Forking a Sketch: How the OpenProcessing Community Uses Remixing to Collect, Annotate, Tune, and Extend Creative Code
Shenna Shim, Senior, Human Centered Design & Engineering
Mentor: Nadya Peek, Human-Centered Design and Engineering
Mentor: Blair Subbaraman, Human Centered Design & Engineering
Creative coding refers to a method of computer programming that prioritizes artistic expression. Remixing is the iterative behavior of altering an existing artifact. Frameworks such as p5.js support sketching with creative code. Given the focus on expressivity over functionality, code reuse in creative coding practice is distinct from other programming contexts. Additionally, remixing facilitates iteration on existing code, but we have yet understand how creative coders use remixing in practice. To understand creative coder remixing strategies, we studied the community of OpenProcessing, a site dedicated to sharing code-generated artworks. To begin, we conducted a network analysis to determine which datasets of original sketches (also referred to as the antecedent sketch) and their remixes to use in our study. Our visualization consisted of a social network graph in which the nodes represent individuals, and edges showing their relationships. We found that 30% of the 1.2 million sketches in our dataset were involved in remixing. For data analysis, we utilized a code-diff tool to showcase ways the antecedent sketch’s code differs from the remix and categorize various types of remixing strategies. Over time, these categories became increasingly focused on changes made visible on our code-diff tool. We present on the diversity of ways that authors remix to curate projects, annotate process, explore variations, and transform existing sketches. Through remixing, artists have already begun to tailor, customize, and explore different ways to use their creative tools, in ways system developers may not have foreseen. We find that remixing also encourages exploratory programming and experiential learning. As creative code is increasingly used to support computational education, we can consider the implications of remixing for understanding and facilitating informal learning. At last, we reflect on the prevalence of these remix types and how future systems could support a multiplicity of remixing strategies for creative work.

What’s Up with Sex Ed? An Integrative Literature Review on the Essential Components of LGBTQIA2+ Affirming Sex Education
Joshua T (Josh) Motogawa, Sophomore, Pre-Major, UW Tacoma
Mentor: Julia Dancis
Following the enactment of Florida’s Parental Rights in Education Act (2022), the country is faced with an increase in anti-LGBTQIA2+ bills in state legislatures (e.g., SB 30; MO SB134). With this onset of hostile policy, it has become increasingly important that members of the LGBTQIA2+ community are supported in their identity. Given this climate, our research team has aimed to understand how we can further support LGBTQIA2+ youth in school environments. Research shows that LGBTQIA2+ affirming sex education can support a variety of health outcomes for young people (e.g., Snapp et al., 2015). What is less agreed upon is the active ingredients of what makes sex education affirming for LGBTQIA2+ youth. Therefore, our research team is examining the question: What are the necessary components involved in delivering LGBTQIA2+ affirming sex education? To answer this question, we will conduct a comprehensive literature review (CLR: Onwuegbuzie & Frels, 2016) to assess sex education curricula that affirm LGBTQIA2+ identities. An integrative framework that employs both narrative and systematic styles will be applied to ensure a reflective research lens. Our primary research modes consist of empirical articles and educational policies influencing LGBTQIA2+ sex education. Preliminary findings show a necessity for more comprehensive preservice teacher training that resists heteronormativity and cisgenderism (Goodrich & Barnard, 2019; Naser et al., 2022) and covers a larger
range of topics (Naser et al., 2022). Results from this study could inform teachers in presenting a sex education that affirms LGBTQIA2+ identities along with educational policies that creates curriculum standards for inclusion. Discovering elements of sex education that affirm LGBTQIA2+ identities could create a foundation for educators to utilize, which could enhance the mental and physical health of youth with these identities. Additionally, sex education that affirms LGBTQIA2+ identities can combat anti-queer public policy through consciousness-raising and ultimately grassroots organizing.

School Lunch With a Side of Stigma: Policy Impacts on Social Stigma and Student Meal Participation
Angee (Angelina) Pogosian, Senior, Sociology
Mentor: Jelani Ince, Sociology
Mentor: Allison Goldberg

Schools across the country struggle with the issue of meal debt and lunch shaming practices used to discourage the accumulation of negative meal balances. These practices include dumping students’ trays in the trash upon non-payment, requiring students to work off their debt, or publicly shaming them. Although lunch shaming was banned in Washington State in 2018, the impacts of this policy shift have not been studied. High-poverty schools shifted to government-subsidized universal school meal programs (USMP) to address students’ food insecurity. Studies show USMP significantly increase the meal participation of students who were already enrolled in free lunch programs. While scholars speculate stigma might explain this phenomenon, it has not been studied directly. This study explores the role of stigma in school meal participation by studying two populations: students who are considered non-poor with meal debt and students who are enrolled in free and reduced priced meal programs. This study considers the role of stigma as a barrier to school meal participation by studying meal debt and students at the eligibility margins in free lunch programs. This study addresses existing gaps in the literature through a combination of in-depth interviews and observations of schools ineligible for government-subsidized USMP. In-depth interviews with school administrators expand understandings of school-level cultures, mealtime procedures, and experiences with meal debt. Observations at a single school over a 2-month period reveal how students experience mealtime, how kitchen workers execute meal debt policies, and the dynamics between students, their peers, and authority figures in the lunchline. Findings show that stigma is reproduced in the lunch line and act as a barrier to student meal participation.

