

Exploring Language Ideologies: Integrating Digital and Computational Literacies in Bilingual Teacher Education

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City University of New York, The Graduate Center

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OF NEW YORK



Introductions

Veronica Paredes is a PhD student in the Urban Education program at the City University of New York, interested in immigrant origin teachers' epistemologies and how these translate into pedagogical moves to support student-teacher relationships amidst anti-immigrant sentiments. She is currently a teacher educator at Brooklyn College.



Veronica Paredes, PhD student, Urban Education, CUNY-Grad Center

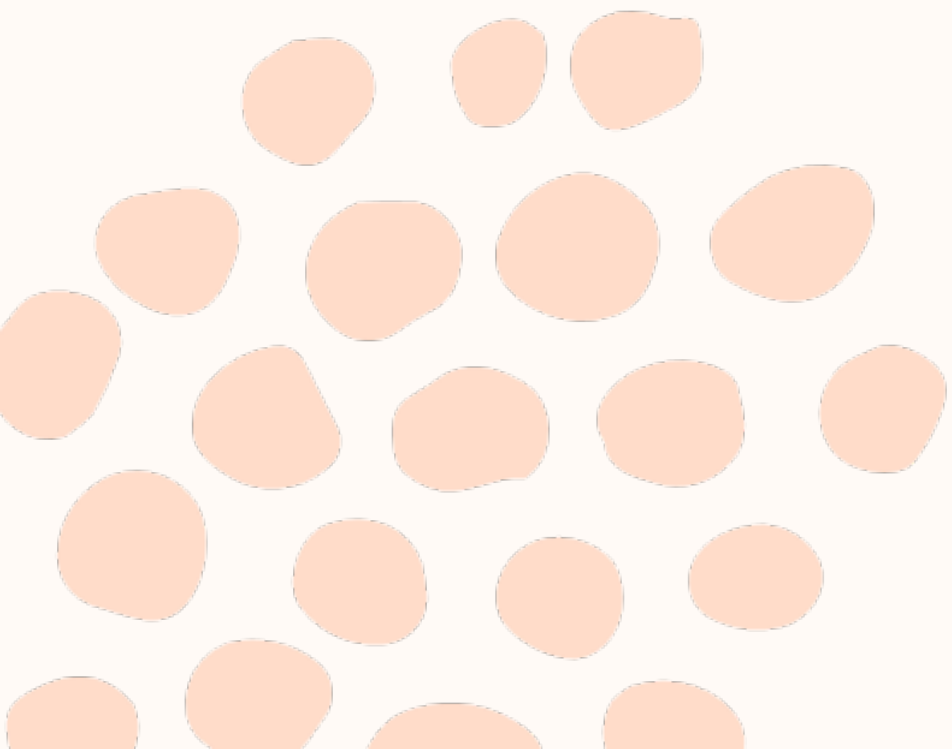
Dr. Jessica Velez Tello is a teacher educator and educational researcher at the City University of New York. Jessica's research and pedagogy focuses on teachers and teacher candidates' curriculum design at the intersection of language justice, immigration, and culturally sustaining literacy in relation to digital and computational practices in teacher education.



Jessica Velez Tello, Office of Academic Affairs, Teacher Education Programs, CUNY



Introduction



This work focuses on...

- **Curriculum design** plays a crucial role in creating inclusive and meaningful learning environments for linguistically diverse learners
- **Collaboration** can guide curriculum design that prepares teachers
- **Create intentional opportunities** for exploration and reflection

Goals:

1. to build up knowledge and application of critical bilingual education frameworks
2. to encourage students' understanding of computational and digital literacies in relation to their pedagogical practice.

Context and Content

Computing Integrated Teacher Education Initiative (CITE)



Setting: foundations course in a Bilingual Graduate Program

Participants: teachers, teacher candidates (pre-service teachers) and counselors

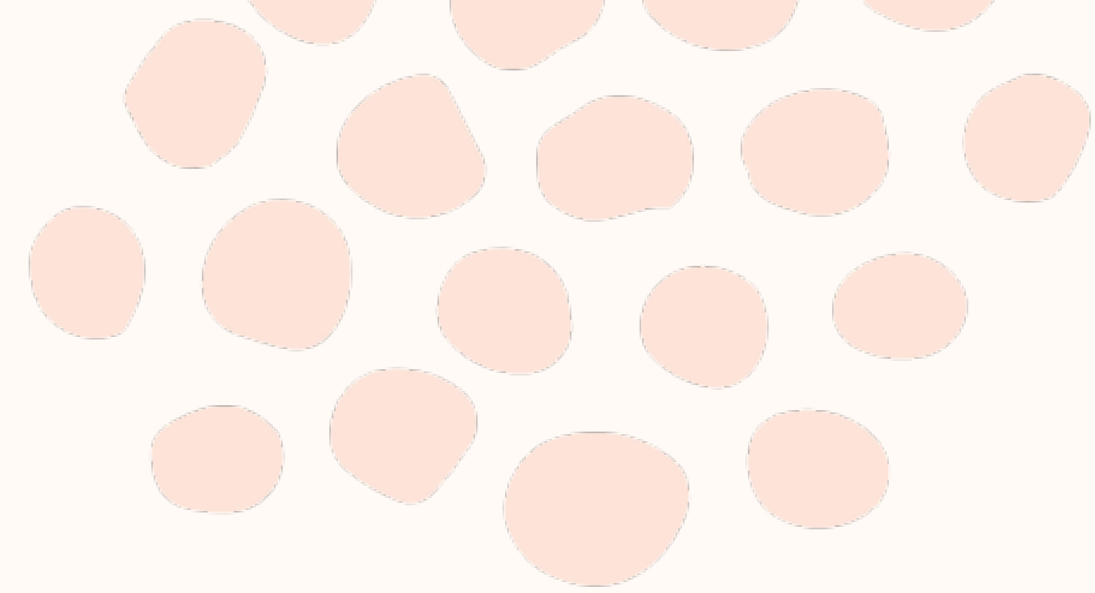
- The course is part of the CUNY CITE initiative, which aims to integrate **computational and digital literacies (CDLs)** into how teacher candidates and teachers are prepared across teacher education programs.
 - Learn and teach **with, about, through, and against** technology (CITE's framework)

