
Experimental Methodologies in Language Acquisition
01:615:435
Department of Linguistics

Instructor: Prof. Kristen Syrett
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Semester: Fall 2016
Meetings: Mondays and Thursdays 9:50-11:10 am
SC 116 (CAC)
Office hours: Thursdays @ 1:30-2:30
Room 304, Linguistics Department (18 Seminary Place, CAC)
If would like to meet during office hours, please contact me in advance to make an appointment!

COURSE DESCRIPTION

The job of a linguist is to scientifically study language in order to capture and explain patterns of linguistic structures and language usage. In order to do this, a linguist makes use of certain tools in his/her toolbox. The purpose of this class is to introduce you to the methodologies and approaches to data analysis used in formal linguistic investigations of language acquisition. Whereas a course on language acquisition and development may focus on the *process* of development and *what* it means to become a speaker of a language, this course focuses specifically on *how* we experimentally investigate acquisition and the competence language learner through carefully designed linguistic experiments. As such, the nature of this course is inherently hands-on, and you will gain experience constructing and carrying out your own experiments, and analyzing and interpreting experimental data. We will do a number of in-class exercises, transitioning into assignments to be completed outside of class.

CORE CURRICULUM LEARNING GOALS

This course helps meet the requirement of the “**Quantitative and Formal Reasoning**” goals of the **Core Curriculum** (w, QQ). In this course, you will **Formulate, evaluate, and communicate conclusions and inferences from quantitative information.**

COURSE LEARNING GOALS

In this course, you will

- become familiar with theoretical approaches to a range of topics in linguistics
- become acquainted with a number of experimental techniques used to collect and/or analyze empirical data in linguistics
- extend theoretical training and problem-solving skills from other linguistic courses to a new area of research
- gain exposure to the foundational work that advanced or popularized these methodologies
- connect linguistic theory to a cognitive, social, or cultural issue such as how people acquire a language, how we comprehend and process language in real time, or how native and/or non-native speakers render judgments on linguistic data
- critically evaluate previously-collected data that were collected by researchers using these methodologies

PREREQUISITES

Linguistics 201 + 305 (syntax) (can be waived)

COURSE WEBSITE

This course has a website on Sakai (<http://sakai.rutgers.edu>). Log on using your netId and password. Once logged in, look for the course in your active course tabs at the top. Click on the appropriate link for this course. There, you will find links (site tabs) for all of the course content.

GRADING

Your grade for the course will be based on the following components

- ✓ Attendance and participation 5%
- ✓ Presentation 15%
- ✓ Assignments+reports 40%
- ✓ Final Paper: 40%

Attendance and participation (5%)

You are expected to come to the class prepared, having done the assigned readings, equipped with questions and points of clarification. The class will benefit everyone the most if you actively contribute to class discussions and activities.

Presentation (15%)

You will present on one of the assigned readings in the class, according to a pre-determined format. These presentations will be done in pairs (as the class number allows).

Assignments+Reports (40%)

- You will be asked to do **four major assignments**, covering four main methodologies.
- Each assignment is worth 10% of your grade.
- The assignments will begin as small group work in class, and will be completed individually.
- You must indicate the names of the people you worked with, along with your contribution.
- In each assignment, you will start with a linguistic phenomenon or puzzle, a naturally produced utterance from child language, or a set of experimental results. You will then be asked to use this as a springboard to propose an experiment, perform a search, or explain the state of the language learner's grammar with respect to a particular linguistic feature.

Final experiment paper (40%)

There will be a **final paper** in which you will propose an experiment (on your own) to assess children's comprehension of a particular linguistic phenomenon. This must be done individually. You will give a 'lightning talk' on this topic at the end of the class as part of this final paper.

The following grading scale is used, in accordance with the Rutgers Registrar's office:

A	4.0	(90-100)
B+	3.5	(87-89)
B	3.0	(80-86)
C+	2.5	(77-79)
C	2.0	(70-76)
D	1.0	(65-69)
F		(below 65)

COURSE MATERIALS

All course materials will be posted on the course website on Sakai in “Resources” (readings) or “Assignments.”

