



STUDYING INCLUSION IN INFORMAL EDUCATIONAL SETTINGS



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Western
Education

Children's
MUSEUM

WHY INFORMAL EDUCATIONAL SETTINGS?

Science
Technology
Engineering
Mathematics

- Informal education settings allow individuals to explore and practice interests independently, without the pressures associated with formal education.
- Several recent studies considered STEM programming at museums, and science centres, focusing on the importance of methods that encourage STEM talk, interactive, hands-on exhibits, and exhibits that encourage children to work together with other children, or their guardians.
- Study outcomes demonstrate higher use of new STEM concepts in follow-up activities, and higher recall of these STEM concepts at both short- and long-term follow-up periods (Mortensen & Smart, 2007).



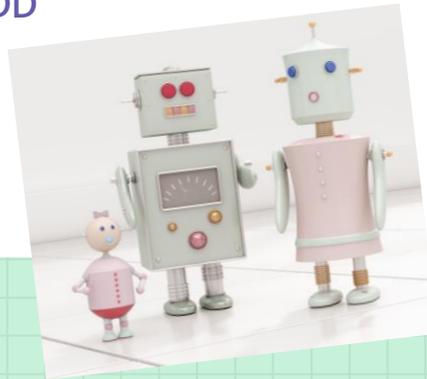
IDD AND INCLUSION?

- There has been a growing call for “inclusion” in museums. This inclusion tends to focus on inclusion of across SES boundaries, and cultural representation (Anderson, & Mileham, 2020)
- Little research has focused on the inclusion of individuals with IDD in STEM education and programming. With growing advances in technology, there is a growing need for improved STEM programming, and this need extends to individuals across the spectrum of intellectual ability and development.
- Before beginning to explore changes to accessibility of STEM programming for individuals with IDD in these settings, we began with exploring current perceptions of families and staff in informal settings like museums.

Intellectual &
Developmental
Disabilities

METHODOLOGY - QUANTITATIVE OR QUALITATIVE?

- To explore this topic we began with an exploratory project, using a mixed method approach. We obtained qualitative data from participant interviews. However, we also plan to analyze this data quantitatively using Concept Mapping.
- We were interested in the perspectives of three groups:
 - Families with children with IDD
 - Families with children without IDD
 - Museum staff members

