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Once Upon a Time, There was a Rainbow Dinosaur: Promoting Early Literacy Skills Using iPads and Dialogic Reading

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Abstract

The imagination and wonder of fantasy inspire storytelling for young children. When this synergy takes place, instruction can be planned to enhance children's overall literacy and social learning experience. Research has indicated a strong foundation in early literacy and social skills demonstrates higher levels of reading achievement in early elementary years. This article addresses how using dialogic reading, an approach to reading that engages young children by making them active participants in the story, with iPads can be a teaching strategy for supporting early literacy development and social skills. When children say it, hear it, touch it, and see it, all while combining imagination, technology, and social skills, there really is a happily ever after!

Once upon a time, the rainbow dinosaur was walking in the woods to meet his friend. The rainbow dinosaur and his friend, Bob, were going to play checkers!! Then, they started to dance the hokey pokey. They spun too much that they fell down!!! Then, they rolled down the hill. They stopped and got up and they went into the swimming pool. On top of the swimming pool, they went water skiing. Uh oh! They fell into the water. But don't worry, they are okay! While under water, they start to dance and they come to the top of the pool and stay on the top of the pool. They keep dancing all the way up to the top of the hill. But don't worry; they spin on one foot back down the hill. At the bottom of the hill, they find all of their friends. They are just in time for Eric and Madeline's birthday party!!!! Yeah!!! They were having so much fun that they didn't know that it was getting late outside. Instead of going home, they stayed at the birthday party and danced the hokey pokey. Then, they had a snack. Then, they played with some toys. Then, it was time for bed! The end.

The imagination and wonder of fantasy inspire storytelling for people of all ages, including for young children. When creating and telling a story, similar to the rainbow dinosaur introduced above by a young author, children share creativity and new knowledge, build vocabulary and basic concepts, develop an understanding of the basic forms and functions of print, and share values, ethics, and moral predicaments. In addition to serving as the means to recall special events or share daily adventures with loved ones, storytelling substantially affects the development of early literacy and social skills in young children. One creative way to expand these skills in young children is to find the connection at the intersection of technology and education. When this synergy takes place in the classroom, instruction can be planned to enhance the child's overall literacy and social learning experience.

At a child development lab school in the Midwest, early childhood education students used peer mentoring and cooperative learning in small groups to guide preschool children. During the qualitative study, 14 early childhood education students used iPads to teach and nurture early literacy and social skills to the 16 children enrolled there. In this program, mobile technology has facilitated individualized learning on many levels. Early childhood students explored two areas in early literacy skill development: linking words to pictures and creating a story. Children aged 3 to 5 were given opportunities to create and transform new connections between an object on the iPad screen and its written label in the same way that picture books are typically used. In addition, children created their own stories with the help of an early childhood education student, who initiated the prompt, "Once upon a time."

Thus began the reciprocal dance between the child, the early childhood education student, and the technology. When the child accepted the invitation to create the story, words came alive on the iPad screen. Upon completion of the story, early childhood education students read the story aloud with the child and extended literacy and social skill experiences with an assortment of iPad applications based on the child's unique interests and creative passions to further support pre-reading and pre-writing skills. Data was collected and analyzed from student evaluations, photographs, family and teacher surveys, and journals after writing reflections about the literacy activity and effectiveness of using iPads as a supporting tool for teaching early literacy skills using dialogic reading.

Importance of Early Literacy and Social Skill Development

Early literacy and social skill development are critical for all young children. The importance of early literacy and social experiences in later educational success has been well documented (Lawhon & Cobb, 2002). For example, one of the important literacy skills young children need to know for a successful transition to kindergarten includes alphabet knowledge and letter identification (Missall & Hojnoski, 2008). During the reading process, both the adult and child are interactive agents communicating sounds, asking questions that encourage response, pointing out differences between words, and talking about the top to bottom, left to right arrangement of words. Preschool children and their teachers work and collaborate as a team on early literacy experiences (Lawhon & Cobb, 2002). As one of the adults in a young child's world, the early childhood teacher has the capacity to inspire the development of early literacy and social skills and can potentially impact children's later success in school (Dennis & Horn, 2011).

