Exploring Home and School Involvement of Young Children with Web 2.0 and Social Media

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This article focuses on young children's use of Web 2.0 and social media. A background is provided about the use of Web 2.0 and social media among young children. Strengths and concerns are discussed as well as home and school use of Web 2.0 and social media. Exemplary websites are shared. The article concludes with potential changes in the understanding of young children's literacy development.

What do you have there?
It's a book.
How do you scroll down? ...
Can you make the characters fight?
Nope. Book.
Can it text?
No.
Tweet?
No.
Wi-Fi?
No

This conversation was shared in the book, *It's a Book* (Smith, 2010), between two characters trying to figure out the special characteristics of a book. One character is clearly an expert with social networking on a computer but is at a loss at understanding the perceived limited capabilities of a printed book. This book is targeted to young children; however, Smith (2011) created a board book, *It's a Little Book*, for the youngest children with a similar message. Interesting that he chose to create this book in a cardboard format so that young children, typically those children we do not imagine to even be aware of social networking, cannot tear it and it survives chewing. These books clearly illustrate that young children, even before they can more formally read and write, are becoming experts with social media.

Although most adults are aware of their own increasing use of computers, mobile technology, and the Internet as more than 70% of adults in general and 80% of Generation X adults use the Internet each day (eMarketer, 2004, 2011), many are surprised at the use of the Internet and social media sites by young children. Time spent on the Internet among 2- to 11-year-olds increased 63% from 2004 to 2009 (Nielsen, 2009). Although this interaction might be surprising, very young children are immersed into a world where older children, their parents, and friends and relatives routinely engage with a television, DVD, MP3 player, smart phone, computer, tablet, and other electronic items (Critcher, 2008; Drotner & Livingston, 2008). Young children are known for their inquisitiveness and certainly an item that lights up and has figures that move across, is going to be something they will not choose to ignore. In fact, many parents can be seen giving their children their smart phones or tablets to amuse them as they wait in line or wait for a meal in a restaurant (Cooper, 2005; Monroe & Fodeman, 2009; Priyanka, 2010). Further, many young children (30% of 6- to 9-year-olds) have their own cell phones or digital music players with which to engage (Sesame Workshop, 2007). Additionally, 10% of 4- and 5-year-olds have their own cell phones (NPD Group, 2007, 2008).

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There are statistics about the use of technology by young children, but these data are somewhat old and for the most part do not factor in handheld devices like smart phones or tablets. However, these data do provide a conservative estimate of use by young children. Seventy percent of 4- to 6-year-olds have used a computer and 10% report using a computer daily. Children who use computers spend approximately one hour on them each day, which is approximately one half the time they spend with screen media in a day (Rideout, Vandewater, & Wartella, 2003). Further, Glaubke (2007) reported that 64% of 3- to 5-year-olds can use a mouse, 56% can use a computer by themselves, and 37% are competent at turning a computer on, all alone. Most children can accomplish these tasks by the time they are a little more than 3 years old. Preschoolers are also using the Internet, as 25% of 3-year-olds and 50% of 5-year-olds go online at home (National Center for Education Statistics, 2005). Children between the ages of 5 and 9 go online for approximately one half hour per day. Among this group, approximately 80% do so at least once a week (Takeuchi, 2011). Moreover, 29% of students in kindergarten through third grade have their own email accounts (Hillman & Moore, 2005).

Almost 50% of children in kindergarten or the first grade interact with other people on web sites. In interviews, 50% of these children indicated that their parents watched them as they composed, whereas the other 50% did so without parental supervision (McQuade & Sampat, 2008). Only 32% of second- and third-grade students noted that they were observed when they were online (McQuade & Sampat, 2008). Although all of these data support the idea that young children are competent and aware of computers and the Internet, they did not include data about young children's use of handheld devices, which would most likely increase these percentages. Certainly, young children are enamored with these devices and frequently engage with them, when available.

To show vividly how media has changed and how it consumes more of young children's lives, Takeuchi (2011) created a table in which these changes were highlighted. For instance, in the 1930s the only media available were movies, print, and the radio. Although there were not details about the youngest children—children aged from 9 to 12 spent approximately two to three hours per day listening to the radio. In the 1960s and 1970s television was added to the media mix, with children as young as 1 year watching approximately one hour per day. During the 1980s, television became more complex as cable television was available as well as game consoles and home computers. Not surprisingly, television viewing increased for elementary children who now watched approximately two hours per day. During the 1990s media expanded to portable games, music players, and the Internet; and cell phones became routine. Children as young as 2 years of age expanded their television viewing to approximately three hours per day and children as young as 2 years of age used the Internet for approximately eight minutes per day. Then came the 2000s with the explosion of media availability such as portable games, Internet, smart phones, interactive toys, and tablets. The results were that children under 1 years old spent approximately one hour using screen media and children from 2 to 3 years old spent approximately two hours per day.

