TEACHING WITH INTERACTIVE PICTURE E-BOOKS IN GRADES K–6

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The authors outline four considerations for using e-books with young readers because tablet computers, like the iPad, may alter the ways students consume, comprehend, and interact with text.

Ravi (all names are pseudonyms), a fourth grader attending a university reading clinic, finished reading *Sir Charlie Stinky Socks and the Really Big Adventure*, looked up at his tutor and said, "I have no clue what I just read." His tutor isn't surprised. Instead of focusing on the text as he read, Ravi had spent considerable time making the "wiggly woos" howl and the "good grey mare" "clippety clop." Ravi was certainly engaged with *Sir Charlie*, but his tutor realizes that if they are going to continue to use e-books in tutoring sessions, she will need some good strategies to help Ravi with his comprehension.

Why E-Books?

Simply stated, e-books have the potential to change the way our students read and consume text because of their interactivity and convenience. Although traditional picture books might include words, pictures, and graphics, e-books may also include multimodal features such as sounds, animations, videos, and narrations. Certainly, these added features could distract from reading (which we discuss later); however, the benefits for engaging readers and differentiating instruction are immense, even though research has yet to fully explain why these phenomena may or may not exist. Although we certainly espouse the benefits of having traditional home libraries, mobile devices enable readers to easily

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maintain personal libraries while also allowing students and teachers to keep a vast array of texts (including dictionaries and encyclopedias) on their devices that are diverse and readily accessible.

E-Books and Comprehension

A simplistic relationship between e-books and comprehension has not been identified. Research that specifically examines that relationship is scarce (Pearman, 2008; Zucker, Moody, & McKenna, 2009), and it fails to clearly identify e-books' features

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as either supports or impediments to comprehension. For example, Roskos, Brueck, and Widman (2009) reported that studies clearly identify benefits of design features such as animated illustrations and embedded vocabulary aids. However, Brueck cautioned that close analysis of e-book design is critical because the availability of e-books that truly support literacy development is limited (Guernsey, 2011) and because children often read e-books with minimal adult involvement (Roskos & Brueck, 2009).

Similarly, other researchers have recognized that e-books' features can be alternatively beneficial or problematic. Verhallen, Bus, and deJong (2006) noted the potential of multimedia features (e.g., video, sounds, and music) to support children's inference making about characters' actions, feelings, and states of mind. However, those authors also warned that the multimedia richness that results from such features can actually tax children's working memory. Consequently, they argue that children may benefit more from on-screen texts that include only print and oral renderings "without sound, music, visual, or other special effects" (Bus, Verhallen, & deJong, 2009, p. 155).

A similar lack of clarity emerges from the research concerning children's comprehension of story content. Pearman (2008) reported stronger retellings among readers of e-books. In contrast, deJong and Bus (2003) found that electronic texts did not efficiently support internalization of story content

and that children spent 43% of their e-book engagement time playing games rather than reading the text. The authors concluded that the attractive digital options diminished children's attention to the text rather than providing meaningful interactions.

This suggestion is consistent with research focused on how distractors in text have an impact on readers' comprehension. Researchers who have focused on a phenomenon known as the "seductive details effect" (Garner, Gillingham, & White, 1989) have claimed that distracting information both embedded in text and adjacent to text diverts readers' attention away from the main ideas, causing students to attempt to construct meaning around the seductive details instead (Harp & Mayer, 1998).

Bringing much-needed clarity to the discussion of multimedia text and its many features, van den Broek, Kendeou, and White (2009) maintained that it is not those features per se that enhance comprehension. Rather, "it is the strategic use of the various media in such a way that the comprehending child engages in relevant processes in which he or she otherwise would not engage" (p. 69). They explained that multimedia text features must support children's attempts to make connections that build comprehension and must facilitate children's acquisition and application of reading skills and strategies.

Consistent with this perspective, Korat and Shamir (2007) advocated for the strategic design of e-books in ways

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Pause and Ponder

- What additional reading skills or strategies will your students need to learn to be successful readers of e-books? How much scaffolding and modeling should you provide?