Teaching Early Literacy and Social Skills Using iPads

Today, young children are growing up in a fast-paced digital world and connected to technology at home, in their communities, and increasingly, in early childhood classrooms (Blagojevic, Chevalier, Maclsaac, Hitchcock, & Frechette, 2012). Young children growing up in the 21st century are introduced to screens and digital media everywhere (Guernsey & Levine, 2016). Particularly in the past 10 years, technologies have changed children's lives and ways of learning (Hsin, Li, & Tsai, 2014). As a result, children's experiences with technology are increasingly part of the context of their lives (American Academy of Pediatrics Council on Communications and Media, 2016; National Association for the Education of Young Children [NAEYC] & Fred Rogers Center, 2012).

Teachers are observing children using today's digital tools in cooperative play, encouraging each other, exploring, discovering, and problem-solving together (Sharapan, 2015). For example, children can use iPads for taking pictures of artwork and block-play constructions. At centers in early learning environments, peers can play a game together by taking turns using the iPad, making selections and helping each other with finding answers. In addition, iPads have the potential to be a very valuable tool for teaching young children literacy and the beginning stages of the reading and writing process (Northrop & Killeen, 2013). Technology can be particularly practical in supporting participation in literacy activities because the iPad can offer adaptations to support children to be more independent in academic activities (Stone-MacDonald, 2015). For example, several Interactive Touch Books offer apps for children to hear a story, see the words, and manipulate the objects on the iPad screen. Videos, digital slide shows, podcasts, and "wonder of the day" online postings can also introduce early literacy development and participation in early childhood settings. As a result, iPads have brought new ways to collaborate, collect, share, and transform literacy with the way we live, work, and play (Guernsey & Levine, 2015). Researchers and educators acknowledge the benefits that a technologically engaging learning environment can provide for young children (Vaughan & Beers, 2017). As a result, emerging technologies have the potential to be a teacher's biggest ally (Bailey & Blagojevic, 2015).

As discussed above, mobile technology may transform the way students learn, and can provide and extend language opportunities (McManis & Gunnewig, 2012). With supportive scaffolding from teachers, mobile technology can have a positive impact on student learning (Neumann & Neumann, 2014). Furthermore, over a decade of research has documented the

effect of appropriate use of mobile technology in educational early childhood environments, including evidence that doing so can have a crucial, positive impact on children's language and cognitive development (Allen, 2011; Beschoner & Hutchison, 2013; Hsin, Li, & Tsai, 2014). Good technology-based products, such as iPads, provide opportunities for young children to play active roles in authentic literacy activities. For example, iPads can provide increased advances over previous technology in that they allocate for control with touch screen operations and also offer a vast range of apps that are appropriate for young children with various needs, abilities, and learning styles (Kucirkova, Messer, Critten, & Harwood, 2014). With this in mind, young children can work collaboratively to deepen the meaning of content, engage with varying sources of information and perspectives, link words to pictures, and create stories (Maine, 2013; Whitehurst & Lonigan, 2001). They provide the platform to enable students to acquire the content knowledge required for storytelling, gain confidence and a sense of control over their learning, and take ownership of their own reading (Lacina & Mathews, 2012).

Teaching in the age of digital learning has implications for all young children and teachers with regard to the way technology is integrated into their classes. Experience has shown that young children adapt very easily to technology; therefore, early childhood teachers should direct children's energy toward new discoveries in learning. Research has indicated that educators who are informed, intentional, and reflective routinely use technology in the learning environment to learn and grow (Guernsey & Levine, 2016; NAEYC & Fred Rogers Center, 2012). Early childhood teachers should provide technology learning experiences, especially in literacy, to foster young future readers and writers who are engaged and empowered. Doing so may lead to positive outcomes for young children (Beam, 2009); furthermore, the added socialization deepens children's engagement. Young children's social development can be nurtured using technology by offering opportunities for increasing children's collaboration and interactions with peers (Hsin et al., 2014). As a result, early childhood educators should search for meaningful and positive ways to blend hands-on experience with mobile technology and literacy activities for young children to teach early literacy skills to the next technology-driven generation. One type of reading strategy for engaging young readers that has an emphasis on oral language development and is supported by research on effective emergent literacy practices is the dialogic reading approach, which engages young children by making them active partners in the story (Doyle & Bramwell, 2006; Kim & Lee, 2016; Whitehurst, 2001).



Figure 1. During dialogic reading, children can watch an interactive story together on an iPad and work together taking turns by answering questions and retelling stories to each other.

