Play and Technology: An Important Intersection for Developing Literacy

VICTORIA B. FANTOZZI, CHRISTI PORTER JOHNSON, ANNELIESE SCHERFEN

"Well, I just don't want her sitting around pushing buttons," a parent remarks.

It is back-to-school night in a play-based preschool cooperative, and Ms. Johnson and Ms. Scherfen, teachers at the school, are introducing families to Ms. Fantozzi, a researcher working to support the integration of technology into this classroom. We had anticipated the move to using technology in the classroom with some trepidation. Parents tend to choose this school because they value the hands-on curriculum it provides, and many worry about technology intruding on children's play.

Ms. Fantozzi smiles. She says, "While technology certainly offers the possibility of mindless interaction, in the hands of thoughtful teachers, it is a tool for creating, collaborating, and communicating, and for play."

While some families may be wary of its inclusion, technology is not new to our preschoolers. Young children come to the program having already been exposed to technology through their lived experiences, and have had its use scaffolded by their families (Marsh 2004). Everyday participation in a global society demands

communication through multiple modes and collaborative means, although these are often not reflected in the solitary acts of writing and reading that are common in most classrooms. Some educators suggest we are in a world of Literacy 2.0—mimicking the idea of Web 2.0—which allows for collaborative, visual, and global means of communication and meaning making (Knobel & Wilbur 2009). Similarly, Dyson (2006) has called for a paradigm shift in our expectations of schools and children, envisioning "new basics" that reflect children's daily lives, expand symbolic representation in their play and communication (e.g., pretending to be Pokémon or taking pictures with a cardboard cellphone), and encourage greater diversity in children's cultural and linguistic resources. This shift necessarily involves play, as it is a natural conduit for "a multimodal way of making texts, accessing remote resources, and importing distant identities" (Wohlwend 2010, 149). In play, children intuitively combine movement and text creation as they pretend to be characters in their favorite show or act out scenarios in their lives (e.g., playing store).

While play is a concept many preschool teachers are familiar with and supportive of, technology in the preschool classroom may not be. This might be due to teachers' lack of experience or professional development in bringing technology into the classroom in meaningful ways (Chen & Chang 2006) or concerns about children's exposure to passive screen time (NAEYC & Fred Rogers Center 2012). However, use of digital media is not always passive. As the National Association for the Education of Young Children and Fred Rogers Center note in their position statement on technology, "Not all screens are created equal" (2). Children can actively use technology in multiple ways: to interact with others and extend play (Fantozzi 2012) to draft and enhance their own interactive texts (Labbo, Love, & Ryan 2007; Voogt & McKenny 2008), to develop, act in, and direct their own films (Marsh 2004; Wohlwend 2013), or to create animated films (Hill 2009). Teachers must draw on their knowledge of young children to make informed decisions about how to incorporate technology into the curriculum. Given appropriate experiences, young children can develop technology handling skills in the same way they learn to interact with books and environmental print. Further, when used appropriately, interactive technology enhances learning in early childhood classrooms (NAEYC & Fred Rogers Center 2012).

The intersection of technology and play

Based on our experiences in a yearlong action research study integrating the use of a tablet into a play-based curriculum, we assert that play and technology can not only coexist but also work in tandem to support learning. The key to this integration is

thoughtful selection of technology with the goal of eliminating passivity and choosing applications (apps) that allow for *creation*, *collaboration*, and *communication* (P21 2011). To evaluate an app, teachers can ask themselves the following questions:

- **Creation:** Can children make something new? Instead of just putting together a puzzle or coloring, does the app give children agency to use their ideas and create? Given the need to engage children in a variety of activities (with and without apps), we find the most value in apps that enable children to innovate in ways that are not possible without the technology.
- **Collaboration:** Can children work together? Plan together? Take different roles? We often chose apps that would allow for both working individually and with others.
- **Communication:** Can children share their work easily? Can they start online conversations with students outside the classroom? Of course, safeguarding the children's privacy was our foremost consideration, and we looked for apps that allowed sharing or communication with specific people, such as family members—never sharing publicly.

These three aspects, corollaries to the value of play in the classroom, can exist in one app. Further, they help children build the digital literacies that will help prepare them to be global citizens. In the next sections, we share what these skills looked like in our classroom.

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Creation

Although many educational apps promise skills practice through games, we find more value in children using technology to create. The basic apps included in today's tablets and smartphones let children take pictures, make their own videos, and record their voices. These functions can often be used to support purposeful play. One afternoon during center time the children in our classroom took the microphone from the karaoke machine and pretended to report the news. Seeing this as an opportunity for some rich play, Ms. Scherfen suggested that they create their own news show and have one of the children film the segment using the tablet. She also worked with the children to create a

cardboard TV as the setting for the reporting. As Alex recorded, Zeke reported, "There is a fire in New York City and Florida, and Governor Cuomo says there is going to be a flood in every state."

