PSY G4272x
Advanced Seminar in Language Development
Fall 2015

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Office hours: TBA
Class meeting: T 12:10-2, in Schermerhorn 405

Textbook and readings
Erika Hoff, *Language Development*, *4th Ed*. Wadsworth, 2008
Selected articles from the research literature, available through the class Courseworks site.

Course description
Language is central to the human experience. It arises in all cultures, and can be learned effortlessly by any child. In fact, children can't resist it – deprive them of language, and they will invent their own. Oddly, we lose this ability to learn language as we age, even though other mental skills improve. The structure of languages, and the way they are learned, reflect the intricate organizational power of the mind of the human child.

This is a seminar on the acquisition of language by children. We will discuss the acquisition of the sounds of language, the meaning of language, and the structure of phrases and sentences. Although much of the literature on language development involves the acquisition of English, we will also examine, wherever possible, the acquisition of other spoken languages, as well as the acquisition of sign languages. We will discuss both the process of acquisition and the competing theoretical explanations of that process. Particular emphasis will be placed on discovering the mechanisms children possess that enable them to learn language, and the resulting impact of those mechanisms on languages themselves.

Course format and expectations
Discussions: The first class meeting will consist of an explanatory session led by the instructor, followed by some group exercises. During the ten weeks that follow, we will discuss the topics listed in the syllabus. All members of the seminar will read the chapter and articles listed, and will post a proposed discussion question or reaction to the class bulletin board by 5pm on the Friday preceding class. Each meeting (excepting week 7) two class members will lead a discussion of the week's topic, incorporating the readings and the postings of their classmates. Each class member will take at least one turn as discussion leader. On week 7, Prof. Senghas will lead a workshop on CHILDES, an online resource for conducting empirical analyses of child language.

Presentations: During the final three weeks of class, we will turn to current controversies in the field of language development. At each meeting, we will hear student presentations on three of the controversial topics listed below. Note that each topic in the list is followed by an article from the primary research literature. The article listed often presents either an early perspective of the topic, or one view in a polarized debate. For each topic, two presenters are responsible for seeking out other readings from the current literature that complement the assigned reading. They will then give a presentation of the controversy to the group, and take questions from the group. Each member is expected to take a turn as a co-presenter. Copies of the additional readings should be sent to the instructor before the class meeting that is a week prior to the relevant meeting, so they can be made available to the rest of the group. Additional alternatives are suggested at the bottom of the syllabus. Student-initiated topics will be enthusiastically considered in lieu of the suggested topics;.

Papers: Individual research papers will provide students with an opportunity to discuss their chosen controversial topic in more detail. Abstracts and initial bibliographies must be emailed to Prof. Senghas **before the class meeting on Week 7**. All reference articles should be selected from primary published scientific sources. First drafts must be emailed **before the class meeting on Week 10**. You will then have an opportunity to revise your papers before turning in the final draft **by 4pm on the last day of classes**. The papers should follow the citation guidelines of the *Publication Manual of the American Psychological Association*. Note that while the in-class presentations are collaborative, research papers should be written independently.

Course Goals
Successful participation in this course will advance many of the program goals set out by the Columbia University Psychology Department (http://www.columbia.edu/cu/psychology/dept/ugrad/goals.html).

Completing readings and activities throughout this course will expand students' knowledge of the fundamentals of human language acquisition. Through participation in class discussions and through written assignments you will have the opportunity to develop your ability to think critically about past and current research in the area, and develop a thorough understanding of what we know and still need to study in order to more fully understand this critical aspect of human cognition. Upon successful completion of this course, you will be better able to understand and evaluate new research in the field of language acquisition. In addition, you will learn to skillfully use appropriate sources and media for literature searches as you complete your own research paper and presentation.

Top course learning objectives, specifying specific skills and expertise that students will gain:
OBJECTIVE 1: Interpret and critically evaluate primary research as well as review papers on natural human language development. This objective is accomplished through active class participation, weekly assignments consisting of generating questions based on assigned readings, and a final paper.