Another shift outside of the format that is used is the transition from Web 1.0 to Web 2.0. Web 1.0 was a read-only medium. For someone who wanted to write and have it posted on a website, programming skills were necessary (Thompson, 2008). Web 2.0 encourages users to be interactive, collaborating with other users who share something in common, and no programming skills are necessary (Carter, Foulger, & Ewbank, 2008). Social media and social software facilitate this collaboration. Sites like MySpace, Facebook, Flickr, and YouTube are examples. Additionally users can create or participate in blogs, wikis, podcasts, and instant messaging.

Once the awareness that young children are familiar with and using technology including the Internet is acknowledged, the question turns to what are they doing when they are involved. Children from 2 to 5 years of age consume more television than do older children (6-11 years) (Takeuchi, 2011). Following the prevalence of television viewing, young children spend much of their time playing interactive games (Wartella, Lee, & Caplovitz, 2002). Fifty percent of 4- to 6-year-olds play video games, with boys (56%) playing more than girls (36%) (Rideout et al., 2003). As children get older this video game usage increases (Takeuchi, 2011). For example, 11 to 12-year-olds average just under 9 hours of media use in a day, with the biggest increases in television viewing and game playing (Rideout et al., 2003). There are also notable differences with respect to race and ethnicity, with Hispanic and Black youth averaging approximately 13 hours of media exposure per day (Rideout et al., 2003).

Although there are notable gender and age differences in technology use, there are also differences based on socio-economic status (SES). Unsurprisingly, higher SES families have greater access to computers and the Internet than do lower SES families. Additionally, low-SES families are more likely to own video game consoles or handheld devices. No research has been completed on the types of games these children interact with but they might

be games like those on PlayStation, xBox, or Game Boy, and these offer few educational software titles (Glaubke, 2007).

Learning toys are one example where usage dissipates with age, with approximately 50% of children under age 5 years using a toy and only 13% of children aged 9 or older using a toy. Takeuchi (2011) explained that these data might reflect that learning toys are geared to younger children or that older children are engaging with other devices like smart phones or tablets. A second area where usage dissipates with age is interactive games. Preschoolers like spending time playing educational interactive games (Wartella et al., 2002), but older children do not.

Young children interact with digital media in four basic ways:

1. They consume content through playing video games, play or read on a website, or watch a video.
2. They produce content through writing a story or email or creating a Power Point presentation.
3. They share content by posting a comment to a blog.
4. They communicate with others through texting, emailing, chatting, or through virtual acquaintances they meet on sites like Club Penguin (Takeuchi, 2011, p. 49).

Further, young children are increasingly using digital media. Shuler (2007) documented earlier use and increased use. When parents were queried about this use, they believed that video games and becoming digital media consumers were a positive part of their children's lives. Blanchard and Moore (2010) write,

> These learning opportunities come at a particularly critical period in their development. Their brains are remarkably supple as neurons make and reinforce connections with almost every experience. This is a time of discovery and exploration during which they are developing a natural sense of wonder and joy about their world, as well as a time when their emergent literacy skills are beginning to develop based on their experiences and neural circuitry. (p. 1)

Therefore, the development of early literacy skills is more complex in 2011 than it was in the past. Young children learn about print books as they simultaneously discover media. They might engage with a book focused on a popular character that they view on television and then visit a website featuring the character. All of these forms are intertwined with children moving seamlessly from one to another (Vera, 2011).

Moreover, Kress (2003) identified shifts in literacy and language as used in communication. He observed the increased use of images as children interact with the screen. He also hypothesized that visual images used in screen reading and communication would be more critical in a young child's literacy learning than alphabetic writing seen in a book. He indicated that the screen would become the principal form of text. These early informal experiences with print text and the screen will form the basis of knowledge on which children will rely as they develop reading skills in more formal contexts (Lave & Wenger, 1991).