- Because e-books are interactive and engaging, how can you use these unique digital features in a way that increases students' motivation to read?

- Before giving students an e-reader to read with, what sort of guidelines or policies, such as time limits, volume control, and "playing" with the e-book (or device), will you need to consider?

- Should you use e-books in conjunction with traditional texts? Or separately? How might these two formats support each other in teaching students vocabulary, critical reading, and literacy skills?

- What ways can you use e-books in your classrooms that might be similar to or different from your current approaches?

that support children's attention to text. After finding the available software unsatisfactory, they created e-books that included attractive multimedia features while also supporting story understanding. Comparing children's comprehension after independent reading of the strategically designed e-book, and after reading the print version with an adult, the researchers found similar levels of comprehension (Korat & Shamir, 2007). This need for careful attention to e-book design, and its effect on children's comprehension, is the perspective that drives our practice with preservice teachers and guides our observations of young readers engaging with e-books.

Teaching With E-Books

Another theme that emerges from the research literature is the fact that teachers need stronger support for effective integration of technology into classroom teaching and learning. In a very early survey (Karchmer, 2001) and in a more recent study (Hutchison & Reinking, 2011), teachers consistently reported feeling unprepared in that realm.

The more recent survey (Hutchison & Reinking, 2011) also reveals a gap between teachers' beliefs and practices. Teachers believe it is important to integrate Information and Communication Technologies (ICTs) into classroom practice; however, their actual implementation lags behind their beliefs. Furthermore, survey responses suggest that teachers tend not to perceive ICT-based reading and writing—other than Internet-based research—as integral to literacy development. To support teachers' efforts to integrate technology effectively, to close the gap between belief and practice, and to help teachers expand their perceptions about what constitutes literate activity, we share

our observations from clinical and practical experiences, as well as some recommendations for classroom application.

iPad Use in Classroom and Tutoring Settings

We are fortunate at our institution to have a one-to-one iPad-to-student ratio in several of our literacy practicum classes, so our preservice and in-service teachers have extensive opportunities to work with students as they learn to use these mobile devices for educational purposes. In this article, we share suggestions for comprehension instruction based on our experiences using iPad devices for comprehension instruction. In the following sections, we briefly describe the interactions that informed this article, share four considerations for teachers who are interested in incorporating e-books into their classrooms, and provide examples and evaluation criteria for various e-books.

At the University Reading Clinic

Our middle grades reading clinic aims to provide targeted, quality literacy instruction for at-risk young adolescents in third through eighth grade. Under the supervision of the course instructor, each attendee is assessed by a pair of graduate students who then design and deliver individualized instruction weekly over the course of a 15-week semester. In individualizing instruction for tutees, we incorporate a variety of materials and techniques.

As tablet devices became more popular in educational settings, our university purchased a set of iPad devices that are available for our graduate students to use in tutoring sessions. Although we encourage their use, we have also been interested in better understanding how students' reading compared when reading a book electronically as opposed to when reading a book in traditional print.

In the summer reading clinic, middle-grades students read four different books (two as interactive picture e-books and two in traditional print form), which we deemed to be high-quality examples of the e-books available on the market. We found that students generally exhibited better comprehension (as measured through retelling and comprehension questions) when reading books in print form, even though higher levels of engagement were both self-reported and observed when they were reading from e-books.

In the Elementary Classrooms

Students enrolled in the undergraduate early- and middle-grades certification program at the university are required to complete a six-credit, upper-level reading practicum during which they observe, participate in, and deliver language arts instruction in supervised classroom settings. Preservice teachers in some sections of the course have been tasked with incorporating the iPad into their literacy instruction. With access to only one iPad in each classroom, the preservice teachers are creative in

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their use of their devices for whole-class instruction (with a projector), small-group instruction, and individual instruction.

