Digital is Just Another Format: How Children’s Librarians Can Apply Traditional Strategies to New Media

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Librarians have always served their communities by providing access to resources, instruction for obtaining and using information, and guidance in selecting the most appropriate source for each user’s needs. In the new media age, librarians need to be aware of the continuing evolution of technology, its benefits and drawbacks, and understand how they can incorporate digital media into programming. Children’s librarians should consider the most effective usage of technology in children’s programs, and understand the need to educate both children and their caregivers in the usage of digital media. Librarians can apply different lenses of perceiving children’s multimedia literacy to understand how to evaluate the value of technology in children’s programs, and continue to support children’s exploration and use of new media alongside traditional formats. These perspectives include dialogic reading and radical change theory, in relation to participatory culture. Methods for assessing the merit of various digital media aimed at children, as well as examples of children’s library programs incorporating technology are discussed.

Overview of Perceptions of New Media and Children
As with any resource, children need caregivers and other adults to assist them as they learn to navigate various media, such as traditional books, or new technologies, and utilize them to build literacy proficiency. In 2012, the National Association for the Education of Young Children (NAEYC) and the Fred Rogers Center for Early Learning created a document prescribing the amount of time children ages birth to eight-years-old should spend interacting with digital screens (National Association for the Education of Young Children, 2012). The document described NAEYC’s belief that children under the age of two should have no contact with digital media, and further stated that the guidance of an adult was necessary to providing older children the opportunity to learn from the usage of digital technologies (pg. 2). Children’s librarians realize that the instruction they provide through programs such as story time, and assisting caregivers with finding appropriate materials for their children, helps to promote active learning and the formation of a bond between the child and caregiver. The authors of the document recognized the prevalence of technology in all facets of user’s lives, and suggested that digital resources should be utilized as long as children received time to interact, converse, and play with one another and adults without the mediation of new media (pg. 5). NAEYC’s document also included factors for assessing the development of the child in relation to digital media use (pg. 6), suggesting that children progress from early stages of exploring the technology and its uses, to becoming a competent user of the resource, realizing ways the media could assist them in their lives. With the understanding that children can demonstrate mastery of digital media, and use these technologies in ways that will benefit their learning and literacy experiences, children’s librarians should consider various new skill sets that have arisen from the emergence of new media, to assist children and caregivers in reaching their learning and leisurely goals.
Skills Sets of Children in the Digital Age

Many skill sets that are necessary for children to develop (such as understanding the parts of a book, recognizing genres, and creating meaning and understanding through dialogue with other children and adults) can apply to digital media usage. Della Penna and Lucey (2012) noted six essential literacy skills for young children to grasp as they begin to interact with resources: phonological awareness, narrative abilities, recognition and understanding of letters, vocabulary, understanding of the mechanics of print, and the ability to understand the reading of books can be a pleasurable experience (Table 1). With the influx of new and complex digital devices and media, children’s librarians may find that keeping their own technology skills proficient to be a challenge. However, children’s librarians should not forget the six literacy skills listed above, and should encourage children to build and apply these skills to digital media. However, Prendergast (Children and technology, 2015, pg. 27) argued that librarians and educators spend too much time developing print-based literacy skills in children, in lieu of providing instruction on multimedia literacies and professorships. Therefore, children’s librarians should be aware of digital media and technology skills sets as well, to provide children and their caregivers the best scaffolding for learning across all forms of information.

Develop Fine Motor Skills and Expertise of Digital Media Use: Children develop fine motor skills such as holding books, turning individual pages, and selecting materials from book bins. Further, as their interaction with print material continues, children learn the properties of a book, understanding aspects such as chapters and indexes to assist in their navigation of the resource. Multiple authors have recognized that aspects of technology, especially computer mice and touch screens, require that children develop fine motor skills to utilize digital resources (Walton-Hadlock, 2008; Prendergast, Children and technology, 2015; Hicks, 2015). Librarians can support the various motor skill capacities of their users by providing traditional resources, tablets, touch screen computers, and computers with mice. Dresang (2008) also noted that alongside the various digital devices, children must also learn to navigate the unique features of various websites, applications, and textual materials, including comprehending hypertext links (par. 5). Mills (2011) referred to the unique aspects of digital resources (menus, icons, etc.) as sign symbols, and stated that children need to develop awareness of the functions of these features to be able to utilize them efficiently (pg. 62). As children’s librarians, we must help children understand the similarities and differences that exist between traditional formats and digital technologies, enabling them to become technology proficient (Campbell and Koester, 2015, pg. 8); these skills of evaluating novel tools and manipulating them to the advantage of the child will continue throughout their lives. Some educational facilities and libraries have already considered how technology expertise can be incorporated in a children’s setting with the creation of augmented reality (AR) resources that enable children to utilize their swiping, searching, and comprehension skills to find materials in the library without the guidance of a librarian (Meredith, 2015, pg. 73).