Concerns

Not everyone is convinced that the use of technology is positive to young children's cognitive and social growth. Cordes and Miller (2000) noted possible risks to children. The first group of potential risks was centered on physical harm, wherein children might suffer muscular-skeletal injuries, visual strain, obesity, or possible side effects from toxic emissions. The second category included emotional of social effects like social isolation, lack of self-discipline or motivation, or emotional detachment from the community. The third category focused on intellectual hazards such as lack of creativity, impoverished language and literacy skills, poor concentration, and distraction from meaning. The final category was directed to moral issues such as exposure to online violence, pornography, or bigotry.

Levin and Rosenquest (2001) were concerned that young children, who learn through their bodies, would be limited because of their lack of physical movement. Healy (1998) concurred, worrying about children avoiding play or physical activity for computer use and thus limiting important emotional and cognitive development. The Alliance for Childhood (2000) argued that computers were a threat to normal development of young children.

Countering these arguments was the work of Attewell, Suazo-Garcia, and Battle (2003), who found that children using a computer for 8 hours or less per week was not associated with less reading, playing sports, or other outdoor activities. Further, they found that children who spent less than 8 hours per week spent more time reading. For children who spent more than 8 hours a week engaged with a computer, there were negative effects such as increased weight and less time playing outdoors. These researchers also note that it could also be that heavier children choose to be on a computer, rather than play outdoors. Therefore, the relationship between weight and computer or digital media is still being resolved.

A noted problem is the issue of the digital divide wherein wealthier students have more technology and access to high-speed Internet than do students living in poverty. Beltran, Das, and Fairlie (2006) discovered that only approximately 50% of African-American and Latino children and children living in homes with annual income of less than $30,000 have access to home computers. Additionally, poorer children who rely on libraries for computer access often have to wait for a turn, displacing time for reading, and infrequently are guided in their use by an adult (Neuman & Celano, 2006). However, Wenglinksy (1998) observed that minority, poor, and urban students had as much opportunity to use computers in school as did White, non-poor, suburban students.

A final concern is more pragmatic. For instance, a teacher is all set to have her students create a blog. Then, the students move to the computers and immediately begin complaining: "Mine isn't working"; "I can't find the mouse"; and "My computer is frozen." Such issues can make the best plans frustrating (Turbill, 2001). Added to the issue of hardware problems are potential network issues where children can log on, but once there, the network is so slow they lose interest and focus with their current project (Johnstone, 2006). These concerns might be reduced as teachers move to the use of tablets or other hand-held devices.

Strengths

Although a dominant argument against using technology with young children is that they are developmentally incapable of using it (Glaubke, 2007), Luckin, Connolly, Plowman, and Airey (2003) counter that 4- to 6-year-olds have mastered multiple interfaces while interacting with a screen and toy. Through these interactions, they demonstrate their ability to multitask, which will be valuable as they mature.

Haugland (2000a) believed that preschool children should engage with a computer to experiment, explore, and discover the world around them under the guidance of teachers and parents. Acting on this belief, Haugland (2000b) conducted a study to determine literacy gains, if any, when preschoolers interacted with computers. She found that there were gains in verbal skills, problem solving, abstraction, intelligence, and long- term memory.

Calvert (2006) believes that children who are engaged with interactive technology can learn new skills even though they are unaware of this learning as they are so involved. She thinks that interactive media can help preschoolers develop logical thinking, writing skills, mathematics skills, and creativity. The

National Institute for Early Education Research (2006) concurs that digital media have potential in teaching preschool-age children as they encourage active learning.

Although there are numerous concerns related to young children's communication and social interaction, children who interact with computers showed increased levels of spoken communication and cooperation when sharing or partnering on computers (Glaubke, 2007). Further, Wartella, O'Keefe, and Scantlin (2002) noted that the Internet supports children in communicating with other children, worldwide, rather than isolating them.

Pierce (2004) documented that when young children interacted with computer-assisted story reading and writing, they demonstrated gains in oral language production; these gains also were noted for children with disabilities. Web use has been found to support quality early literacy instruction and as a tool for communication through the use of voice-supported reading material, for instance. Special literacy skills such as phonics, phonemic awareness, and, fluency have also shown positive results (Hillman & Moore, 2005). Attewell et al. (2003) documented that children who use a computer at home performed better than did nonusers on letter-word recognition, comprehension, and mathematics calculations. Attewell and Battle (1999) also observed that children who lived in more affluent homes showed greater gains that did children from poorer and less educated families.

