

Teaching Statement
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I teach (psycho)linguistics as a discipline where claims are only as good as their operationalization. In my courses, students learn to turn informal verbal claims about the processing of structure or meaning into explicit hypotheses about cognition that can be implemented as an experiment, a principled measurement choice, and a statistical model, a cognitive model, or a computational model, yielding predictions that a reader can actually evaluate. I treat the educational pipeline as a research pipeline which is a single integrated object rather than a sequence of separate parts: theory motivates design, design determines what counts as evidence, and analysis makes assumptions visible. To build this intuition hands-on, students work through the full workflow as a part of their curriculum (hypothesis → design → data → model → interpretation → limitations), and leave with authentic products such as reproducible analyses, replication reports, short proposals, or small cognitive/computational models that encode a hypothesis about human linguistic cognition and, when appropriate, its relationship to machine behavior. This aim seems ambitious, but I believe the selective student profile at the University of Chicago would enable me to implement this agenda. With this approach, I address a fundamental gap: students struggle to think critically about methodological choices without experiencing the full research pipeline. By treating the research process as part of the curriculum rather than a by-product of reading papers, students develop the ability to reason backward from claims to evidence and forward from design, maybe even their own, to interpretation.

Teaching Experience and Instructional Roles. My teaching experience spans large-lecture support, methods-intensive instruction, and workshop-based mentoring. At the University of Maryland, I have TA'd core offerings including Language and Mind and Grammars and Cognition (undergraduate psycholinguistics), and I voluntarily served as experimental instructor in the graduate Psycholinguistics seminar (graduate psycholinguistics), where I taught a module on experimental methods and statistical analysis. I have also supported interdisciplinary teaching (including an undergraduate General Education course on Machine Learning in Language and Art), which has sharpened my ability to make technical material accessible to students with diverse preparation.

In my teaching for undergraduate and graduate psycholinguistics, I have repeatedly taken students through the full research pipeline. Students read a focused set of papers in depth (e.g., semantic illusion phenomena in comprehension in undergraduate psycholinguistics; prosody and center-embedding in graduate psycholinguistics), extract core assumptions and predictions, and design a decisive follow-up test. We collaboratively build materials, choose a measurement and methodology, implement the experiment, and interpret the resulting patterns, often going far enough to fit and critique an appropriate statistical model. My goal is that students leave not only able to summarize a literature, but able to turn an idea into an experiment and an analysis.

I have also taught in an intensive workshop setting. I remotely co-organized and helped instruct a workshop on sentence production at the University of Oxford, in which participants—mostly talented undergraduates with no prior research experience, similar to UChicago students—developed production experiments from the ground up. Students read relevant literature, articulated a precise theoretical question, designed materials (including critical contrasts and fillers), selected an elicitation and measurement strategy, and implemented a runnable experiment. A major focus of my role was technical and methodological mentoring, helping participants translate an idea into an executable study and a defensible analysis plan.

Before Maryland, at Boğaziçi University I served as a teaching assistant across the linguistics curriculum, ranging from core theoretical courses (Syntax, Morphology, Typology) to methodological and language-specific offerings (Computational Methods, Turkish Morphosyntax). In methods-focused

instruction, I led problem sessions and developed course-support materials aimed at building students' competence with real data (cleaning, visualization, and basic modeling). Workshop teaching has sharpened my ability to help students move from an idea to a workable pipeline quickly, concretely, and without lowering standards.

Courses I Am Prepared to Teach

Psycholinguistics and Language Processing. In psycholinguistics, I aim to demystify how research turns theoretical questions into decisive tests that can be implemented as models or experiments. Students often understand a study's results while missing the chain of decisions that make the results informative. This reflects a common student approach: they focus on "what did the researchers find?" rather than "what choices did the researchers make to ensure this finding is interpretable?" Without understanding the methodological scaffolding, students can summarize findings but struggle to evaluate whether the evidence actually supports the interpretation. Students expect technical aspects to be intimidating, but underestimate how challenging it is to articulate precise questions and turn them into feasible tests. I address this by making the decision-making process explicit: why a particular design choice was made, what alternatives were rejected, and what consequences each choice has for interpretation. To address this, I structure units around the lifecycle of an experiment: identifying a theoretical question, isolating confounds, designing materials, collecting data, modeling, and interpreting limitations. Long-standing debates in the field serve as case studies for each stage of this lifecycle.

A central pedagogical tool is replication-and-extension. Rather than presenting agreement attraction as a single effect, I give students data showing divergent patterns across languages or tasks and ask them to work backward: which variables are confounded, what minimal follow-up experiment would adjudicate between competing accounts, and what result would actually force an update? This is where I integrate practical training—experiment building and data analysis—as steps required by the theoretical question, not as add-ons. Teaching these skills hands-on is essential: living through the workflow demystifies the decisions and allows me to treat students as collaborating colleagues who develop the critical judgment to evaluate whether evidence actually supports interpretation—the core of treating the educational pipeline as a research pipeline.

