

Methods of Design and Analysis · LING 337 · Fall 2022 · Reed College

Time & place:	Mon/Wed 1:10–2:30PM, in ETC 211
Instructor:	Sameer ud Dowla Khan (they/he), skhan@reed.edu
Drop-in office hours:	Mon 3:00–4:00PM and Wed 3:00–5:00PM in Eliot 101C
Distribution group:	Group II
Learning goals:	Evaluate data Analyze languages, structures, and processes Think in sophisticated ways about causation and human cognition

Course description and learning outcomes

The tasks of designing, carrying out, and interpreting linguistic research vary across subfields, traditions, and time; in particular, quantitative methods have become increasingly crucial in both formal and social approaches to linguistics. Using L-darkening/vocalization as a unifying topic, this course will guide students through the process of research from the choice of topic and research design through statistical analysis and presentation. Class meetings will cover (1) phonetic, phonological, and sociolinguistic studies of L-darkening/vocalization and (2) understanding and applying methods and skills across the research process.

By the end of the course, you will be able to:

- Critically engage with journal articles in linguistics and related fields
- Devise a research question in conversation with the existing literature
- Design and carry out an empirical study to answer that question
- Write up a journal article-style paper and present findings in a conference-style talk
- Adeptly use acoustic software such as Audacity and Praat to collect, organize, and analyze data
- Adeptly use Excel and R to organize, manipulate, and interpret data
- Produce bar/column graphs, tables, histograms, line graphs, scattergrams, and mosaic plots in R
- Understand how and when to use correlations, regressions, t-tests, and ANOVAs in R

Requirements and grading breakdown

Prerequisite:	LING 211 and LING 212, or consent of instructor
Textbooks:	Podesva, Robert J. & Devyani Sharma. 2013. <i>Research Methods in Linguistics</i> . (on reserve) Additional readings are available on Moodle.
Participation (20%):	You are expected to attend every class and participate in all discussions and exercises.
Assignments (60%):	You will design and implement a research project on a topic of your choosing over the course of the semester. Each of 12 preparatory assignments break down the research project into its components and will be due approximately every week.
Article (10%):	On the last day of class, you will turn in a final paper, written in the style of a journal article.
Presentation (10%):	At the end of the semester, you will present your research in the form of a talk.

Policies

Late work:	Each student has two 12-hr extensions that they can apply to a single project component (one 24-hr extension), or across two (12-hr extensions for each). No other extensions will be granted.
Misconduct:	Linguists work together by tradition, but what you submit must be an accurate reflection of your (singular) own work. Varying from this can be considered academic misconduct.
Accommodations:	If you need accommodations for this class, contact DAR at dar@reed.edu and meet with me in person or over Zoom to work out the details of your DAR letter.

Class schedule

R: reading due, **Pr:** project component due

Week	Day	Date	Lecture/lab topics	Due before class
1	Mon	29 Aug	Introduction Methods: literature search	R: RML ch. 1
	Wed	31 Aug	Methods: ethics	R: RML ch. 2, Ri06
2	Mon	5 Sep	NO CLASS: Labor Day	
	Wed	7 Sep	L-darkening: overview and classic studies	R: Gi02, S&F93
3	Mon	12 Sep	Methods: formulating a question/hypothesis R workshop: intro to R	Pr1: Topics + ethics R: Ma06 (pp.25–31)
	Wed	14 Sep	Methods: samples, variables	R: RML ch. 5, Wo93
4	Mon	19 Sep	Methods: natural data, ethnography, surveys; fair use & copyright (Mahria)	R: RML ch. 6, Ta06, RML ch. 10 Pr2: Reading list
	Wed	21 Sep	Methods: experimental data [zoom]	R: RML ch. 7, RML ch. 8
5	Mon	26 Sep	L-darkening: bilingual acquisition R workshop: visualization (Josie)	R: Kh02 Pr3: Questions + hypotheses
	Wed	28 Sep	NO CLASS: Opening Night	
6	Mon	3 Oct	R workshop: visualization (cont.)	
	Wed	5 Oct	L-darkening: multiple methods Methods: literature review	R: Be09, Wr88 Pr4: Draft IRB proposal (Fri)
7	Mon	10 Oct	L-darkening: acoustic variation Methods: IRB proposals, acoustic data	R: Hu97, RML ch. 9 Pr5: Literature review
	Wed	12 Oct	R workshop: tidy data in R (Josie)	
Break			NO CLASS: Fall Break	
8	Mon	24 Oct	L-darkening: coding	R: HL&F12
	Wed	26 Oct	Methods: transcription	R: RML ch. 12, Bu00
9	Mon	31 Oct	Methods: manual data processing, Praat	
	Wed	2 Nov	R workshop: central tendency, variation, visualizations redux	R: RML ch. 14 Pr6: Representative data set (Fri)
10	Mon	7 Nov	Methods: forced alignment	
	Wed	9 Nov	Methods: scripting in Praat	R: RML ch. 17 Pr7: Full data set (Fri)
11	Mon	14 Nov	Methods: scatterplots, visualization practice	
	Wed	16 Nov	Troubleshooting descriptive stats	Pr8: Descriptive stats (Fri)
12	Mon	21 Nov	R workshop: t-tests, ANOVAs, chi-square tests	R: RML ch. 15, Th98
	Wed	23 Nov	NO CLASS: Thanksgiving Break	
13	Mon	28 Nov	R workshop: correlations, regressions, multivariate analysis	R: RML ch. 16
	Wed	30 Nov	Methods: writing an article	Pr9: Inferential stats R: Ma06 (pp.32–38)
14	Mon	5 Dec	Methods: poster presentations	R: RML ch. 18
Read	Wed	7 Dec	Methods: talk presentations	Pr10: Journal article
Exam			Presentations	Pr11: Conference talk