Pedagogical Strategies in 5th Grade Chinese Dual Language Math Classrooms
Jennifer Cui, Senior, Education, Communities and Organizations, Linguistics
Mentor: Chan Lu, Asian Languages and Literature
Mentor: Jieyu Zhou (jzhou4@uw.edu)

Language immersion programs are a type of additive bilingual programs aiming to teach children two languages through content-based classes, such as math. The languages taught in such programs are typically composed of the societal language (such as English in the U.S.), and a non-societal language (such as Mandarin Chinese or Spanish). One of the primary goals of such programs is to teach academic language to students to build up students’ discourse competence and academic vocabulary in both languages. Though there has been some research on the teaching of academic language in immersion programs, research on Chinese as an immersion language is relatively rare. Therefore, in this study, we investigate the instructional strategies that math teachers employ to help students understand academic vocabulary in Chinese, which is not necessarily used in daily conversations. We also explore the functions of teachers’ language and actions in the classrooms. We transcribe videos of math classrooms from Grade 5 Chinese immersion classes to understand how math teachers in immersion classrooms teach concepts and academic vocabulary in Chinese, and how they provide instructional support for students to facilitate their academic language development. Based on existing literature on academic language instruction for other learner populations, we applied qualitative coding to analyze the transcripts of the videos to investigate the frequencies of different instructional contexts, including math and academic vocabulary instruction, in-class assessment, and concept application. By analyzing the frequency of used teaching strategies, we found that the math teachers’ instruction progressed from assessment to the explanation of new academic vocabulary with various multimodal involvements and group activities. Findings from this study will help us gain a nuanced understanding of how academic language is taught in a less-commonly-taught language, and such knowledge will help enrich our understanding about academic language development among elementary school children in general.

Morphologically Conditioned Phonology: Evidence from Biloxi Vowel Hiatus
Stephanie Dossett, Senior, Linguistics
Mentor: Myriam Lapierre, Linguistics
Mentor: Jieyu Zhou (jzhou4@uw.edu)

The peculiar behavior of vowel hiatus resolution in Biloxi provides a useful test case with which to consider the relative merits of two prominent theories of morphologically conditioned phonology (MCP): Cophonology (Inkelas and Zoll, 2007) and Constraint Indexation (Pater, 2009). Biloxi, an extinct or critically endangered (sources vary) language of the
Siouan language family, has received little to no phonological study since the 1974 grammar this project is based on (Ein-audi, 1974). Vowel-vowel sequences are generally avoided in Biloxi. When vowel-vowel sequences are formed by affixing, this sequence is repaired by deleting the first vowel, as in (1) /ohi dani-axehe/ → [ohi danaxehe] ‘three sitting on ten’ (=13). When such a sequence is formed by the dative prefix /ki-/ and a vowel-initial verb root, glide epenthesis occurs instead, as in (2) /Ø- ki- ϵ-tu/ → [kijetu] ‘they said to him’. Yet another exception is observed when /ki-/ specifically precedes the verb root /œ/ ‘to make, do’, resulting in glide fortition and an additional /k/ in the surface form, as in (3) /Ø- ki- œ-tu/ → [kikœtu] ‘they made for him’. This analysis lends support to whichever model of MCP better accounts for the complex vowel hiatus pattern of Biloxi. As an understudied language, a framework’s ability to fit Biloxi, in addition to previously considered languages, gives that model greater explanatory power. Avenues for future research include the consideration of a learnability model for Cophonology as compared to that proposed by Pater (2009) for Constraint Indexation. An updated grammar of Biloxi with more detailed phonological analysis would also extend the scope of modern studies of the language. This work brings new attention to the Biloxi language, and contributes to the ongoing debates over morphologically conditioned phonological processes.

The Rhetorical Implications of Metaphorical Entailments and Terministic Screens: An Analysis of the British Press’ Coverage of the COVID-19 Pandemic

Hayden Goldberg, Senior, Political Science, Economics
Mary Gates Scholar, UW Honors Program,
Undergraduate Research Conference Travel Awardee
Mentor: Amanda Friz, Communication

In this manuscript, I analyze the metaphors used by the British press during the COVID-19 pandemic to explore the implications of rhetoric on people’s conceptions of health. This project is situated at the intersection of language, disease, health communication, and media studies, allowing me to explicate how language shaped people’s lived experience of the pandemic. To achieve this, I combine I.A. Richards’ division of metaphors into a tenor (the new concept being described) and vehicle (the old concept being used as a reference point), Kenneth Burke’s notion of a terministic screen, and George Lakoff and Mark Johnson’s theory of metaphorical entailments to explicate a new theory on the impacts of metaphor, bringing these elements into the field of rhetoric of health and medicine. I argue that the tenor of metaphor functions as a terministic screen and that the impacts of this terministic screen can be understood using metaphorical entailments. I propose a theory where these entailments can be plotted onto an XY plane and compared with each other. Using this theory, I analyze the metaphors used in press reports between January 1, 2020 to April 8, 2022 from four widely read British newspapers to assess the role of the press in shaping people’s perceptions of the pandemic and its consequences. I identify metaphors that construct and deconstruct borders to establish an “other”; economic metaphors that are mixed with military and natural disaster metaphors to frame the pandemic as an economic, not health, problem; and war metaphors that rhetorically implicate the pandemic, plastics, and bodyweight as events and objects that should be understood in terms of war. These rhetorical framings constrain people’s thinking and cause them to think about the economy and borders at the expense of their own personal well-being.