

Expanding Young Children's Opportunities for Mathematics

Michele L. Stites, Ed.D. (mstites@umbc.edu) & Susan Sonnenschein, Ph.D. (sonnensc@umbc.edu)

Research Questions

RQ1: Do US preschool teachers use the classroom library to foster children's mathematics development, and if so, how?

RQ2: How do US preschool teachers report teaching mathematics?

Background

- Young children learn best when instruction occurs in situations that are engaging (NAEYC/NCTM, 2010)
- A child's classroom provides an opportunity to engage in mathematical learning experiences and build foundational mathematics skills (National Council of Teachers of Mathematics, 2013). One such opportunity is the classroom library.
- However, children spend an average of only 24 minutes a day with access to mathematics activities in class (Piasta et al., 2014). And those few minutes do not appear to be using the classroom libraries.

Method

- Participants ($N = 250$), female (85%), White (73%), and college-educated (78%)
- 18% of teachers worked at Early Head Start/Head Start or Title 1 schools.
- **RQ1:** Online survey distributed via Qualtrics
 - Questions focused on content and use of classroom library
- **RQ2:** Semi-structured interviews

Sample Interview Questions

Can you provide examples of how math is incorporated throughout the day?

Does your classroom library have math storybooks?

When you read traditional storybooks aloud to children, do you ever incorporate math themes?

Results/Discussion

RQ 1

- The average number of books in a classroom library was 63; 6 of which contain mathematical themes
- 11% of teachers reported that mathematics items belong in the math center
- 11% of the teachers reported that the library was not a place for mathematics

RQ 2

- Teachers view teaching mathematics as important. However:
 - Mathematics instruction typically occurs in large or small groups
 - Libraries are not used for mathematics

Conclusion

The preschool classroom library is an underutilized resource for mathematics!



UMBC



STEMMIEFEST 2021