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

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THE GRADUATE CENTER
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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.

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.

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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

Setting: foundations course in a Bilingual Graduate Program

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

Computing Integrated Teacher Education Initiative (CITE)

- 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)

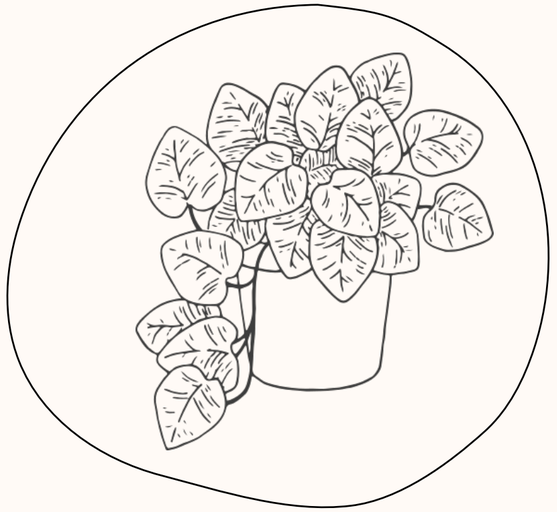
Goal: Weave content knowledge (bilingual education) with computational and digital literacies

CITE's Framework

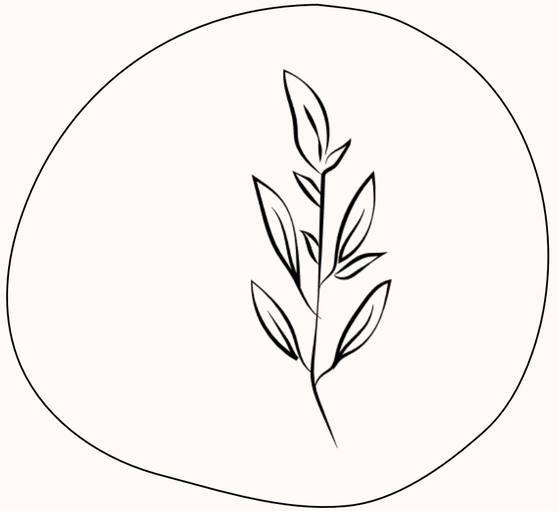
	ABOUT	WITH	THROUGH	AGAINST
For teacher learning	Teachers engage in conversations **about** technology, digital citizenship, and its impacts (from a user and teacher perspective).	Teachers **learn with** technology to help them explore concepts for themselves.	Teachers **express themselves and their learning 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 ar
perceptions regarding language and language educ”ation

Timeframe

Summer 2023 Professional Development (CUNY-CITE)	• 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)	• Reflected on student engagement. • Planned future sessions and modified course materials.
February 2024 — ongoing Weekly Co-Designing Sessions (Spring 2024 course and research dissemination)	• Modified course materials for another course. • Facilitated sensemaking for research dissemination.