In our interactions with preservice teachers using iPad devices in real classroom settings, we observed them using these devices and collected written reflections regarding their classroom experiences. In general, the preservice teachers often viewed the use of the iPad as "play" or as a reward, as opposed to seeing the iPad as a technology that could enhance their current literacy instruction.

Although they did see potential for the iPad to facilitate individualized learning, engage students, and reinforce literacy skills, they also reported that their use of the iPad in the literacy classroom sometimes focused on the usability of the device instead of the content they were trying to teach (e.g., the visualization strategy). This point is consistent with other research in the field that has noted that talk during parent–child interactions with e-books often focuses on the technology skills needed to use the book (e.g., swiping to turn a page) instead of on the content of the book (Parish-Morris, Mahajan, Hirsh-Pasek, & Golinkoff, 2012), as well as our observations of these preservice teachers in the field.

Thus, in conjunction with our experiences at the university reading clinic, we developed four recommendations that encourage

teachers to look past the attractive, engaging aspects of apps and examine their content and functionality carefully before using interactive picture e-books in the classroom.

Considerations for Teachers Using E-Books in Their Classrooms

Familiarize Students With the Basics of the Device

Whenever we introduce e-reading devices to students for the first time, we facilitate a 45-minute session that introduces students to the basic technological skills they would need to navigate an e-book on the iPad. In the best-case scenario, students would then have the opportunity to take the device home or use it frequently throughout the school day to gain confidence using the device for varied purposes. However, we acknowledge that most schools do not have access to class sets of iPad devices, so teachers must prepare students to work with iPad devices individually. In our reading clinic, students were given the opportunity to read and explore several e-books before tutors assessed their reading skills.

One criticism of e-reader research has been that users have not had enough time yet to become "experts" at using these devices, which in turn can influence their abilities to perform certain tasks (like reading) when using these technologies (McAnulty, Gertner, & Cotton, 2012). We agree with this argument and suggest that

before using an e-reader for academic purposes, teachers should consider taking time to familiarize students with the basic functions of these multitouch devices and the gestures to operate them. For new users, even simple tasks such as opening a book, turning pages, and orienting the screen could be major deterrents. Subsequently, we recommend familiarizing students with reading books on the iPad (or other e-reader) with the following routine:

1. Show students how to turn on the device and access the apps they will need.
2. Show students how to orient the screen (or have the teacher lock the screen orientation before distributing the devices).
3. Demonstrate how to open an e-book, turn the page (this may differ depending on the app or the publisher), and access interactive features.
4. Set expectations for students' use of interactions (should they explore them as they read, after they read, or when the reread the text at a later time?)

Although it is tempting to think of today's students as digital natives (Prensky, 2001) who are comfortable using tablet devices (or other mobile devices, like an iPhone), teachers cannot assume that students' prior experiences with these devices have prepared them for the unique demands required of the reader to access and read an e-book effectively.

Teach Students to Transfer What They Know About Print Reading to e-Reading
We observed some students in our reading clinic forgo many of the

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reading strategies they were observed using in print tasks when it came to reading on the e-reader. For example, Ravi, the fourth-grade boy mentioned earlier in this article, did not use his comprehension monitoring strategies when reading from e-books. This example and other anecdotal evidence from our experiences in the university clinic concur with measurable differences uncovered in our studies regarding older readers' transference of reading strategies when reading e-texts (Schugar, Schugar, & Penny, 2012; Schugar & Schugar, 2011). Specifically, we found that when reading e-books, students reported not exhibiting behaviors (e.g., bookmarking, annotating, highlighting) that facilitate the use of specific reading strategies (e.g., summarization, determining main ideas), even though they reported engaging in these behaviors when reading traditional paper texts.