Goal: Weave content knowledge (bilingual education) with computational and digital literacies

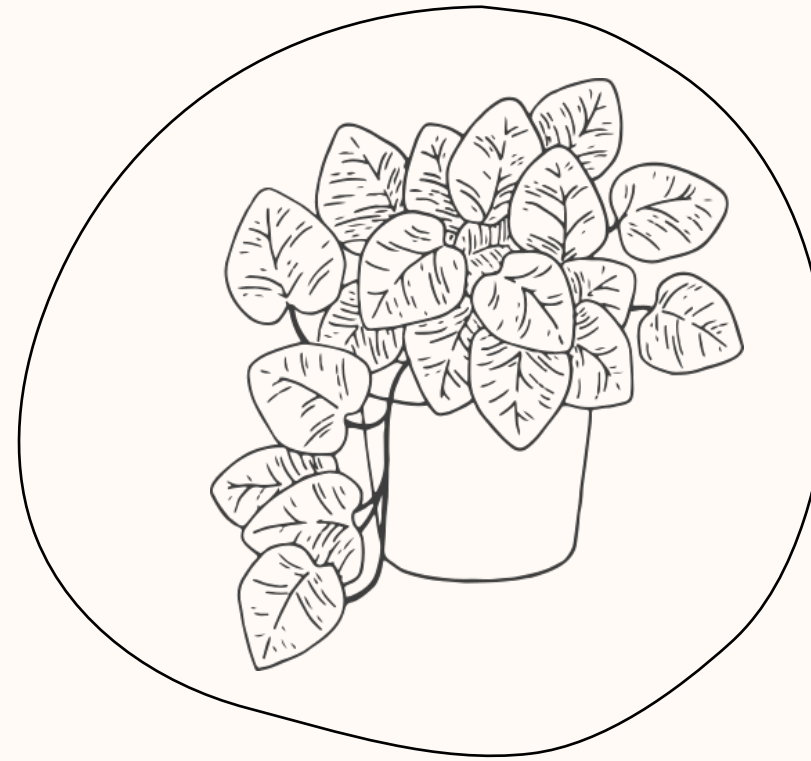
CITE's Framework

	ABOUT	WITH	THROUGH	AGAINST
For teacher learning	Teachers engage in conversations about technology, digital citizenship, and its impacts (from a user and teacher perspective).	Teachers learn with technology to help them explore concepts for themselves.	Teachers express themselves and their learning through their creation and modification of computational artifacts	Teachers to think critically about technologies to dismantle unjust tech.
To integrate into teachers' pedagogy	Teachers strategically bring these conversations to their students.	Teachers teach with technology to support student learning and participation.	Teachers prompt their students to express themselves through creation and modification of computational artifacts.	Teachers strategically bring these conversations to their students.