Analyze the Textual Qualities of Resources: In addition to understanding the differences between print and digital resources, children’s librarians can also help their community to draw connections between the similarities of the various media. Children can recognize story conventions such as beginning, middle, and end, while also understanding the various characters within the resource. Additionally, children are required to mediate their own understanding of the material they are reading. Jenkins (2009, pg. 49) stated that children come to understand their
own identities in relation to the materials they engage with, through reenacting stories, and recreating them through various means. In order to be able to develop a sense of self in relation to a text, Jenkins argued children must engage in, “a close analysis of the originating text, genre conventions, social roles, and linguistic codes. She must go deep inside the story to find her own place within the words” (pg. 51). By demonstrating to young users the various ways a story such as Little Red Riding Hood can change depending on the author, illustrator, and selected medium, librarians can help children recognize that different forms of interpretation of a text occur naturally, and allow them to create a relationship between themselves and the resource that is meaningful and unique.

Play, Teamwork, and Problem-solving: Regardless of the setting, children engage in play and playful communication with one another, growing their abilities to imagine, while also developing communication skills that will be necessary throughout their lives. With the capability to connect with people from around the world through the internet, children must learn how to develop skills of communication, and methods of interaction on a broader scale. Librarians can understand the importance of teamwork, making individual and group decisions, create meaningful interactions and sharing of information, and solve problems (Dresang, 2008; Walton-Hadlock, pg. 52). By demonstrating to caregivers and children the appropriate media to engage in different forms of conversation, children can become competent conversationalists, both online and in person.

Understand Qualities of Digital Communities, Biases, Privacy, and Safety: As children learn to communicate effectively with others in a digital setting, librarians and caregivers alike must assist children in understanding social and cultural differences, while ensuring that children recognize the rights and responsibilities of utilizing digital devices and resources. Jenkins described how the internet and technology can be used as tools to assist children in gaining information from online communities, and supplement their findings with the learning they have completed in classrooms and through face-to-face and textual interactions (pg. 77). Schmit (2013) discussed the need for librarians to show through the incorporation and digital and physical resources, the various voices and interpretations of information authors (pg. 37). Children should realize that each voice they encounter fits within the content of the author’s various worldviews, experiences, and ideas, and that each resource may contain biases due to these perceptions. In addition to sorting out factual and relevant information (Jenkins, pg. 96), librarians should also provide information to caregivers about how to ensure that the information children have access to does not compromise their right to privacy, or otherwise endanger their safety and wellbeing.

Create and Share Information: Besides the ability to access a myriad of voices and ideas from digital resources, children also have the opportunity to create their own works, and make them public to the communities in which they engage. Paganelli (2016) noted that children can become authors in the traditional sense of making their own physical books, or, with instruction, learn digital strategies such as coding, to make their own websites and interactive media (pg. 12-14). As children become aware of the various methods of producing and disseminating information, Mills argued (pg. 57), they recognize the merits and unique characteristics of each resource. They can apply the skill of creating their own meaning and understanding of another author’s creation, and use these resources to build their own materials. Haines and Kluver (2015,
pg. 73), and Hicks (pg. 44) recognized the importance of providing children the opportunity to engage with various media formats, and to encourage children to embrace their individual understandings. Librarians can help to foster children’s creativity and promote children-made works in the library setting, encouraging other users to share their own ideas with others.