Quantitative Research Methods. My goal in methods courses is to make statistics a way of thinking rather than a set of scripts: what does the model assume about how data is generated, and what would count as evidence against it? Because many students approach statistics with anxiety, I begin with intuition—what question a method answers and why it works—before implementation. I build this intuition from basics: statistics is structured counting paired with an informed guess on causation—a principle I teach through simulation exercises that make the generative process explicit. Once the logic is clear, we work with real, messy data and treat modeling as a workflow: specification, diagnostics, and interpretation, not merely significance testing.

A typical arc emphasizes downstream consequences of design choices and moves from design and measurement to linear and generalized linear models, mixed-effects thinking, and Bayesian approaches that make uncertainty and prior commitments explicit. The causal question is present from the beginning and is guided by theory and typology. Students practice the full pipeline from theoretical hypothesis to implementable study to reproducible analysis, rather than encountering methods and modeling as separate silos that can be skipped in assigned papers. This emphasis on the full pipeline is crucial: students take statistical outputs at face value without understanding the chain from question to analysis choice to interpretation. Experiencing each stage helps students ask: what would the data look like if the hypothesis were false? This critical thinking requires hands-on engagement with the full workflow. By building statistical intuition through simulation and applying it to real research questions, students develop the independence to design rigorous studies and evaluate claims critically—treating them as capable researchers, not passive learners. A common pitfall in teaching quantitative methods is treating student struggle as lack of aptitude rather than natural learning. I assume all students can develop

these skills with appropriate scaffolding, normalizing confusion and emphasizing that understanding develops through iteration.

Cognitive Models and Computational Modeling. In computational modeling, I treat models as commitments: explicit hypotheses whose assumptions should be inspected and tested. These traditional models help students formalize theories into precise predictions, while AI models (discussed below) test whether linguistic generalizations emerge from data-driven learning at scale. Students learn to separate (i) descriptive fit, (ii) generalization, and (iii) interpretation. I structure these courses around a foundations-to-frontiers progression: first giving students the programming and mathematical footing needed to implement models, then moving to research questions where modeling choices have theoretical consequences.

Concretely, the course combines close reading of classic and current work with regular programming exercises in Python/R/Stan. The goal is methodological independence: students should be able to take a theoretical claim and ask what computations it entails. This skill—turning verbal theories into executable code—is essential for students to contribute to theoretical debates, not just consume them, and in turn informs possible experiments to be run. A central capstone is a final project in which students either implement a simple model to address a question about language processing or evaluate an existing model using cross-linguistic data.

Artificial Intelligence and Contemporary Topics. For AI-adjacent courses aimed at linguistics and cognitive science students, I emphasize critical interpretation: these systems often achieve predictive success for reasons that do not align with human mechanisms. At the same time, their internal structure can be a useful instrument for formalizing assumptions that are otherwise hard to state precisely and for testing hypotheses at scale. Students can use benchmarks like SyntaxGym and BLiMP to quantify tendencies in psycholinguistic measures, or probe attention and use intervention techniques to quantify whether a system treats a morphological cue as evidence for controllerhood, a theoretically grounded heuristic in human processing.

I also introduce counterfactual intervention as a way to make evaluation more diagnostic: hold context constant, manipulate one targeted linguistic property, and test whether the model's behavior changes in the way a hypothesis predicts. In practice, this means teaching students to design evaluations that target specific linguistic generalizations and to use transparent analyses to connect model behavior to claims about representation, learning, and inference. By doing so, the students at UChicago and I can collaboratively improve how AI systems can be utilized for our research. You can find additional details on syllabi I planned on <https://www.utkuturk.com/chicago/>.

Mentorship and Advising. Mentorship is an extension of teaching: a more involved setting where students learn to scope questions, build workflows, and communicate results. One aspect of mentorship I find particularly rewarding is writing primers that help students establish their experimental workflows and bridge their theoretical knowledge with practical implementation. Seeing graduate students at Maryland and undergraduates at Oxford use these materials to independently implement experiments or run analyses—often going beyond what I initially taught them—confirms my belief that the right scaffolding can unlock genuine methodological independence independent of one's background. For undergraduate thesis advising, I encourage projects that are methodologically realistic yet intellectually substantive—replications/extensions, corpus-and-experiment combinations, or carefully constrained modeling projects—so students learn how to make strong claims from limited time and data. Science advances when we commit to clear predictions while staying willing to be wrong.

I would relish the opportunity to co-teach or co-advise with faculty whose expertise is complementary to mine. Ming Xiang and Melissa Baese-Berk would be ideal partners for courses in psycholinguistics and language processing that connect real-time comprehension to experimental method; Karlos Arregi provides a natural connection to formal approaches to morphosyntax that I would plan to integrate into my production research and psycholinguistic curriculum; and Craig Thorburn is an ideal

colleague for co-developing lasting curriculum in computational linguistics and quantitative methods that will outlast temporary hypes. Chris Kennedy's recent course on AI and language provides an invaluable model for developing courses that integrate these approaches with critical evaluation and practical application.

My aim as an instructional faculty member is to produce students who can (i) reason from theory to prediction, (ii) evaluate evidence with methodological clarity, and (iii) communicate conclusions with precision and humility. My teaching is designed to give students repeated opportunities to practice the work of the field, so they leave not only knowledgeable, but genuinely capable.