Concepts About Print and Early Reading Behaviors: Considerations When Using eBooks

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Introduction

From birth, children visually scan their environment in an arbitrary way without following any specific rules related to direction, orientation, or sequence (Clay, 2019, p. 22). When children begin to engage with text, however, they must learn how to look at print "in some orderly kind of way" (Clay, 2013, p. 39). This requires the understanding and control of several early concepts about print. Many children develop basic concepts about print from story book reading and other literacy activities they experience from birth to age 5. For others, basic concepts about print are learned when they begin school through activities like shared reading and interactive writing. And still for some, especially those selected for Reading Recovery,® concepts about print like book orientation, directional rules, and line and word sequence are acquired through one-to-one interactions with a highly trained teacher.

As access to technology continues to increase, it is not uncommon to see very young children with a device in hand. As of April 2021, there were a total of 8.39 million apps available across all operating systems (Alvin, 2021). Of these 8 million-plus apps, many are marketed as educational, and a quick search of "learn to read eBook apps" yields a list too long to count. In the proverbial sense, it is important to note that all eBook apps are not created equal. Some eBooks are touted as interactive

because they have embedded audio features like music and narration and links to games and other activities. While these features are "intended to improve student reading" (Hashim & Vongkulluksn, 2018, p. 360) the multimodal options, which are the multiple modes of interaction available as part of the user experience, have actually been found to be distracting and may "decrease meta cognitive regulation when reading from screens compared to printed text" (p. 360). From the research, we learn that teachers should assist with the selection and management of various multimodal options like read-aloud features or other gimmicks that may cause unnecessary distractions (Schugar et al., 2013). Therefore, we suggest Reading Recovery teachers vet eBooks to decide if they do or do not support emerging readers and share this information with classroom teachers, as certain features of eBooks may undermine the very early reading behaviors they are working to establish during lessons.

This article specifically addresses Concepts About Print and how the first 11 items of this task of *An Observation Survey of Early Literacy Achievement* (Clay, 2019) can serve as a guide when evaluating the utility of eBooks. When discussing concepts about print, Clay raised questions like, "Where do you start to attend to print? In what direction do you move?" (2019, p. 39). Because many eBooks are not consistently format-

ted like their printed counterparts, it is important to consider how the digital features and affordances may influence children who are learning to read including their developing understandings about directional movement, one-to-one correspondence, and other basic concepts about print. To support the vetting process, we propose using a chart that aligns with the Concepts About Print task to consider how certain items may be influenced by the reading of eBooks. In addition to the chart, we also provide ideas for collaborating with classroom teachers especially as it relates to concepts about print and their impact on early reading behaviors.

Guiding eBook Selection Using the First 11 Items on Concepts About Print

The various text sets curated and used by Reading Recovery teachers move well beyond readability formulas that "take into account only a limited number of text features such as word difficulty, word frequency, word length, and sentence length" (Peterson, 1991). When Reading Recovery teachers select a book from their own sets, they know how important additional considerations are. For example, the consistent placement of print in early level texts provides support for children in knowing where to begin reading on each page, and the text appearing on

the left page with the picture on the right supports developing understandings about reading left page before right. Additionally, early level texts often have one or two repetitive sentence patterns to support children in understanding the connection between oral and written language. Once children gain control over early concepts about print, it is important to quickly move beyond patterned and repetitive text so children do not develop a theory of reading that relies on controlling the language pattern, using the illustration, and depending on memory.

Teachers take these important factors into consideration when selecting traditional text, and carefully screening eBooks ensures the factors are also addressed in digital form (Bates et al., 2017). As a result of the pandemic and virtual instruction, the use of eBooks in Reading Recovery was a necessity. Although we have returned to face-to-face, on-ground instruction, and the use of traditional books, there are certainly lessons to carry forward from the last two years. Therefore, we suggest using the concept considerations chart (Table 1) to guide eBook selection. Many publishers that cater to Reading Recovery have produced eBook replicas of their traditional printed books. Most follow the same intentional layout for supporting early readers but not all. As eBooks are constantly evolving, we recommend this only as a starting point.

Observing how children interact with digital text adds a dimension to our understanding about how children may acquire concepts about print in a much broader way than we previously recognized. It is important for Reading Recovery and classroom teachers to take anecdotal notes of children's interactions with eBooks — especially when in some cases traditional text is being used less frequently in classrooms. The use of eBooks has increased exponentially in the last few years and even as we return from virtual instruction, these texts will continue to be used as a resource for beginning readers.

Partnering with Classroom Teachers and Parents

It is important for Reading Recovery teachers to communicate and collaborate with their students' teachers. If a child demonstrates control of a reading or writing behavior during a Reading Recovery lesson, it is essential that this transfer to the other settings. Likewise, if a child is confused it is imperative to discuss how this is being addressed in the intervention and how it can be addressed in the classroom. For example, a child may be having difficulty attending in sequence across a line and/or a word. When this occurs, Clay (2016) states that a child may

- be unaware that direction is important,
- prefer a more varied approach and resist the attempt to confine his processing to a fixed habit,
- find it very difficult to control a steady letter-by-letter analysis with his eyes and adopt a haphazard approach because it is easier, or
- have underdeveloped motor control. (p. 172)

For a child who does not gain control of directional schema, it is extremely important that the teacher anticipate where they may have difficulty and be prepared to intervene to prevent further confusion. Information about directional schema and sequence should also be discussed with the classroom teacher, for as Clay (2016) cautions, there should not be any, "lapses from a strictly left-to-right approach" (p. 172). Discussions with the classroom teacher allow the opportunity to build a partnership and encourages teachers from both contexts to work together to prevent the lapses to which Clay refers.