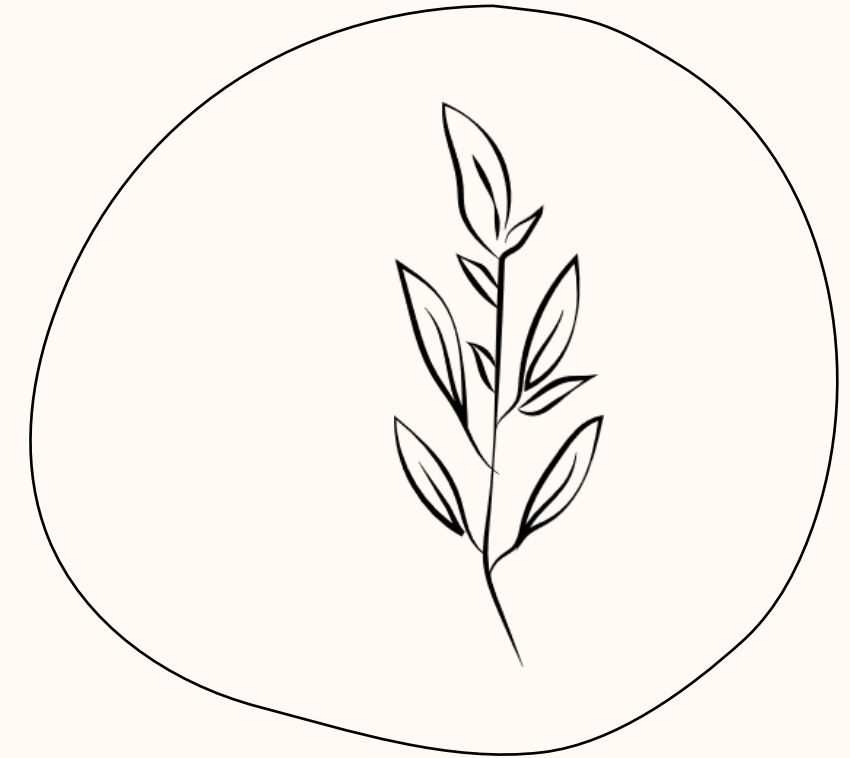
Key Points



Course Design



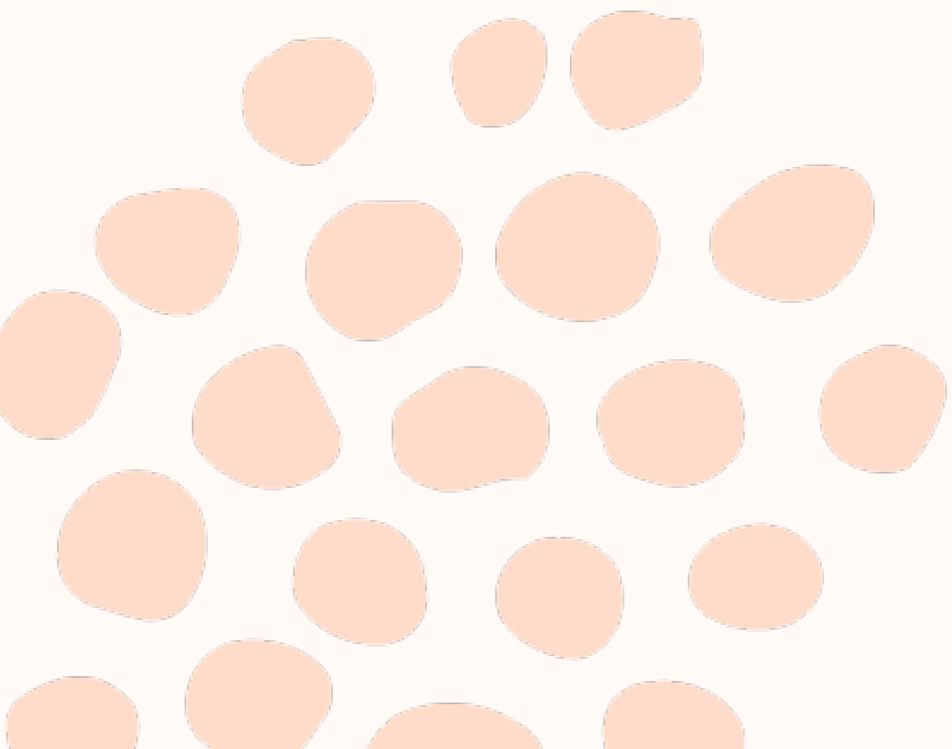
Collaboration



**Opportunities for
exploration & reflection**




Process



Course Design & Collaboration



Collaboration as a Key Methodology:

- Makes pedagogical stances visible.
 - Creates opportunities for multiple perspectives for better understanding
 - Collaborative knowledge production-counters individualized design epistemologies. (Elenes, 2013; Morales et. al, 2024)
- 

Course Design & Collaboration

Collaborative Course Design

● Co-design practices:

- Vetting resources
- Exchanging ideas to develop and refine course activities
- Addressing ongoing challenges in real-time to make course adjustments.
- Centering our pedagogical expertise
- Leveraging our lived experiences and bilingual backgrounds

“Students lacked structured opportunities to explore their beliefs and perceptions regarding language and language education”

Timeframe

Summer 2023 Professional Development (CUNY-CITE)	<ul style="list-style-type: none">● Attended PDs on computation and digital literacies.● Created course artifact intertwining bilingual education and digital literacies.
August 2023 — December 2023 Weekly Co-Designing Sessions (Fall 2023 course)	<ul style="list-style-type: none">● Reflected on student engagement.● Planned future sessions and modified course materials.
February 2024 — ongoing Weekly Co-Designing Sessions (Spring 2024 course and research dissemination)	<ul style="list-style-type: none">● Modified course materials for another course.● Facilitated sensemaking for research dissemination.

Over the span of a year
and ongoing



Assignments and Activities

Key Assignments in this course	
Name	Description
Bilingual Education Timeline	In groups, students research specific eras (1920s, 1940s, 1960s, etc.) and map policy and major historical events that contributed to the way Bilingual Education in the U.S. is today.
Paper Engineering Pops	Students engage in computational literacies through this unplugged activity. Students use paper engineering to create a prototype and an iteration of a pop-up. In their iteration, students add external (social perceptions)/internal (personal views) pertaining to language.
Multimedia Portfolio	This final assignment asks students to use course content and incorporate it into their pedagogical practices. The work is created and presented in different ways, with a multimedia component to this assignment.
Journals	Ongoing throughout the semester

Assignments

Bilingual Timeline

Padlet was used for this activity

The Padlet board displays a timeline of key events in bilingual education history:

- mid 1800's to 1920's** (Timeline Header)
- 1840**: Bilingual Education Schooling in 1840. A form of bilingual schooling started in Cincinnati Ohio with many German-speaking immigrants. The State of Ohio passed a law in 1840 that made it "the duty of the Board of trustees and Visitors of common schools to provide several German schools under some duly qualified teachers for the instruction of such youth as desire to learn the German language or the German and English languages together." This same year, Cincinnati introduced German instruction in the grades as an optional subject and may thus be credited with having initiated bilingual schooling in the United States. Although this happened in the 1840, I believe that it is still the same nowadays where curriculums are for the most part not provided and not enough support is offered to students or teachers. The only thing now is that bilingual education is "accepted" for the most part and learning a second language is included in schooling now.
- 1848**: American Protective Association (APA) 1887. During the 1870-1890s the United States passed several acts that prohibited all languages but English to be taught and used in school. But William Torey Harris, U.S. Commissioner of Education, fought nativism and advocated for bilingual education saying that much of the culture, customs, habits and traditions would be lost and would weaken a personality. The bilingual education of that time was for the immigrants of Europe.
- 1895**: Literacy Test for Immigrants. In the year 1895 Henry Cabot Lodge had introduced a bill to the U.S. senate to require a literacy test for immigrants. This test required them to read five lines from the constitution. Bi/multilingual students have been affected by this event because the immigrants were already excluded from the voting process because of their limited knowledge. Some of the immigrants' parents may have not been fortunate to go to school and to be judged for it somewhere else and possibly affecting their own children play a big role. Immigrant parents usually migrate to the United States to have or give a better future to their children or loved ones. Which then affected students who are being placed in either all English- only classrooms without accommodations. How is this successful for them? Some immigrants are even placed in 1st grade classrooms.
- 1906**: Naturalization Act Passed (1906). The Naturalization Act, passed on June 29, 1906, had a significant impact on the immigration and naturalization process in the United States. Although the bill did not directly mention bilingual education, it played a crucial role in shaping the country's language and education policies. The act regulates the naturalization process and requires applicants to demonstrate English proficiency. This has led to increased demand for English teaching among immigrants, indirectly affecting the pattern of language education in the United States. The bill encourages assimilation through English acquisition and indirectly affects students' requirements for schools' English proficiency.
- 1954**: Brown v. Board of Education. In 1954, the Supreme Court ruled that schools must be desegregated. Indeed, the laws were changing, people's attitudes were still remained unchanged. Although people's attitudes were not changed after the Supreme Court announced that the educational policy was unconstitutional, it was much better compared to the first Plessy vs Ferguson. During this period of time, African Americans were not allowed to eat in the same restaurant, go to the same school and live in the neighborhood as the Whites. That is why Brown v. Board of Education is replaced with it and plays an important role to challenge "segregation" as a first movement and focuses on the idea of "togetherness" by uniting all the people, instead of dividing them up based on the color of their skin. It provides "equal educational opportunities" for all students since without this, we will still be facing with "two different worlds", where the Whites will have the privileges over the minorities. With this new reformation, bilingual education starts to be approaching in the educational system, which brings hope to the lives of the minorities and makes ELLs more feasible.