**Drawbacks of Technology**
Alongside recognizing the needs of library users to utilize digital media effectively, librarians must understand the complications and negative factors of technology. One such challenge, known as the participation gap (Jenkins, pg. xi) focuses on the various abilities of children and all people to have the same quality and ability to access digital resources. This includes the ability to receive instruction on how to effectively utilize these materials, and increasing knowledge of credible resources. Walton-Hadlock (pg. 55) suggested that librarians can combat this gap of accessibility by providing digital links to story times for children unable to visit the library on their own. However, Borgstrom (2011, pg. 197) recognized that people may not have equitable access to internet, and that the price of obtaining both quality internet speeds and the materials to access online resources may not allow children and caregivers to participate with the library digitally. Jenkins (pg. xi) also noted that children and adults may not be aware of the biases and perspectives of the authors of information accessed through digital media. Della Penna and Lucey (par. 9) identified the need for librarians and educators to provide all users with equal access to digital devices, alongside giving informational sessions and programs about their usage and understanding of information bias. Children come from a variety of backgrounds, and have different experiences and interactions with media of all types, alongside different learning capabilities—all of which a librarian needs to take into account when providing resources and instruction (Prendergast, The role of new media, 2015, pg. 52). Additionally, caregivers and children alike may view digital devices solely as platforms for gaming and leisurely activities. Borgstrom (pg. 194) argued that creators of digital apps should consider the relevance of the material they provide to children, and its potential to distract users from learning. Librarians too should recognize whether a digital application or device provides educational value to young users, and demonstrate to caregivers how to assess the merit of technological resources. Haines and Kluver (pg. 63-64) provided an overview of potentially distracting or unnecessary elements of digital apps, including pop-ups and links to other websites where children may be encouraged to purchase items, alongside advertisements, the quality of the device and/or resource, and whether or not the app protects the user’s privacy.

**Media Mentorship**
The drawbacks and skill sets described above necessitate that the librarian take on the role of media mentor. Inherent in the requirements of being a librarian is the ability to provide users with quality materials, instruction, and the capability to navigate resources effectively. These skills librarians have already fostered can be applied when assessing and discussing digital media and technology resources with children and caregivers. Campbell and Koester called for children’s librarians to recognize, “we have the opportunity to break the paradigm of children interacting by themselves with a mobile device” (pg. 10) and encouraged librarians to help families interact with one another as they engage in the use of new media. Three approaches to media mentorship can be utilized in the library setting: librarian as mentor, student as mentor, and technology and mentor.
The library serves the entire community, engaging all users, and providing them with the opportunity to interact with one another as they also utilize the resources within the library (Dahlen and Naidoo, 2014, pg. 36). Essential to ensuring that library users have the competencies to utilize digital resources, children’s librarians must meet and inform parents and caregivers about the opportunities and problems with using new media. Walton-Hadlock suggested that librarians should seek to meet caregivers on a variety of levels: modelling good practices during library sessions, inviting children and adults to learn about how to use technology, and providing workshops for finding and using digital media and resources (pg. 52-54). Equally important, librarians should engage children and their caregivers in utilizing traditional and digital resources. Dresang (par. 25) discussed that children need to be able to draw connections across a variety of media to make their understandings of the content relevant. Martens and Stoltz (2014) recognized that children and adults are oftentimes uncertain of what resource of type of media would be relevant to fulfilling their information needs, requiring that librarians provide readers’ advisory and other services to familiarize these users with relevant information. Importantly, librarians help children and adults connect with one another, facilitating the use of media by both groups, while encouraging interactions and dialogue to create enjoyable experiences for both users (Campbell, Koester, Mills, and Romeijn-Stout, 2015, pg. 27; Campbell, Haines, Koester, and Stoltz, 2015, pg. 2-8; Hendricks, 2015, pg. 36-37). In a story time setting, librarians can also demonstrate to young users different print conventions, guiding them to recognize different components of stories in digital and traditional formats, and answering questions to increase understanding (Kuhn and Labbo, 2000, pg. 192). While librarians are seen by children and adults alike as authority figures, Campbell and Koester (pg. 15-21) suggested that children’s librarians provide families with resources and ideas for utilizing various media, but allow the child and caregiver to create their own framework to incorporate this information into their daily lives in a meaningful way.

Children look to one another, and older children for advice, and also recognize that they can be role models. Realizing that young students at an elementary school and middle school children could benefit from working with one another to improve literacy skills, Preddy (2016) created a program where both groups could read with one another through the usage of technology. The author noted that young children anticipated reading with their older partner, while the middle school students enjoyed creating their own stories, taking on the role of author, and sharing their creations with the younger students (pg. 5). Preddy further discussed that younger children need reading role models, realizing that engaging with various texts and media can be a form of enjoyment or learning experiences (pg. 5). With the development of augmented reality (AR) devices, the role of both librarian, parent, and peer can be mediated with technology as a mentor. Children in a library with AR resources could utilize the technology as a mentor; AR may provide guidance in helping children form research questions, navigate databases, and help young users to find the resources in the library (Meredith, pg. 75).

**Methods of Viewing New Media Literacy and Examples**

Librarians may already be familiar with lenses of interpreting and encouraging digital media proficiency in youth (e.g. dialogic reading strategies, understanding the radical changes of children’s picture books). The following sections are intended to give further insight into these understandings of new media’s place in the children’s library, and provide ideas and examples of
library programs already in use to encourage children’s engagement, enjoyment, and understanding of technological resources.

