Cognitive Science: 185:412:03
The Multilingual Mind: A Cognitive Science Perspective

Spring 2023

Instructor: Dr. C. Jane Lutken (c.jane.lutken@rutgers.edu)

Welcome! I'm very much looking forward to this course and I'm glad you've decided to join. Please refer to this document for answers to basic questions about how the course will run. Our course website will simply be the canvas page. There is where you will find announcements, readings, and assignments.

Delivery method: This course will consist of synchronous meetings consisting of some lecture time and some discussion. We will meet in **Tillett, Rm 209** on **Mondays and Thursdays from 10:20 to 11:40**.

Office hours: TBD Dr. Lutken's office is Psychology A115

Course Objectives

This course is a survey of research into the mind-space of multilingual people. You should leave the course with a broad picture of the theoretical and empirical research that has been done (and in some cases is currently going on!) We will begin with a brief introduction to studying the brain, the mind, and human language. We will then investigate the multi-lingual mind at various stages of life beginning with simultaneous multi-language acquisition, continuing to how we learn languages after learning our primary language, and finally an investigation of what happens to the mind/brain of aging multi-lingual people. By following this course, I hope we will come to understand what it means for the brain/mind to be multi-lingual at multiple stages of life.

After completing this course, the student should:

- Be able to discuss major theories of bilingualism/multilingualism
- Be able to explain (at least in a broad sense) the way research is done in the field of psycholinguistics and the study of multilingual individuals.
- Be able to make natural extensions from that research: if x found this in speakers of x & y, we might expect the same thing or something else in speakers of y & z.

Reading

There is no assigned textbook for this course. The readings for each class period will be accessible as PDFs on the course's Canvas site. Note: these readings are hard. It will take a while to digest them. I have tried to choose either shorter readings OR longer ones that give a more step by step explanation of things. Each class will end with me giving a brief explanation of key background concepts for the **next** class's reading. This is to prepare you a bit before tossing you into the deep end. It does not mean you will be able to fully understand or participate without doing the reading.

Part of what we are learning is how to read and understand scientific writing. Please come to office hours if you want to go over something an extra time!

Assessment

20% Questions on the reading

Throughout the course of the semester, you will need to submit 10 questions relevant to one of the readings for the week and you will receive two points per question (for a max of 20 points). These should be submitted *before midnight* of the day we will discuss the reading. While you may only submit one question (for credit) per reading, you may submit up to 2 per week, so you could submit questions for every reading for the first 5 weeks and be done. However - to keep everyone from waiting till the last seven weeks – you will receive an extra 2 points if you submit 8 questions by week 8 (10/28). For full credit, questions should be thought provoking and should inspire discussion (e.g., Why did they choose to use x methodology? What would be the disadvantage of using Y methodology?). I reserve the right to give partial credit (1 pt) for questions that might be interesting but are not open ended or discussion questions. For example, questions you could Google the answer to (e.g., Where do people speak Kurdish?) or about something tangential to the experiment (e.g., Can you explain how fMRI works?). Questions that are not relevant to discussion of the paper (e.g., What languages do you speak? Have you done this type of experiment?) should be saved for class and will not receive credit as discussion questions, though I'm happy to answer them.

20% Bilingual Profile

Throughout the beginning of the semester, we will be discussing what it means to be bilingual and the different levels of bilingual proficiency. This assignment will help you show you have understood these things. You will choose a bilingual or multilingual person (a friend or family member or someone in this class) and describe this person's use of the languages they speak. You will talk about the course and manner of acquisition of the languages, levels of proficiency (syntax, phonology, pragmatics), the use of languages in different domains (home, work, school) or for different purposes (counting, endearment, cursing). Include your analysis of the possible relationships between acquisition and exposure on the one hand and the use and proficiency on the other. The profile should be 3-4 double-spaced pages long. The writing should be semi-formal: you are writing this up scientifically, but it is only based on an interview rather than a scientific experiment. This is due by the time class starts on **March 2**

60% research proposal – divided into 3 parts.

Throughout the course, we will be discussing many papers which involve a variety of methods, languages, age groups and theories. This will be an opportunity for you to show that you have understood **at least one** and can extend that research in some way. Perhaps you want to explore how something might work in a language you speak or how something might change as we age. You simply need to choose a paper (or papers) we have discussed and extend that research in a logical

way which could result in something interesting. This seems daunting, but the points will be divided into 3 subprojects.

10% meeting with Dr. Lutken. That's right – you get 10 points for just setting up and coming to a meeting with me by **April 17.** It doesn't matter how much you have prepared. During this meeting we will discuss your idea for the proposal and I will help you improve or sharpen that idea. There are advantages to doing this early: I can help you come up with an idea, or steer you in a better direction and help you lay out the plan. But there are also advantages to doing this late: if you have a solid idea, I can hep to improve it and make your proposal even better. I would even be willing to look at any writing you'd already done. This meeting is yours to use as you like, but you do have to do it.

25% proposal presentation on 4/20, 4/24, or 5/1 OR pre-recorded. This is a presentation to your classmates explaining the background of your proposal and the next steps you plan. You can choose to present live OR to pre-record yourself and present that way. You will receive up to **20 points** from your presentation (graded for things like understanding of the original work, clarity of presentation, is the proposed topic of interest, will the proposed experiment test the question you hope it will). You will receive **5 more points** for asking a question to a classmate after their presentation on both presentation days.

25% proposal due the day our exam is scheduled. This is essentially a formally written 5-7 page paper version of your proposal. It should cover background, motivation, proposed experiment, and implications of possible findings.

Grades

All your grades will be available through Canvas. While I will do my best to keep up with grades, it is your responsibility to monitor your grades during the course. Come talk to me if you think I've made an error in my calculations of your scores.