Assignments and Activities

Paper Engineering Pop -Ups

Why are we tinkering with pop-ups?

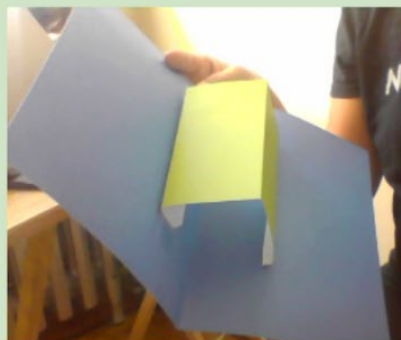


To visually represent our...
Language ideologies
Theoretical Perspectives
Concepts or Paradigms
from our readings

Tinkering: Prototype tutorial videos (sequence 1)

Beginner

[Click here for a video tutorial of The Tent Pop-Up](#)



Intermediate

[Click here for a video tutorial of the Table Pop-Up](#)



Tinkering: Prototype tutorial videos (sequence 2)

Beginner

[Parallel and Unequal Parallel Fold Video Tutorial](#)

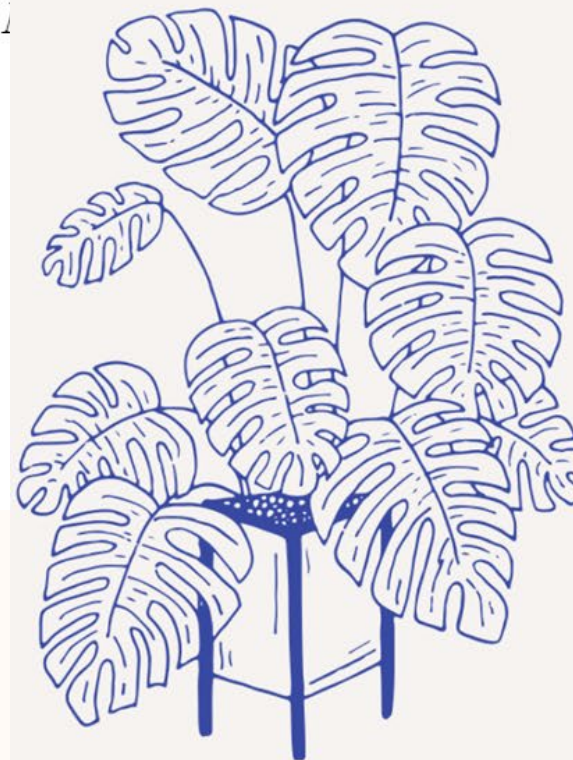
Beginner

[Open Box Video Tutorial](#)

Intermediate

[Combining Designs Video Tutorial](#)

Video 1



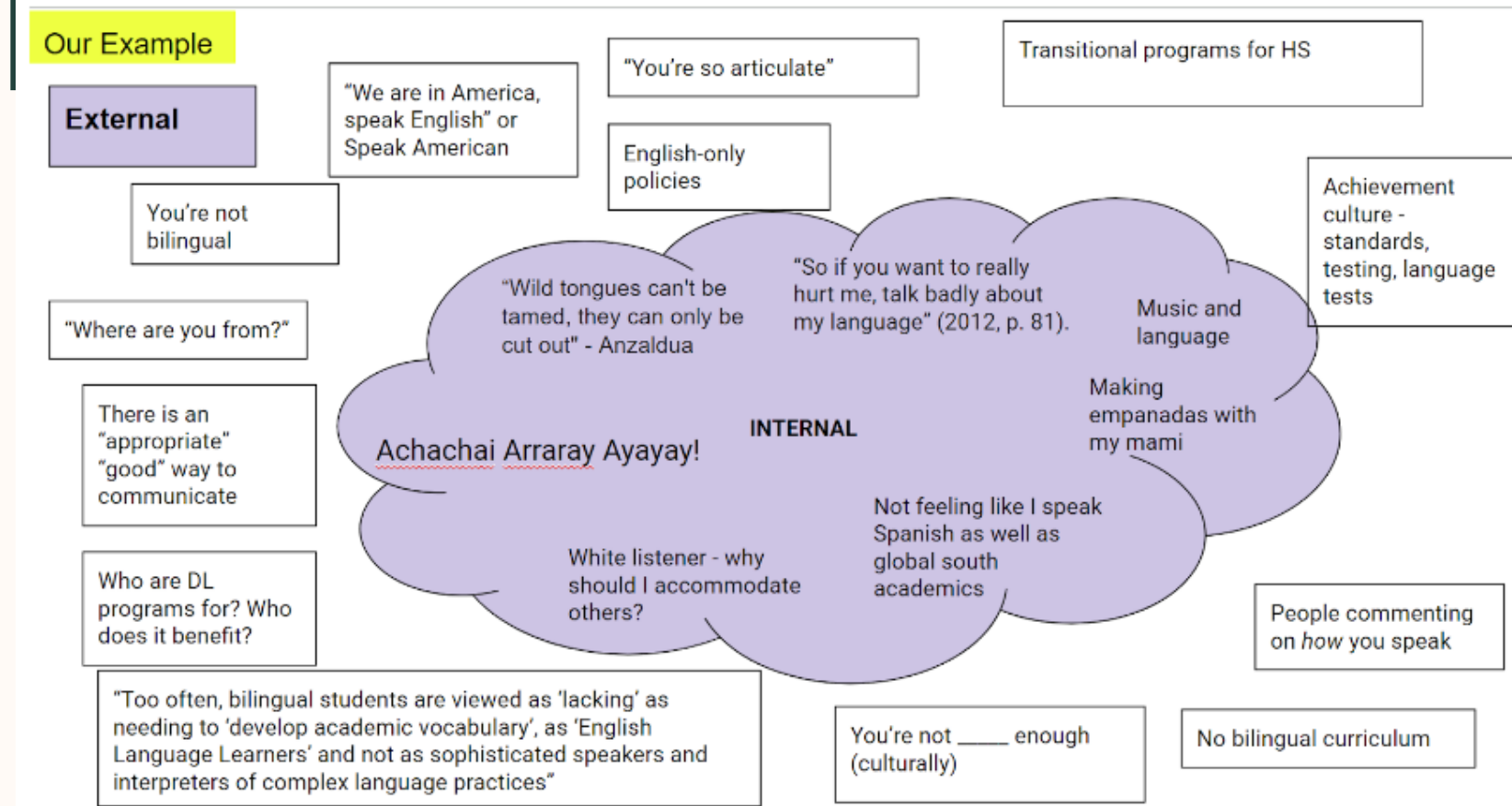
- **Algorithms:** set of commands for design
- **Programming:** to design algorithms and debug them when needed using programming languages (problem solving)
- **Patterns:** repetition, connections across different ideas/symbols
- **Tinkering:** experimentation (growth mindset)
- **Iteration:** trying again same design for different results, improvement (ex. Lesson plans)
- **Debugging:** fixing issues in set of instructions and/or recognizing and fixing/improving programming that is faulty, not appropriate, or irrelevant

