

Making Connections:

Exploring Culturally-Relevant Maker Experiences Through an Iterative, Cross-Institutional Approach

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Research questions

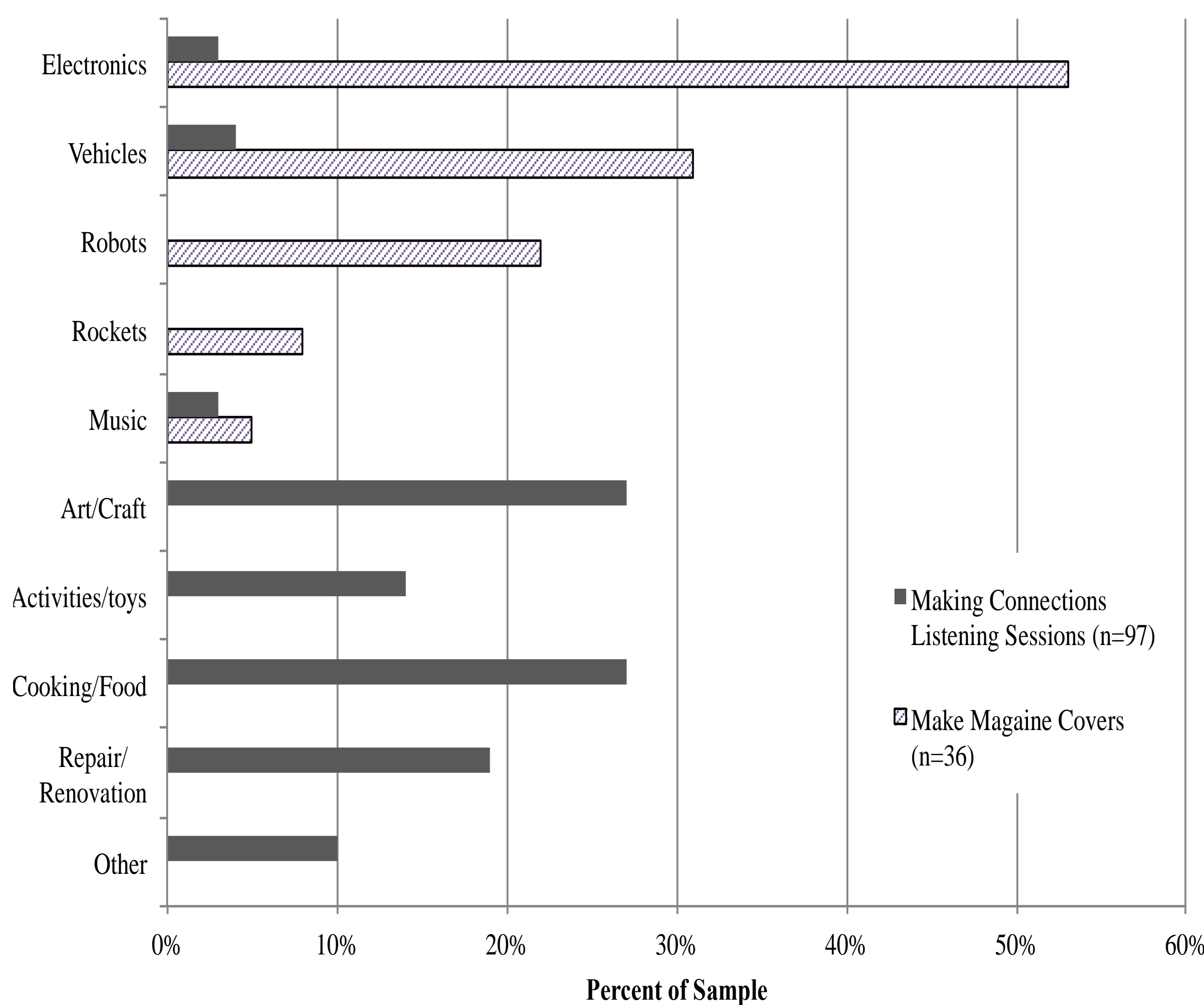
1. What is an integrated theory of action for a cross-institutional effort aimed at engaging traditionally underrepresented audiences in culturally relevant Maker experiences?
2. Do Maker experiences developed from this theoretical framework succeed in attracting and engaging underrepresented audiences?
3. Does participating in a cross-institutional project aimed at attracting and engaging underrepresented audiences change the thinking and practices of ISE professionals? If so, how?

Who is involved?

- This project involves departments from across the Science Museum of Minnesota, including Research, Community Engagement, Marketing, On-the-Floor Programming, Evaluation, and Senior Leadership.
- Ten community partners – local embedded leaders in communities of color – are deeply involved.
- Over 100 families of color have worked as museum volunteers and research participants over two years.
- Advisors: Doris Ash, Kevin Crowley, and Noah Weeth Feinstein

Compare Make Magazine to museum visitors

Areas of Focus During Making Activities



Audiences

- Communities of color in the Twin Cities, including African-American, Hispanic, Hmong, and American Indian groups, who have engaged with Making at the museum. (Additionally, general visitors to have engaged with culturally relevant and culturally sustaining activities developed through this project.)
- The museum community and STEM research community.