Over the span of a year and ongoing

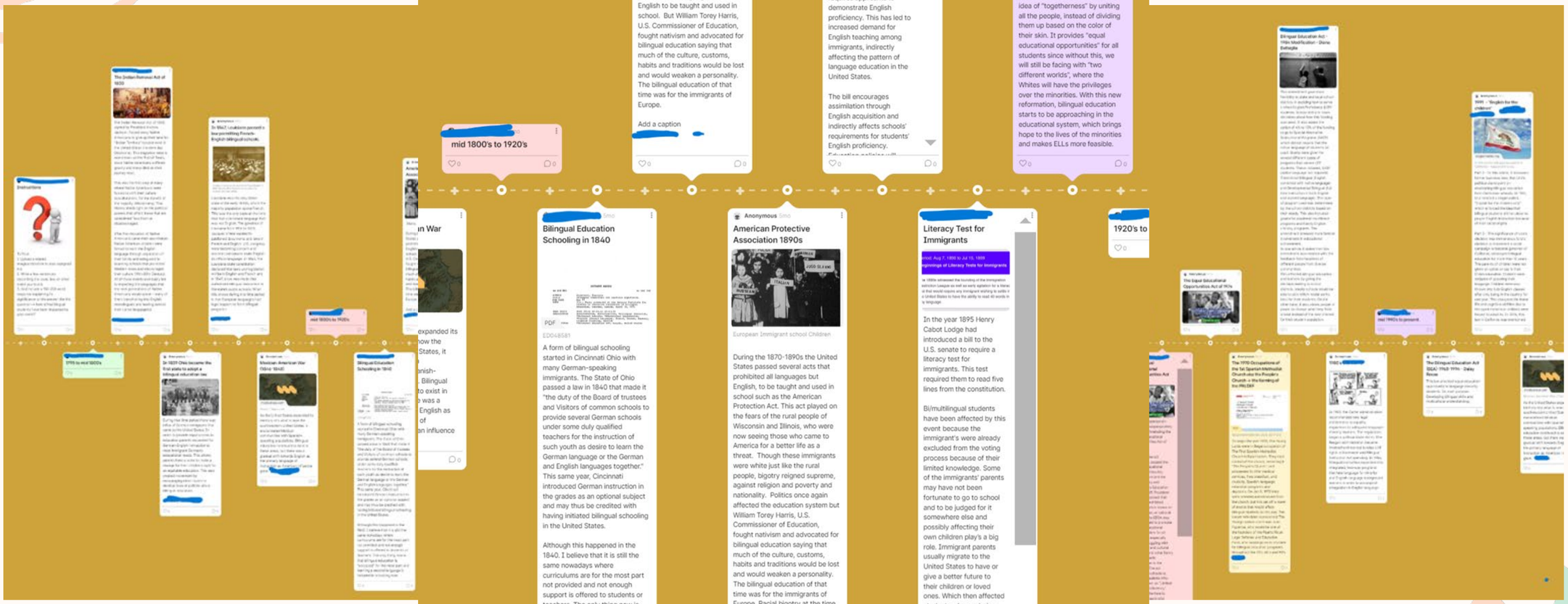
Assignments and Activities

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

Assignments

Bilingual Timeline

[Padlet](#)was used for this activity



Assignments and Activities

Course Desig

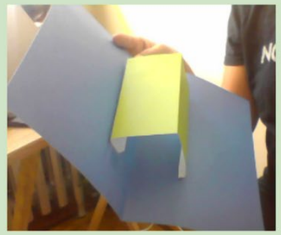
Paper Engineering Pop -Ups

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

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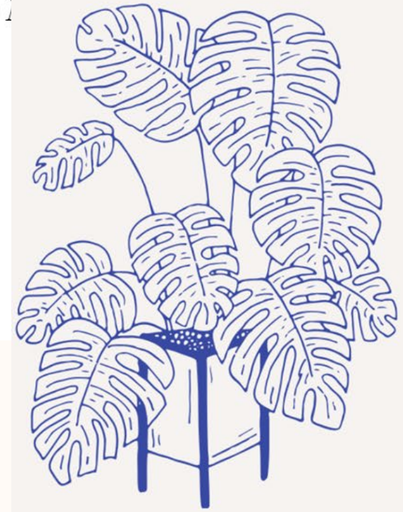


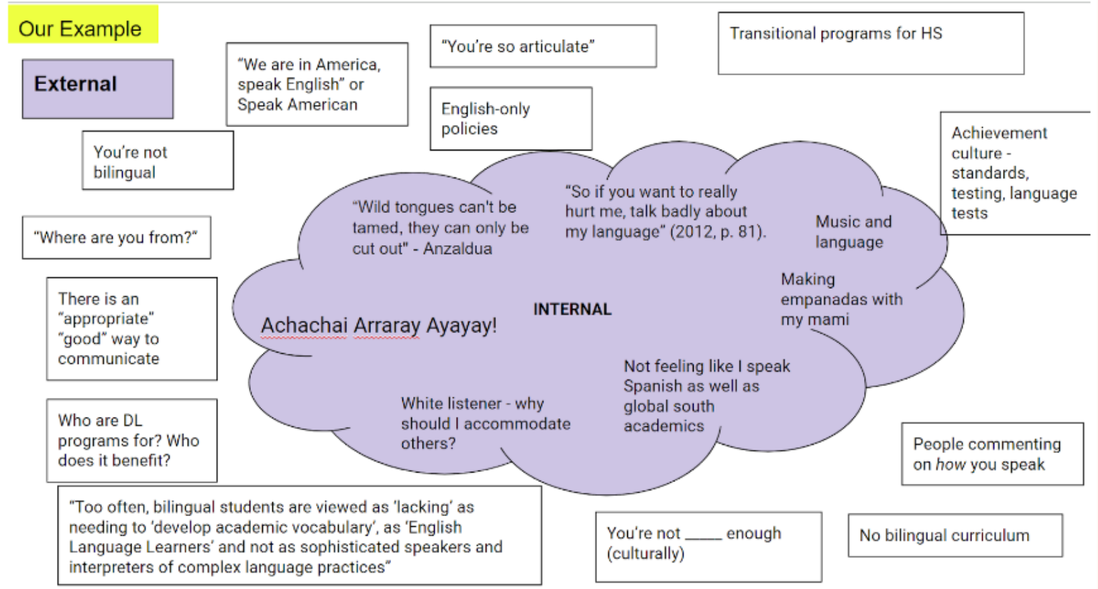
- **Algorithms:** set of commands for design
- **Programming:** to design algorithms and debug them when needed using programming languages (problem solving)
- **Patterns:** repetition, connections across different ideas/symbols
- **Tinkering:** experimentation (growth mindset)
- **Iteration:** trying 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 Activiti