Assignments and Activities

Paper Engineering Pop-Ups

Prepping for design and content

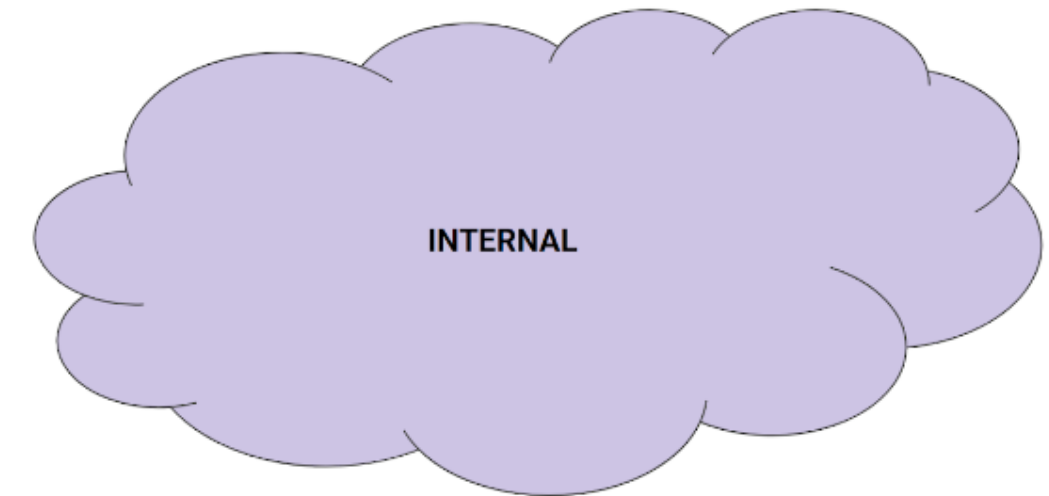
Our example below:



Template for student use below

NAME(S):