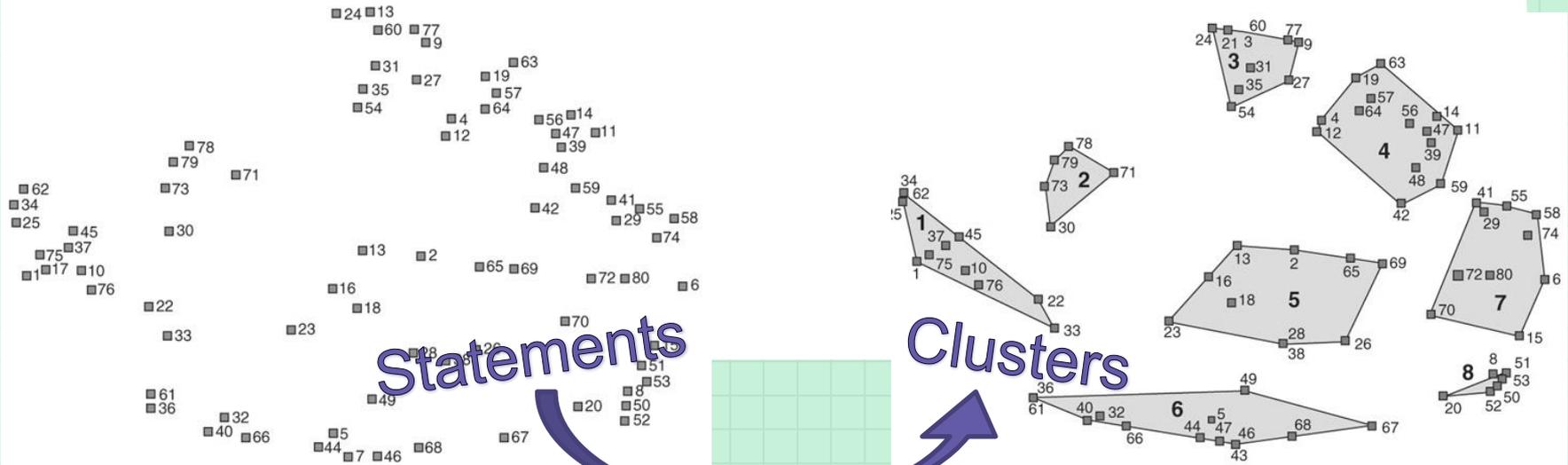


METHODOLOGY - DEVELOPING AN INTERVIEW

- To maintain the exploratory nature of this project, and explore participant thoughts on the topic without guiding them, we developed an open-ended interview protocol with 2 questions to guide the discussion:
 - 1) What does being included at the children's museum look like?
 - 2) What helps people to feel included?
- To maintain the quality of our interviews and research we learned the “Lean Research Skills for Conducting Interviews” developed by MIT, offered as a course on their Open Learning Library
 - Four Principles: Rigor, Relevant, Right-Sized, Respectful
 - This course was important in developing and improving our skills in facilitating interviews for research purposes

METHODOLOGY - CONCEPT MAPPING

- Concept Mapping is a methodology that allows us to take qualitative ideas and statements and analyze them quantitatively. It allows participants to determine themselves which themes were most important, better informing future measures used for assessing inclusion at museums.



METHODOLOGY - CONCEPT MAPPING BASIC STEPS

GENERATE IDEAS

Jupiter is the biggest planet of them all

1

2

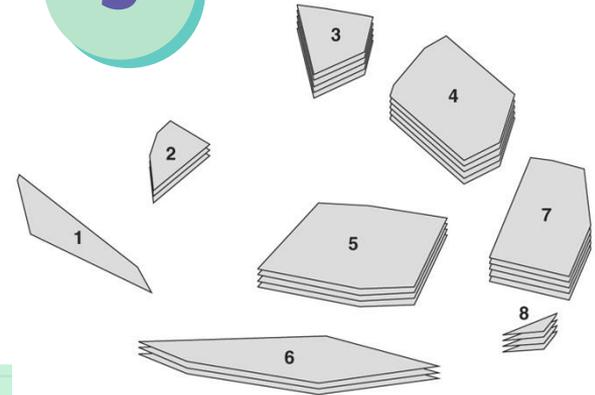
STRUCTURE STATEMENTS

Participants rate extracted statements based on importance and similarity

3

MAPPING ANALYSIS

Multi-dimensional scaling analysis takes the ratings to groups statements together and hierarchical cluster analysis to assess relative importance of the statements and/or the resulting groupings



- Recruitment included seeking out community partners and reaching out to a variety of organizations to help distribute recruitment flyers to families.
- In recruiting families with children with IDD, we reached out to community organizations that offered specialized services to these populations, including CPRI, Down's Syndrome Association, and more.
- In recruiting families with young children more generally, we reached out to organizations providing generalized services to children in the community, such as community centres and libraries.
- We maintained a growing database of organizations to reach out to, keeping track of who was contacted, when, and their responses for future follow-up.

METHODOLOGY - RECRUITMENT II

- Recruitment also included in-person visits to the museum. This method of recruitment was most successful in obtaining contacts, and offered participants the opportunity to conveniently conduct the interview while already on a visit.
- Museum staff were recruited through multiple recruitment emails, and in-person visits made to the museum.
- At this time, we only have one staff participant. This may be due to recruitment occurring during the summer. While this period may have the largest pool of staff relative to other seasons, it may also be the busiest time. Moreover, while this pool may be larger in the summer, the number of staff at one museum remains limited.
- Expanding this pool to include staff at other museums may be effective in obtaining more potential participants

INTERVIEWS WITH FAMILIES: BEST PRACTICES

- As of this time, we have conducted 5 interviews. These early interviews have helped us explore best practices for conducting interviews in this setting:
 - Parents with young children, and especially children with IDD, benefit from having a second research assistant present to help watch their children during the interview
 - Having a quiet, enclosed space with something to help engage young children during the interview is helpful
 - Make use of online options if that is easier for some parents, especially as many families visiting the museum tended to be from out of town

References

Anderson, A., & Mileham, M. A. (2020). IML495 Welcome to the Museum: Reflecting on Representation & Inclusion in Museum Evaluation. *Curator*, 63(4), 597–603.

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