OBJECTIVE 2: Effectively communicate your questions generated from the readings and the class discussions. This objective is accomplished via the facilitation of one class discussion, and a presentation to the class at the end of the semester that reviews a controversial topic in language development research. Through these activities, students will develop their writing and speaking skills, and gain expertise in discussions on the state of the science of language development.

Grading: Grades will be based on the facilitation of the group discussion (20%), the presentation of a current controversial topic (20%), weekly class participation and preparation (20%), the abstract and first draft (10%) and the final version of the paper (30%).

Course Schedule

Week 1
Introduction to the scientific investigation of language development
Hoff, Chapter 1

Week 2
The role of input and social context
Hoff, Chapter 3
Schneidman & Goldin-Meadow (2012)
Hoff (2006)
Rowe & Goldin-Meadow (2009)
SELECTION OF CLASS DISCUSSION LEADERS FOR WEEKS 3-11

Week 3
Characteristics of the learner: Innate capacities and critical periods
Hoff, Chapter 2
Mayberry, et al. (2011)
Marcus & Fisher (2011)
Pinker (1994), pp. 15-55.

Week 4
Learning the sounds of language: Phonology
Hoff, Chapter 4
Petitto, et al. (1991, 2004)
Singh, et al. (2011)

Week 5
Lexical Development: Learning Words
Hoff, Chapter 3
Saffran, et al. (1996)
Fernald et al. (2012)
[Child observation session at the Toddler Center]
PAPER & PRESENTATION TOPICS DUE

Week 6
Complex words and phrases: Syntax and morphology
Hoff, Chapter 6
Slobin (1973)
Wagner, et al. (2009)
Vasilyeva, et al. (2008)

Week 7
CHILDES workshop
Hoff, p. 31
Brown (1973/2004)
Slobin (1979/2004)
PAPER ABSTRACTS AND REFERENCES DUE

Week 8
Language and thought
Hoff, Chapter 7
Li & Gleitman (2002)
Levinson, et al. (2002)
Gallistel, C. R. (2002)

Week 9
Language and cognitive development
Hoff, Chapter 7
Spelke (2011)
Pyers, et al. (2010)

Week 10
Language origins and language change
Hoff, pp. 40-43
Bickerton (1984)
Senghas (2003)
Meir, et al. (2010)
FIRST DRAFT OF PAPERS DUE

Week 11
Language learning in the lab, artificial languages and iterative learning
Hudson-Kam & Newport (2009)
Kirby, Cornish, & Smith (2008)
Tily & Jaeger (2011)

Weeks 12-14: Student Research Presentations (3 topics per week)

Language evolution and proto-language
Jackendoff (2003)

Gesture and language development
Goldin-Meadow (2009)

The learning of language by artificial devices
Rumelhart & McClelland (1986)

Child-directed speech (does it help?)
Newport, Gleitman, & Gleitman (1977)

Negative evidence
Brown, R., & Hanlon, C. (1970)

Williams Syndrome
Bellugi, Marks, Bihrle, & Sabo (1993)

Specific Language Impairment
Gopnik & Crago (1991)

Language learnability
Skinner (1959)
Chomsky (1959)

FINAL VERSION OF PAPERS DUE BY 4 PM THE LAST DAY OF CLASSES

Alternative presentation topics:
Gesture and early reference
Bilingual acquisition
Animal communication and the implications for human language
The language of education and the Ebonics debate
Syntactic and semantic bootstrapping
Prelinguistic "language" in infants
Language reform and prescriptivism
Natural language creation: pidgins, creoles, dialects
Invented languages
Bilingual acquisition
Animal communication and the implications for human language
Learning language with a cochlear implant
Specific Language Impairment
Language acquisition among other special populations, e.g., autism, blindness, dyslexia, deafness, cognitive impairment, Down Syndrome, etc.

If class is scheduled a on a day on which you will be unable to attend because of a religious observance, please speak to the instructor, preferably early in the semester, so we can make alternative arrangements. Also, if anyone requires accommodation for a disability, please consult with the Office for Disability Services at 212-854-2388 or disability@columbia.edu, and speak with the instructor by the close of the second class meeting.