Plagiarism

Plagiarism will not be tolerated. Familiarize yourself with the University's extensive academic integrity policy at academicintegrity.rutgers.edu. All instances of plagiarism will be reported to the Office of Student Judicial Affairs.

I have a relaxed attitude about assignment submission: If you feel you cannot submit something on its due date, let me know 24 hours before and I will grant an extension. I would much rather read something handed in late than something that is not your own work.

Disability Services

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where they are officially enrolled, participate in an intake interview, and provide documentation. For more information visit the Rutgers Office of Disability Services: https://ods.rutgers.edu.

Schedule

NB: This schedule is a rough guideline. I will probably have to update it as we go along. If/when that happens, I will update CANVAS immediately.

Introduction

Week 1: Intro to the study of the mind/brain, language, the course, and Dr. Lutken!

> **1/16 – no classes**

> **1/19 – Course Introduction, study of language**

> No reading for today

Week 2:

> **1/22: Studying Bilinguals**

> *Reading:* **Grosjean (1998)** Studying bilinguals: Methodological and conceptual issues

> **1/26: Studying Multilinguals (it's different!)**

> *Reading*: **Cenoz (2013)** Defining Multilingualism

Growing up Multilingual

Week 3: **Acquiring multiple sound systems**

> **1/30:** *Reading*: **Tamburelli, Sanoudaki, Jones, Sowinska (2015)** Acceleration in bilingual acquisition of phonological structure: Evidence from Polish-English bilingual children

> **2/2:** *Reading*: **Sypianska, J. (2016).** L1 vowels of multilinguals: The applicability of SLM in multilingualism

Week 4: **Acquiring multiple lexicons**

2/6: *Reading:* **Bosworth, Binder, Tyler, Morford (2021)**. Automaticity of lexical access in deaf and hearing bilinguals
*NB –The first author of this work, Dr. Rain Bosworth, is deaf and her research focuses on the acquisition of signed languages. This is worth considering as we read about her descriptions of the lives of people who experience deafness and hearing loss. It is an insider's view. Something all too rare in linguistic literature.

2/9 *Reading:* **Golberg, Paradis, Crago (2008)**. Lexical acquisition over time in minority first language children learning English as a second language.

Week 5: Acquiring multiple syntactic systems

2/13 *Reading:* **Gujord, Neteland, Sels (2021)** Successive Language Learning in Early Childhood: The Case of Question formation

2/16 *Reading:* **Kovacs & Mehler (2009)** Flexible Learning of Multiple Speech Structures in Bilingual Infants

Week 6: Acquiring multiple pragmatic systems

2/20

Reading: **Antoniou & Katsos (2017).** The effect of childhood multilingualism and bilectallism on implicature understanding

Attn: This one's long!

Becoming Multilingual as an adult

2/23: The Critical Period Hypothesis

Reading: Johnson, J. & Newport, E.(1989). Critical Period Effects in Second Language Learning: The Influence of the Maturational State on the Acquisition of English as a Second Language.

Week 7

2/27

Reading: Scovel, T (2000). A critical review of the Critical Period Research

3/2 **Bilingual Profile Due by beginning of class!**

Reading: **Smith, N. & Tsimpli, I.M. (1991)** Linguistic modularity? A case study of a 'Savant' linguist

*NB Some of the terms used in this article is antiquated and offensive. We will not be using these terms in class. You will know them when you see them. The authors themselves are trying to move away from such language as you can see at the end of their first paragraph when they explain their use of "savant" rather than the pejorative term traditionally used to describe people who are mentally disabled, but who possess a 'striking talent'. We will follow that trajectory and will not be referring to C's developmental disability as much as we will be focused on his talent for language learning as an adult.

Week 8

3/6

Reading: **Levy, B. et al (2007).** Inhibiting Your Native Language: The Role of Retrieval-Induced Forgetting during Second-Language Acquisition

3/9

Reading: **Peristeri, E. et al. (2021).** The cognitive benefits of bilingualism in autism spectrum disorder: Is theory of mind boosted and by which underlying factors?

Week 9:

3/13 & 3/16 no class! Spring Break!

Week 10:

3/20

Reading: **de Abreu (2011)**. Working memory in multilingual children: Is there a bilingual effect?

"The Cognitive Boost"

3/23

Reading: **Fuchs (2021)** Heritage Spanish in the US: How Heritage Languages Can Contribute to Disentangling Factors Driving Language Development

Week 11:

3/27

Reading: **Kyoung, Lee, & Phillips (2022)** Why non-native speakers sometimes outperform native speakers in agreement processing (maybe later)

3/30:

Reading: **Perquin et al. (2022).** An individualized functional magnetic resonance imaging protocol to assess semantic congruency effects on episodic memory in an aging multilingual population

Week 12: Aging as a multilingual

4/3:

Reading: **Gold, B. et al. (2013).** Lifelong Bilingualism Maintains Neural Efficiency for Cognitive Control in Aging

4/6

Sign up for a presentation slot!

Reading: **Goral & Hejazi (2021).** Aphasia in Multilingual Patients

Week 13:

4/10

Reading: **Goral et al. (2012)** Effects of language proficiency and language of the environment on aphasia therapy in a multilingual

4/13

Reading: **Bhat, S. & Chengappa, S. (2003).** Code-Switching in Normal and Aphasic Kannada-English bilinguals.

Week 14

4/17

Make sure you have met with Dr. Lutken about your proposal before this date!

Reading: **Goral & Lerman (2020).** Variables and Mechanisms Affecting Response to Language Treatment in Multilingual People with Aphasia

4/20 presentations and any overflow

Week 15

4/24: presentations

5/1: presentations