External



Assignments and Activities

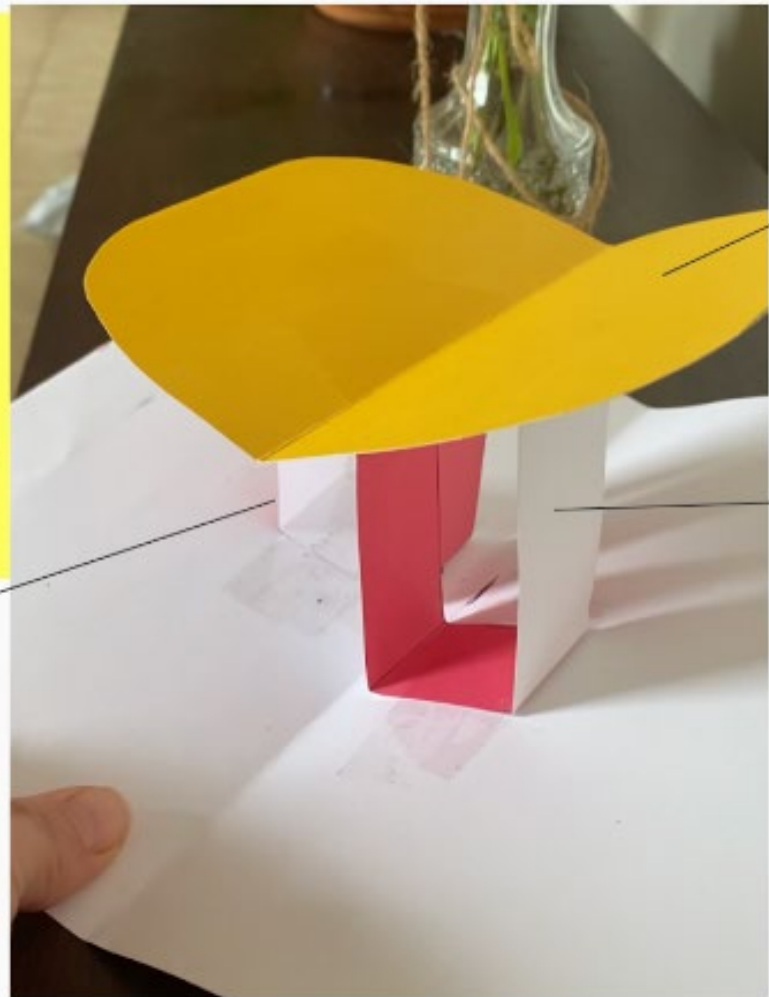
Student Introduction

Paper Engineering Pops

a. My "think out loud" [Veronica's] detailed example

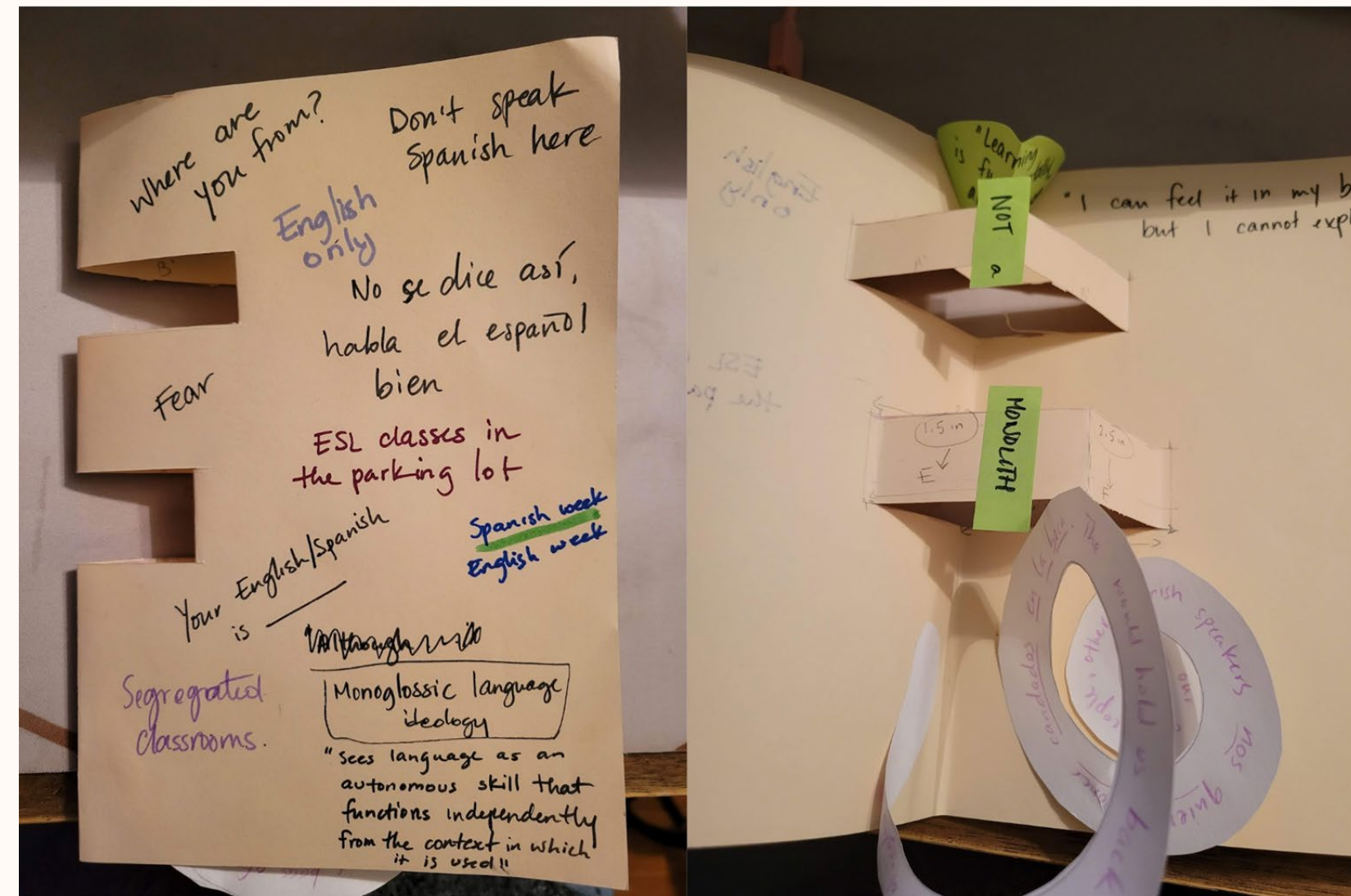
I started thinking about whose been invited to the decision making table? And then I thought of two conflicting ideologies a decolonizing one that takes account of linguistic harm and one that is informed by white hegemony ideas. I used both foundational rectangles to represent these ideas. Then on the table I decided to represent my beliefs of language- and went back to our cloud where I drew from my internal beliefs and conclusions.

External- language practices that center multilingualism and the ways we language