Dialogic Reading Strategy

Dialogic reading, an approach to reading that engages young children by making them active partners in the story (Whitehurst, 2001), is a highly developed and well-documented shared-reading approach. Several empirical researchers have found its positive outcomes on children's receptive and expressive vocabularies (Kim & Lee, 2016). In addition, dialogic reading is also cost-effective, since this approach can be carried out by teachers in the classroom or parents at home with minimal training (Mol, Bus, deJong, & Smeets, 2008). The approach resembles a dialogue between the teacher and the child. The synergy inherent in this reading strategy derives from frequent interaction between teachers and children. Dialogic reading includes strategic questioning and responding to children while reading a book (Doyle & Bramwell, 2006). The teacher introduces a book, highlighting print concepts, and reads the book aloud to the child. While reading, the teacher frequently asks questions about selected illustrations, characters, and/or settings and introduces new vocabulary. Through multiple readings and conversations, children are encouraged to become storytellers. The teacher gradually talks less and the child slowly increases her expressive language by talking more. An engaging conversation emerges in the form of talking encouraged through prompts (Whitehurst et al., 1994). As teachers use prompting and positive reinforcement with praise, the child may gradually gain active involvement in meaning-related interactions during dialogic reading, which may increase growth in language skills and literacy (Han & Neuharth-Pritchett, 2014).

Using iPads and dialogic reading can encourage a group of students to function as a learning community. Combining iPads with dialogic reading techniques offers ways for teachers to deepen engagement and creates peer/social opportunities for children (Campbell & Kluver, 2015). For example, during discovery time a student teacher presents *ABC Phonics* to three children. *ABC Phonics* allows children to select an animal and see an example of how the word should be spelled. The child can also practice printing and copying over an example. After playing the app and taking turns together, two children created a story about several animals. Timothy started, "Once upon a time there was a lion and he lived in a beautiful house. The lion lived with a little boy named Timothy. There was a big puppy too." Abby continued the story, "She lived in a nice house too with a tiger, zebra, and an ant. The puppy went home and invited all of them to visit the puppy house." As two children were creating a story, another child, Maria, who was sitting close by walked over to Timothy and Abby to listen and play *ABC Phonics*. When the story ended, Maria said, "Choose hippo. Sydney, the hippo! My turn to tell a story. My hippo would be pink! The hippo would be this long [extends arms]." This example demonstrates young children can work collaboratively to deepen the meaning of content during dialogic reading, engage with varying sources of information and perspectives, link words to pictures, and create stories (Maine, 2013; Whitehurst & Lonigan, 2001).

iPads and dialogic reading strategies can help teachers design learning activities that actively engage young children in significant early literacy content. Using dialogic reading techniques with iPads, such as asking open-ended questions and asking children to retell a story, has the potential to better story understanding and vocabulary learning. Children are actively engaged when instruction is directed at helping them construct the knowledge they need to develop important literacy skills. Using both conversation and an iPad with the help of a teacher or peer, young children can create their own stories and increase their literacy and social skills.



Figure 2. The use of iPads during dialogic reading allows teachers to take advantage of children's curiosity towards reading by encouraging participation and engagement with peers.

Promoting Early Literacy and Social Skills Using Dialogic Reading and iPads

During a dialogic shared-reading episode, a teacher initiates a dialogue using an app in which the child initiates the lead. The teacher follows up on a child's verbal interactions and nonverbal cues in response to a story with prompts, questions, and elaborations that will increase and encourage additional conversation (Kim & Lee, 2016; Whitehurst 2001). For example, while playing *Morning Routines*, an app that plays a song about getting up in the morning and identifies words with everyday items, Annie tells the early childhood student, "Once upon a time I wake up in the morning and play with my unicorns. Then, I get ready for school. I get my socks and shoes on. I get dressed and eat breakfast too!" After listening to the story, the early childhood student asks Annie a variety of questions to prompt additional conversations and reinforce comprehension regarding her story. One type of prompt, a completion prompt, allows children to provide missing words or sentences; for example, "Annie, what do you eat for breakfast?" A second type of prompt, a recall prompt, involves asking children to remember specific events from a story, including characters, setting, plot, and various aspects of a story, such as, "What are the names of the unicorns you play with before coming to school?" A third type of prompt, an open-ended prompt, allows children to respond to questions with their own ideas and predictions; for example, "Annie, what do you think the unicorns do when you are at preschool?" Other prompts are in the form of who, what, when, where, and why questions. These types of prompts are most frequently used during a picture walk with a storybook or when making a connection to a child's background and experiences.

