Connection, Culture, & Creativity

Using Mobile Technology as a Medium for Storytelling in an Intergenerational Classroom

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Introduction

Mobile technology is now ubiquitous in families' lives and, as such, provides fertile ground for organic technology learning embedded within everyday home practices, like oral storytelling. Schools throughout the country have eagerly embraced mobile technology and have incorporated it into learning activities and parental outreach (Zhang, Trussell, Tillman, & An, 2015).

However, research shows that educational stakeholders' (e.g., students, parents, teachers, and administrators) needs for learning about mobile technology have increased with the rise of its use in schools (Zhang et al., 2015). This is true for preschools and extends through the grades to high school. Attention to STEM learning in PreK-12 education has increased immensely in recent years to prepare even the youngest learners with the foundational technological skills to actively participate in and contribute to the technological advances of the twenty-first century (Aladé, Lauricella, Beaudoin-Ryan, & Wartella, 2016; Aronin & Floyd, 2013; Johnson, 2016; Moomaw & Davis, 2010).

However, public schools that serve minoritized populations in low-income areas continue to struggle to fund and sustain high quality initiatives, including technology, in their learning centers (Bassok & Galdo, 2016).

The Pew Internet and Family Life Project (2013) reports that the rate of smart device use among Latinx adults is higher than the U.S. average. This indicates that Latinx parents' smart devices offer an opportunity for informal technology learning at home and posits that parents' use of smart devices could be one tool to use in PreK-12 learning. Familial outreach in schools can capitalize on Latinx parents' smart device use along with their home practice of oral storytelling in their home language(s) to facilitate intergenerational technology and literacy learning.

This article explores the experiences of three Latinx women participating in a family digital storytelling program held at an East Los Angeles Head Start preschool program. The mother, Fernanda, was a teacher at the school and invited her two adolescent daughters, Sofía and Catalina, to participate in the program. The analysis of their final digital stories, in tandem with information gathered via observations and interviews, shows that all three women enhanced their technological literacies in addition to creativity and confidence in an intergenerational, informal learning environment.

Review of the Literature

Family Literacy

Since the end of the twentieth century, a clear strand of research has been established confirming the impact of the home environment on children's success in school (Fuligni & Brooks-Gunn, 2004) and as a space for fostering multiple literacies (including technology) and rich language practices that are culturally embedded and relevant to families' everyday lives (Delgado-Gaitan, 1990; Heath, 1983; Moll, Amanti, Neff, & Gonzalez, 1992; Purcell-Gates, 1995; Street, 1995; Taylor, 1983).

It has been well documented that families which are low-income, are of minoritized backgrounds, and/or have limited knowledge of English often have home literacy practices that do not match those expected in school (Heath, 1983; Strucker, Snow, & Alexander Pan, 2004). However, most familial outreach initiatives employ an interventionist ideology toward diverse families that views them as needing to change their practices to better reflect those of schools. As a result, these outreach initiatives perpetuate a cyclical mismatch between families and schools: families do not feel like their home practices are valued and schools continue to see them as in need of change (Baquedano-Lopez, Alexander & Hernandez, 2013).

Family learning initiatives that draw on families' home practices and funds of knowledge, or cultural ways of knowing and doing, (Moll et al., 1992) do exist, yet are exceptions in the field (Milliken-Lynch, 2009; Phillips, & Sample, 2005; Turner & Edwards, 2009). Harbin, Herrmann, Wasik, Dobbins, and Lam (2004) and Naoon, Van Dyke, Fixsen, Blasé, and Villagomez (2012) found that such programs work to organize meaningful systems of support for families that are reflective of their needs, their communities, and their daily practices.

Studies of such programs have demonstrated that they provide the opportunity

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for parents to take on leadership roles in education, to bring cultural aspects to the center of learning, and to define notions of parenting, support, and literacy in their own terms (Galindo & Medina, 2009; Jasis & Ordóñez-Jasis, 2004; Johnson, 2009; Mandel Morrow, Mandelson, & Kuhn, 2010; Reyes & Torres, 2007; Stacy & Sarmiento, 2017).

In these programs, families demonstrated a strong investment in their learning and took pride in their accomplishments through multiple literacies (Orellana, 1996). Though not the norm, these initiatives show promise for authentic endeavors to integrate a culturally relevant approach to learning digital and oral literacies within a structure of a family outreach program.

