

***Vocabulary Enrichment among LSES  
Kindergarten Children Using Educational  
E-book with and without Kindergarten  
Teacher's Mediation***

**Shifra Atishkin**

**Faculty of Social Science  
School of Education**

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## **Abstract**

A rich vocabulary in infancy is a cornerstone in the development of language and literacy of the child, and comprises a solid foundation for reading and reading comprehension in later life. In the last decade many studies has been conducted in this field, which well indicate the promising potential of the e-book in enriching the vocabulary of young children, especially those from a low socioeconomic status (LSES). Studies that have been used dictionary, combined in an e-book, examined so far only the dictionary interpretation of a word. The existing literature presents a claim, that young children can learn more effectively, when the meaning of the word is given through a connection to the story content. In the current study, we examined this issue. Two e-books were developed for this purpose. These e-books include a unique dictionary designed to support the learning of novel words in various methods of support: (a) the dictionary definition of the word (b) interpreting the word in the context of the text (c) combining of these two methods of interpretations. We examined, what is the best type of interpretation for learning new words. We focused on receptive learning of words as well as expressive, namely interpreting words and words production in the story retelling.

In addition, opposite to previous studies, that examined the independent activity of the child with an e-book, or the efficiency of an e-book while mediated by an adult, we examined the combination of incorporating e-book in the regular curriculum in kindergartens together with the mediation of the kindergarten teacher. We asked, whether the progress of the children in learning new words by using e-books, after prior training of the kindergarten teacher (that will be focused on the e-books), will be more efficient? Or that the activity of the kindergarten teacher, based on her own understanding, will be good enough for progressing with the children? In addition, we asked, whether the activity with the kindergarten teachers (with training/without training) will lead to advancing the children more than working independently with the e-book?

We hypothesized that (a) The intervention program, in which the kindergarten teacher will receive focused instruction on inclusion of the e-book, will advance the children more than the program, in which the kindergarten teacher will mediate according to her understanding, after receiving general instruction on the use of technology. In education, these two interventions will advance the children more than

their independent reading of the book (b) that the progress of the children will be preserved from the first posttest to the second posttest (c) that the method of combined interpretation (dictionary interpretation and referencing to the context) will support words understanding, among children, better than the other two methods of interpreting (d) that an interaction will be found between the intervention, kindergarten teacher receives focused instruction on work with the computerized dictionary, together with affording combined definitions of the words in the book (e) that will be found transference of knowledge from the first book to the second book, depending on the type of intervention group, so that children of the group, where the kindergarten teacher will receive focused training on work with the computerized dictionary, will show better level of starting point prior to the activity with the second book, and they will improve their work on the second book more than children of the other intervention groups.

The research has been conducted in four kindergartens, which are located in LSES neighborhoods and it included 136 children. We examined three intervention programs: (a) children's activity with the e-book with the mediation of the kindergarten teacher, after she underwent focused training regarding the incorporation of the e-book as promoting vocabulary (b) the children's activity with the e-book with the mediation of the kindergarten teacher, that will instruct them according to her own understanding, after getting general training regarding the incorporation of technology in education (c) independent activity of the children with the e-book. The fourth kindergarten served as a control group in which, the children read the e-book independently in the channel of "Continuous Reading" (reading without a dictionary). The number of participants in each group was identical (N=34).

The research was conducted by performing three stages: the first stage concluded a test of basic knowledge in the target words of the dictionary of both e-books, which were used in the research. Afterwards, the children read the e-book in the channel of "Continues Reading" followed by three pretests: the receptive understanding test, words interpretation test and target words producing test, during retelling of the story. In the second stage intervention programs were performed in the kindergartens. In the third stage two identical posttests, that were identical to the pretests, were conducted. The first test was conducted immediately after the end of the intervention, and the second test was conducted after a month, since the ending of

the intervention, in order to examine the preservation of the learning. The study made use of two e-books and after conducting the intervention regarding the first book, identical procedure was conducted for the second book as well, in the exact same manner.

The research findings showed that children of the three groups of intervention progressed in learning the new words in comparison to the control group, in the three variables: receptive understanding, interpreting words and target words production. These findings appeared in both e-books, which were used in the intervention programs. In addition, the findings indicate that the learning of the children was preserved over a period of one month after the intervention has ended. Moreover, as we hypothesized the intervention program, in which the kindergarten teacher underwent focused training regarding the incorporation of the e-book, advanced the children more than the program, in which the kindergarten teacher acted according to her own understanding. In addition, both of the intervention programs advanced the children more than the program, in which the children independently read the e-book. As opposed to our hypothesis, an advantage was found to providing support by using solely the dictionary interpretation in comparison to the two other methods of support: interpretation in context and combined interpretation. Research findings also showed interaction which according to, the best progress occurred while combining the method of dictionary interpretation in the group in which the kindergarten teacher underwent focused training. An additional interesting finding is that, a transition of the learning has occurred due to the work on the first toward the learning of the second book, depending on the type of group. Meaning, the children in the group, in which the kindergarten teacher underwent focused training in incorporating the e-book, showed better performance in the second book, from the beginning and better improvement words learning, in comparison to the group in which children worked with the kindergarten teacher that got general training, regarding technology in education, and the group in which children worked independently with the e-book, without the teacher's support.

This study contributes to creating theoretical framework, which combines between dual coding theories and synergy and social-cognitive mediation theories, and is suitable for empowering learning and making it more efficient. Based on the findings of this research, new learning paths for enriching language in general and

vocabulary in specific can be suggested, by incorporating the e-book in curricula of kindergartens. This study points out the importance of the training of educational staff regarding the use of these books in order to optimize their mediating methods in literacy activities with the children. Moreover, it is recommended to develop e-books, which include direct interpretation of difficult words as an efficient way of enriching vocabulary.