OTHER POLICIES

Academic Integrity

- You are expected to know and follow the Rutgers University policy on Academic Integrity: <http://academicintegrity.rutgers.edu/integrity.shtml>
- Cheating, plagiarizing, presenting someone else’s work as your own, and not properly acknowledging another student’s contribution ***will not be tolerated***. Nor will sharing the content of this course’s assignments outside of the class.
- All instances of plagiarism will be reported to the Office of Student Judicial Affairs.
- Making available notes or other materials from this course, especially in return for compensation, is also frowned upon.
- You may not video- or audio-record lectures, unless you have explicitly asked for permission and been given permission by the instructor in advance.
- At the top of your assignments/reports, you must write the following: “*I pledge on my honor that I have not given or received any unauthorized assistance on this assignment, and have not plagiarized material.*” You must also supply the names of the other students who collaborated with you in class (not outside of class), and list individual contributions.

Attendance and Absences

- You are expected to attend every class and to be present for the in-class exam. University policy excuses absences due to religious observance or participation in Rutgers-approved activities, and permits students to make up work missed for these circumstances.
- If you anticipate that you will be absent for whatever reason, particularly religious or medical reasons or for an emergency, please notify your instructor in writing (via email) as a courtesy as soon as possible AND report your absence via this link <https://sims.rutgers.edu/ssra/>. You will still be responsible for the readings and/or assignments for that day, and you should coordinate with a classmate to cover the material covered in that class.
- Students who must (for whatever reason) miss more than an occasional class should consult with the Dean of Students office. Note that it will be extremely difficult to perform successfully on the exams and in the class should you miss multiple classes.

Students with Disabilities

- The Office of Disability Services provides resources for students with disabilities:
- <https://ods.rutgers.edu/students/documentation-guidelines>
- In order to request accommodations for disabilities and received a Letter of Accommodations, you must follow the procedures outlined here: <http://disabilityservices.rutgers.edu/request.html>
- If this description applies to you, please talk with your instructor at the beginning of the semester to discuss possible accommodations.

Course Content

- There is no assigned textbook. All readings will be available on the Course Sakai website in the “Resources” area.
- Slides for each class will not be posted before the class. A version of the slides will be posted *after* each class or at the end of the week.

Extra Credit

- You have the opportunity to raise your final grade by up to 2 points through experimental participation or attending a language-related colloquium announced by your professor.
- Some faculty and graduate students in the Department of Linguistics do experimental research on language. This research depends on the participation of undergraduate participants.
- You have the option of participating in Linguistics experiments during the semester. Each experiment usually takes between 30 minutes and one hour.
- You will get 1 point credit for every half hour of experimental participation. It does not matter what subfield of Linguistics this experiment is in, but it must be in Linguistics.
- Experiments are offered through the Linguistics department experiment management system (sona): <http://rutgerslinguistics.sona-systems.com/>. Towards the beginning of the semester, your name and email will be added to the experiment system. You will be issued an anonymous id to participate in experiments through this system. Once Linguistics experiments are posted, you can sign up online. Note that this system is different from the psychology pool, and you should not use a psychology ID to log in to the system.
- Any student enrolled in a Linguistics undergraduate course is eligible to participate in Linguistics experiments, regardless of gender, race, ethnicity, language status, or impairments, disorders, or disabilities. You cannot be denied participation for any of these reasons.
- You have the right to not participate in experiments to earn extra credit. You may speak with me about possible research alternatives, such as reading a pre-approved scholarly article in linguistics and writing a 2-page paper summarizing it.
- If you are taking multiple Linguistics courses that allow for experimental participation to count towards extra credit, you are responsible for making sure you have assigned the credit correctly through the experiment system online. This is not your instructor's, the experimenter's or the experiment system administrator's job!
- If you sign up for, but fail to show up for, two or more experiments, you may be barred from further participation, so please note the time and location of your experiments, and take your schedule and transportation time into account.

Interaction with Faculty and Peers (or, how to secure a good reference letter)

- Choose the proper title for the person with whom you are communicating. If the person is your instructor, you should choose Dr., Mr., Mrs., or Ms., depending on their degree. Someone who has earned a Ph.D. should be addressed as *Dr.* or *Professor*. Administrative and other teaching staff and graduate students should not be, but should still be addressed politely.
- Keep register in mind. Emails to your instructors should never take the form of a casual message that resembles texting. Always include a salutation (e.g., Dear Dr. X), and always sign your message along with your name (e.g., Best regards, Sincerely, Thank you, etc.). Do not include texting abbreviations in your messages.
- You can never be too formal. If you begin an email to a professor with “Hey” or something similar, do not sign your email, and/or abandon all signs of formality in punctuation and capitalization, you are not doing yourself a favor! Professors love seeing a professional email!
- Be respectful. Frame your questions or requests in the most polite way possible. Do not make demands of your addressee, even if they are preceded by *please*. For example, *Please tell me why I did not get an A on my midterm exam* may still come across as abrupt and offensive, especially if this is the only content of your email. Remember, you are probably writing to resolve some issue or receive an answer to a question (quickly). If so, the best way to accomplish this is to be polite and show respect. If you are a non-native speaker, it may help to have a friend review your message in advance.

