Effectiveness of an Adaptive Magnitude Comparison eBook at Home
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Research Questions

- How do families respond to an adaptive magnitude comparison eBook?
  - Will families read above the at or above the request of 8 times across two weeks?
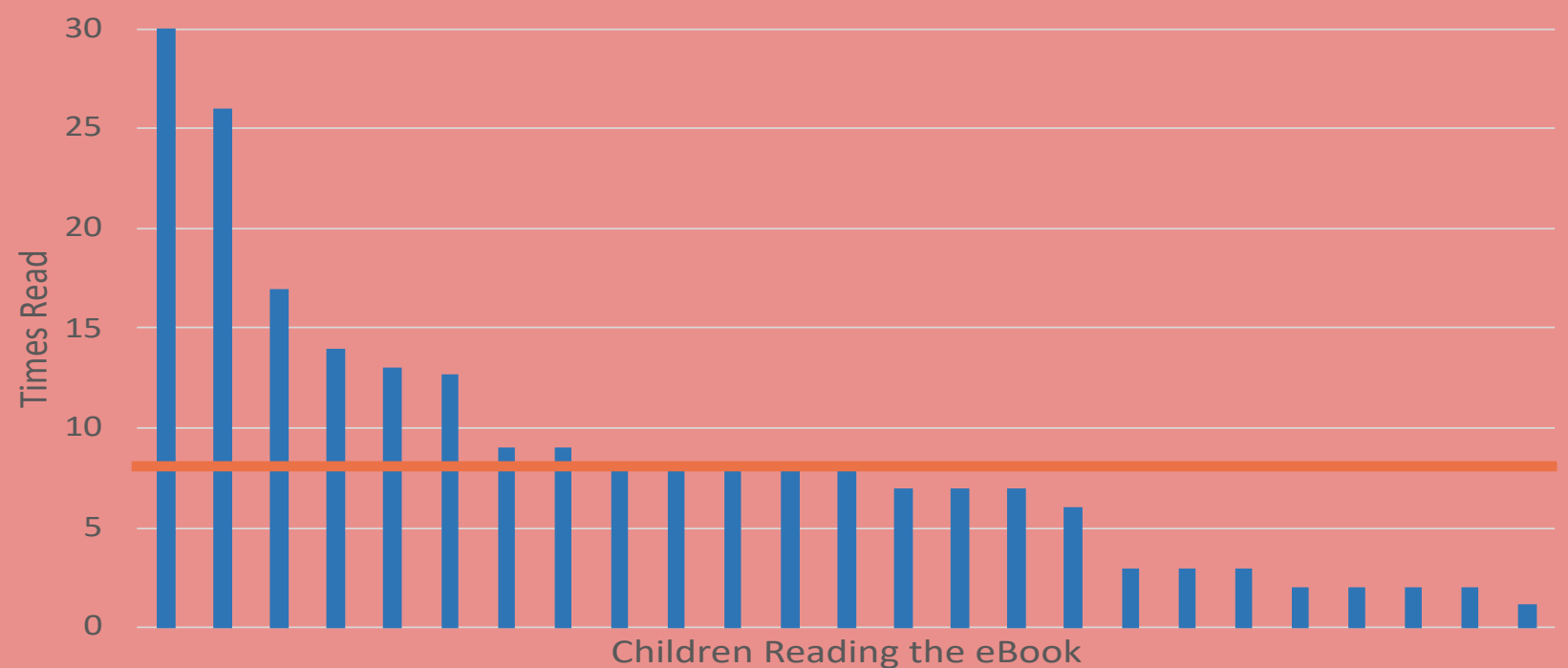 - Do families who read more show more or less accuracy on eBook page questions?

Introduction

- Finding effective technology is important for children's learning during the pandemic, as families may not have quick access to sufficient high-quality, classroom-like resources.
- This project is part of a larger evaluation of the effectiveness of adaptive magnitude comparison eBooks for improving preschoolers' math skills.
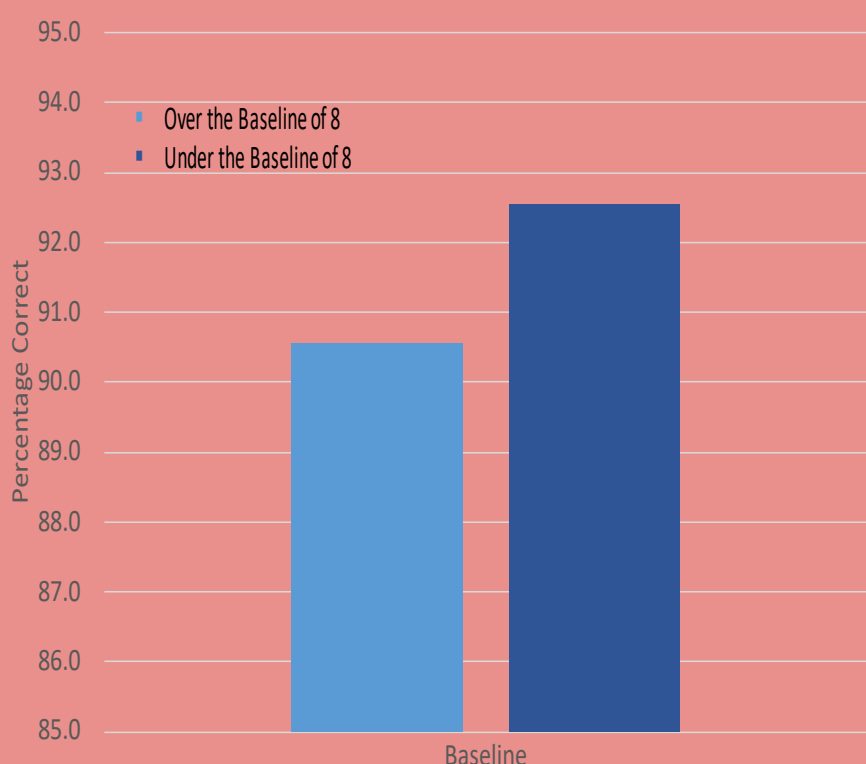
Method

- Families were asked to read adaptive magnitude comparison eBooks four times a week for two weeks.
- Data was collected on how many books they read and how many times they answered questions on each page correctly.
- Sometimes children were asked to choose the bigger set of items, sometimes they were asked to choose the larger set of items.
- There were 15 questions per book, and each question varied across easy, medium, or challenging complexity based on how many questions children got correct in the prior series.

Number of Times the eBook was Read (bar chart; y-axis "Times Read" 0–30, x-axis "Children Reading the eBook")

Percent Correct (bar chart; y-axis "Percentage Correct" 85.0–95.0, x-axis "Baseline"; legend: Over the Baseline of 8, Under the Baseline of 8)

Discussion

- Children seem to be reading the eBook at or above the baseline of 8 times, which could mean that children are enjoying the eBooks.
- Post parent surveys also support that children are enjoying the eBooks.
- Children who read at or above our requested eight reading sessions had fewer correct responses than children who read below our requested number of reading sessions.
- This could mean that children who scored very high in their initial session were less interested in continuing to read the eBooks.
- This could also mean that children who read across more sessions were more likely to experience more challenging complexity items, resulting in lower accuracy.
- Virtual data collection continuing through Spring 2021.