Teachers interested in reading e-books with their students can support comprehension through scaffolding the experience with targeted strategy instruction. First and foremost, it is important that teachers model how they apply strategies to e-books and explicitly state how the implementation of the strategy is similar or different across the two formats. For example, in the following vignette, we describe how one preservice teacher, Josey,

aided a student, Matt, in applying a vocabulary strategy they had been working with in their third-grade class to the e-book, *Wild About Books*:

> While the other students in her class engage in independent reading, Josey invites Matt over to the reading group table to read the e-book, *Wild About Books*. Josey reminds Matt that when reading, there are many ways that he can infer the meaning of unknown vocabulary words, including examining the context of the word in the text and using the pictures to gain clues about the meaning of the word.
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> Josey explains that many interactive e-books give another option for determining the meaning of a word—students can use the interactive features such as sound and animations to help them determine the meaning of the word.
>
> She models for him how she would use this strategy with the word *stampeding*. She reads aloud the line from the text, "...every beast in the zoo was stampeding" and shows how she uses the text ("I see from the text clues that stampeding is something zoo animals might do."), the pictures ("The animals are all grouped together, so maybe stampeding involves a herd of animals."), and the interactions ("When I press the animals, they run in a herd across the page and make loud clomping noises."). Josey demonstrates how she uses the clues from each of these aspects of the text in conjunction with each other to infer the meaning of the word *stampede*.

This example illustrates how teachers can help their students transfer their existing strategies to the arguably novel experience of reading an

interactive e-book. Josey builds on Matt's understanding of using context and illustrations to infer the meanings of vocabulary words and extends his use of this strategy to incorporate the interactive features found in some e-books.

General strategies such as inferring, predicting, retelling/summarizing, and comprehension monitoring, as well as most strategies for informational text comprehension, lend themselves to transference from print to electronic texts. However, not all strategies are transferable between different types of texts. For example, strategies such as coding and previewing texts are difficult or impossible to do in many interactive picture e-books.

In addition to helping students transfer specific print-based reading skills to interactive e-books, it is important to review with students the appropriate use of interactive supports such as the dictionary and "read-to-me" features. Just as most students would not look up every unknown word in a dictionary, students should not over-rely on this feature when e-reading, as the time it requires to use dictionary functions may unnecessarily disrupt the reading process.

Similarly, in a traditional book, students often access their decoding strategies to attempt unfamiliar words, whereas many e-books allow them to click on the word to have it read to them. We found in our work with middle-grades students that some of them used these features as a crutch instead of

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attempting unknown words on their own.

If students are using interactive e-books for literacy instruction, it is important to consider how students' reliance on these features might positively or negatively influence the students' overall reading experiences. Teachers can aid students in negotiating a balance between using these interactions to support comprehension and using them in a way that limits their opportunities to apply strategies while reading.

In the next section we describe in more detail how the gimmicks and distractions often found in interactive e-books can lead to students' poor comprehension of these texts. We posit that one of the most important roles of the teacher when students are e-reading on tablet devices is to aid students in applying their existing strategies for determining main ideas and relevant information as well as for overcoming distractors in the text in a way similar to what we have described previously.

Beware of Gimmicks and Distractions

In contrast to the productive ways in which a reader might interact with a text (discussed in previous section), many e-books have additional features that allow readers to interact with the text in a way that is different from how they could interact with traditional books. For instance, interactive e-books may provide opportunities for readers to

touch the pages to make sound, make objects move, or even access multimedia content such as videos, games, and puzzles. Although the interactive features of these books certainly may be motivating to children, as they often "bring the book to life," our experiences lead us to pause and consider how the motivating aspects of such features can be leveraged in a way that supports students' comprehension.

In the 1980s, Garner, Gillingham, and White (1989) coined the term *seductive details* to describe aspects of texts that were likely to interfere with students' abilities to attend to the most important parts of the texts they read. We believe that the seductive detail effect may be making a resurgence with the rise in interactive picture e-books, as readers are given options that are likely to result in them straying from the main

idea. We see what we call the *seductive interaction effect* as having three potential outcomes: distracting, supporting, or extending readers' comprehension of the text. Table 1 summarizes each of the three outcomes and provides examples of each.

We are particularly concerned with the interactivity in picture e-books, as these features can noticeably slow students' reading rate. In reading more slowly, students' comprehension can become fragmented, as there may be long pauses in reading the text if the reader spends time "playing" with the interactive features. Interactive features might also channel students' attention away from the actual reading of the text, and students might be tempted to "read" through the pictures and interactions rather than looking at the text itself.