Use of computers has also been shown to increase children's levels of self concept (Lewin, 2000). Additionally, when children participate with interactive toys, the character represented by the toy can positively strengthen the learning experience and their identity development (Luckin et al., 2003). Further, in response to physical concerns, excessive use of computers can become addictive and can result in carpal tunnel syndrome, visual strain, or obesity (Plowman & Stephen, 2003). To prevent these physical results, guidelines have been provided, suggesting that children's use of media should be limited and there should be planned breaks in usage (American Academy of Pediatrics, 2001).

Home Involvement

Parents are initiating children in their use of computers, the Internet, and handheld devices at very young ages. Although many families purchase computers with the goal of improving their child's academic knowledge, children avoided these kinds of engagement and used their home computer for anything else (Giacquinta, Bauer, & Levin, 1993). Some of those uses involved logging on to popular media websites and sites like Club Penguin or

Webkinz, the most popular social networking sites for young children (Fodeman & Monroe, 2009). These sites attract millions of visitors each month; for example, Webkinz recorded approximately 28 million visitors in a month (Compete, Inc., 2010).

Interesting to the use of technology in homes is the report by Stevens, Satwicz, and McCarthy (2008) that showed that young children naturally play with older brothers and sisters in their use of digital media. For instance, siblings naturally move between teaching and learning as they interact with a game. Older siblings also demonstrate how to engage with the Internet, social networking sites (Facebook), or virtual worlds—leading the way for exploration of these sites by younger children.

Club Penguin or Webkinz predominantly involve young children in playing games and adopting social roles (Gilbert, 2009). These sites allow young children to create and manage an avatar where they can clothe or feed it. Within the site, children can interact with other children and converse with them through instant messaging.

These sites provide children an opportunity to engage in a virtual world and within the world there are multiple opportunities to engage with print. Marsh (2010, 2011) notes that these sites have the potential to increase children's literate abilities for they can read and respond to text or listen to text. For instance, there are signs and labels throughout, brochures, speech bubbles, posters, and so on.

Club Penguin opened to public use in 2005 and is currently owned by Disney. The designers, recognizing the naïve level of reading and writing of young children, limited the text and utilized symbols for communicating. One of the key functions of this site is social interaction, wherein young children construct friendships though their interactions at the site (Marsh, 2010). Children can chat with others who are playing and they can include emoticons into their messages, thereby sharing feelings without the burden of writing.

Webkinz are stuffed animals that are purchased and have matching digital counterparts (Ganz, 2005-2010). Fodeman and Monroe (2009) described how young children cannot pass a Hallmark Store without begging an adult to purchase a new Webkinz animal. Once purchased, a child returns home and enters the pet's code into the home computer, thereby allowing the child to participate in its digital world. Within the site the participant can purchase, using KinzCash, toys, food, or clothing for their pets. Children can play as individuals or enter social game playing. For instance, a child can play a game with another child and match skills. Within the spaces designed for the pets is print, both functional and environmental (Vukelich, Christie, & Enz, 2008). All directions are provided in traditional text and aurally so even the youngest child can participate.

Webkinz also has a component called KinzChat. A child can choose a category like a room and select a message to send to another child saying, "I like your room." Children scroll through a menu to make selections for their messages. The choices of what can be communicated are limited and controlled, as children cannot type what they want, exchange personal information, or say anything inappropriate (Ganz, 2009). There is also KinzChatPlus that allows children to message using their own words, but requires parent approval. The words must be a part of the game's approved dictionary so that parents do not have to worry about inappropriate content.

Black (2010) observed that children are willing to spend hours on Webkinz. As they are involved, they have opportunities to communicate and engage with literacy. She noted that Webkinz has a consumption-oriented value system as children can buy things and there is advertising on the site. Another concern, not specific to Webkinz, is the issue of Internet safety. This site gives preference to safety over more open and meaningful social interaction with others. Black also commented that children may seek out sites like Webkinz as a replacement for neighborhood play, which has declined.

Among other sites targeted to children, the Nielsen (2009) ratings indicated that boys preferred Pokémon and girls preferred Barbie. These websites are commercially connected to toys and television shows. Parents, in a study by Marsh and Thompson (2001), reported that they were more comfortable chatting with their children about television or video games, than with traditional print-based texts. Parents thought the popular media characters enriched their dialogue with their children. Reciprocally, then, parents supported children's involvement with websites with popular media characters as they resulted in conversation opportunities.