By adapting the story discussion to the child's particular interests and passions during dialogic reading, a teacher can take advantage of strengths and social interactions. Teachers can follow a child's lead and use praise to reinforce and promote sustained engagement and attention. For example, *Sentence Magic* is an app in which a voice reads two- or three-word sentences and invites the child to place the words in the correct order. The purpose is to complete the sentences and then use the sentence as a story starter or idea. When the child places the words in the correct order, the teacher can give verbal or nonverbal reinforcement to motivate and encourage further participation with the app. During dialogic reading, the teacher should pay close attention to the child's eye and visual focus when reading a story. Visual supports, such as gestures or real objects to dramatize a storybook, will also increase interest and

focus. For example, *Puppet Pals HD* gives children the opportunity to select characters and background templates for a story. *StoryKit* is another app teachers can use for storytelling. Children can tell a story to the teacher, add photographs, and also record audio. In addition, teachers can increase dialogue by decreasing the use of closed-ended questions and increasing the use of scaffolding, modeling, and repetition during meaningful conversations without making the child feel uncomfortable during the shared-reading session. Strategies for encouraging participation and developing early literacy skills during dialogic reading are summarized in Table 1.

Picture books and e-books relating to everyday experiences can support a child's interest during dialogic reading (Kim & Lee, 2016; Shedd & Duke, 2008). Teachers can select picture books, apps, and/or e-books related to the child's prior experiences. For example, one strategy for increasing the child's attention during dialogic reading is developing a questionnaire for families regarding the child's interests, passions, activities, and routines at home. When examining the interest level of children for dialogic reading in a developmentally appropriate setting, many factors should be considered. First, teachers should observe the child in the classroom, noting which centers interest the child. Second, toys or materials with preferred qualities can be embedded into the reading session for increased engagement. Third, a variety of teaching prompts to maintain a child's interest and participation during the reading session should be determined and used throughout the session to provide the child with learning opportunities in the development of early literacy skills. Finally, in addition to careful consideration regarding book selection, the preparation and environment for a dialogic reading session are also critical for successfully teaching early literacy and social skills.

Creating a Classroom Environment for Literacy and Technology

In order for technology to be successful as a learning component, it should be implemented to enhance children's engagement in meaningful authentic instruction. Teachers need the support of positive examples of how to confidently and effectively adapt and integrate technology into the classroom to enhance children's learning (NAEYC & Fred Rogers Center, 2012; Vaughan & Beers, 2017). For that reason, teachers should select iPad applications that correspond to everyday experiences and can hold a child's interest. Motivating apps that can capture a child's attention and interest should be considered, along with contexts that support children's motivation to read (Kim & Lee, 2016). In addition, teachers should plan using the iPad and Web 2.0 applications that are fun and highly engaging for the child to capture his or her interest in early literacy skills, especially those applications involving phonological awareness, oral language, and letter recognition. As a supportive guide, teachers may consider using the following questions when selecting iPad apps, including:

- What settings are available on the app that adapt for sound and speed?
- What is the progression of skills built into the app from beginning novice to mastery?
- What does the child need to be able to do in order to navigate the app?
- How motivating is the app for the child?
- What features are provided that initially engage the child's interest?