In choosing quality interactive picture e-books, teachers should consider the following:

- Do the interactions provide support that would help a reader make a text-based inference or understand difficult vocabulary?

Table 1   Seductive Interaction Effect Outcomes

Interaction type	Examples
Distracts from the text ("just for fun")	In *Sir Charlie Stinky Socks and the Really Big Adventure*, readers can touch "wiggly woos" to make noise and move them around the screen. Throughout *Rocket Learns to Read*, the bird flutters and sounds play in the background.
Supports the text	In *Miss Spider's Tea Party*, Miss Spider "sips" her tea (with sound effects) while the text reads "Miss Spider sipped her tea." At one point in *Will & Kate: A Love Story*, the text is "William knew that one day he would grow up to be king." When readers click the little boy, he grows into a teenager then a king.
Extends beyond the text	On page where "Hyenas shared jokes with the red-bellied snakes" in *Wild About Books*, laughter sounds and speech bubbles allow readers to see that "howled and they hissed till their funny bones ached" means that the characters found the jokes funny.

- Are there more supporting and extending interactions than distracting interactions?
- Are the interactions time-consuming, or are they relatively brief in nature?
- How often are interactions used in the book? Are the interactions strategically placed to enhance motivation without distracting the reader from the text? Do the interactions occur within the text, or are readers directed to another screen while reading?

In addition to these questions, it is of utmost importance that teachers look for well-organized texts with high-quality writing. Because the app market allows for the distribution of materials without the rigorous review process that is typical of traditional children's book publishing, more caution is necessary for choosing high-quality texts. With exceptions, it is our experience that many interactive picture e-books are still lacking the polished quality of traditional texts.

In Table 2, we provide examples of how we examined six exemplary interactive e-books in terms of the aforementioned four criteria. For the first criterion, illustrations and animations that provide vocabulary and inference support, we see interactive e-books as having the potential to mitigate some students' comprehension difficulties if the interactive book features support comprehension in a way that does not occur in the traditional print version.

The second criterion, interactions supporting and extending students' understanding of the text, is significant because more often than not, these features distract the reader from the text. Because e-books with "just

for fun" interactions can result in readers having long pauses in their reading as they engage with the features, we suggest that the majority of interactions should support and extend students' understanding of the text so that the time spent away from the text is spent on activities that have the potential to bolster comprehension.

Our third criterion, the length of time that the interactions pull students away from the text, should be considered because, in theory, interactions that are brief would be less disruptive to students' reading than interactions that cause students to focus their attention on the nontextual features of the e-book for significant portions of time.

The fourth and final criterion we used to evaluate e-books relates to the frequency and placement of the interactive features in e-books because interactions that are placed sporadically throughout the text without overwhelming the reader are likely to be less disruptive to readers. Subsequently, e-books that have multiple interactions on each page may be overwhelming to readers, particularly students who are still learning to read. In-text interactions are also more favorable than out-of-text interactions, because students who are redirected to another app/screen to engage in the interaction are more likely to spend time away from the text itself.

Our evaluation of these books illustrates inconsistencies in the current

e-book market in regard to whether the interactions support or extend students' comprehension of the text, the ways readers access the interactions, and the level of interactivity in these books. Although the books listed in Table 2 are high-quality examples of the potential of e-books, they do not completely escape our concern for how the interactions might influence students' comprehension.

Each book listed in Table 2 has many features that will support and motivate readers, yet they all have limitations in terms of distractibility. Thus, if these problems exist with some of the best and most supportive apps available, it is disconcerting to consider the hundreds of other apps that may have interactions that provide less scaffolding for comprehension and vocabulary and more opportunities for student distractions.