- Keep timing in mind. Instructors field a lot of emails each day. They may not be able to respond to your email right away, or respond to a string of emails with little questions. Send your email well in advance. If you do not receive a response within 24 hours time, then politely follow up, referencing your previous message. At the same time, do not wait until the last minute, and never send an email the morning of class, expecting a response before the start of class!

SCHEDULE			
Week/Date	Topic	Methodology	Readings
1			
9/8	Introduction, Syllabus	n/a	n/a
2			
9/12	Yes-no Questions: Structure Dependence	Linguistic Background Sentence Elicitation Paradigm	Crain & Nakayama (1987)
9/15	Yes-no Questions, PoS	CHILDES search	Legate & Yang (2002)
3			
9/19	Actives and Passives	Structural Priming Sentence repetition	Bencini & Valian (2008) Demuth, Moloji, & Machobane (2010)
9/22	Double object, Prepositional Dative	Eyetracking, Visual World Paradigm	Thothathiri & Snedeker (2008a, T&S (2008b)
4			
9/26	Verb learning: Causativity and Syntactic Frames	Act-out Task	Naigles (1996) Lidz, Gleitman & Gleitman (2003)
9/29	ASSIGNMENT 1	Act-out Task (due 10/3)	
5			
10/3	Principle B and Binding Theory	Linguistic Background	
10/6	Principle B	Act-Out Task	Chien & Wexler (1990)
6			
10/10	Principle C and Anaphora	Linguistic Background+ Truth Value Judgment Task	Crain & Thornton (1998) (chapters 25, 26, 27)
10/13	Quantifier Raising, ACD	Linguistic Background	
7			
10/17	QR and ACD	TVJT	Syrett & Lidz (2009)
10/20	ASSIGNMENT 2	TVJT (due 10/24)	
8			
10/24	Disjunction	TVJT	Goro & Akiba (2004) Gualmini & Crain (2005)
10/25 (Tues.)	<i>RuCCS Talk by Erika Bergelson (Duke University): Predicting Word Learning from Infants' Home Environment [You can get 2 extra credit points for attending!]</i>		
10/27	Infinitives	TVJT CHILDES search	Orfitelli & Hyams (2012) Miller (2013)

9			
10/31	ASSIGNMENT 3	CHILDES search (due 11/7)	
11/3	<i>NO CLASS (Prof. Syrett @ BUCLD conference)</i>		
10			
11/7	Wh- Questions	Linguistic Background	Crain & Lillo-Martin (1999) Thornton & Crain (1994)
11/10	Wh- Questions	Questions after Story Questions after Story	De Villiers & Roeper (1995) Omaki <i>et al.</i> (2014) Achimova <i>et al.</i> (<i>in press</i>)
11			
11/14	Wh- Words	Preferential looking	Seidl, Hollich, & Jusczyk (2003) Added: Lukyanenko <i>et al.</i> (submitted) Added: Leddon & Lidz (2006)
11/17	Verb learning: Syntactic and Semantic Constraints	Preferential Looking Paradigm Pointing in a Forced-Choice Judgment Task	Fisher (2002) Yuan & Fisher (2009) Added: Syrett, Arunachalam, & Waxman (2014)
12			
11/21	ASSIGNMENT 4	Preferential Looking/Forced Choice (due 11/28)	
11/22 (Tues.)	One anaphora	Preferential Looking Paradigm	Lidz, Waxman, & Freedman (2003) Added: Lukyanenko & Fisher (2016)
11/24	<i>NO CLASS (Happy Thanksgiving!)</i>		
13			
11/28	Morphosyntax and the Determiner Phrase	Looking while listening	Lew-Williams & Fernald (2007) Lew-Williams & Fernald (2010) Added: Thorpe <i>et al.</i> (2006)
12/1	Incremental interpretation and Structural Ambiguity	Eyetracking and the Visual World Paradigm	Trueswell <i>et al.</i> (1999) Snedeker & Trueswell (2004)
14			
12/5	Incremental interpretation and Structural Ambiguity	Eye tracking	Choi & Trueswell (2010) Added: Snedeker & Yuan (2008)
12/8	Lightning Presentations on Final Paper Topics, part 1		
15			
12/12	Lightning Presentations on Final Paper Topics, part 2		

FINAL PAPER WILL BE DUE FRIDAY 12/16!

