Critical Review:

Do interactive electronic books elicit different types of adult-child interactions than traditional books during story reading?

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This critical review examines whether interactive electronic books (IEB) elicit different types of adult-child interaction than traditional books during shared story reading. A literature search provided five studies of relevance; two between-subject designs, one repeated measures design, one single-group design and one single-subject design. Overall, the results of this literature suggest that IEBs elicit more interactions centered on manipulating the interactive features of the IEB than discussion of the story's content. Clinical implications and future ways to strengthen these findings are discussed below.

Selection Criteria
The search was limited to papers dating onwards from 2000. Papers that examined the interactions between a child and adult while reading an electronic book in comparison to a traditional paper book were selected. All of the included studies examined students who were of primary school (5–7 years) or preschool (3–5 years) age.

Data Collection
Literature reviews resulted in five relevant articles from the past 12 years. The research designs of the relevant studies include: two between-subject designs, one repeated measures design, one single-group design and one single-subject design.

Results

Parish-Morris et al. (2013) conducted a between-subjects design examining comprehension and language use during shared story reading of traditional books and IEBs in 92 four- and five-year-old children and their parents. All families spoke English and were of a mid to high socioeconomic status (SES). Five traditional books were offered to the dyads in the traditional group (N=36) while the IEB group (N=36) read a story that consisted of a paper-based book that used a console and cartridges that allowed page-turning and interactive features (text-to-voice output, music, and interactive games). The control group (N=20) read the paper-based book used in the IEB group without the console and cartridges that made the story interactive.

Appropriate statistical analysis (ANOVA, independent samples t-test) revealed that parents made more story-related utterances, questions and distancing prompts when reading a traditional book than an IEB. IEB reading resulted in the parent making more behaviour related utterances than traditional books. Reading times were shorter for traditional books however they had a greater concentration of distancing prompts than IEBs. The children made more distancing utterances when reading the traditional book and made more behaviour-related utterances when reading the IEB. The control group revealed the same findings as the traditional book, suggesting that it was the electronic and interactive features of the IEB that created the difference in interactions.

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compelling evidence that there is a difference in the interactions of mother-child dyads while reading an IEB versus a traditional book.

Barnett and Crowe (2008) investigated whether the pragmatic language used by adult-child dyads differed when reading IEBs versus traditional books. The participants in this repeated measures design were ten children with a mean age of 29.9 months. Each child read a randomly assigned story format (IEB or traditional book) with one of their four preschool teachers for three sessions. The teachers were instructed to read the book as they would normally do. Later the same day, the student selected one of three books of the other format to read. The IEB system used consisted of narration, sounds, music, and an activity mode which enabled game

Coding of message units and number of utterances indicated that the mother spent more time interacting with both children with the traditional book. The IEBs produced less discussion, partially because the rate of the narration was difficult to control, interrupting parent-child interactions. The mother produced more utterances with the traditional book, followed by IEB1 and then IEB2. The same pattern was observed in both children's interactions. More immediate discussion was observed with the traditional book and more non-immediate discussion was observed with the IEBs. The mother adjusted her mediation based on the age and ability of the child she was reading with. Data collected was analyzed to determine general trends, but no formal statistical analysis was discussed examining if the trends found were of statistical significance.

This single subject design study consisted of a thorough and repeatable design which included a period of observations with the family to become familiar with their interaction styles prior to the study. This study is limited by the single subject and the lack of formal statistical analysis. The methods of this study could be applied to a larger sample size to establish if the observed interactions apply to a broader population. Although the findings may be valid for this one family, it is difficult to generalize these findings to a broader population. Kim and Anderson (2008) provide equivocal evidence that IEBs elicit different interactions than traditional books in mother-child dyads.

rich language with an IEB as they do with a traditional book.