More than Just Books

Children's Literacy in Today's Digital Information World

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Friends, *left to right*, Jordan Stein, Leo Riesenbach, Rachel Agosto-Ginsburg, and David Agosto-Ginsburg explore an e-book together.

Courses in children's literature have long been mainstays of library education, and as a result, most children's librarians are well versed in the importance of encouraging children to read traditional paper books to support their developing literacy. Paper books still make up the majority of most children's collections in public and school libraries, and many of today's children are still avid readers of paper books.

However, it is important for children's librarians to realize that in today's digital world, most children and teens spend many more hours per day online than they do reading traditional paper books. The average for youth ages eight to eighteen is to spend *seven and a half hours per day* online.[1] That's about as much time as they spend at school each day, and when we figure in weekends and holiday breaks, it works out to much more time spent online per year than in school. The only other activity that occupies as much of young people's time is sleeping.

If children are spending so much time online, what does this mean for their literacy development? Is time spent online taking away from time children would otherwise spend reading books and developing crucial literacy skills, or do today's children develop literacy skills in different ways?

This article will explain how the concept of literacy is changing for today's children, and it will explain how children's use of digital information resources, such as online social networks, virtual worlds, and e-books, actually contributes to their development of both traditional literacy skills and new literacy skills.

The Changing Nature of Reading

Although many adults are quick to condemn time spent online as wasted cognitive time, it doesn't necessarily mean that children and teens are spending time online instead of reading. Actually, much of youths' online activities involve reading and writing, such as texting friends, surfing the web, and playing interactive online games.

However, it does mean that *the nature of reading itself is changing*. With the prevalence of online social networking (such as Facebook) and other digital interactions (such as cellphone texting), reading is becoming more and more a fundamentally social act. As Jackie Marsh explains, "Recent work indicates that young children are becoming increasingly social in their reading and writing on the Internet."[2]

As a result, children are learning to read not just from interpreting traditional paper texts, but also from engaging with digital texts, such as sending and receiving online messages and playing interactive games online with other players. Rachael Levy

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and Jackie Marsh explain that this means that modern literacy skills extend beyond interpreting and creating paper texts (traditional reading and writing skills) to interpreting and understanding a wide range of digital media as well:

> What these kinds of activities offer is the opportunity for children to be engaged in social networks with both known and unknown interlocutors and they learn, from their earliest years, what it means to be involved in the participatory culture of the new media age. There is, therefore, widespread evidence that young children are confident and competent users of a range of new technologies in the home and that, through this use, they develop understanding and knowledge relating to reading and writing on screens.[3]

Because of the great deal of time youth are spending online, the "texts" of children's educational and social lives are less likely today to be traditional printed books, newspapers, and magazines, and more likely to exist in any of a variety of digital formats. As Larson wrote,

> Contemporary transformations in digital technologies have prompted a reassessment of what literacy means; hence, the definition of what constitutes "text" is rapidly changing. Traditionally, text has been perceived as written messages and symbols in the forms of books, magazines, and newspapers. Today, text is recognized as much more than written words or images.[4]

Most of today's children are able to read and interpret a wide variety of digital texts, provided that they are first exposed to them at a young age. Based on a study of preschoolers aged three to six, Levy found that most young children were exposed to and able to read a variety of "multidimensional texts within many different contexts and settings," from websites to television shows to video clips to computer games.[5]

Levy suggests that schools need to broaden their literacy education to focus less on books and more on the wide range of texts that are prevalent in the modern multimedia world. The same can be said about the literacy education efforts of school and public libraries: it's not enough just to focus on collecting and creating programs around paper books. Library collections, programs, and services should also include a wide range of digital texts.

Online Social Networks, Virtual Worlds, and New Literacy

Most public and school libraries support children's use of databases and Internet resources for homework and other formal information-seeking tasks, but few support children's use of online social networks and virtual worlds because of the perception that the activities taking place in these environments are not educational.

Social network use, in particular, is often dismissed as a waste of children's time and an inappropriate library activity. Nonetheless, many children do choose to spend time using social

networks. Facebook, in particular, is popular with elementary school children. Even though users must officially be thirteen or older to create accounts, as of May 2011 an estimated 7.5 million Facebook users worldwide were under thirteen, with more than 5 million registered users younger than ten.[6]

It is important for children's librarians to understand why children use online social networks. Anne Collier and Larry Magid explained that children use them for the following reasons:

- Socializing or "hanging out" with their friends, for the most part, friends at school

- Day-to-day news about their friends, acquaintances, relatives, and peer groups

- Collaborating on schoolwork

- Validation or emotional support

- Self-expression and the identity exploration and formation that occurs in adolescent development

- What sociologists call "informal learning," or learning outside of formal settings such as school, including learning social norms and social literacy

- Learning the technical skills of the digital age, which many businesspeople feel are essential to professional development

