By Annette Lamb

Reading Redefined for a

Transmedia Universe

Once upon a time, reading was as simple and straightforward as decoding words on a page. No more. Digital age technologies have made such an impact on the way we interact with content that the old definitions of *reading* and *books* no longer apply.

Times, as they say, are changing. The digital age is transforming nearly every aspect of our culture, from business to education to social life. Reading and books are no exception. Mobile devices, multimedia publishing, and social technologies are having a major impact on the reading experience both inside and outside the classroom. Instead of carrying backpacks full of 40-pound textbooks from class to class and trading paperbacks with their friends, today's young people are downloading and exchanging digital novels and textbooks on their smartphones, e-book readers, and tablets. Besides taking a load off our students' backs, this development has turned on its head the very idea of what it means to read a book.

Don't believe it? Read *The Pedlar Lady of Gushing Cross* from Moving Tales on a tablet, or watch the book trailer on YouTube. This story contains text and images, like a traditional book, but it also has digital animation and audio. So is it a book?

Given these new realities, it's time to expand the meaning of the phrase *reading a book.*

First, let's tackle the definition of *reading.* What's involved with the activity? Must it involve only text, or can it include graphics, sounds, motion, and other kinds of symbols in addition to or instead of the text? Does a book need to have a traditional start and finish? Or could the content emerge or even be created as the reader moves through the experience?

Here's a revised definition that encompasses all these elements: Reading is the process of constructing meaning from symbols.

Now let's redefine the term *book.* Does a book need to be made of paper, or can it be digital? Can it contain artifacts or other elements? Does it need to have pages? Must it be linear, or can it be branched or chaotic?

A new definition that allows for all of these options is: A book is a published collection of related pages or screens.

This expanded meaning not only reflects the changing landscape of reading, it also opens up new worlds of possibilities for students to engage with content inside and outside the classroom.

Digital Reading Environments

It's taken 20 years for PK–12 interactive books to make a comeback (see "History of Digital Reading," page 16). But this resurgence has brought with it an explosion of reading choices.

Let's explore five electronic reading environments: e-books, interactive storybooks, reference databases, hypertext and interactive fiction, and transmedia storytelling.

E-books. From current favorites such as *The Hunger Games* trilogy by Suzanne Collins to traditional series such as the Boxcar Children by Gertrude Chandler Warner, many publishers are selling e-book versions of their titles for the Kindle, Nook, and other e-book readers. Some companies also give users access to their e-books on other devices, including smartphones and laptop computers.

In a 2010 study of young readers published in *Reading Teacher*, Lotta Larson found that digital reading devices promote new literacy practices, such as digital note-taking, and provide readers control over how they engage with the text. While e-books feature linear content, just like a print book, many also contain additional tools, such as highlighters, dictionaries, virtual bookmarks, and note-taking tools. Search tools allow readers to easily locate words and passages. Some e-book readers give users control over screen resolution, text and background color, font size, and display orientation. In some cases, users can even insert or remove text, mark up pages, add comments, insert notes, attach files, and record audio to e-books.

Enhanced e-books for the iPad, iPhone, and other multimedia devices contain multimodal features—images, web links, and embedded media—within the linear text. These media elements have been particularly popular in nonfiction books such as *The Kennedy Detail* by Gerald Blaine. Increasingly, audio and video are integrated into books with a movie tie-in, such as *I Am Number Four* by Pittacus Lore.

