PICTURE BOOKS IN THE DIGITAL AGE

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The design, publication, and features of contemporary narrative picture books have been changed by the digital revolution and the emerging popularity of digital reading devices. Digitally produced texts may resemble in some basic ways their printed predecessors; however, digitally produced *picture book apps* provide access to additional features, content, and types of interactivity that printed texts may not support (Schwebs, 2014). Picture book apps are sometimes conceptualized as enhanced versions of printed picture books; they offer additional content, features, and navigational options not available in printed texts. However, teachers, parents, and readers should consider both the possibilities and the challenges associated with printed and digital texts prior to using them.

Readers of digital picture books must work through the presentation of a fictional narrative using physical, cognitive, visual, emotional, and embodied strategies and capabilities, among others. As picture book narratives in digital formats evolve and become part of the reading curriculum in more classrooms, picture book scholars, literacy educators, and classroom teachers will need new lenses or frameworks for analyzing these texts and developing pedagogical approaches that support classroom instruction and readers' transactions across digital and print platforms (Serafini, 2015).

The purpose of this column is to outline three types of features—namely *tableau*, *transitional*, and *interactional* features of picture book apps—and discuss how these features can affect readers' experiences. In addition, we would like to share some of the challenges and possibilities we have uncovered while working with these digitally based narratives.

What Is a Picture Book App?

Picture book apps are designed to be experienced on reading devices, tablets, or smartphones or accessed using particular digital or Web-based platforms. At a minimal level of interactivity, digital picture books are simply scanned versions of the original printed picture books and feature the same layout as the original, only viewed on a screen rather than in print or analog formats (Serafini, Kachorsky, & Aguilera, in press): (See Appendix A for a list of our favorite picture book apps). Picture book apps are distinguished from these basic e-books by a few key features that alter readers' experiences in significant ways.

In general, a picture book app is a type of software application that consists of picture book *content* in a digital *shape* and is downloaded from the iTunes store or Google Play or independent publisher websites. Along with traditional features of e-books such as digitally displayed text and images, navigational icons, and home screens, for example, picture book apps offer interactional features that expand the options, reading paths, and experiences of young readers. While some e-books require a dedicated e-reader device or app, such as Amazon's Kindle, digital picture book apps can be accessed

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The Reading Teacher Vol. 69 Issue 5 pp. 509–512 DOI:10.1002/trtr.1452

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on a multitude of tablets, computers, or smartphones. This broadens the accessibility of digital picture books to audiences beyond those with e-readers and can provide a more portable experience for the reader.

To better understand how picture book apps work and to consider their potential uses, we will consider three types of features associated with picture book apps. *Tableau* features are available on a particular screen of the book, such as an opening screen or a view of two pages. In picture book apps, the tableaux work in similar fashion to double-page spreads in printed books. *Transitional* features allow readers to navigate from one screen to the next as they proceed through the narrative. *Interactive* features offer enhancements to the visual and verbal narrative and may be linked to other content and media available on Web-based platforms.

Tableau Features

At first glance, the visual images in picture e-books and picture book apps might not appear all that different from those in printed books, especially when the picture book app is a digital rendering of a printed picture book. However, images have to be altered from analog picture book formats in order to fit on a digital screen. For instance, what is displayed as a double-page spread in a print picture book has to be cut or resized in order to fit on the screen of a tablet. Such decisions can change the composition of an image or a design element, and the color and picture quality may be altered when the image is transferred from paper to screen. For example, an image that might be muted or have a matte finish in a printed picture book automatically becomes glossy on an iPad.

Many picture book apps include voice-over narration, which simulates the experience of being read to even when one is alone. Options for changing the language of the app's written text, narration, or both are also available in some apps. For readers who might find background music, sound effects, or voice-over narration distracting, apps generally provide an option for disabling these features.

In addition to animation, sound, and touch-interactive opportunities, digital picture book apps can also link readers to content outside the app, such as websites, social media spaces, or other apps. Some of these apps even include *augmented reality* features that combine real-world objects and environments with digital platforms. The visual images, design elements, and text displayed on particular tableaux are displayed differently than the associated printed picture books, and these differences must be accounted for as these texts become more available in today's classrooms.

Transitional Features

Another way in which digital picture book apps differ from printed picture books is the manner in which readers transition from one screen or tableau to another. Because the pages cannot be physically turned, digital picture book apps feature a variety of transitions that readers can use to navigate the text. In some cases, the transition imitates the familiar turning of the printed page with an animated page flowing across the screen when the reader touches a designated spot, such as an arrow icon. In other cases, the reader simply swipes or taps an area of the screen and the next tableau instantly appears.

Transitions are often accompanied by sound effects that can be turned on or off, depending on the reader's preference. This also distinguishes a picture book app from a printed picture book, where the sound of the page turn is made naturally. While some sound effects might sound like book pages being turned, swipe and tap transitions can be paired with a variety of sound effects that do not imitate the traditional reading experience. In addition, some *read-to-me options* allow the pages to turn automatically as the voice-over narration proceeds.

