E648)	Quiz 3
Development in production	Oct 9	W	MacNeilage & Davis (2005) Gibbon (1999)	
	Oct 14	M	Thanksgiving; No class	
Development in production	Oct 16	W	Li (2012) Zharkova et al. (2018)	Lab 2 due
	Oct 21	M	Lab 3 (E648)	
	Oct 23	W	Oral presentation on part I of the child language project	
	Oct 28	M		Lab 3 due
	Oct 30	W		Lab 4 (E646)
Word learning	Nov 4	M	Chapter 7 & 8	Introduction due
Second language acquisition	Nov 6	W	Flege (1995) Pierce et al. (2014)	Lab 4 due
	No class	Nov 11	M	
	No class	Nov 13	W	
Second language acquisition	Nov 18	M	Simon (2010) Harada (2007)	Quiz 4
	Nov 20	W	Lab 5 (E646)	
Child-directed speech	Nov 25	M	Kuhl et al. (1997); Werker et al. (2007)	
Speech & motor control	Nov 27	W	Gonzalez et al. (2014) Nip, Green, & Marx (2011)	Lab 5 due
	Dec 2	M	Poster presentation on part II of the child language project	
Dec 4	W	Quiz 5		
	Dec 10	W		Research paper due