Books in James Patterson's popular Maximum Ride series are available as Kindle e-books that students can read not only on Kindle e-readers, but on iPhone, Windows PC, Mac, Blackberry, iPad, Android, and Windows Phone 7. Supplemental materials

Reading is the process of constructing meaning from symbols. | A book is a published collection of related pages or screens.
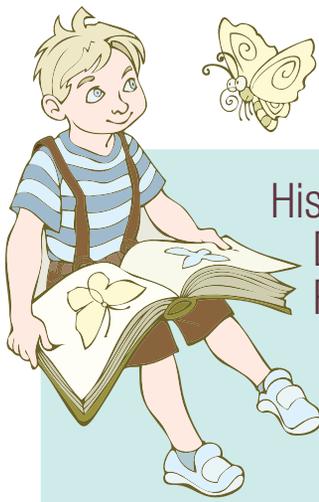
History of Digital Reading

The revolution in digital reading didn't just happen overnight. It began 20 years ago, in the early 1990s, when interactive storybooks such as Mercer Mayer's *Just Grandma and Me* introduced a revolutionary new way to experience children's books on CD-ROM. Unfortunately, these electronic reading environments were limited to titles for beginning readers and a few informational reading resources from companies such as Dorling Kindersley.

By the late 1990s and early 2000s, people expected to find free reading materials on the web. But free websites with high-quality content were difficult to find, poorly formatted, and usually contained ads. Students could read classics online at websites such as Project Gutenberg, but only a few children's book resources, such as International Children's Digital Library, emerged.

Although some websites, such as Sesame Street E-books, provided access to a combination of free and fee-based reading materials throughout the 2000s, most ad-free websites (such as Tumblebooks) became subscription-based.

The recent explosion of e-book readers, smartphones, and tablet computers has expanded opportunities for digital reading. You can now read full-color newspapers, including *USA Today,* on smartphones, and a new wave of episodic fiction for young adults, such as *Dark Eden* and *3:15* by Patrick Carman, is emerging with accompanying iPad apps that combine text with interactive maps, audio, and video.

are also available in various formats through Patterson's website (see "Digital Reading Resources" on page 16 for this and other resources). One of the books, *Fang*, even has its own mobile app.

And not all apps are designed for use only on smartphones. For instance, readers of the Vampire Academy series can connect to a Facebook app from any computer or while reading the e-book on a tablet.

Interactive storybooks. These were introduced on CD-ROM back in the 1990s. Today, many are available as mobile apps for smartphones and tablets. New companies, such as mytales digital, are producing these multidimensional stories.

Interactive storybooks feature a narrator reading a linear story aloud. To help beginning readers, the text is often highlighted as the words are read, and the book may provide options for defining words or exploring elements on the screen. Many of these storybooks, such as *One Snowy Day* by Tammi Salzano, give children different ways to access the content of the story, including "read to me," "read by myself," and "play with me."

In recent years, the introduction of mobile apps for iPhones and iPads, such as the app for Donald Crew's *Freight Train*, has renewed students' interest in interactive storybooks. And today, these types of extended reading experiences are reaching beyond the elementary grades to prekindergarten. For instance, the Touchy-Books apps contain a number of child-friendly demo stories.

Many researchers, including Larson and Cathy Pearman, have noted that struggling readers benefit from the support that interactive books with high-quality navigation provide. However, in a 2001 study in the *British Journal of Educational Technology*, John Trushell, Clare Burrell, and Amanda Maitland found that, even though these books

have arrows encouraging readers to move forward through the story, many children choose to go backward or in a nonlinear way, which adversely affects their recall of the story.

Engaging interactive experiences are also available for young adults. Classical Comics provides graphic novel adaptations of classic literature that incorporate interactive animation and audio features.

The options to hear words pronounced aloud, read definitions, explore glossaries, see labels on illustrations, and experience reading support are useful for all ages, but particularly in guided learning situations for children with special needs and English language learners.

Reference databases. Students no longer need to lug around heavy reference books to have information at their fingertips. Increasingly, they are using mobile apps, such as the iBirds Pro iPad app for bird watching or the Star Walk iPad app for exploring the night sky, to explore the natural world. Reference databases provide nonlinear, organized access to records of information through search tools, indexes, or subjects. They also often incorporate tools for bookmarking and note-taking, as well as photos, maps, audio, and video elements. For instance, The Elements by Theodore Gray iPad app provides a visual exploration of the periodic table. Dorling Kindersley produces an Eyewitness Travel series exploring popular world destinations using clickable maps, scrolling photo galleries, and zooming images.