These conversations could also include a general examination of eBooks. If a child is having trouble with directional movement, the teachers may decide it would be in the student's best interest to turn off certain features like embedded narration and music. As a result, when the child is tracking print with their finger, the words remain stable and touching them does not bring up a talking bear or catchy song. While a child is developing this inner control, teachers should be mindful of the types of text, both digital and print, and how each support children. Many publishers that cater to Reading Recovery have produced replicas of their traditional printed books by following the same intentional layouts in their eBook form. Sharing eBooks that support early reading behaviors with classroom teachers can draw attention to the ways in which text in both forms can assist early readers. These collaborative discussions also provide the opportunity to discuss importance of transfer from one text type to another.

Conversations with parents are also important. Reading Recovery teachers should look for opportunities to help parents understand the

Table 1.	Concept Considerations Chart to Guide eBook Selection	
Item	Concept	eBook Considerations
1	Front of book	Because the book cannot be handed to the child in the traditional way, they may not understand the purpose of the front of the book. eBooks typically have a cover and/or title page but to fully understand the difference between front and back of book, further explanation may be needed.
2	Print contains message	The picture and print placement may vary more in eBooks as compared with the traditional two-page spread in early level print books where text typically appears on the left page with the picture following on the right. Oftentimes in eBooks, the picture comes first and as a result children may not clearly discern that the print carries the message.
3	Where to start	Because the picture and print placement vary, children may need more guidance about where to start. Until this is firmly established, the variations in eBook layout may be confusing.
4	Which way to go	Regardless of picture and print placement children still need to work left to right across a line of print. For this item, eBooks and traditional text are similar, except when eBooks have embedded hot spots or rely on the use of a cursor. In this case, the affordances of the eBook can interfere with the child's developing control over left-to-right movement across a line. These digital affordances can also influence return sweep to left (item 5) and word-by-word matching (item 6).
5	Return sweep to left	Unusual print placement may come earlier with eBooks and could be confusing to children as they navigate the top to bottom progression of print. When selecting eBooks for children reading at the earliest levels, this is a factor that needs to be reviewed.
6	Word-by-word matching	As in items 4 and 5, word-by-word matching can be tricky in eBooks. Examine the embedded features of the eBook and/or device and consider turning them off if possible.
7	First and last concept	A child's understanding of first and last may apply to the whole text and may be harder to demonstrate because of the digital format. Assisting children in the understanding of first and last when using eBooks may need to be more specific to the page including line, word, or letter. Evidence of a child's understanding of first and last can also be observed in items 4, 5, and 6 particularly when reading an eBook.
8	Bottom of picture	Devices typically compensate for orientation by automatically rotating the view to the reader's perspective. Locking the screen's rotation in the device settings can support orientation and ensure the screen view remains stable.
9	Orientation of print	Like item 8, item 9 also examines children's understanding of orientation to print. This item specifically examines where to begin reading on a page with two lines of print. When reading eBooks, it is important to observe where children start on a page, which way they go, and what they do at the end of the line on a text.
10	Line sequence	Since this item as it is presented in a Concepts About Print book will not occur in an eBook, it is important to translate the item to its corresponding observable behavior. As with items 8 and 9, item 10 also relates to orientation, so be sure to note where children begin reading on an eBook with at least two lines of text.
11	Left page before right	The variations of left page before right depend entirely on eBook format. Attention to sequential order, which is assessed in item 11, is critical, but may not appear in eBooks as the traditional two-page spread does not occur as frequently in eBooks at the earlier levels.

nuances between print and eBooks. Suggesting a few free apps that have already been vetted may be helpful for parents and provide a model for the types of eBooks that support developing concepts about print and early reading behaviors.

Conclusion

During the first few weeks of Reading Recovery lessons including Roaming Around the Known, it is important to choose texts that help establish early reading behaviors including book handling, directionality, word boundaries, and early conventions. Due to COVID restrictions and the necessity for virtual learning, the use and prevalence of eBooks as instructional texts has greatly increased. Therefore when selecting eBooks for children beginning their lesson series, we suggest paying particular attention to items 1–11 on Concepts About Print as a guide. The chart we shared in this article outlines items 1–11, the early concept the item addresses, and additional considerations for each concept when selecting and using eBooks. The availability of eBooks will continue to grow in this digital age and with guidance and careful decision making, our students and their teachers, families, and caregivers can benefit from the increased use.

About the Authors

Dr. C. C. Bates is professor of literacy education at Clemson University and director of the Early Literacy Center for South Carolina. She has written 30-plus scholarly publications and developed the Record of Reading app for oral reading assessment which has been downloaded over 400,000 times. Bates is also the author of *Interactive Writing: Developing Readers through Writing* (Benchmark) and co-author of *The Next Step Forward in Running Records* (Scholastic).

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