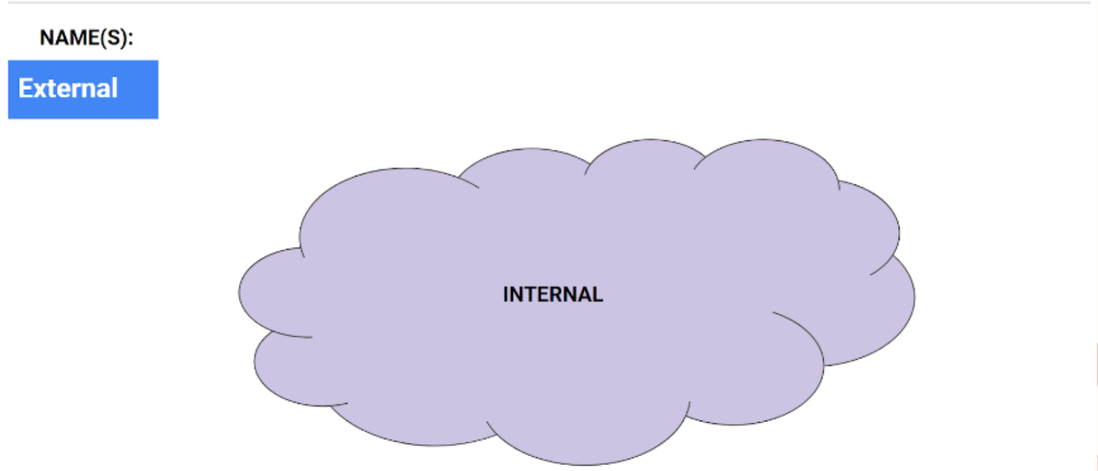
Paper Engineering Pop -Ups

Prepping for design and content

Our example below:



Template for student use below



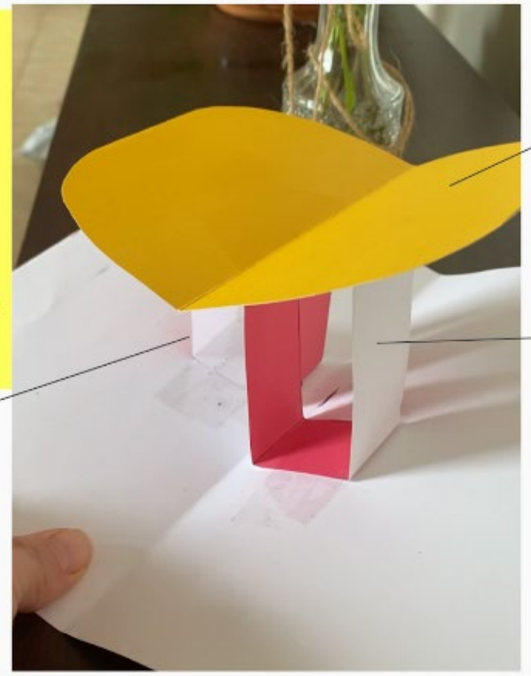
Assignments and Activities

Student Introduction

Paper Engineering Pdops

a. My “think out loud” [Veronica’s] detailed example

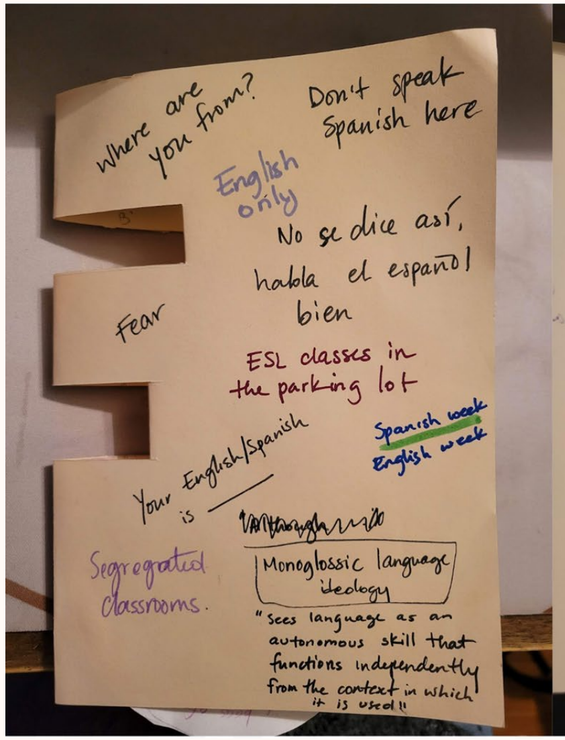
I started thinking about whose been invited to the decision making table? And then I thought of two conflicting ideologies a decolonizing one that takes account of linguistic harm and one that is informed by white hegemony ideas. I used both foundational rectangles to represent these ideas. Then on the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