In her 2009 article "Digital Literacies" in the *Journal of Adolescent & Adult Literacy*, Larson points out that today's readers expect to be immersed in multimodal resources that combine a variety of modes and media. Rather than simply reading about history, geography, or science, students want information they can see and hear.
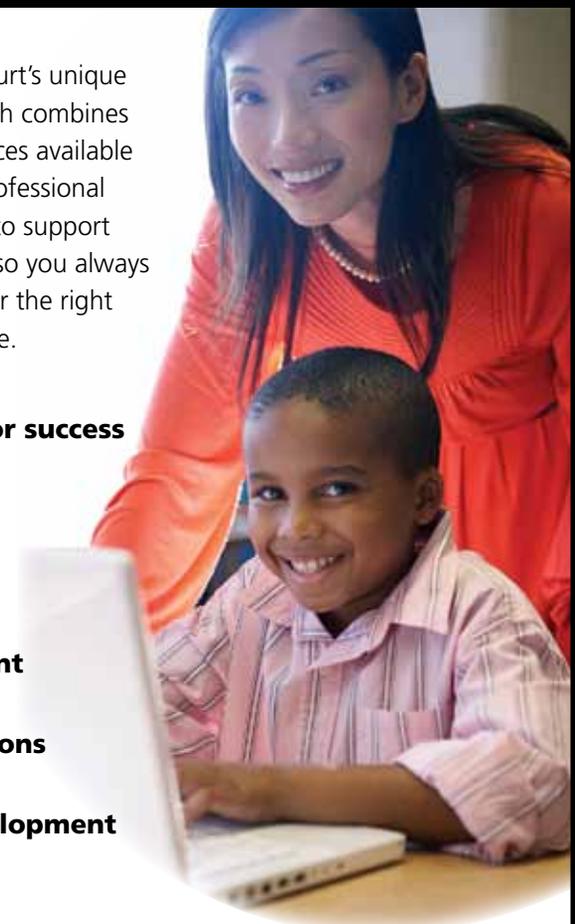
Hypertexts and interactive fiction. Students can access these nonlinear narratives through various hotspots or links online. Over the past decade, many authors have chosen to publish their interactive fiction on the internet because of how easy it is to create nonlinear texts. For instance, *253* by Geoff Ryman is a novel published exclusively for the web about an accident in the London Underground. And remember the Choose Your Own Adventure series that was popular in the 1980s? It has been re-created as an iPhone/iPad app.

In the article "Hypertext Narrative and the Reader: A View from Cognitive Theory," published in 2005 in the *European Journal of English Studies,* Ralf Schneider notes that hypertext readers are empowered by the options this type of environment provides. However, he also points out that some users may become lost in interactive texts. This problem of coherence may be related to the uncertainty of non-linear texts, as these reading experiences' lack of a beginning, middle, and end may make it difficult for readers to sense how much of the content they have explored or to locate subplots and alternative storylines.

Transmedia storytelling. Transmedia storytelling involves a multimodal, multimedia story with nonlinear, participatory elements. Resources connected to the story might include print materials; documents; maps; web-based clues; mobile apps; cell phone calls; social media connections; activities and games; and media such as audio, video, or animation.

The main storyline may or may not reside in one location, such as a traditional book or website. The narrative may be told through a series of media. For example, the series 39 Clues includes a traditional book and game cards along with access to an engaging website containing clues, missions, background information, and games.

The Skeleton Creek intermediate-level books connect novels written in a journal format with web-based videos.

Social technology has become a core element of transmedia storytelling for young adults. The Cathy young adult series begins with a book and accompanying evidence packet, but social features—including cell phone numbers, websites, Flickr pages, and Facebook connections—are woven throughout the book. And the Amanda Project series website is a place for readers to engage in discussions, contribute content, and expand the reading experience.