READINGS

- Achimova, Asya, Syrett, Kristen, Musolino, Julien, & Déprez, Viviane. (in press). Children's developing knowledge of *wh*-/quantifier question-answer relations. *Language Learning and Development*.
- Bencini, Giulia, & Valian, Virginia. (2008). Abstract sentence representations in 3-year-olds: Evidence from language production and comprehension. *Journal of Memory and Language*, 59, 97-113.
- Bergelson, Erika, & Swingley, Daniel. (2012). At 6-9 months, human infants know the meaning of many common nouns. *PNAS*, 109, 3253-3258. [NOT assigned for a class! For 10/25 RuCCS talk]
- Chien, Yu-Chin, & Wexler, Ken. (1990). Children's knowledge of locality conditions in binding as evidence for the modularity of syntax and pragmatics. *Language Acquisition*, 1, 225-295.
- Choi, Youngon, & Trueswell, John C. (2010). Children's (in)ability to recover from garden paths in a verb-final language: Evidence for developing control in sentence processing. *Journal of Experimental Child Psychology*, 106, 41-61.
- Chomsky, Noam. (2005). Three factors in language design. *Linguistic Inquiry* 36, 1-22.
- Crain, Stephen, & Lillo-Martin, Diane. (1999). *An Introduction to Linguistic Theory and Language Acquisition*. Cambridge, MA: Blackwell.
- Crain, Stephen, & Nakayama, Mineharu (1987). Structure dependence in grammar formation. *Language*, 63, 522-543.
- Crain, Stephen, & Thornton, Rosalind. (1998). *Investigations in Universal Grammar: A guide to experiments on the acquisition of syntax and semantics (chapters 26, 27)*. Cambridge, MA: MIT Press.
- De Villiers, Jill, & Roeper, Thomas. (1995). Relative clauses are barriers to *wh*-movement for young children. *Journal of Child Language*, 22, 389-404.
- Demuth, Kathryn, Moloi, Francina, & Machobane, Malillo. (2010). 3-Year-olds' comprehension, production, and generalization of Sesotho passives. *Cognition*, 115, 238-251.
- Fisher, Cynthia. (2002). Structural limits on verb mapping: The role of abstract structure in 2.5-year-olds' interpretation of novel verbs. *Developmental Science*, 5, 55-64.
- Goro, Takuya, & Akiba, Sachie. (2004). The acquisition of acquisition of disjunction and positive polarity in Japanese. In V. Chand, A. Kelleher, A. J. Rodríguez, and B. Schmeiser (Eds.), *Proceedings of the 23rd West Coast Conference on Formal Linguistics (WCCFL)* (pp. 251-264). Somerville, MA: Cascadilla Press.
- Gualmini, Andrea, & Crain, Stephen. (2005). Operator conditioning. In Alejna Brugos, Linnea Micciulla, & Christine E. Smith (eds.), *Boston University Conference on Language Development (BUCLD) 28 Proceedings* (pp. 232-243). Somerville, MA: Cascadilla Press.
- Leddon, Erin, & Lidz, Jeffrey. (2006). Reconstruction effects in child language. In David Bamman, Tatiana Magnitskaia, and Colleen Zaller (eds.), *Boston University Conference on Language Development (BUCLD) 30 Proceedings* (pp. 328-339). Somerville, MA: Cascadilla Press.
- Legate, Julie, & Yang, Charles. Empirical re-assessment of the stimulus poverty arguments. *The Linguistic Review*, 19, 151-162.
- Lew-Williams, Casey, & Fernald, Ann. (2007). Young children learning Spanish make rapid use of grammatical gender in spoken word recognition. *Psychological Science*, 18, 193-198.
- Lew-Williams, Casey, & Fernald, Ann. (2010). Real-time processing of gender-marked articles by native and non-native Spanish speakers. *Journal of Memory and Language*, 63, 447-464.
- Lidz, Jeffrey, Gleitman, Lila, & Gleitman, Henry. (2003). Understanding how input matters: Verb learning and the footprint of universal grammar. *Cognition*, 87, 151-178.
- Lidz, Jeffrey, Waxman, Sandra R., & Freedman, Jennifer. (2003). What infants know about syntax but couldn't have learned: Experimental evidence for syntactic structure at 18 months. *Cognition*, 89, B65-B73.
- Lukyanenko, Cynthia, & Fisher, Cynthia. (2016). Where are the cookies? Two- and three-year-olds use