- Discovering and exploring both academic and future professional interests

- Learning about the world beyond their immediate home and school environments

- Civic engagement—participating in causes that are meaningful to them.[7]

It is also important to understand that social network use can contribute to children's literacy development. For the most part, interacting in these environments involves reading, writing, and building technical skills, crucial aspects of literacy for today's youth. As Belinha De Abreu explains, "It is still difficult for some parents and educators to recognize that new media environments fall under the umbrella of 'literacy.' Besides enabling teens to work on their reading and writing skills, many of these technological platforms also provide for creating, collaborating, and much more."[8]

While much of the language used in online social networking environments is nonstandard language—including slang, abbreviations, and phonetic spelling—so-called text language forms a significant part of modern youth communication, and learning how to understand it is an important part of becoming literate in today's highly networked society.[9] Learning text language and other related new forms of language enables youth to participate fully in the modern communication world.

Virtual worlds are also increasingly popular with children. Virtual world environments are "online simulations of offline spaces [that] involve the use of an avatar to represent individual users."[10] Popular virtual worlds for children include websites such as Club Penguin, Barbie Girls, Neopets, and Webkinz. As is the case with online social networks, much of children's use of virtual worlds involves reading, writing, and building technical skills. Participation in virtual environments requires registration and fees, so they are not appropriate resources for most public and school libraries. However, it is important to recognize why children enjoy using these websites and the possible educational outcomes of their use.

Several researchers have investigated issues of literacy and children's use of virtual worlds. For example, Marsh studied children ages five to eleven as they engaged in out-of-school use of virtual worlds.[11] The children tended to use virtual environments for extended contact with peers known first in the offline world. The author concluded that children's online literacy-development practices are tied to their social development practices, and that we must think of literacy and socialization as occurring together:

> Through repetitive and ritualistic uses of literacy practices, such as the sending and receiving of postcards and the synchronous use of particular words, emoticons, and phrases, the children created a set of practices that served to build social cohesion and thus develop a stable social order. This is not to suggest that all literacy practices served this purpose; there were numerous instances in the data overall in which children used literacy for other purposes, such as individual pleasure or entertainment."[12]

These findings indicate that literacy skills—writing, reading, and interpreting graphics—are crucial for participating in virtual worlds, and that children playing in virtual worlds are not just wasting time, but learning important traditional literacy and newer media literacy skills.

Another educational benefit of children's use of digital texts of all types is increased creativity due both to the fluid, non-linear formats of most digital texts and to their multimedia components. As Cathy Burnett explains, "In considering the significance of this for the early years, it is worth noting that studies of children's interactions with digital texts in informal settings have highlighted the playfulness, agency, and creativity with which very young children may engage with digital texts."[13]

E-Books and Children's Literacy Development

Few school or public libraries provide children with access to online social networks and virtual worlds, both because of concerns about their educational value as well as privacy and security issues. Instead, libraries can provide children with access to e-books as a middle ground between traditional paper books and interactive online environments. E-book use promotes both the traditional literacy benefits of paper books and the new media literacy benefits of digital texts described above, especially building technical skills and increased creativity.

There are many types of e-books, including those read on hand-held dedicated devices such as Barnes and Noble's Nook or Amazon's Kindle, as well as web-based e-books that are read on computers, electronic notebooks, and cell phones.

E-books are increasingly popular with adult readers, but the children's e-book market has been somewhat slower to take off, partly because fewer children have access to the hardware needed for digital reading and to the disposable income needed to purchase e-book readers. Still, the children's e-book market is growing, and many public and school libraries are getting into the children's e-book business.[14]

Before libraries jump too far into the business of providing e-books for children, it's prudent first to consider the impact of e-books on children's reading development and on their broader literacy practices. Researchers are just beginning to investigate the impact of e-books on children's emerging literacy. As Larson explains, "Although early forms of electronic books have been available for almost two decades, studies examining how students interact with and respond to e-book texts are still few, and results are somewhat conflicting."[15]

Most of the limited research to date indicates that children tend to be enthusiastic users of e-books, and that advanced e-book features are useful in promoting early literacy skills. For example, in a study of seventeen second graders' use of Kindle books, Larson found that children take frequent advantage of advanced functions while reading, especially adjusting font sizes, accessing the built-in dictionary, and using the text-to-speech feature to listen to unfamiliar words or to reread difficult passages.[16]

Other e-book features that support literacy development include keyword searching and the ability to mark and easily relocate passages of interest. Larson studied ten fifth-graders' use of an e-book as a part of a school reading project.[17] She found that interactive features, particularly the ability to write notes on the text, enabled students to interact with the text while reading: "By using the note tool, they engaged in new literacy practices by envisioning new ways to access their thought processes to engage in spontaneous, instantaneous response to the e-books."[18]

E-books might also provide added educational benefits for children with reading disabilities and delays. Larson writes, "Because e-books can be presented in an individualized format, students with special needs (ELL, visually impaired, struggling readers) may benefit from the additional text tools available with the use of electronic texts."[19] For example, children with dyslexia can increase font sizes for easier reading.