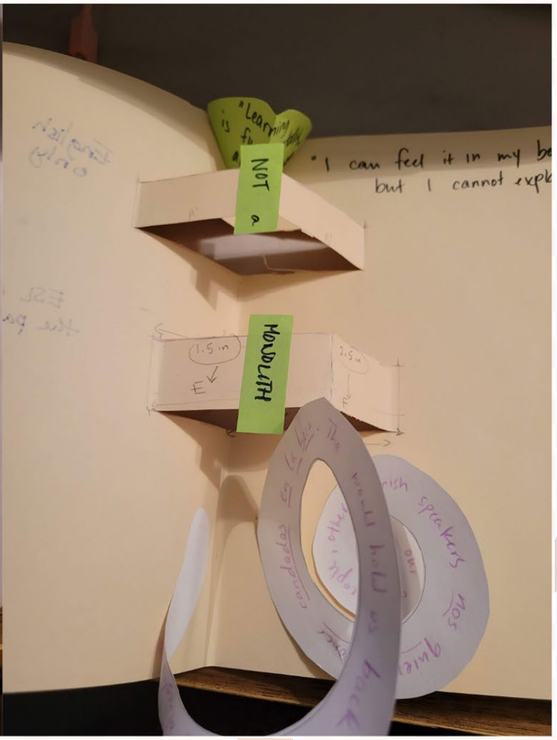


Internal experiences connected to frameworks from the readings

External- white hegemony

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

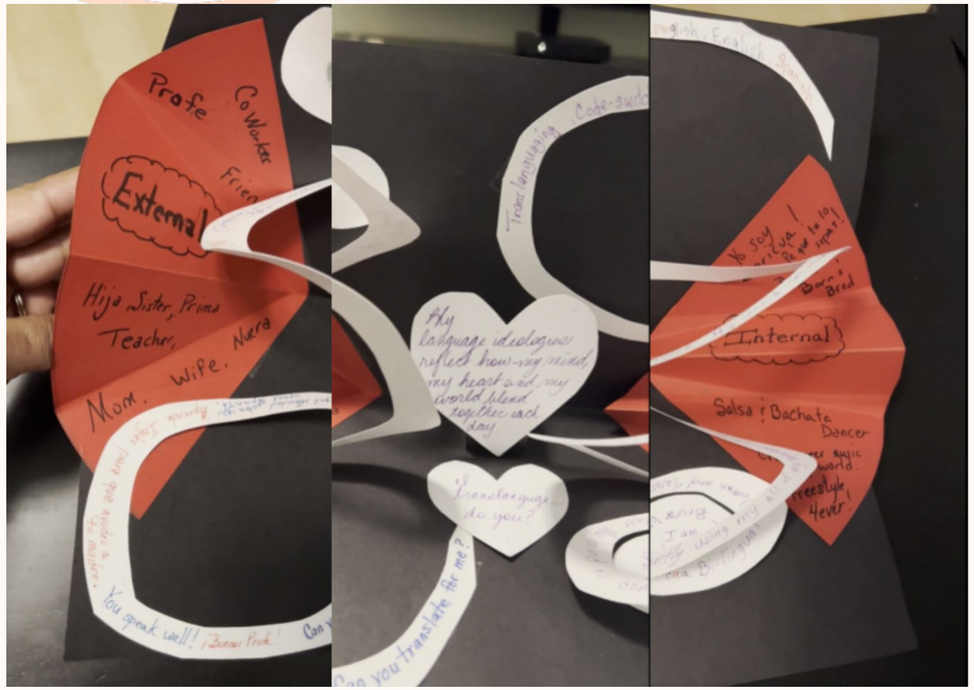


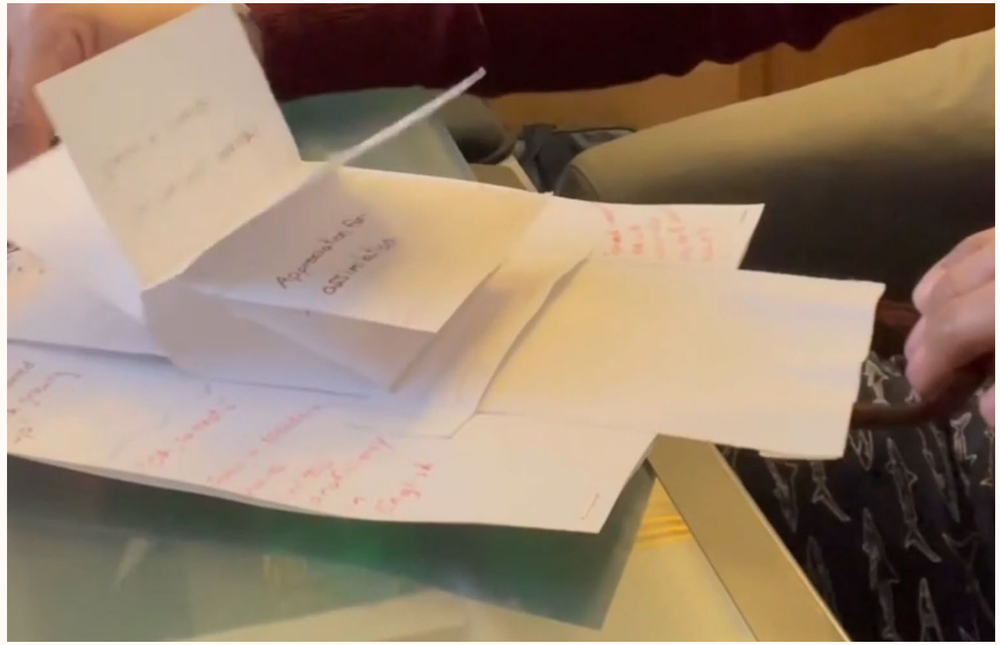


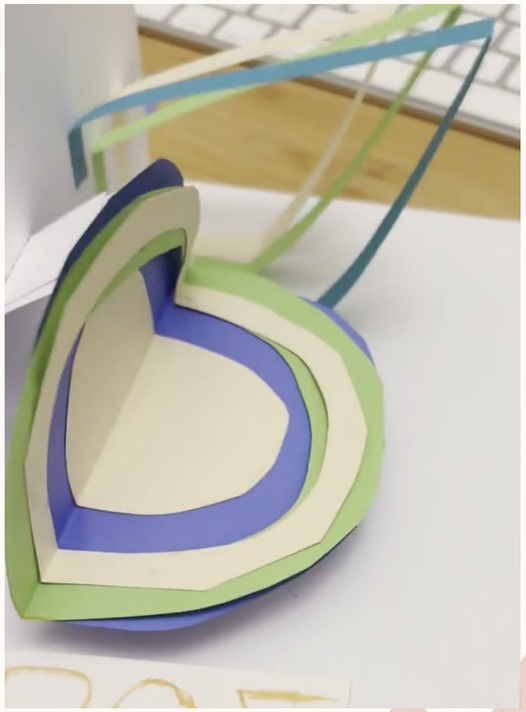
Assignments and Activities

Paper Engineering Pop-ups

Student Pop-ups







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

Keep in touch

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THANK YOU