Internal experiences connected to frameworks from the readings

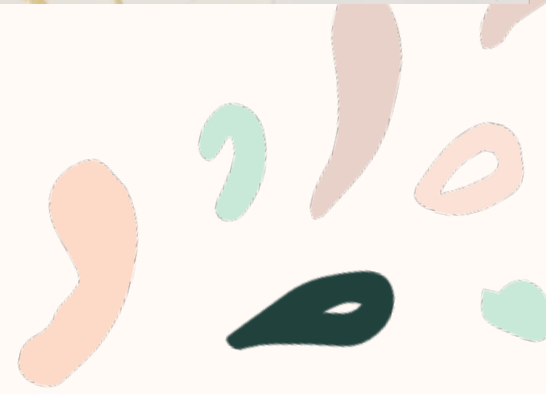
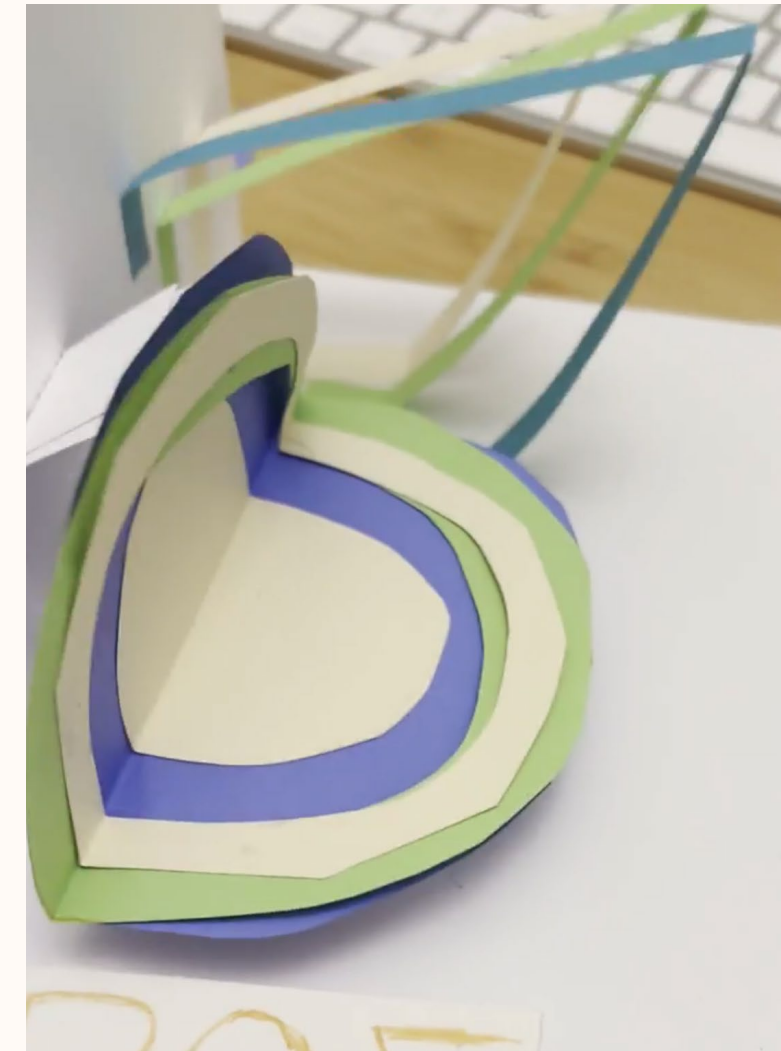
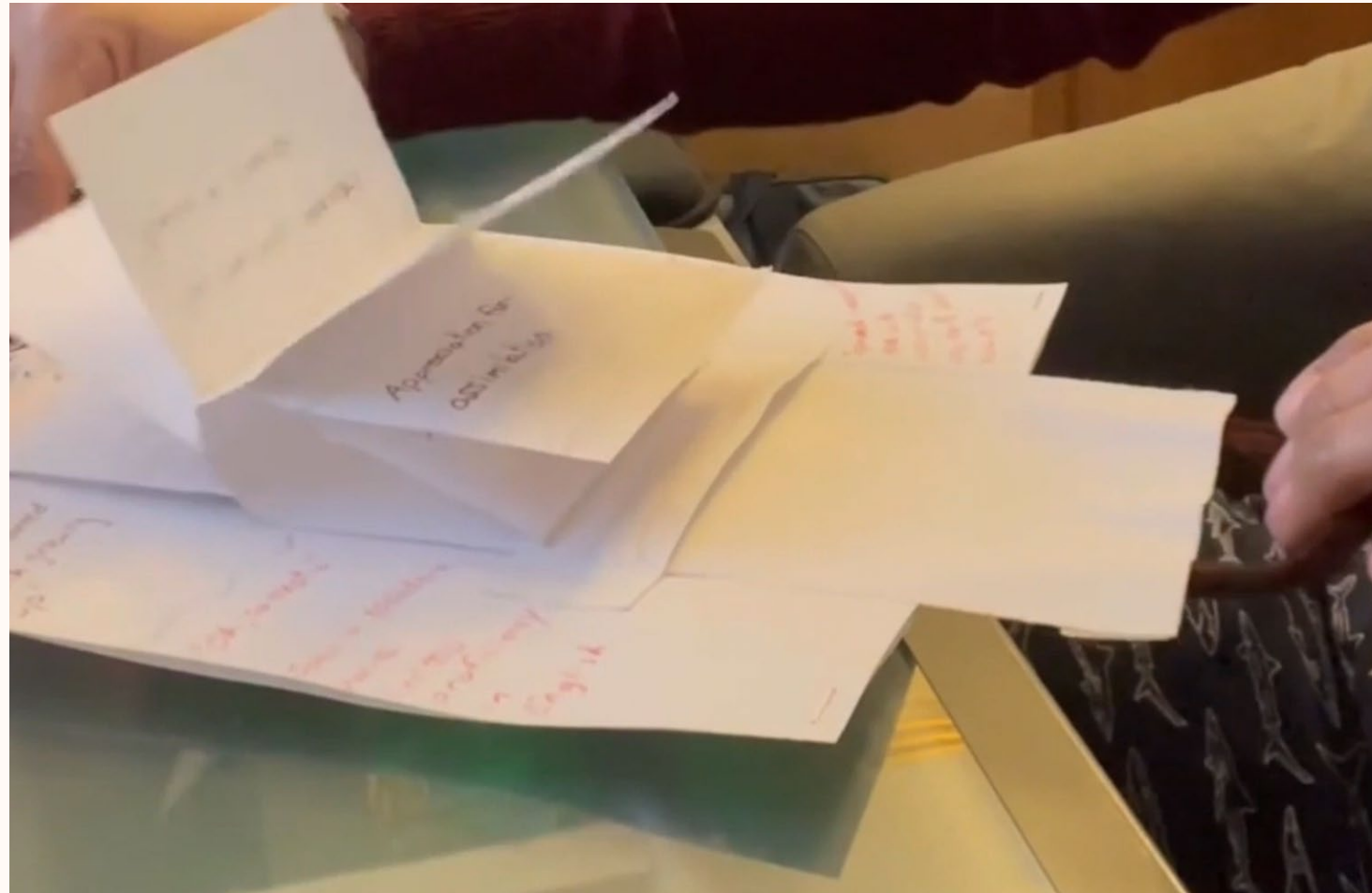
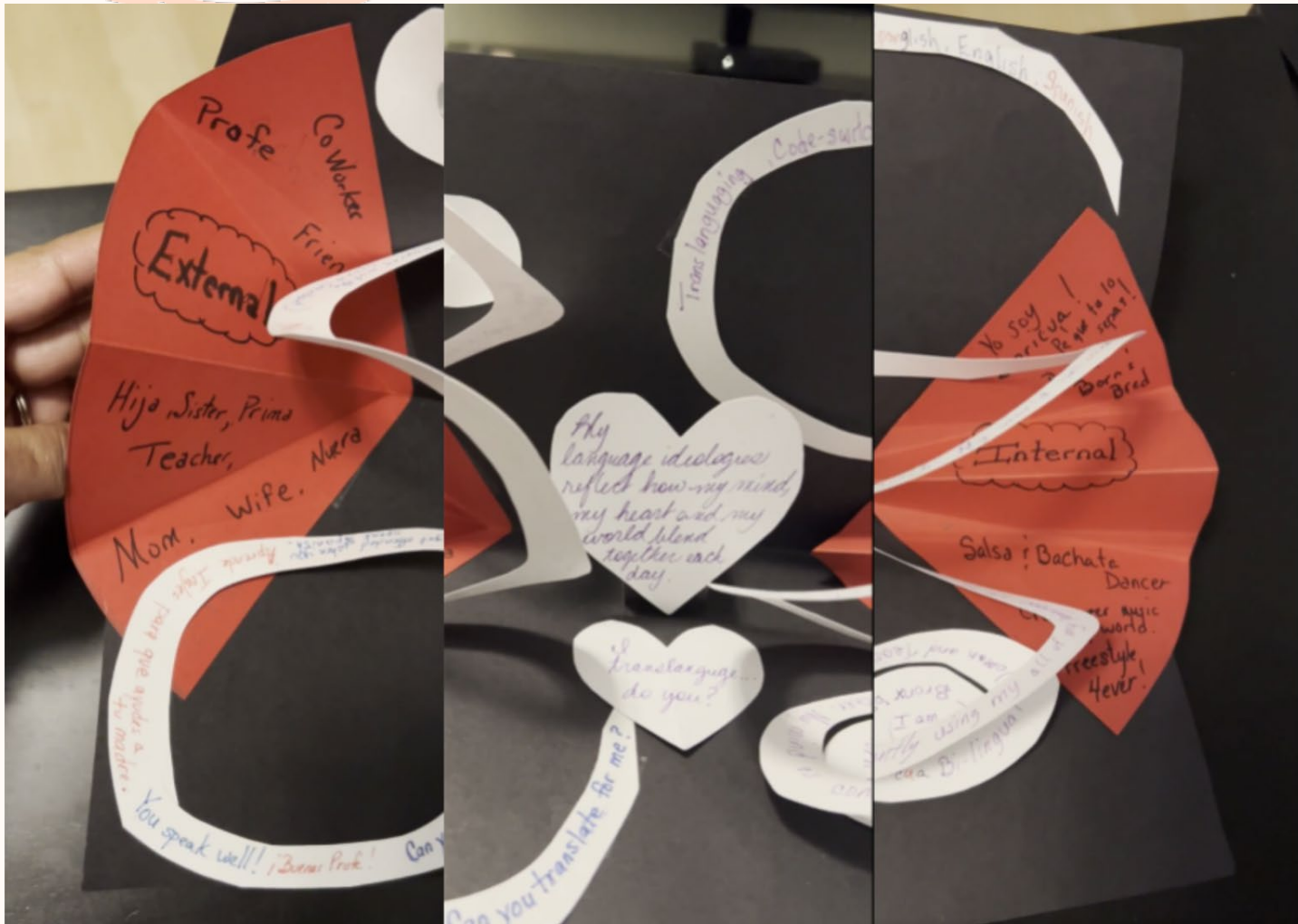
External- white hegemony