Some theorists suggest that in the future, as e-books become more ingrained in society, children might become more accustomed to reading them and, ultimately, less comfortable reading paper books. At this point, however, children seem equally interested in and comfortable with both formats. For example,

Sally Maynard loaned e-books to six children ages seven to twelve and their parents and studied their use.[20] At the end of the two-week period, all of the adults expressed preferences for reading paper books, but the children's preferences were split, with half preferring paper books and half preferring e-books. This indicates that children might be more receptive to reading e-books than adults, and that in the future, e-books might continue to grow in popularity.

Children seem to be able to learn to read equally well with both print books and e-books, provided there is high-quality reading instruction. Ofra Korat and Adina Shamir divided 128 kindergartners into two school groups. One group read an educational electronic storybook, and the other listened to a print version of the same story read aloud by an adult.[21] Testing revealed roughly equal learning outcomes for both groups of children.

Adult Assistance during Literacy Development

It's not enough, however, just to provide e-books for children and to encourage them to use them on their own. Librarians, parents, teachers, and other adults must still provide active learning assistance to maximize the learning potential of both digital and print resources.

Korat, Shamir, and Livnat Arbiv's study of e-books and emergent writing skills reinforced this important point. The researchers divided ninety-six kindergarten students into three reading groups. Over four sessions, the first group read an e-book independently without adult support. The second group read the same e-book with adult support during and after the reading sessions. The third group received the regular kindergarten program without an e-book reading component. The children who received adult assistance exhibited greater progress in phonological awareness and in emergent word writing than either of the other two groups.[22] The authors concluded, "These results imply that reading an e-book, even though it is well planned for young children, might not be enough for achieving good levels of progress in emergent literacy in general, and emergent writing in particular."[23]

For librarians, this means that continued adult assistance—in the form of story programs, dialogic reading, and book discussions—should continue even as children's reading moves more and more toward e-books.

Regardless of the format of books, it is important to remember that the main indicators of a child's literacy attainment are the home environment and the parents' education levels. As Maynard explains,

> The home environment is the most accurate predictor of a pupil's achievement, and literacy is a good opportunity where parents can make a difference, as simple actions such as being read to or even just being exposed to books, can impact a child's progress in learning to read. This evidence suggests that, to a large degree, a child's attitude to reading is affected positively by the attitude of their parents. Therefore, if a posi-

tive relationship with reading is promoted in the home, it is likely to be passed on to the children.[24]

Regardless of whether today's and tomorrow's children are learning to read from paper books or from e-books, or from some other future invention, librarians must continue to provide literacy support, especially to children from disadvantaged family backgrounds. This support should include the provision of literacy materials and literacy-related programs representing a wide range of resources, from paper books to e-books to computer resources, helping children to learn to read with any available tools that meet children's needs and interests.

All of this is to say that when children are online, they are not just wasting time. They are learning traditional literacy—reading and writing—skills, as well as new literacy, social, and technical skills, and they are learning how to live and interact

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Resources for Libraries

E-Book Collections for Children

Libraries interested in collecting e-books to expose children to new literacy benefits might find the large-scale purchasing of e-books and e-book readers prohibitively expensive. Luckily, several free and low-cost online e-book collections exist that libraries can promote for both library and home use. Some of the better-known online children's e-book collections include the following:

- **Children's Books Online: The Rosetta Project** (www.childrensbooksonline.org/library-complete_index.htm). Historic children's books in multiple languages.

- **Digital Gallery of World Picture Books** (www.kodomo.go.jp/gallery/index_e.html). Historic picture books from the 1700s to the 1930s.

- **International Children's Digital Library** (http://en.childrenslibrary.org). Children's literature from around the world.

- **Story Cove** (www.storycove.com). Picture book folktales from around the world. (A portion of the animated and read-along online titles are available free of charge.)

- **Storyline Online** (www.storylineonline.net). Famous actors read picture books in this collection sponsored by the Screen Actors Guild Foundation.

- **Tumble Books** (www.tumblebooks.com/library). Subscription-based access to web-based e-books for school and public libraries.

in the online world. It is important for children to learn how to become good digital citizens, learning both technical and social online norms, because our lives are increasingly moving into the online arena.

It is almost impossible for a child today to participate fully in school, home, and peer culture without engaging in online interactions. This, of course, indicates that libraries must provide active support for children's online activities and interactions, helping them to become better-educated citizens of the digital world. It also indicates that we need to broaden our thinking about children's literature to include both paper and digital texts. Doing so will enable us to support the full range of children's literacy needs in the modern multimedia information environment. &

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