Dialogic Reading: Originally intended for the use of bringing children and caregivers together to share in the experience of reading and interpreting a physical book, dialogic reading can also be applied to various digital media. Miller (2016, lecture) described the qualities of dialogic reading; adults read with a child instead of simply reading the book aloud without questions or discussion; the experience is meant to create a dialogue between the caregiver and child, with the adult allowing the child to lead the experience of the resource; the adult encourages interaction by asking children questions that help children to describe what they see, how the story makes them feel, what might happen later in the story, and make connections to the child’s own experiences; and; adults give children positive acknowledgment for their contributions, expand on the child’s ideas, and demonstrate enjoyment of reading the resource. Quenqua (2014, par. 12) further noted that dialogic reading is a back and forth process, where the child and adult take turns listening to and discussing the story with one another. The author discussed that e-books can be utilized to foster dialogic interaction; however, digital formats can incorporate entertainment qualities that detract from the relationship between child and caregiver (par. 15).

Moody (2010) provided information about a study conducted to evaluate children’s involvement levels when interacting with e-books on their own, and interacting with adults (pg. 295). Children were grouped into three categories, one group reading physical books with adults, another using e-books without adult interaction, and the third using e-books with adults (pg. 297). The author discussed methods of evaluating child engagement with the reading exercises, noting that persistence included children talking with adults about what they saw, and providing discussion of their thoughts (pg. 302), all aspects of dialogic reading. The study results suggested that children showed greater persistence when paired with an adult as they read an e-book (pg. 306), though children interacting with the physical book labelled the illustrations to a greater extent, which may indicate greater conversation between the adult and child as they interacted with the book in this way (pg. 306). When children navigate e-book resources in the company of an adult, and with dialogic techniques of engagement involved in the reading process, digital resources may prove beneficial to enhancing the child’s learning and social experiences.

In another study, children were separated into two groups: one section read traditional books, while the other group engaged with Fisher-Price digital consoles (Collins, Golinkoof, Hirsh-Pasek, Mahajan, and Parish-Morris, 2013, pg. 202-203). Both groups included an adult and child reading together, and the study assessed how the pairs interacted with one another. The results of the study suggested that children and adults were more likely to spend time engaging in dialogue with one another utilizing a physical storybook (pg. 205). The authors provided the conception that e-book interactions may prove distracting to dialogic reading efforts, as adults may spend a greater amount of time instructing the proper usage of the device, and commenting on the child’s behavior than on interacting with the story and child themselves (pg. 207). This study demonstrates that children’s librarians should provide assistance in choosing appropriate digital storybooks and materials that will encourage dialogic interactions, and model dialogic strategies to library users.
Dialogic Reading Activities in the Library: Effective media mentoring can lead caregivers and children to engage in dialogic reading, and to experience digital and physical formats together in an enjoyable process. Martens (2014, pg. 37) reviewed various children’s library programs, including Angela Reynold’s Milk and Cookies story session. In this activity, children and adults visit the library for story time, engaging with iPads and traditional books. Reynold’s incorporates apps such as those that make animal noises, to engage her listeners, while also demonstrating to caregivers how to effectively mediate between physical and digital platforms to promote interaction and dialogue between the adult and child.

On the Association for Library Service to Children’s (ALSC) wiki site, a collection of technology programs can be found. One example, entitled Read with the Browns (Molnar, 2008) enabled children to listen to football players from the Cleveland Browns narrate stories via telephone or online streaming. This program helps to encourage children to enjoy reading by experiencing well-recognized role models engaging joyfully in the experience of reading. This program could be made into a dialogic reading session if the child watched the reading with an adult, pausing the reading whenever the child had a question or idea to discuss with the adult.

Dahlen and Naidoo discuss incorporating technology into cultural programming in the library. Recognizing the Día programming utilized by many libraries, the authors suggested that the librarian read stories to children that highlight different cultures and experiences (pg. 87). As the librarian reads, he or she could incorporate dialogic reading strategies, calling the children’s attention to aspects such as dances and songs. The children are then encouraged to engage with digital apps and resources to research songs, and to create and share their own music.