Furthermore, there are many interactive picture e-book apps available, and the aforementioned criteria can be used to determine the quality of their interactive features. We have incorporated our favorite, high-quality interactive e-books into Table 3, organized by their difficulty and interest levels. However, because the app marketplace is always changing and growing, we suggest also visiting reliable app review sites such as *Digital Storytime* (digital-storytime.com) and *Smart Apps for Kids* (www .smartappsforkids.com) for information about the latest releases in interactive e-books.

"Interactions that are placed sporadically throughout the text without overwhelming the reader are likely to be less disruptive."

Table 2   Selected Interactive Picture E-Book Evaluations

Book title	#1 Vocabulary and inference support	#2 Ratio of supporting and extending interactions to distracting interactions	#3 Time required to engage in interactions	#4 Frequency and placement of interactions
How Rocket Learned to Read	Average vocabulary support. For instance, *lilac bushes* is unsupported. However, *growl* is explained both in text and by clicking a beagle-like dog. Words such as *wind* and *cold* are also supported through inference.	High number of distracting features early in the book. Several quality supporting/extending features related to learning letters. Words such as *dig*, when Rocket digs a hole in the snow, and *mud*, when readers can cover Rocket in mud, are good supporting interactions.	Some fairly complex interactions such as shaking iPad or blowing into mic to simulate wind. Readers can practice writing letters in snow, which could be time-consuming, but functions to extend the text's features. Other interactions are very brief.	Each page contains several in-text interactions (including "Tap Words"). A key to each page's interactions is available to guide readers (Marked with a "?" in the top right corner of each page). Readers can manipulate characters, wind, and environmental setting (leaves and mud).
Wild About Books	Superb vocabulary support. Most animals are identified with both a word and an image. For instance, for "geckos could only read stick-to-the-wall books," the reader can move reading geckos up and down a brick wall.	Fairly equal ratio of distracting features to supporting and extending features. The distracting features usually are simple manipulations (e.g., moving a giraffe). However, the quality of the supporting/extending features far outweighs the distracting ones, particularly when it comes to understanding different animals and their characteristics and behaviors ("howling" and "hissing").	Due to the abundance of interactions on each page, to manipulate all the interactions could take considerable time, but each interaction itself is brief (i.e., making an owl "hoot").	Many in-text interactions on each page. Interactions usually prompt animals to move and make noise.
Sir Charlie Stinky Socks and the Really Big Adventure	Strong support for vocabulary inference comes from the quality of the static illustrations and their relationship to the words themselves. The level of interactivity has little to do with text support.	Considerably more distracting features than supporting/extending features. The words and illustrations are well matched, but the actual ability to manipulate certain parts of the book (i.e., make Sir Charlie's cat meow) is distracting and game-like.	Because the book lacks an overall sophistication (i.e., static backgrounds), the in-text interactions are brief. Readers can color illustrations in a separate feature of the e-book.	Both in-text and out-of-text interactions. In the auto-play mode, the book reads and runs like a movie, limiting student-directed interactivity. In the "read to me" mode, there are only a few in-text interactions per page. Words can be pressed to highlight and move them on the page. Out of text interactions include coloring and a slideshow feature set to music.
Will & Kate: A Love Story	Very good support for vocabulary development. For instance, the use of *glimpse* and *honeymoon* are supported well through interactions.	Many distracting features (sheep "Baa" and dogs "bark"). Some features (e.g., choosing a dress) support the text. Minimal extending features.	Brief. Touch for sounds or movement.	All in-text interactions feature manipulating birds, sheep, and people (like Will and Kate). Three to four interactions on each page placed around the text.
The Artifacts	Excellent vocabulary support throughout the e-book. Examples include "bagatelles, baubles, geegaws…" that describe all of the items that Asaf collects.	The majority of interactive features support or extend comprehension. For instance, page 15 says "He developed an excellent memory for words, dates, and numbers," and when you click Asaf's head, all sorts of historical facts ("1842: Battle of Nanjing") and vocabulary words ("plagiarize") pop out of his brain in different colors and then float off the screen.	Readers may spend considerable time with the abundance of available interactions.	Many in-text interactions on each page. Some pages could have more than 20 different interactions (i.e., examples of all the things Asaf collects).
Storia e-book: Who Would Win? Killer Whale vs. Great White Shark	Vocabulary is supported through static page text and illustrations. Some words can be selected and defined with a "look up" feature. Some interactions support vocabulary development and inference.	Interactions aid students in monitoring their comprehension through questions such as "Which of the following belongs to a killer whale?" accompanied by three picture clues. Some interactions also build decoding and vocabulary skills.	Brief. Features can be turned on or off by the teacher or parent.	In-text interactions are placed sporadically throughout the text to support vocabulary, comprehension, and word recognition. All interactions have an educational purpose.