- number-marked verbs to anticipate upcoming nouns. *Cognition*, 146, 349-370.
- Lukyanenko, Cynthia, Conroy, Anastasia, & Lidz, Jeffrey. (submitted). Infants' adherence to Principle C: Evidence from 30-month-olds.
- Miller, Karen. (2013). Variable input: What Sarah reveals about non-agreeing *don't* and theories of root infinitives. *Language Acquisition*, 20, 305-324.
- Naigles, Letitia. (1996). The use of multiple frames in verb learning via syntactic bootstrapping. *Cognition*, 58, 221-251.
- Omaki, Akira, Davidson White, Imogen, Goro, Takuya, Lidz, Jeffrey, & Phillips, Colin. (2014). No fear of commitment: Children's incremental interpretation in English and Japanese *wh*-questions. *Language Learning and Development*, 10, 206-233.
- Orfitelli, Robyn, & Hyams, Nina. (2012). Children's grammar of null subjects: Evidence from comprehension. *Linguistic Inquiry*, 43, 563-590.
- Seidl, Amanda, Hollich, George, & Jusczyk, Peter. (2003). Early understanding of subject and object *wh*-questions. *Infancy*, 4, 423-436.
- Snedeker, Jesse, & Trueswell, John. (2004). The developing constraints on parsing decisions: The role of lexical-biases and referential scenes in child and adult sentence processing. *Cognitive Psychology*, 49, 238-299.
- Snedeker, Jesse, & Yuan, Sylvia. (2008). Effects of prosodic and lexical constraints on parsing in young children (and adults). *Journal of Memory and Language*, 58, 574-608.
- Syrett, Kristen, Arunachalam, Sudha, & Waxman, Sandra. (2014). Slowly but surely: Adverbs support verb learning in 2-year-olds. *Language Learning and Development*, 10, 263-278.
- Syrett, Kristen, & Lidz, Jeffrey. (2009). QR in child grammar: Evidence from Antecedent-Contained Deletion. *Language Acquisition*, 16, 67-81.
- Thornton, Rosalind, & Crain, Stephen. (1994). Successful cyclic movement. In Ken Wexler, Teun Hoekstra, & Bonnie D. Schwartz (eds.), *Language acquisition studies in Generative Grammar: Papers in honor of Kenneth Wexler from the 1991 GLOW Workshops (Volume 8 of Language Acquisition & Language Disorders)* (pp. 215-252). Philadelphia, PA: John Benjamins Publishing.
- Thorpe, Kirsten, Baumgartner, Heidi, & Fernald, Anne. (2006). Children's developing ability to interpret adjective-noun combinations. In David Bamman, Tatiana Magnitskaia, and Colleen Zaller (eds.), *Boston University Conference on Language Development (BUCLD) 30 Proceedings* (pp. 631-642). Somerville, MA: Cascadilla Press.
- Thothathiri, Malathi, & Snedeker, Jesse. (2008a). Give and take: Syntactic priming during spoken language comprehension. *Cognition*, 108, 51-68.
- Thothathiri, Malathi, & Snedeker, Jesse. (2008b). Syntactic priming during language comprehension in three- and four-year-old children. *Journal of Memory and Language*, 58, 188-213.
- Trueswell, John C., et al. (1999). The kindergarten-path effect: Studying on-line sentence processing in young children. *Cognition*, 73, 89-134.
- Yuan, Sylvia, & Fisher, Cynthia. (2009). "Really? She blicked the baby?" *Psychological Science*, 20, 619-626.

Textbooks Used in Addition

- Blom, Elma, & Unsworth, Sharon. (2010). *Experimental methods in language acquisition research (Volume 27 of Language learning and language teaching)*. Philadelphia, PA: John Benjamins Publishing.
- Fernández, Eva, & Smith Cairns, Helen. (2010). *Fundamentals of psycholinguistics*. Hoboken, NJ: Wiley-Blackwell.
- McDaniel, Dana, McKee, Cecile, & Smith Cairns, Helen. (1998). *Methods for assessing children's syntax*. Cambridge, MA: MIT Press.