Background Music and Story Content Expansion in Electronic Book as Story Comprehension and Retelling Facilitators for Kindergarten Children

Anat Ben-Shabat Segre

School of Education

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Abstract

We live in a digital age, where electronic books (e-books) are respected alongside printed books, and are beginning to become part of the reading experience, even amongst kindergarten children. Many of these e-books contain background music or additional expanded content, beyond the text of the story. This raises the question of whether and how much these additions contribute to kindergarteners' story comprehension and retelling. To date, minimal research has explored the impact of expanded story content in e-books on story comprehension and retelling, and the influence of background music on these abilities has been largely unexamined. The current study is innovative in its examination of the effectiveness of quiet background music and expanded story content in an e-book, in combination and individually, in advancing kindergarteners' story comprehension and retelling. Based on theories of learning that consider the combination of various multimedia as a tool for advancing learning, we hypothesized that the combination of quiet background music and the support in story content would contribute to story comprehension and retelling. Further, we anticipated that the use of only one of the variables would be less effective than the combination.

Participants included 160 kindergarten children from a low socioeconomic status (SES) who were randomly divided into four groups. The groups read an e-book in the following formats: (1) accompanied by background music and with content expansions; (2) without background music accompaniment but with expansions; (3) with background music accompaniment and without expansions; (4) just reading, without background music and without expansions (control). At pretest phase, children's vocabulary (PPVT) and initial level of story comprehension were assessed. Following this, the children read the story in full and were evaluated for their story comprehension (open questions/and a closed questionnaire) and retelling (number of words, story structure, and story content). In the second phase, that of the intervention, the children read the e-book independently four times, in the randomly selected format. In the third phase, the posttest was administered; this was the same as the pretest excluding the general measures. To fully understand the progression in story comprehension, the open questions were asked at three time points: prior to the intervention, after the second reading, and after the fourth reading. We hypothesized that (1) reading with the music and expansions would promote story comprehension

and retelling more than the other groups; (2) reading with expansions without music would promote story comprehension and retelling more than reading with music and no content expansions and more than no support at all; (3) reading with music and no content expansions, and reading with expansions with no music would promote story comprehension and retelling more than just reading; (4) children would advance in their story comprehension from the pretest to the test after the second reading and from the second reading to after the fourth reading; (5) children's initial vocabulary level and story comprehension would contribute to their knowledge on the different study measures at posttest as well as their progress.

The central finding of the study is that children, who read the e-book with both background music and expansions to the story content received the highest scores in story comprehension (open questions and the closed questionnaire) and retelling (number of words, story structure story content) at posttest compared to all other groups. The findings also demonstrate the effectiveness of content expansions relative to the support of just background music as support for children's narrative knowledge and comprehension of the structure and content of the story. Additionally, results show increasing levels of story comprehension based on answers to open questions. That is, children who read the story with background music and content expansions advanced more than the other groups from the pretest to the middle and from the middle to the posttest. Results also show that as children's initial vocabulary levels increased, similarly high scores were found on the following study measures: number of words, story content, closed questionnaire, and open questions at posttest. At the same time, children who were at the lowest vocabulary levels benefited from the e-book. Those who read the book with the combined support of background music and content expansions improved in their presentation of the story structure, content, and on the closed questionnaire, more so than those children with higher initial vocabulary levels. In addition, results show that children with higher initial levels of story comprehension show higher scores on story structure and content, closed questionnaire, and open questions at posttest. Similarly, those who showed higher initial levels and read the e-book with the combined support of background music and content expansions advanced further in terms of the number of words in their retelling and their responses to the closed questionnaire for story comprehension. However, those children with a lower initial level of story comprehension also benefited from

the reading. Those who received only content expansions without the background music advanced more in the number of words in their retelling and the closed questionnaire.

These findings demonstrate that the combination of background music and story expansions in an e-book have a unique contribution to advancing kindergarteners' story comprehension and retelling, more than each of the variables individually. Also, the findings demonstrate that children with both higher and lower initial levels were able to benefit from the reading of the e-book. These results are unique in that, until now, the contribution of visual support and accompanying music has not been examined in depth relating to story comprehension and retelling. This work expands our knowledge regarding the possibilities of multimedia, particularly the place of background music in advancing story comprehension and retelling among kindergarteners. The contribution of multimedia in advancing young children's language and literacy, particularly those from a low SES, and its educational implications are discussed.