Radical Change Theory: Dresang began discussing radical change theory as the early influences of technology changed the ways in which children’s picture books were written and illustrated. Dresang and Koh (2009) revisited the theory, examining how both traditional and digital stories possess certain traits unique to the introduction of digital media (pg. 27). The authors noted that current resources need to include aspects of traditional literacy skills, while also providing children with the chance to engage with and utilize the features of digital and technological media (pg. 29). Dresang and Koh recognized that children’s literature now incorporates dynamic and vibrant graphical methods of conveying information, in relation to the ways online resources catch the attention and provide ideas to users (pg. 35). Pantaleo (2004, pg. 178) suggested that some of these incidents of digital influence on children’s literature include narratives that do not follow a traditional beginning, middle, end convention; these media also incorporate various viewpoints instead of a story being narrated by a singular voice, and; the print and image layout of each page may reflect innovative approaches that may mirror those used on websites. The author stated that children need to be able to engage with a text critically, incorporating their own judgement and understanding of the material in order to decide how to follow the diversity of narratives and make predictions and understandings about the story (pg. 179-186).

Instances of digital technology’s influence on traditional storybook conventions can be found in multiple forms. Dresang noted that authors and illustrators often reflect the ideas and environments of the times in which they create their stories, and will incorporate novel new media devices such as hypertext into their works (par. 7). Interaction between people, ideas, and different resources are characteristics of radical change literature, the author suggested (par. 11).
Recognizing that the internet allows children to permeate previous boundaries, such as geographical location and language differences, Pantaleo noted (pg. 179) that current literature incorporates unique formats, increased varieties of perspectives and ideas, and mutable boundaries between the book, technology, and reader. Dresang and Koh recognized that one such boundary-shifting digital incorporation into the storybook format could be found in hypertexts; the authors noted that links to various websites could allow children to follow a story across multiple locations, engaging with different cultures and ideas, while giving children the authority to make decisions about the information they wanted to find to further their reading experience (pg. 37-40). Children must now be aware of the textual qualities of printed materials, while also possessing the skills to jump between physical and digital resources to create an understanding of radical change resources and stories. Dresang suggested that it is the role of librarians and educators to act as media mentors, demonstrating how children can utilize both types of formats in conjunction with one another, supporting traditional literacy skills and values while also acknowledging children’s competencies to navigate and utilize digital media (par. 19-20).

Radical Change Theory Activities in the Library: Jenkins described an activity developed by the Massachusetts Institute of Technology (MIT) where students chose to look at a fairy tale, and recreate it utilizing a variety of media sources (pg. 90). The students used technology such as instant messaging, Powerpoint, and video recordings and programs, to retell the fairy tale. To supplement their creations, the students researched how the fairy tales had changed over time and across cultures in traditional formats. The goal of the program was to enable students to understand how to convey the essential meaning and ideas of the fairy tale to an audience, acknowledging the capacities and drawbacks of each digital and technological resource to portray the story. Children in a school setting could collaborate with the librarian to learn about researching fairy tales, find different retellings of the stories, and check out media devices and learn about their usage to create their own interpretations.

Sarah Kepple and Dave Bullock’s (2008) discussion on the ALSC wiki described her Animated Authors program. Children learn how to turn their own ideas into a video to be shared with others. Students would engage with various formats of alternative storytelling such as graphic novels and comic books, as they learned how to create the panels and layout their stories in a storyboard format. Throughout the program, children translated their written and drawn stories into a live-action video, watching other video creations to understand how they could incorporate elements such as music and camera angle into their narrative to create a particular perspective for their story.

Mills (2011) described an activity in which children listened to Roald Dahl’s The BFG being read, then created their own interpretations of the text. Children began by drawing out a scene from a chapter of the story, “dr[awing] on [their] own experiences, and the material texts of [their] own life-world[s], to generate a visual text that interacts with Dahl’s text” (pg. 59). Overtime, children learned how to create various other media interpretations of the text, including storyboarding, scriptwriting, filming, and editing to create an end product of a video clip of the student’s interpretation of Dahl’s text (pg. 60). Such activities as this and Kepple and Bullock’s program, can encourage children to mediate between digital and traditional formats, while including their own perspectives, following their own interests, and utilizing skills that
they are already familiar with alongside those they learn through the programs, to create new media that they can share with others.

**Conclusion**

Despite the trivial nature of the consistent production of new devices and digital resources and platforms, librarians can apply traditional learning methods and strategies to new media to make these resources accessible and meaningful to children and their caregivers. Keeping in mind the skill sets children need to develop in both traditional and digital settings, librarians can find resources that help children to explore all types of media. Librarians act as mentors and models to both students and adults in their usage and incorporation of physical and digital resources in library settings, and can create unique programming to instruct usage of these resources while promoting creativity and children authorship using a variety of tools. When children interact with one another and other people online and in person, they can demonstrate their own understandings and ideas about text, and observe and realize a love of reading.

**References**