This reporting game continued for several days. We teachers supported the children by guiding their tablet use, including showing them how to record a video and asking them to evaluate the camera angle with questions like "Can you see the reporter in the frame?" or reminding them to avoid covering the camera lens with their fingers. We also helped children negotiate their roles in this game. Some children wanted to participate but were unfamiliar or uncomfortable with the role of reporter, so we introduced the idea of interviews. The reporting morphed into a talk show format as different children took turns playing the roles of the interviewer and interviewee, asking questions such as, "Do you like Star Wars?" The tablet provided a medium for children's literacies to flourish through play (Wolhwend 2013).

Many apps also employ the camera function for creation. For example, Shadow Puppet Edu allows users to choose photos from the camera roll to make an ebook that includes text and voice-overs. The class used this app to produce many ebooks, ranging from one documenting their field trips to another describing the jobs in their pretend carwash to an informative book about the variety of musical instruments we used in music class. After the class bunny passed away during the school year, the children made an ebook to honor and remember it.

For class books we chose shared experiences (field trips, cooking projects, class rules) so that all children would be able to participate. During the field trip or project, we would encourage children to take pictures for the book so they would become comfortable with using the tablet. Before creating the class book we brainstormed ideas for what we wanted to tell other people about. We brought the tablet to each child in the circle so they could add an idea to our book. The children in our small class had time to think about what they wanted to say before they were recorded. Given the potential wait time for other children, teachers with large classes may consider doing this in small groups. Our class ebooks were a process; as such, they were not perfect. Occasionally a child would say something different from what she planned, or a quiet child would barely speak loud enough to be heard, but we never edited what they said, preserving the children's thoughts.

Creating class books helped students see themselves as authors and spurred them into wanting to write their own texts. They took pictures of their creations during play and used the app to narrate their work; the children also photographed pages of a favorite storybook, then retold the story using their own words. Not all students, however, were ready and eager to tell their stories. Children often declined our suggestion that they record a project they were working on. Because we valued opportunities for the children to practice oral language skills and learn to use technologies, we looked for pathways to encourage all of our children to try to make a book or record talk about their work. Nassor, who was hesitant at first to participate in making ebooks, became an eager participant once he realized he could take pictures of his block center structures and record a description, thus preserving his work even after the cleanup bell rang. The apps served as a conduit for the students' burgeoning identities as authors and creators whose ideas matter.

Collaboration

Technology use can be solitary, but similar to what happens during children's play, others often join in once they see something interesting going on. Creating a video or movie offers children many opportunities for collaboration as they have to negotiate the roles that each child will play.

We also found that specific apps invite collaboration. Toontastic is an app that allows users to create a cartoon, first choosing the setting and characters, then moving and voicing the puppet-like characters as children record a story (Puppet Pals is a similar

app). This app was popular with the children, as they loved the agency they were granted in moving and voicing the characters. They collaborated to make decisions about the stories and the cast.

Miss Victoria: What is the story about?

Lacey: First, they were in the city, and now they are getting lost. They will go in the forest, and then we need the next scene.

Thabisa: *[Looks through the scene options.] I want the beach.*

Lacey: But they are forest characters . . .

Thabisa: Right. [*Clicks the forest, and starts to choose a rocket for a character.*]

Miss Victoria: A rocket? Remember, we said that the characters should stay the same in the next scene?

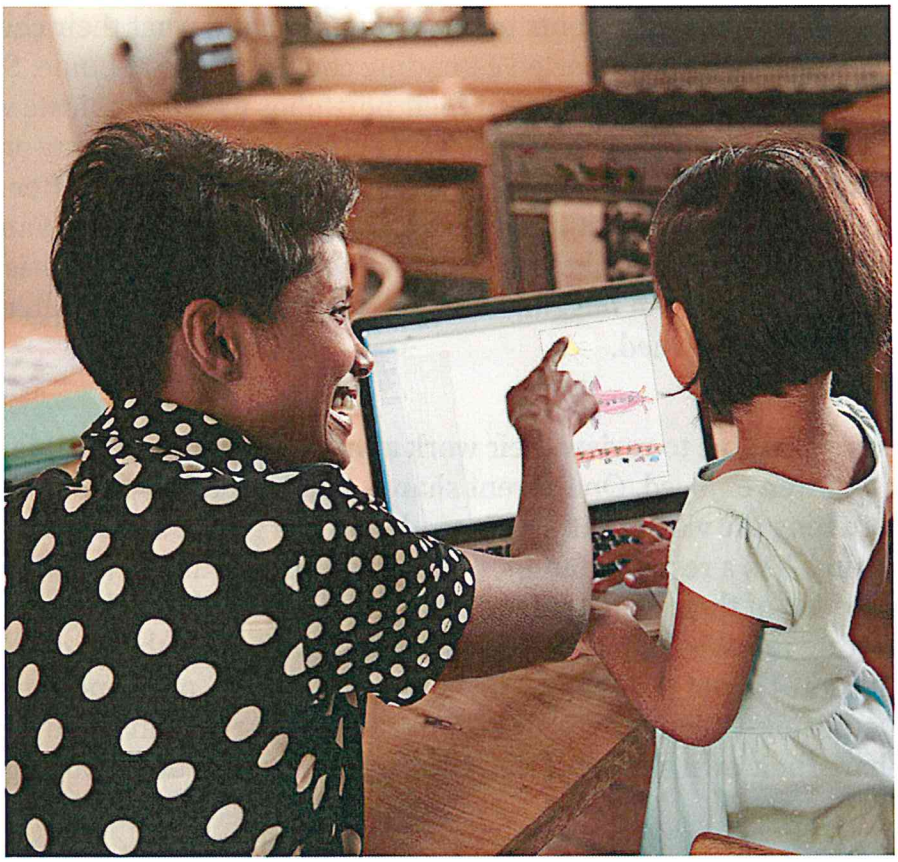
Lacey: Oh, yeah.