As in printed picture books, readers can go back and forth across pages in an app. An important difference between the two is in the way upcoming pages are revealed. Unlike the verso and recto displays in printed picture books, readers are presented with one tableau at a time. Sometimes

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the tableau presented on the screen is a composite of two pages in a double-page spread; other times, the pages are revealed one by one, altering the reading experience. In some cases, picture book apps feature thumbnail displays of each page that can be called up so the reader can navigate instantly to a selected page.

Interactive Features

One of the most immediately noticeable features of digital picture book apps is the way that readers interact with elements of the app. Besides the now-standard page-turning and indexing features common to e-books, digital picture book apps often present readers with *hot spots*—specific areas on the screen where readers can tap, swipe, or pinch across a device's surface to generate sounds, animations, or even additional content during the reading experience.

Picture book apps vary according to their level of interactivity, ranging from basic electronic formats to sophisticated hybrid and cyber ensembles (Turrión, 2014). Hyperlinks, embedded video clips and animations, sound effects, background music, open-ended story lines, and voice-over narrations all add to the types of interactivity these texts present to the reader.

Some interactive features take readers far from the visual and verbal narrative of the picture book and connect them to social media sites or game-like components. It is important to consider whether the interactive features enhance or distract from one's reading experience.

Challenges to Consider

Given these three types of features, it would be easy to assume that digital picture book apps are the next big thing in reading. However, a closer look at some of the features of picture book apps can help us think more clearly about how readers use them and how teachers might incorporate them into classrooms.

Some features of apps, while attractive on the surface, may end up distracting readers from the content of the book (Yokota & Teale, 2014). These may include game-like features that have little or nothing to do with the overall story and may break the flow of a reader's progression through the narrative.

Despite the opportunities for touchscreen interaction that many picture book apps offer, the quality of these interactions can vary widely, depending on the particular app. For many apps that claim such interactive features, options are limited to particular points in the app. The kinds of interaction that might be offered could be as simple as touching an image to elicit a sound effect or pop-up animation. While other apps may offer more interactive features, teachers should be cautious of assuming that all apps afford such opportunities.

Finally, certain aspects of printed books are difficult to translate into digital platforms, and readers may lose out on certain experiences if they access picture books only through their digital variants. For example, double-page spreads featured in printed picture books are limited when transferred to a digital book, on which content must be displayed one screen at a time. In addition, the presentation of text is often altered from the book's print version. Where the text was once a part of the composition of the visual image, it is sometimes relegated to a separate text box or panel at the bottom of the screen. What seem like minor changes in design can alter the meaning potentials of the various versions being read.

Possibilities to Consider

In spite of some of the challenges associated with picture book apps, the digital format also offers many possibilities. Features that allow readers to navigate outside of the app itself can provide additional resources to complement the reading experience. Some picture book apps allow readers to look up unfamiliar words or have the text read to them. These features offer support for readers' developing vocabulary and provide models of fluent reading. Also, some picture book apps allow readers to engage with multimodal features by adding music, sound effects, and animations that, in turn, provide opportunities for teachers and students to discuss how certain modes can alter or enhance the visual and verbal narrative.

Additionally, picture book apps encourage rereading; students who have already read the picture book version of a story are likely to read the app version as well. Teachers can leverage such practices by having students compare printed picture

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books to analogous picture book apps. Readers can discuss how the narrative changes across platforms and how various enhancements affect their interpretations of a text. The key to leveraging such opportunities is purposeful evaluation, selection, and preparation in conjunction with picture book apps. Considering both the affordances and the limitations of digital picture book apps can help readers, teachers, parents, and other educators make better decisions about the value and use of such apps for different purposes.

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Appendix A

Favorite Picture Book Apps

- *The Fantastic Flying Books of Morris Lessmore* by William Joyce (Moonbot Studios)
- *The Numberlys* by William Joyce (Moonbot Studios)
- *Billy's Booger* by William Joyce (Moonbot Studios)
- *Spot* by David Weisner (Houghton Mifflin Harcourt)
- *Marcel the Shell With Shoes On: Things About Me* by Jennie Slate (Penguin Group USA)
- Various Dr. Seuss books (Oceanhouse Media)
- *Animalia* by Graeme Base (AppBooks)
- *Mr. Sandman (Fear of the Dark)* by hocusbookus (hocusbookus)
- *Midnight Feast* by Slap Happy Larry Books (Slap Happy Larry Books)
- *The Book of Holes* by Poul Lange (Chocolate Factory Publishing)
- *Rita the Lizard* by Irene Blasco Grau (Irene Blasco Grau)
- *The Monster at the End of This Book…Starring Grover!* by Sesame Street (Sesame Workshop Apps)
- *Don't Let the Pigeon Run This App!* by Mo Willems (Disney)
- *The Heart and the Bottle* by Oliver Jeffers (Penguin Group USA)
- *Who Stole the Moon?* by Windy Press (Windy Press)
- *Rules of Summer* by Shaun Tan (We Are Wheelbarrow)
- *The Wrong Book* by Nick Bland (We Are Wheelbarrow)
- *Olivia Dreams* by Ian Falconer (DreamWorks)
- *Even Monsters Get Sick* by Michael Bruza (BusyBee Studios)