

Teaching Together: Engaging Parents and Preschoolers in STEM Activities & Academic Conversations | 1811356

Principal Investigator (PI): Tricia Zucker, Children's Learning Institute (CLI¹) at UTHealth
(Tricia.Zucker@uth.tmc.edu)

Investigators: Dana DeMaster¹, Michael P. Mesa¹, Valerie Bambha¹, Sarah Surrain¹, Michael Assel¹

Community Partners: Cheryl McCallum/Co-PI², Gisela Trevino², Belkis Hernandez², Tiffany Espinosa² (Children's Museum of Houston²)

Research Team: Mauricio Yanez, Kevin Rosales, Fiorella Izaguirre

https://www.nsf.gov/awardsearch/showAward?AWD_ID=1811356

Project Description

The project increased our understanding of how parents' and caregivers' can best be supported to engage their young children in informal STEM learning. We explored the most **effective conditions for museum-led STEM workshops** within diverse community outreach settings. We evaluated the feasibility of in-person, virtual, and hybrid family engagement approaches.

Key Achievements

- We have conducted STEM outreach with 306 families across **4 cohorts**.
- We have **learned** that take-home STEM activity kits increase parents involvement in learning.
- We found **virtual** family engagement was not of sufficient intensity to increase children's STEM interest.
- We found **hybrid** family engagement was also not of sufficient intensity to increase children's STEM engagement, but did improve aspects of parents' motivation to do STEM with their child.

Audience & Settings

Audience: Bilingual (Spanish/English) and Monolingual (English) families of 3- to 5-year-old children who are experiencing poverty.

Disciplinary area: Children's language, STEM interest, and science knowledge; the quantity and quality of families' at-home informal STEM learning; parent motivation and barriers to informal STEM .

Learning environment: Children's Museum of Houston, families' homes, and participating school and community partners.

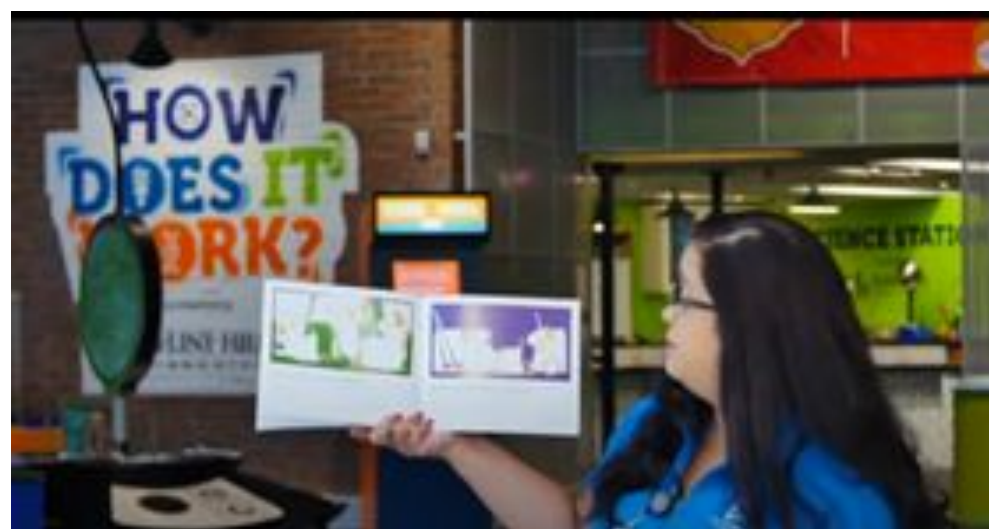
Access and Inclusion

The project increases our understanding of the barriers that families experiencing poverty and from linguistically diverse backgrounds face when in accessing informal STEM learning.

Teaching Together: Engaging Parents and Preschoolers in STEM Activities & Academic Conversations | 1811356



This material is based upon work supported by the National Science Foundation under grant [1811356](https://www.nsf.gov/awardsearch/showAward.do?awardNumber=1811356). Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.



Resources for hosting family events here:

<https://public.cienage.org/tools/quality/family-engagement-resources/hosting-family-events-to-support-childrens-development/>

Step-by-Step activity videos here; YouTube channel in English https://www.youtube.com/playlist?list=PLPZCH1CZOF9IJPQOxPJ0Xp0fkp8egc_NG and here in Spanish

<https://www.youtube.com/playlist?list=PLPZCH1CZOF9JhZi7gtiCwYEvgXAJBakzZ>

Family Extension Activities added to collection here: <https://cienagefamily.org/water-and-ice/>