



Stimulating STEM in the City: Co-Designing with Latine Families to Promote Informal STEM Learning



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Background

- Children spend 80% of their waking hours outside of school in the community.
- Deep inequities exist in access to high quality informal STEM learning opportunities (museums, zoos, safe and beautiful parks).
- Playful Learning Landscapes (PLL) infuses playful learning opportunities into everyday community spaces where families spend time.
- This project represents a strength-based model for designing play spaces deeply connected to communities' cultural assets.

Goals

We implemented co-design strategies to:

1. Uncover local Latine families' cultural values and practices
2. Co-create early STEM learning designs for community environments based in families' values and experiences

Our Partners

We collaborated with 36 Latine parents, and two directors from the **Santa Ana Early Learning Initiative (SAELI)**, an organization using a two-generation model to enhance early learning outcomes for children 0-9 years and improve families economic well-being.



Method

Our design partners were mostly mothers, of Mexican descent, and Spanish speakers.

We conducted (in Spanish):

- 7 two-hour virtual co-design sessions with design partners.
- Individual virtual one-on-one interviews with a subset of 10 parents, each lasting about an hour.

We used transcripts for an inductive thematic analysis.

What did we do?

Goal 1

Sharing **photos** of community spaces and **stories** experiences at home and community



*What are everyday science things you do with your family?
Tell us a story of when you have gone grocery shopping with your family.*

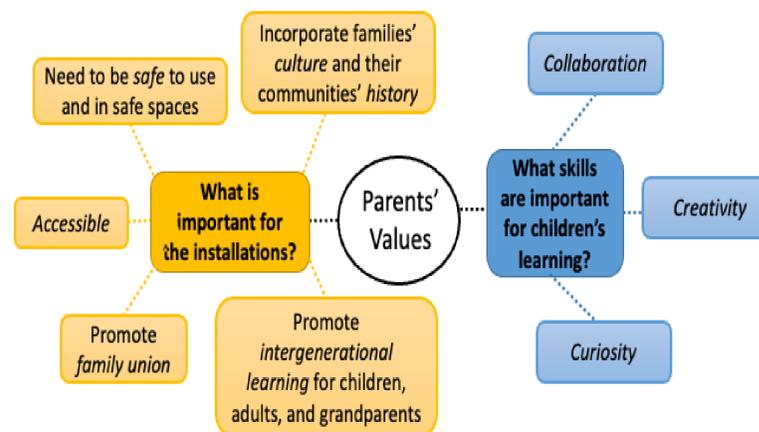
Goal 2

Brainstorm **ideas**, create **playful designs**, **iterate** with children, and provide **feedback**



What did we learn?

Practices at **home** included playing **cultural games**, mixing ingredients, and sharing meals. Families enjoyed going to **parks** and **grocery stores** and engaged in practices like **making observations, counting, and budgeting**.

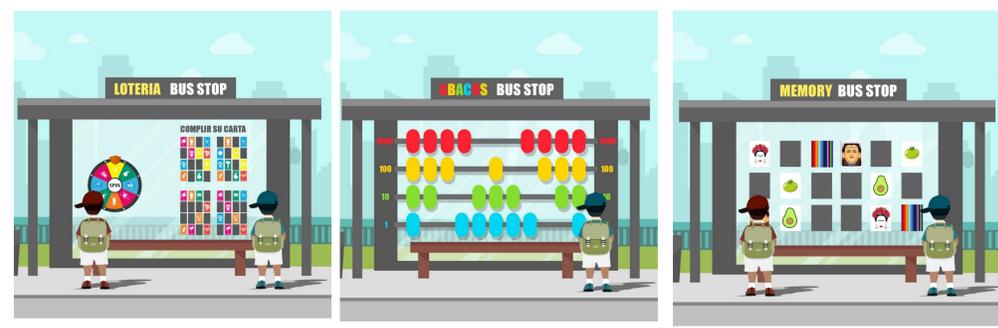


Parents enjoyed and appreciated being part of the project

"I like this project a lot, and that you are considering our voice. You are always listening to our comments; I never feel ignored. On the contrary, I feel valued, and that is something I like and motivates me to continue with this project."

What comes next?

Culturally-Situated Prototypes



- Future co-design meetings to refine prototypes and select locations.
- Build PLL installations.
- Install and evaluate impacts of PLL.

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