The publishing industry is continuing to look for ways to extend the reading experience. For instance, *The Search for WondLa* by Tony DiTerlizzi provides book trailers introducing the

Digital Reading Resources

Articles

"Digital Literacies" by Lotta C. Larson, *Journal of Adolescent & Adult Literacy* (November 2009): http://asditadaustin.pbworks.com/f/e_reading.pdf

"Digital Readers: The Next Chapter in E-Book Reading and Response" by Lotta C. Larson, *Reading Teacher* (2010): http://tinyurl.com/3l965qf

"Electronic Reading Workshop: Beyond Books with New Literacies and Instructional Technologies" by Lotta C. Larson, *Journal of Adolescent & Adult Literacy* (October 2008): www.jstor.org/pss/20111749

"Hypertext Narrative and the Reader: A View from Cognitive Theory" by Ralf Schneider, *European Journal of English Studies* (August 2005): www.tandfonline.com/doi/abs/10.1080/13825570500172067#preview

"Independent Reading of CD-ROM Storybooks: Measuring Comprehension with Oral Retellings" by Cathy J. Pearman, *The Reading Teacher* (2008): www.jstor.org/pss/20204639

"Transmedia Education: The Principles Revisted. Confessions of an Aca-Fan" by Henry Jenkins (2010): http://henryjenkins.org/2010/06/transmedia_education_the_7_pri.html

"Year 5 Pupils Reading an 'Interactive Storybook' on CD-ROM" by John Trushell, Clare Burrell, and Amanda Maitland, *British Journal of Educational Technology* (September 2001): http://onlinelibrary.wiley.com/doi/10.1111/1467-8535.00209/abstract

E-Books

I Am Number Four by Pittacus Lore: www.iamnumberfour.co.uk

James Patterson's website: http://jamespatterson.com

Sesame Street E-books: http://ebooks.sesamestreet.org/free

The Kennedy Detail by Gerald Blaine: http://kennedydetail.com/gerald-blain.asp

Fake Websites

Anti-Alien Agency: http://antialienagency.com

Mrs. Halley's Comets: http://mrshalleyscomets.com

SPHDZ(Spaceheadz): http://sphdz.com

Hypertexts/Interactive Fiction

253 by Geoff Ryman: www.ryman-novel.com

Choose Your Own Adventure series: http://u-ventures.net

Classical Comics: http://classicalcomics.com/imacbeth

Freight Train by Donald Crew: http://curiouspuppy.com/freight_train.html

Moving Tales: http://moving-tales.com

mytales digital: http://mytalesdigital.com

One Snowy Day demo: http://youtu.be/Q711-en7LuQ

The Pedlar Lady of Gushing Cross book trailer: http://youtu.be/1mfm9dwLzdU

TouchyBooks: http://touchybooks.com

Learning Games & Simulations

Changing the Balance: http://changingthebalance.thinkport.org

Lure of the Labyrinth: http://labyrinth.thinkport.org/www

Mission US: www.mission-us.org

Online Libraries

International Children's Digital Library: http://en.childrenslibrary.org

Project Gutenberg: http://gutenberg.org

Tumblebooks: http://tumblebooks.com

Reference Databases

Eyewitness Travel series: http://traveldk.com/apps

iBirds Pro iPad app: http://ibirdexplorer.com

Star Walk iPad app: http://vitotechnology.com

The Elements by Theodore Gray iPad app YouTube video: www.youtube.com/watch?v=nHiEqf5wb3g

Report

2010 Kids & Family Reading Report from Scholastic: http://mediaroom.scholastic.com/kfrr

Subscription Service

BookFlix: http://teacher.scholastic.com/products/bookflixfreetrial

Transmedia Stories

39 Clues: http://the39clues.com

3:15 by Patrick Carman: http://315stories.com

Amanda Project: http://theamandaproject.com

Cathy young adult series: http://cathysbook.com

Dark Eden by Patrick Carman: http://enterdarkeden.com

Skeleton Creek series: http://scholastic.com/skeletoncreek

The Search for WondLa: http://wondla.com

Vampire Academy Facebook app: apps.facebook.com/vampirebiteapp

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reading experience, an iPad app to extend participation, and an augmented reality option called WondLa-Vision that immerses readers in a map connected with the story.