School Involvement

National organizations such as the National Council of Teachers of English, National Association for the Education of Young Children, and International Reading Association (2009) have created position statements and standards for bringing new literacies into classrooms and schools. Within the International Reading Association's position statement is the expectation that new literacies will be interwoven with literacy instruction. They wrote:

> To become fully literate in today's world, students must become proficient in the new literacies of 21st century technologies. As a

result, literacy educators have a responsibility to effectively integrate these new technologies into the curriculum, preparing students for the literacy future they deserve. (IRA, 2009, n.p.)

Moreover, Albion (2008) noted that it will be impossible for teachers to ignore Web 2.0 at any level of education. Further, the introduction of the iPad and other tablets has changed the learning possibilities for students (Johnson, Levine, & Smith, 2009). These devices will result in learning possibilities for the youngest students as they can touch a screen and learn through multiple applications. For instance, they can touch a word in a digital, interactive book and hear it immediately or they might create an image in response to a book or poem using Doodle Buddy, an app that supports students' drawing.

Teachers, however, feel underprepared to bring new literacies to their classrooms (Kajder, 2005). They worry about the lack of resources including technology, time, and technology support; school leadership and professional development; their own knowledge and skills; and their own fear of technology. However, even with these concerns, digital and media technologies are evolving and necessary to prepare students to understand and adjust to the new literacy demands of the present and future (Barone & Wright, 2008). Teachers have two major challenges: (a) they need to understand and use Web 2.0 and (b) they need to transform its use to benefit students. Labbo and Reinking (1999) suggest goals for teachers effectively to integrate technology with literacy instruction. They include:

1. New digital technologies should be available to students.
2. New digital technologies should be used to enhance the goals of conventional literacy instruction.
3. New digital technologies should be used positively to transform literacy instruction.
4. New digital technologies should be used to prepare students for the literacy of the future.
5. New digital technologies should be used to empower students. (p. 481)

These goals offer conservative and futuristic goals of integrating technology in that the authors suggest using technology to enhance conventional literacy as well as transform literacy instruction and prepare students for the future.

Building on the expectations for teachers are case studies that document how teachers successfully integrated technology into their literacy instruction (Garner & Gillingham, 1996). These researchers noted that teachers were student-centered in orientation, viewed technology as a means to an end,

believed students could succeed, and sought out alternatives to current practice.

In public schools, Internet connection is common, with approximately 95% of schools having access (Parsad & Jones, 2005). Further, Wells and Lewis (2006) reported that there is an instructional computer available for every three students. Use of computers in public elementary schools include kindergartners, with 80% of them using computers and more than 50% of children younger than 9 years of age accessing the Internet (Goldberg, Russell, & Cook, 2003). When focusing on digital media, approximately 75% of K-12 teachers report using it in their classrooms. Pre-K teachers, however, use digital media less often, with approximately 33% reporting use (PBS, 2009). However, unlike use at home, the average use per week for students in elementary schools is 12 minutes (Wells & Lewis, 2006). These data show that access and equipment are available, but most students do not have sufficient time or opportunity to work with technology in any meaningful way (Barone & Wright, 2008). These data are subject to rapid change as schools are purchasing IPad carts or other tablet carts (Cost is significantly less than computers.) where classrooms of children can immediately be connected to the Internet or learning apps (Warschauer, 2006).

Interestingly, elementary teachers use computers for practice drills for the most part, whereas high school teachers have students use the Internet to solve problems or conduct research (Rowland, 2000). Even when children only access computers for drill and practice in schools, they show gains in reading, writing, and basic mathematics (Attewell et al., 2003). These data might change as new digital technologies are more fully integrated with literacy instruction (Hutchison & Reinking, 2011; Labbo & Reinking, 1999; Warschauer, 2011).

Exemplary Use

Although newer digital media and Web 2.0 use in classrooms is evolving, a multitude of teachers have demonstrated their ability successfully to integrate Web 2.0 applications within their classrooms. Following are examples targeting Blogs and Wikis because of their social communication strengths.

Classroom Blogs. A blog is an easily editable webpage that facilitates conversation about a topic (Zawilinski, 2009). For instance, a class could create a news blog where important information about the class is posted. Young children might be supported in creating a blog that showcases their work or a blog that displays their visual responses to a book for instance.