Table 3   Suggested High-Quality Interactive Picture E-Books

For beginning readers

Boynton, S. (n.d.). *Blue hat, green hat.* Vancouver, BC, Canada: Loud Crow Interactive (with

Moo Media).

Bridwell, N. (2010). *Go Clifford, go!* New York: Scholastic.

Capucilli, A.S. (2012). *Meet Biscuit.* New York: HarperCollins Children.

Hecht, B. (n.d.). *Nickelby Swift, kitten catastrophe.* San Diego, CA: VivaBook.

Hills, T. (2010). *How Rocket learned to read.* New York: Random House.

Kirk, D. (2010). *Miss spider's tea party.* New York: Callaway Digital Arts.

Thomson, L. (n.d.). *A fine musician.* Sydney, NSW, Australia: Tokeru.

For fluent readers

Larkum, A. (2012). *Will and Kate: A love story.* Toronto, ON, Canada: Ink Robin.

Melenhorst, G. (n.d.). *Slice of bread goes to the beach.* Melbourne, NSW, Australia: Jelly Biscuits.

Pallotta, J. (n.d.). *Who would win? Killer Whale vs. Great White Shark.* New York: Scholastic.

Sierra, J. (2010). *Wild about books.* New York: Random House.

Stace, L. & Hare, D. (2011). *The artifacts.* Canberra, Australia: Slap Happy Larry.

Stephenson, K. (2010). *Sir Charlie Stinky Socks and the really big adventure.* London:

Egmont UK.

TAKE ACTION!

1. Consider whether the interactive features in the e-books you use with children distract, support, or extend their understanding of the text.

2. Provide strategy instruction that is adapted for e-book reading.

3. Analyze e-books for quality, accuracy, and readability before using them for instruction.

4. Give students opportunities to practice reading with both traditional and electronic books.

Remember That an Interactive E-Book Does Not Replace a Good Teacher

Although we have some significant concerns about using interactive picture books with students who are still developing effective reading strategies, we believe these technologies hold promise, given that teachers scaffold the experience for students. We encourage teachers to provide guided instruction with interactive picture e-books through activating students' background knowledge before reading, prompting students to answer comprehension questions during reading, and helping students to extend their thinking about the text after reading. With a teacher's guidance, it is possible that students would be able to overcome the obstacles students may face when confronted with the interactive features found in interactive e-books.

Final Thoughts

Although we believe that tablet devices have great potential for classroom instruction, we argue that educators should exercise caution when deciding whether to introduce them into the classroom. Several factors should be weighed: (a) Will the e-reader allow access to content that is different or better suited to the task? (b) What type of support will your students need to read e-books? (c) What will be the ratio of devices to students (e.g., one to one or many to one)? (d) What financial constraints exist for incorporating these devices into your classroom?

Despite our hesitancy to fully endorse e-reading for instructional purposes until we know more about how students read interactive e-books, we argue that e-reading does have a place in the 21st-century classroom. We aim to raise awareness of the complicated nature of e-reading, particularly for students who are still learning how to read. Specifically, we urge educators to consider how some interactive features of these texts may motivate children, while distracting them from the meaningful content of the text. To prepare students for the digital reading demands they will face both in and out of school, teachers need to model strategies for e-reading, assist students in transferring traditional reading behaviors to electronic texts, and select high-quality interactive e-books that will scaffold students' reading.

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