Table 1. Essential Components for Dialogic Reading Sessions with iPads

Component	Action Taken
Emphasize child's passions	<ul style="list-style-type: none"> • Follow the child's lead during the story • Emphasize child's personal experiences from home and community • Include highly engaging activities connecting to the child's interest • Take initiative in carrying out story ideas and practice new early literacy skills based on the child's passions • Plan additional and creative, elaborate story activities based on the child's interests after reading the story
Open-ended prompts	<ul style="list-style-type: none"> • Ask, "I wonder what will happen next when we turn the next page of the story?" • Increase opportunities for the child to ask "wh" questions: why and what open-ended questions • After reading the story, ask the child to consider different endings or events for the characters in the story
Follow-up requests	<ul style="list-style-type: none"> • Provide feedback to the child after reading the story for additional prompts to promote creative thinking • Develop comprehension skills by asking questions regarding story components including the setting, characters, theme, and plot • Repeat, expand on, or add to a child's response during storytelling to increase attention and critical thinking skills • After reading the story, encourage conversations regarding the story between the teacher and child • Serve as a model of language behavior by encouraging the child to share new ideas and concepts
Repetition	<ul style="list-style-type: none"> • Refer to one page or one book as long as the child has an interest • Retell the story with the child, taking his/her lead
Assistance as needed	<ul style="list-style-type: none"> • Prepare materials, toys, and/or props prior to the reading session for sustained attention and focus • Provide visual scripts, additional cues, social stories, or short visual time-outs for guidance and redirection • Choose iPad apps that will offer opportunities for interactions with peers for storytelling and dialogues • Select iPad apps that promote a sense of discovery to encourage children to ask questions • Encourage independent reading through highlighting words in the story • Increase comprehension by asking questions that promote greater communication
Support and praise	<ul style="list-style-type: none"> • Verbal and nonverbal gestures: high-five, pat on the back, positive facial expressions, thumbs up, stickers, smiles, recognition awards

An example of how an early childhood student captured a child's interest during dialogic reading took place when the student teacher used *ABC Alphabet Touch*, an application in which a voice says a letter and the child selects the letter from three choices. During the activity, the teacher had noticed that Aiden liked ducks from their conversations about animals. After reviewing several alphabet letters with Aiden, the student teacher listened as Aiden told a story about Ava, the amazing duck, who went swimming. As Aiden told the story, the student teacher typed the story on the iPad. "Ava the duck went swimming with her mommy. They had to wear floaters. Then, it started raining." The student teacher looked at Aiden and started prompting by asking open-ended questions to continue the story. "What did they do when it started raining?" Aiden replied, "They went home to play and had a snack." The student teacher asked, "What did they have for a snack?" Aiden replied, "They ate cookies and then they took a nap. Then they played with more toys." After Aiden completed the story, the student teacher followed up with retelling the story with the child and taking Aiden's lead by asking the child, "After Ava played toys with her mommy, who did they visit after playing with toys?" By doing this follow-up request, the student teacher was encouraging Aiden to share new ideas about the story.



Figure 3. To utilize iPads as a digital tool for dialogic reading, teachers should be intentional and focus their search to apps that are developmentally appropriate and aligned to children's interests.

Other considerations for creating an environment for literacy and technology include when and where the teacher arranges herself or himself with the child in the classroom during a dialogic reading session. The teacher should be seated where the child can easily view the iPad and observe the story being written. The seating of children who need proximity to the teacher should be carefully considered because they may require redirection during the dialogic reading session. Distractions are very common in early childhood classrooms but can be minimized by facing children away from centers and appealing toys. During dialogic reading, it is recommended to pay close attention to the child with eye contact in order to comment on what and where the child is attending to. Additionally, stay on one book or page for as long as the child is interested since repetition is important to maximize positive learning outcomes. Use nonverbal gestures and objects to demonstrate concepts shown in the book.

The teacher may consider a toy for the child to hold and play with during the dialogic reading session. The toy could be related to the topic of the story or child's interest to bring extra comfort and encourage participation. Finally, consider giving reinforcement and praise during the dialogic reading session to keep the child motivated and engaged. For example, as Suzie was saying and printing the alphabet letters using the *Doodle Buddy* app, the early childhood student smiled and said, "Suzie, I'm so proud of you. You said your ABCs!" As the student praised Suzie, she followed up with a sticker. Enriching teacher-child interaction and positive attitudes will affect the child's interest in and response to the dialogic reading session. An early childhood teacher who is enthusiastic and passionate about sharing treasured moments of wonder and making new discoveries in early literacy with young children will help them become excited about participating and creating a story. Table 2 summarizes recommended interactive apps for promoting early literacy skills and storytelling during dialogic reading.