Readings

Bellugi, U., Marks, S., Bihrle, A., & Sabo, H. (1993) Dissociation between language and cognitive functions in Williams Syndrome In D. Bishop and K. Mogford (Eds.) *Language Development in Exceptional Children.* Hove, England: Erlbaum.

Bickerton, D. (1984) The language bioprogram hypothesis. *Behavioral and Brian Sciences*, 7, 173.

Brown, R. (1973/2004). The study of Adam, Eve, and Sarah. In B. Lust & C. Foley (Eds). *First Language Acquisition: The Essential Readings*. (pp.335-343). Oxford: Blackwell.

Brown, R., & Hanlon, C. (1970). Derivational complexity and order of acquisition in child speech. In J. Hayes (Ed.), *Cognition and the development of language,* New York: Wiley, 11-54.

Chomsky, N. (1959) Review of B. F. Skinner, Verbal learning. *Language,* 35: 26-58.

Fernald, A., Marchman, V. A., & Weisleder (2012). SES differences in language processing skill and vocabulary are evident at 18 months. *Developmental Science*. DOI: 10.1111/desc.12019

Gallistel, C. R. (2002). Language and spatial frames of reference in mind and brain. *Trends in Cognitive Science.* 6 (8), 321-22

Goldin-Meadow, S. (2009). Gesture's role in creating and learning language. In J. Zlatev, M. Andren, M. Johansson Falck, & C. Lundmark (eds.) *Studies in language and cognition* (pp. 347-360). Newcastleupon Tyne: Cambridge Scholars Publishing.

Gopnik, M., & Crago, M. B. (1991) Familial aggregation of a developmental language disorder. *Cognition*, 39, 1-50.

Hoff, E. (2006) How social contexts support and shape language development. *Developmental Review,* 26, 55-88.

Jackendoff, R. (2003). Précis of *Foundations of Language: Brain, Meaning, Grammar, Evolution. Behavioral and Brain Sciences,* 26, 651–707.

Kirby, S., Cornish, H., & Smith, K. (2008). Cumulative cultural evolution in the laboratory: an experimental approach to the origins of structure in human language. *Proceedings of the National Academy of Sciences of the United States of America*, *105*(31), 10681–6. doi:10.1073/pnas.0707835105

Levinson, S. C., Kita, S., Haun, D. B. M., Rasch, B. H. (2002). *Cognition.* 84, 155–188.

Li, P. W., & Gleitman, L. R. (2002). Turning the tables: language and spatial reasoning. Cognition, 83 (3), 265-294.

Marcus, G.F., & Fisher, S.E. (2011). Genes and language. In: *Cambridge Encyclopedia of the Language Sciences* (ed. Hogan PC) 341-344 (Cambridge University Press, New York, USA)

Mayberry, R. I., Chen, J-K., Witcher, P., & Klein, D. (2011). Age of acquisition effects on the functional organization of language in the adult brain. *Brain and Language, 119,* 16-29.

Meir, Irit, Sandler, Wendy, Padden, Carol, & Aronoff, Mark (2010). Emerging Sign Languages. In M. Marschark and P. Spencer (Eds.) *Oxford Handbook of Deaf Studies, Language, and Education*, Volume 2. Oxford: Oxford University Press, 267-280.

Newport, E. L., Gleitman, H., and Gleitman, L. (1977) Mother, I'd rather do it myself: Some effects and non-effects of maternal speech style. In C. E. Snow & C. A. Ferguson (Eds.), *Talking to children: Language input and acquisition*. Cambridge: Cambridge University Press, 109-150.

Petitto, L. A., Marentette, P. F. (1991) Babbling in the manual mode: evidence for the ontogeny of language. *Science*, 251, 1493-6.

