The effects on children’s literacy skills of reading e-books with different features: Are ‘bells and whistles’ over-rated?

# Details

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## Sample

90 typically developing Year-1 readers aged 5 to 7 years (34 boys) from diverse socioeconomic status (SES) families selected from 9 primary schools in Oxfordshire.

## Implications For Educators About

Other

# Abstract

Children’sliteracyskillsinschoolsandathomearewidelysupportedbytechnologiesdesignedtoadvancetheir development. Surprisingly, the unique effects of specific interface features are widely disputedand inconsistent research findings make it challenging to generalise across different technologies. It isdifficult to make an informed choice about which types of e-books, and which specific features, aremost effective. This small-scale, experimental study examines the effects of specific interface featuresand compares them to a Flat e-book. In a pre- and post-test comparison design, we investigatedthe effects of three different e-book conditions (1)‘Flat’ e-book, (2)‘E-friend’,and (3)‘Dictionary’.Ninety typically developing Year-1 readers were selected from nine primary schools in England andthen randomly assigned to one of the experimental groups. Results showed that children in the‘Dictionary’groupincreasedmoreinWordRecognitionoftargetwordscomparedtothechildreninthe‘E-friend’group. However, children in the‘E-friend’group made significantly greater gains in ReadingComprehensionthanchildreninthe‘Dictionary’group.Childreninthe‘Flate-book’performedaswellonallmeasuresaschildrenintheenhancedfeaturesgroups.WesuggestnewdirectionsforresearchonfeaturesthatmightbesuperiortoFlate-books.

# Outcome

"This study examined the effects on literacy skills of three
e-book types. A small-scale pre- and post-test experiment aimed
to identify the specific reading skills supported by a flat e-book
or one with specific feature enhancements. For Word Reading
the Dictionary outperformed E-friend but not the Flat e-book;
for Comprehension E-friend outperformed Dictionary but not the
Flat e-book; for Recall and Definitions there were no differences
between e-book types... The oral word
meanings for difficult words in the Dictionary e-book might have
focused children’s attention on the words and supported word
recognition. Moreover, clicking on each individual (unfamiliar)
word for its pronunciation might have further strengthened the
connection between the auditory and visual forms of the words,
i.e. reinforced orthography to phonology mappings [37]. This might
have facilitated word learning by reducing the effort required for
decoding [38].
The finding that the Dictionary group significantly outperformed
the E-friend group was surprising, however. We expected
both conditions, with their additional features, to support children’s
word reading more than the Flat e-book." (Karemaker et al., 2017: 34). "A significant difference between conditions was found with
children in the E-friend group answering more comprehension
questions than children in the Dictionary group, while no significant difference was found between the other conditions
(i.e. E-friend and Dictionary versus Flat e-book). This positive
E-friend finding was expected, although not the non-significant
difference compared with the Flat e-book" (Karemaker et al., 2017: 34). There were no significant differences in enjoyment, recall and definitions tasks.