Thabisa: Okay, but this time let's also add Miss Victoria.

Lacey: Okay!

As Lacey and Thabisa created the story together, they negotiated the available choices in their story making, just as they would have in dramatic play. With a teacher's support, they were able to work out differences and consider the continuity of the story line. These apps harness technology to enrich play, supporting the students in the important work of creating stories and negotiating roles and relationships.

Communication



While there are many ways that technology facilitates communication (see, for example, Fantozzi 2012 for using VoiceThread to connect preschoolers with teachers traveling in other states), in our current work we found great value in using apps to connect with families. We used the portfolio app SeeSaw to document the children's work (ClassDojo and Tadpoles are similar). The app allowed us to upload the children's videos, ebooks, and Toontastic creations as well as document other kinds of play through photos; all of it goes into individual portfolios set up in a newsfeed-like structure for each child, documenting their work throughout the year. Seesaw also lets teachers tag more than one child, so if two children work on a project, the documentation can go into both of their portfolios—likewise, a class book can go into everyone's portfolio. Ms. Scherfen felt better able to explain the play-based curriculum than in years past because photos with captions and/or notes were regularly seen by families and gave them a much more well-rounded look inside the classroom than the tangible products (like paintings) that were sent home. Parents were enthusiastic about the added connection to the school. In a survey, one parent commented,

> I loved getting a peek into my child's school day. It's hard to get kids to tell you about their day, but SeeSaw was very helpful in cluing us in about her daily activities. Plus, it reminds kids of something they did in school and helps them remember the details. Then they can talk to us about it.

These digital portfolios allowed parents to see and understand what their children were doing in school, which in turn supported extending conversations at home. Some children even purposely acted on their awareness of their portfolios to communicate with their families, asking us to take and post a picture of their work so that Mommy or Daddy could see. One child used the portfolio to share her feelings with her mother. After a teary morning goodbye, Hope drew a picture of her mother in her journal. Ms. Fantozzi offered Hope the chance to record words about her mom. She did so, saying, "This is Mommy, and I am looking at her, and I'm hugging her, and, uh, I'm kissing her." After Hope saved her recording, the tears vanished.

The children were also able to review their work at home—something that families reported their children enjoyed. One parent shared that her child "loved looking at the pictures and watching the videos with us. It made her feel good and proud to show us what she was doing." As a result of families engaging with the digital portfolios, children could take ownership of their work and share it with the special people in their lives. Renowned advocate for play Vivian Gussin Paley once said, "It is the teacher's role to keep telling anecdotes about how clever, inventive, innovative, nice, and sweet children are in play" (Dombrink-Green 2011, 93). With teachers' support, this kind of technology lets children share their own stories of the important work they do through play.

Conclusion

In this play-based classroom, parents at first needed to be convinced that technology would not crowd out play. After regularly seeing the children's portfolios, families' concerns about passive button pushing dissipated. By the end of our yearlong project, parents had admired their children's creations, enjoyed the frequent communication, and seen the ways their children had grown as collaborators.

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Still, we are concerned that the pressure to meet the high expectations of the Common Core State Standards might cause some preschools to decrease play to make time for basic skills practice in a misguided attempt to prepare students for kindergarten (Christakis 2016). Global readiness requires use of technology that intentionally enhances play in the classroom and gives children opportunities to build new types of literacy skills. While our experiences are in preschool, this kind of play has a place in elementary school as well. At the intersection of play and technology lie opportunities for children to become creators, collaborators, and communicators—crucial identities for 21st century literacies.

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Audience: *Teacher*
Age: *Kindergarten*, *Preschool*
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VICTORIA B. FANTOZZI

Victoria B. Fantozzi, PhD, is an associate professor of early childhood education at Manhattanville College, in Purchase, New York, where she teaches courses in early literacy. She worked with the Watchung Cooperative Playschool for two years on this project. victoria.fantozzi@mville.edu

CHRISTI PORTER JOHNSON

Christi Porter Johnson, MA, is the director of, and a lead teacher at, the Watchung Cooperative Preschool, in Montclair, New Jersey. She earned her master of arts in teaching early childhood education at Montclair State University. capeonsherman@gmail.com

ANNELIESE SCHERFEN

Anneliese Scherfen, MA, is a lead teacher at Watchung Cooperative Preschool. She earned her master of arts in early childhood education at Hunter College, City University New York. scherf20@gmail.com