Our Assumptions

- Broadening participation in STEM is essential
- Early STEM interest is tied to later decisions
- “Making” has been a Eurocentric movement
- Making activities show potential for cultivating interest in engineering
- Museums need to be more reflective of the communities in which they exist
- Museum visitors need to be able to draw on their own cultural identities when visiting and engaging with museums
- Learning settings need to use culture both for reaching all visitors, and also as a way of strengthening and highlighting the assets of the many cultures that are present in our communities

Project Goals

- This project is exploring and identifying successful, cross-institutional approaches to using maker activities to engage members of communities of color (with a focus on family groups) in STEM activities.
- Museum staff and community-based Makers have co-developed activities for the museum floor based on practices and projects from local communities of color.
- Families have engaged regularly with the museum over two years, and provided information about how they think about STEM, STEM education, museums, and making in order to inform the research study and improve the practices of the museum.

Project challenges and insights?

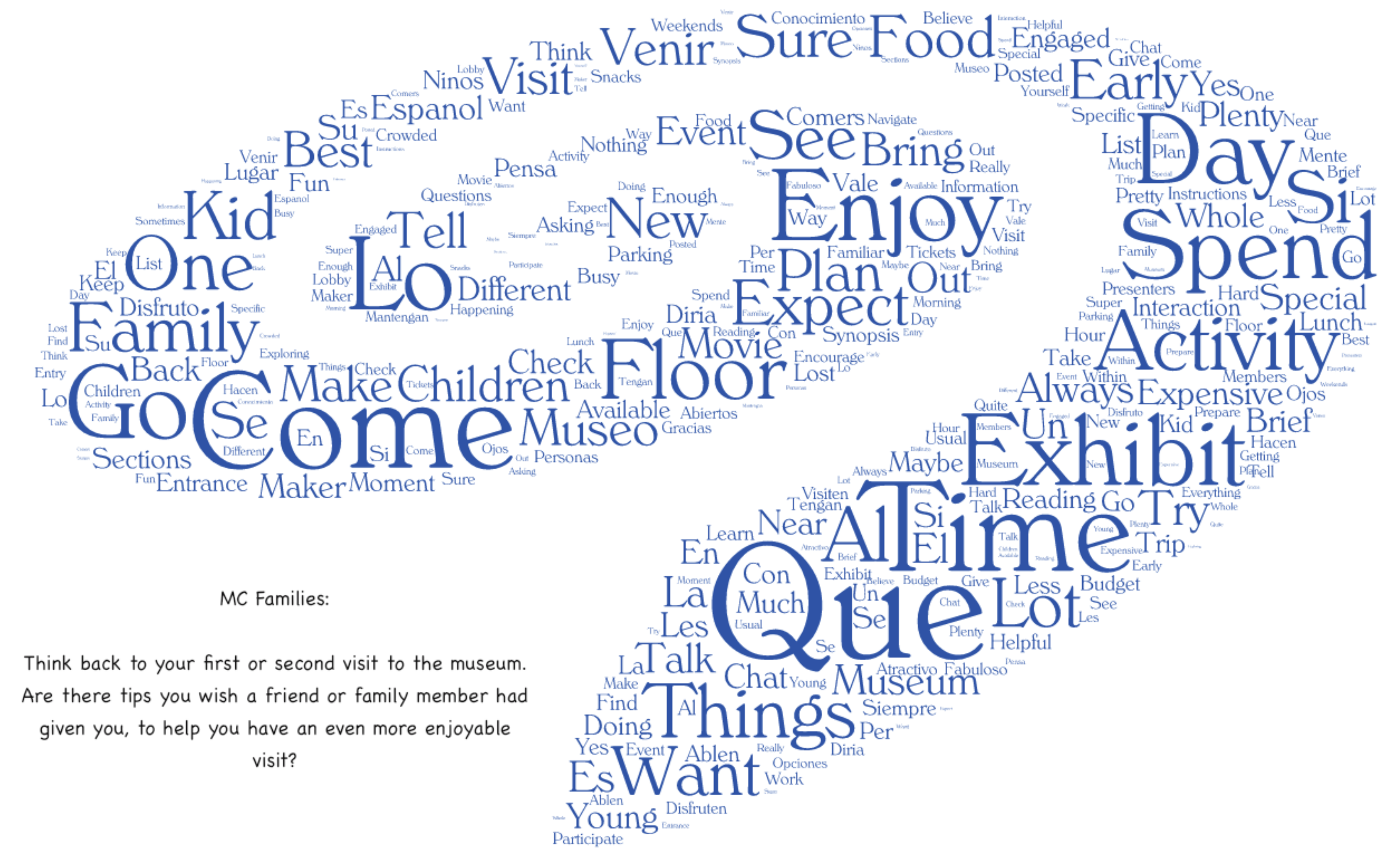
- Maintaining trust with community partners over the course of a project takes time.
- Ongoing attention to issues of equity and inclusion across the entire institution is a challenge.
- Providing consistent, high quality translation is hard without institutional buy-in.
- While making is a concept that crosses cultures, the museum needed to work on how it communicates and values making practices beyond initial conceptions.
- Developing ways to stay connected with the families in order to continue our relationship in a mutually beneficial way after the project is complete.

Making as an elite practice

- 3D printers, programming, arduinos
- takes money to do; expensive hobby
- might be seen as wasteful by some (taking apart working machines to understand how they work)
- people need to learn how to have the attitude; whole cultural groups might not be makers

Making as a link to the community

- cooking, sewing, car repair
- a way to save money through creating from scratch or fixing things; low cost
- people probably are makers even if they don't call themselves makers; they might need encouragement to explore new materials



Supported by funding from the National Science Foundation under Award Number 1323584