Classroom Wikis. Wikis are simple web pages that groups can share and edit together. Wikispaces

(www.wikispaces.com/content/wiki-tour#introduction) provide directions for teachers to easily create a Wiki. Examples of blogs and wikis used with young children can be found at:

Blogs:

- Kindergarten: http://classblogmeister.com/blog.php?blogger_id=51141
- First grade: http://classblogmeister.com/blog.php?blogger_id=1337
- Second grade: http://2mgems.blogspot.com/
- First grade: http://michellesmelser.blogspot.com/

Wikis:

- First, second, and third grade: https://monsterproject.wikispaces.com/
- First and second grade: http://room2-wiki6.wikispaces.com/
- Third and fourth grade: http://terrythetennisball.wikispaces.com/

Table 1 shares web applications that enable students to engage in Web 2.0 experiences that might be brought to classrooms.

Table 1

Web 2.0 Applications

Web Support	*Blogs* (http://kidblog.org/home.php) This site allows children to blog safe and simply.
	Cool Tools for Schools (http://cooltoolsforschools.wikispaces.com/) This site provides a variety of tools to help with Web 2.0.
	Dropbox (www.dropbox.com) This service allows students the ability to share files over the Internet.
	Flicker (www.flickr.com) This website allows students to upload photos and share them with others.
	Gaggle.net (www.gaggle.net) This website allows students to email and blog.
	Kerpoof (www.kerpoof.com/) This site allows young children to use tools for animation, drawing, and movie creation. Children can share their creations at this site with others.
	Skype (www.skype.com) This site allows children to talk to others about a project, event, or question.
	Storybird (http://storybird.com) Children can create stories by using images (drag and drop). Teachers might need to help with the text. Children can ask another person to collaborate with the creation of the story and it can be posted at the site where others can respond to the story.
	Vocaroo (www.vocaroo.com) This site allows children to record a message and have it sent as an email.
	Voki (www.voki.com) This site allows children to create an avatar that connects speech to text.
	Voicethread (http://voicethread.com). This site allows young children to upload images or video and provide audio support.
	Wikis (http://www.wikispaces.com) Wikis allow students to collaborate where they can share a presentation and get responses.

Final Thoughts

How do technology and Web. 2.0 influence the teaching of beginning reading, writing, and viewing? Certainly, young children who participate with digital media will experience effects to literacy skill development (Blanchard & Moore, 2010). As young children observe their parents using smart phones, Skype, or Facebook, they are observing these literacy practices at work. Young children will develop traditional literacy skills of speaking, listening, reading, and writing with digital media and they will also learn about keyboarding, problem-solving, and communication, among other skills.

Although little research has been conducted as to how younger children learn and develop with digital media, electronic gadgets are being purchased by parents for their children, with the average age being 6.7 in 2007 (Gutnick, Robb, Takeuchi, & Kotler, 2011; NPD Group, 2007). With younger children being owners of digital media, they will certainly experiment and learn about literacy through their playing, which will most likely include texting or email.

Even though there is negligible research about digital literacy and traditional literacy skills, an argument can be made that they develop simultaneously. This argument builds on previous research with computers that documented positive relationships (Norris, Sulliva, Poirot, & Soloway, 2003). Moreover, the newest digital tools allow for drag and drop applications and touch screen activity, which reduces the literacy skill-level burden on young children. They can now compose messages without knowing sound/symbol relationships. Rather, they can speak and have their message recorded and then sent as a message, allowing them to participate in social media at even younger ages. For an example, ask Siri a question on the newest Apple smartphone and she will respond to the question with an oral response supported with text.

When computers were first introduced to young children, a major concern was social interaction. Children were placed next to each other so that they could collaborate with their computer use (Clements, 1991). Today, social interaction has a very different meaning where children communicate via digital technology with children as close as another room in their home or school or as distant as varying continents. When children use mobile digital media they can learn anytime and anywhere. They can engage in communication easily and the newest technology supports their communication.

The challenge for researchers will be to document the changes in literacy acquisition of young children as they experience digital media and traditional forms of literacy simultaneously. For instance, how does reading and writing develop when a child's first writing implement is a touch pad or a mouse? Other questions might include: How do children engage with early reading when they have experienced verbal support with the use of an e-reader? or How do teachers integrate digital media with more traditional literacy learning experiences? Further, how do schools build on the literacy strengths that young children bring to school? Research in early literacy will take on new importance as these questions and others are answered and a new understanding of early literacy is crafted.

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