Transmedia Reading in the Classroom

In his article "Transmedia Education: The 7 Principles Revisited," Henry Jenkins challenges teachers to actively involve students and put what they see, hear, and read to use. Transmedia environments ask readers to seek out content, explore information in different contexts, evaluate ideas across formats, and interact with other readers.

Educators don't need to toss their current curriculum to make use of these new reading environments. Instead, select those technology elements that enhance the learning experience. For instance, in the October 2008 issue of the *Journal of Adolescent & Adult Literacy*, Larson suggests transforming the traditional reading workshop into an electronic reading workshop by exploring e-books, writing in electronic journals, holding online discussions, and using technology tools for publishing.

You can also use e-book readers to differentiate instruction. Some students may benefit from hearing words defined or pronounced, and others will find the bookmarking and note-taking features valuable.

Increasingly, learning games are being woven into reading experiences. While playing Lure of the Labyrinth, middle school students read digital comics as they work their way through a series of math games. Students can work at their own pace while the teacher tracks their progress.

Social studies and science teachers will find a growing number of immersive interactives that involve students in text, audio, video, and animation content. At the Changing the Balance website, participants seek a cause-and-effect relationship between climate change and the impact of deadly parasites. The online role-playing simulation Mission US allows participants to explore

different aspects of the American Revolutionary War. Both of these digital reading environments provide depth to the learning experience, along with multiple ways to access and use information.

New Opportunities, New Challenges

Today, young people may choose from many different devices that serve a variety of functions. But does technology-based reading enhance or distract from the learning experience?

The answer may depend on whether the media elements and technology tools are integral or incidental to the reading experience. Elements that support struggling readers, cue readers to important events, contribute to the mood of the story, clarify difficult concepts, or reinforce key ideas activate thinking and promote comprehension. Yet over-reliance on audio, bells-and-whistles features that distract readers, and "eye candy" unrelated to the story can divert attention, cause readers to lose focus, and adversely affect learning. When evaluating reading resources, consider the role of the audio, graphics, motion, and interactive elements and determine whether the navigation and support tools are easy to use and contribute to the reading experience.

And remember that, despite all the new formats and ways to interact with them, the content is still the part of the reading experience that provides value for the learner. Unfortunately, it's becoming increasingly difficult for readers of all ages to differentiate between fact, fiction, and fake information.

Traditional fiction is a representation that is invented or imaginary and not factual. Nonfiction, in contrast, is information that is real, truthful, and factual. But what happens when you're in a fictional augmented or alternative reality world but working with non-

fictional materials? Or when you're in the real world working with fictional materials? Or when authors develop websites that are intended to be misleading or deceptive?

The intermediate-level novel *Spaceheadz* by Jon Scieszka is advertised as a work of fiction about a boy and his experiences at home and school. However, the book also contains pages with factual information about topics such as sound waves and electromagnetic fields. To make it even more complicated, links within the story take readers to websites with fake content, such as the Mrs. Halley's Comets, the Anti-alien Agency, and SPHDZ. These websites are intended to look real and could easily deceive readers.

As reading continues to expand beyond the printed word, it's going to be more important than ever for young people to be able to evaluate information and distinguish fact from fiction. Scholastic's BookFlix subscription service matches fiction and nonfiction reading to provide this foundation for young readers.

Redefining reading may be the key to nurturing the next generation of readers and promoting lifelong reading practices. According to the *2010 Kids & Family Reading Report* by Scholastic, children enjoy digital reading. One third of young people in the study stated that they would read more books for fun if they had access to e-books. As digital content quality catches up with the explosion of easy-to-use technology, educators will discover new ways to motivate digital age reading across the curriculum.

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