Petitto, L., Holowka, S., Sergio, L. E., Levy, B., & Ostry, D. J. (2004). Baby hands that move to the rhythm of language: Hearing babies acquiring sign languages babble silently on the hands. *Cognition, 93*, 43-73.

Pinker, S. (1994) *The Language Instinct*. New York: Morrow. 262-296.

Pyers, J. E., A. Shusterman, A. Senghas, E. Spelke, and K. Emmorey (2010). Spatial language supports spatial cognition: Evidence from learners of an emerging sign language. *Proceedings of the National Academy of Sciences (PNAS)* 107:27, 12116-12120.

Rowe, M., & Goldin-Meadow, S. (2009). Differences in early gesture explain SES disparities in child vocabulary size at school entry. *Science, 323*, 951-953.

Rumelhart, D. E., & McClelland, J. L. (1986) On learning the past tenses of English verbs. In *Parallel Distributed Processing, volume 2*, Cambridge, MA: MIT Press.

Saffran, J. R., Aslin, R.N., & Newport, E. L. (1996). Statistical learning by 8-month old infants. *Science, 274*, 1926-1928.

Senghas, A. (2003). Intergenerational influence and ontogenetic development in the emergence of spatial grammar in Nicaraguan Sign Language. *Cognitive Development, 18*, 511-531.

Shneidman, L. A. and Goldin-Meadow, S. (2012), Language input and acquisition in a Mayan village: how important is directed speech? *Developmental Science*, 15: 659–673. doi: 10.1111/j.1467-7687.2012.01168.x

Singh, L., Liederman, J., Mierzejewski, R., & Barnes, J. (2011). Rapid reacquisition of native phoneme contrasts after disuse: You do not always lose what you do not use. *Developmental Science, 14*, 949-959.

Skinner, B. F. (1959) Verbal Learning.

Slobin, D. (1973) Cognitive prerequisites for the development of grammar. In Ferguson, C. A. and Slobin, D. I. (eds.) *Studies of Child Language Development*, New York: Holt, Rinehart and Winston.

Slobin, D. (1973/2004). The cognitive prerequisites for the development of grammar. In B. Lust & C. Foley (Eds). *First Language Acquisition: The Essential Readings*. pp. 240-249. Oxford: Blackwell.

Spelke, E. (2011). Natural number and natural geometry. In E. Brannon & S. Dehaene (Eds.), *Attention and Performance Vol. 24. Space, Time and Number in the Brain: Searching for the Foundations of Mathematical Thought* (pp. 287-317). Oxford, United Kingdom: Oxford University Press.

Tily, H., & Jaeger, T. F. (2011), Complementing quantitative typology with behavioral approaches: Evidence for typological universals. *Linguistic Typology*, 15:497-508.

Vasilyeva, M., Waterfall, H., & Huttenlocher, J. (2008) Emergence of syntax: Commonalities and differences across children. *Developmental Science, 11*, p. 84-97.

Wagner, L., Swensen, L. D., & Naigles, L. R. (2009). Children's early productivity with verbal morphology. *Cognitive Development, 24*, 223-239.

Academic Integrity
The intellectual venture in which we are all engaged requires of faculty and students alike the highest level of personal and academic integrity. As members of an academic community, each one of us bears the responsibility to participate in scholarly discourse and research in a manner characterized by intellectual honesty and scholarly integrity.

Scholarship, by its very nature, is an iterative process, with ideas and insights building one upon the other. Collaborative scholarship requires the study of other scholars' work, the free discussion of such work, and the explicit acknowledgement of those ideas in any work that inform our own. This exchange of ideas relies upon a mutual trust that sources, opinions, facts, and insights will be properly noted and carefully credited.

In practical terms, this means that, as students, you must be responsible for the full citations of others' ideas in all of your research papers and projects; you must be scrupulously honest when taking your examinations; you must always submit your own work and not that of another student, scholar, or internet agent. Any breach of this intellectual responsibility is a breach of faith with the rest of our academic community. It undermines our shared intellectual culture, and it cannot be tolerated. Students failing to meet these responsibilities should anticipate being asked to leave Columbia.

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