Table 2. Recommended Interactive Apps to Use with Dialogic Reading

App	App Description
ABC Alphabet Touch	<ul style="list-style-type: none"> • Ages: 4 and older • Child can touch alphabet letters that make a particular letter sound • Child can touch uppercase and/or lowercase alphabet letters • Child can touch the letter sound
ABC Phonics	<ul style="list-style-type: none"> • Ages 3 and older • Child can touch the alphabet letter and letter sounds • Settings: ABCs with animal pictures; ABCs with illustrations
Doodle Buddy	<ul style="list-style-type: none"> • Ages: 4 and older • Child can draw scenes from the story • Drawing tools include: a brush, chalk, glitter, eraser, stencils, text boxes, background images
Morning Routines for Preschool Kids	<ul style="list-style-type: none"> • Ages: 4 and older • Child can select routines, activity, and music
Puppet Pals	<ul style="list-style-type: none"> • Ages: 5 and order • Child can create backdrop • Child can select up to eight actors for the puppet show and move puppets on screen • Record voice • Zoom in an out
Story Kit	<ul style="list-style-type: none"> • Ages: 4 and older • Create storybook with pictures, backgrounds text, personal drawings, and sound

Voices of Future Teachers: Reflections and Testimonials

Early childhood students participating in this qualitative study were surprised by the engagement, interest, motivation, and participation children exhibited during the dialogic reading session. Data collected and analyzed from several student evaluations after writing reflections about the literacy activity revealed the benefits and positive learning opportunities presented to children at the Child Development Center using iPads as supportive tools for promoting early literacy and social skills. In addition, surveys from families and teachers revealed children continued to increase language development by asking questions and dictating stories at school and home to family members. Not only were the children dictating stories, but many children created storybooks with pictures and also shared stories during snack time. Attitudes toward and interests in reading at home and school increased too by the number of picture books read to children at the end of the academic school year. Table 3 summarizes reflections from pre-service early childhood teachers participating in the iPad and dialogic reading early literacy activity.

Table 3. Early Childhood Education Student Reflections from the iPad and Dialogic Reading Activity

- “My favorite part of this literacy activity was listening to the children’s stories. The apps I selected for the iPad match their interests too. The stories they created were very creative and filled with humor.”
- “When I first introduced the apps, I let the children explore and gradually set guidelines. From the actions of the children exploring, I knew how to respond. By the end of the dialogic reading lesson, the children were aware of the knowledge they had created. Also, they had fun exploring. I thought my lesson was helpful with letter recognition, letter writing, and letter ordering.”
- “I realized what an asset using iPads could be for the children. You have to feed off their energy! It’s like they were born to use this technology. A child can customize an app for his or her own needs to build upon the modern classroom. It becomes second nature.”
- “The teacher–child interactions helped to encourage early literacy and social skill development. On the iPad, there are many apps that help with reading, rhyming, finishing sentences, letter names and sounds, and alphabet tracing. When children are encouraged to work on these objectives by their teachers, they are more willing to accept literacy. This activity showed me that positive reinforcement and encouragement is crucial for a child to want to complete their work.”
- “Technology is incredible in the early childhood classroom! The lessons I taught were effective because the children were learning words by associating pictures and sounds. Their stories were detailed and imaginative. It is incredible how engaged the children were with the iPad! When we finished our literacy skill lesson on the iPad, they told me stories. The stories were creative, with some reality and mostly fantasy.”

- “I took a step back and watched the children’s social development. The child knew how to communicate effectively together, and the children would ask questions if they needed to. All of the children were able to use their pointer finger to drag, and some children were even able to type on the iPad. I was impressed by their knowledge, and the way that they subconsciously applied it into the classroom.”
- “The novelty of the iPad excited the students from the start. Simply letting the students see the iPad served as an anticipatory set for the reading session. Student interest is paramount to effective teaching, so technology serves as a tool to spark interest, and encourage children to keep coming back.”
- “I believe that technology can promote literacy in early childhood classrooms; however, it cannot be the only tool to support to teach literacy. Like any tool, there must be a method to reinforce. Therefore, the iPad can be helpful, but it must be incorporated into a lesson and not be the lesson.”
- “Technology helps children enjoy learning. Children are totally involved in what they are doing and they are having fun and learning at the same time! Technology is a big part of our society! Having children learn how to use technology when they are young will help throughout their life.”