Assignments and Activities

Student Poppups

Paper Engineering Pops



Addressing Challenges

Initial Difficulties

- Uncertainty about students' comfort levels and prior knowledge.
- Hesitations towards computational terminology for non-CS backgrounds.

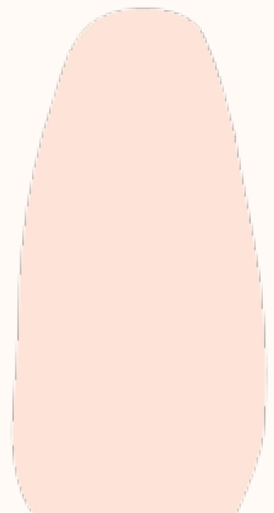
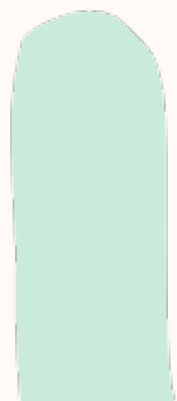
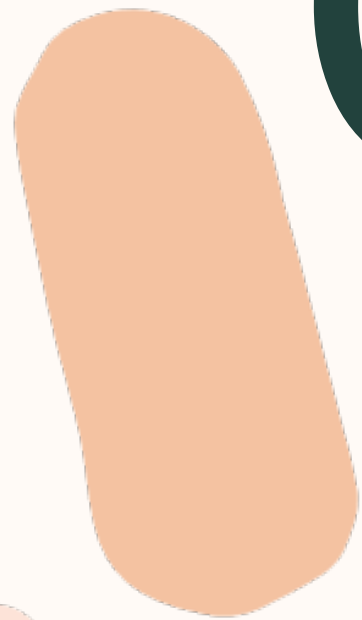
Strategic Approach

- Introduced key computational terms (experimentation, debugging, iteration) in familiar pedagogical contexts.
- Compared computational terms to teachers' daily instructional design processes.

Addressing Challenges

Enhancing Understanding and Bridging Gaps

- Introduced discriminatory social design and social algorithms (Benjamin, 2019) to broaden students' perspectives on social inequalities and design processes.
- Enhanced comprehension of language ideologies and equitable pedagogical design
- Created a graphic organizer to elicit language ideologies.
- Encouraged students to work in pairs, sharing ideas on internal and external language beliefs.



Conclusion



Final Thoughts

- Our course design integrated content knowledge with computational and digital literacies through a critical lens (e.g. translanguaging, raciolinguistic ideologies)
- The course granted students opportunities to explore and consider the role language ideologies play in curriculum design choices
- Our collaborative methodology pinpointed real-time scaffolding needs for activities and assignments to support students' engagement with digital and computational literacies.

Why does this
matter?



Teacher Education

Teacher education programs as spaces for exploration



- Our collaboration supported
 - exploration of new content
 - reflection of personal ideologies and the relationship with curriculum design



Full paper with references

Also in the Conference's
[Digital Library](#)



SCAN ME

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Keep in
touch



A large, circular watercolor splash in shades of light orange and peach, centered on the page. The splash has a soft, textured appearance with varying intensities of color.

**THANK
YOU**