Guidance for Teachers and Families

Early childhood is an important stage for the development of meaningful relationships, increased brain development, and establishing positive social behaviors for young children. A recent policy statement from the American Academy of Pediatrics Council on Communications and Media (2016) suggests family members should supervise children’s media use, not only for screen content and time limits, but also for the significance of establishing intentional parent-child shared media interactions by allowing the child to fully participate in a variety of developmentally appropriate healthy activities. A few of the recommendations discussed include: helping families develop a Family Media Use Plan (healthychildren.org/MediaUsePlan); educating families on the importance of brain development during the early years; guiding families to educational resources for finding quality apps (i.e., Common Sense Media, PBS Kids, Sesame Workshop); considering no screen time during meals and for one hour before bedtime; limiting screen time of high-quality programming for children 2 to 5 years of age; viewing screen time with children by monitoring the child’s media content; supporting and guiding children to understand what they are seeing; and helping the child apply what they are learning to experiences in their world. Additionally, it is important for family members to test the apps before the child begins to use them. The American Academy of Pediatrics Council on Communications and Media (2016) also recommends that family members feel comfortable introducing technology to their child and not to feel pressured to introduce technology too early. An important consideration is to avoid using media and screen time as a way to calm a child, as this may lead to problems for developing emotional self-regulation. During this entire process of

nurturing future young readers by using various technology and digital devices, however, families and teachers should consider strategies for balancing a child's daily use of screen time with play, exercise, and social interactions with peers (American Academy of Pediatrics Council on Communications and Media, 2016).

Implications and Discussion

Welcoming technology into early childhood classrooms for introducing and understanding 21st century literacy skill development is a critical goal promoted by the International Reading Association (2009). A strong foundation in early literacy and social skills demonstrates increased levels of reading achievement during early childhood years, builds stronger peer relationships, and increases individual and group interactions in early childhood classrooms (National Reading Panel, 2000). Early childhood teachers set the stage and foundation for all types of learning in prekindergarten and primary classrooms. This is guided, however, by state and local curriculum standards. Part of adhering to early childhood standards includes using technology in the classroom that is developmentally appropriate. Technology has the potential to be a very valuable tool for early childhood teachers. When planning, teachers should be intentional about what they teach and how they will deliver instruction (Quesberry, Mustian, & Clark-Bischke, 2016). iPad-based literacy activities can inspire children's motivation, and increase engagement and concentration skills (Chiong, Ree, Takeuchi, & Erickson, 2012; Flewitt, Messer, & Kucirkova, 2015). Mobile technology, such as iPads, which can support preschool children in gaining the content knowledge, early literacy skills, and positive attitudes required of successful readers, has the potential to support and promote readiness skills when used in a planned and guided manner. iPads can promote independence for young children and encourage a positive attitude for learning (Dobler, 2012). When introduced in an appropriate manner at home or in the classroom, the use of an iPad can enhance children's cognitive, social, and emotional developmental competence (Beschoner & Hutchison, 2013; Kucirkova et al., 2014). The interactive applications of an iPad may also facilitate a positive learning community by bringing children together (Dobler, 2012).

When children say it, hear it, touch it, see it, all while combining imagination, technology, and early literacy and social skills, a happily ever after does indeed exist! As a new story is created, learning is holistic, transformed and reconceptualized in the light of teaching young children early literacy and social skill development when using iPads to imagine, dream, and inspire.

Apps

ABC Alphabet Touch, <https://itunes.apple.com/us/app/touch-learn-abc-alphabet-123/id450691634?mt=8>

ABC Phonics, <https://itunes.apple.com/us/app/abc-alphabet-phonics-preschool/id415071093?mt=8>

Doodle Buddy, <https://itunes.apple.com/app/doodle-buddy-paint-draw-scribble/id313232441?mt=8&ign-mpt=uo%3D4>

Morning Routines for Preschool Kids, <https://itunes.apple.com/us/app/itouchilearn-life-skills-morning/id412371450?mt=8>

Puppet Pals HD, Polished Play, LLC, www.polishedplay.com

Sentence Reading Magic, <https://itunes.apple.com/us/app/id454581599>

Storykit, ICDL Foundation, <http://en.childrenslibrary.org/about/foundation.shtml>

Technology and Play (TAP): Exploring play and creativity in pre-schoolers' use of apps, <http://techandplay.org/tap-media-pack.pdf>

Family Resources

Common Sense Media, <http://www.commonsensemedia.com>

American Academy of Pediatrics Family Media Plan, www.healthychildren.org/MediaUsePlan

PBS Kids, www.pbskids.org

Sesame Workshop, www.sesameworkshop.org

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