The move toward developing family outreach initiatives that are culturally relevant and that draw on families' multiple literacies and language practices must be intentional. This is why we worked with local leaders at the Mexican American Opportunities Foundation (MAOF) to implement the family digital storytelling program in East Los Angeles, California, during the fall of 2017. As leaders of this program, we facilitated a family literacy environment through a multiple literacies perspective that "investigat[ed] and validat[ed] students' multiple literacies and cultural resources in order to inform schooling" (Auerbach, 1995, p. 651). As such, it centered families' "culture-specific literacy practices and ways of knowing" (Auerbach, 1995, p. 651) in the curriculum.

Technology

As mobile technology continues to become infused in our daily lives, new literacies emerge that authentically connect to families' social and cultural practices (Gee, 2012). Differing from traditional notions of print literacy that focus solely on reading and writing, new literacies invoke a sociocultural approach that extends the scope of literacy . . .

> . . . to account for the context of our culturally and linguistically diverse and increasingly globalized societies for the multifarious cultures that interrelate and the plurality of texts that circulate... Literacy pedagogy now must account for the burgeoning variety of text forms associated with information and multimedia technologies. (The New London Group, 1996, p.61)

Teaching in formal and informal contexts requires us to take a sociocultural approach to literacy learning. In this case, it means orienting instruction to draw on families' mobile technology use and oral storytelling. These are practices integral to Latinx families' lives and can enrich learning and teaching.

There have been few studies investigating Latino families' storytelling development in relation to school achievement and literacy (Malo & Bullard, 2000; Schecter & Bayley, 2002; Torres, 1997). A broader field of research explores adults' learning experiences with computers within family literacy programs (Edwards, 2006; Hughes & Coyne, 1996) and families' technological literacies in the home (Dickinson & Tabors, 2002; Lewis, 2009; 2013).

However, currently, there is little research examining the impact of using digital resources with multilingual families. Smart mobile devices present a new opportunity to share educational resources with families and teachers in ways that were not possible just a few years ago. As schools excitingly embrace this, they must be careful to also provide the education and support that intergenerational stakeholders will need to be successful in this exchange (Zhang et al., 2015). Seger (2011) found that despite the promises mobile technology offers in regard to school outreach, older clients were hesitant to adopt it, indicating that there may be an ideological and generational divide toward new technologies available on mobile devices.

The generational divide in technology knowledge and use is not new: researchers have called for a need for technological outreach for years, specifically regarding computers and older generations of users (Malter & Wodarz, 2000). Our review of the literature rendered only one study of a multi-generational outreach program that worked from an asset-based perspective with Latinx parents to create digital stories with mobile technology in efforts to increase digital literacies and decrease the intergenerational technological divide (Machado-Casas, Sánchez, & Ek, 2014), indicating a need to amplify research in this area. We believe that ever-present mobile technology and its accompanying new literacies can influence the language and literacy outcomes for students and their parents in significant ways.

Oral Language and Literacy

Latinx students in East Los Angeles grow up in rich, multilingual communities. Many speak Spanish or indigenous languages in their homes while learning English at school. It is not uncommon for families to use both languages when communicating. The role of oral language development is a strong precursor to emergent literacy for all students, including multilingual students (Burns, Griffin, & Snow, 1999). By providing young children with a firm foundation in their first language, parents give students a basis for learning to read and write in both their home language and English (Goodrich, Lonigan, & Farver, 2013).

Research has repeatedly shown that language proficiency in a child's first language leads to improved normative literacy skills in school. Several studies have demonstrated a link between first language knowledge and foundational early literacy skills such as vocabulary and phonemic awareness (Goodrich et al., 2013; Proctor, August, Carlo, & Snow, 2006; Rolla, 2002; Scheele, Leseman, & Mayo, 2009).

Acknowledging that the transfer between a child's first and second language is not a direct process, but a complex one that is a part of a dynamic system of language acquisition (Daftarifard & Shirkhani, 2010), we posit that utilizing oral language skills in families' first language(s) to create digital stories will enrich students' language experiences that will then positively influence their literacy and language development. By learning about storytelling and practicing it with mobile technology, parents of English learners can use their home languages and cultural practices to support their children's literacy development while receiving support to enhance these skills and to connect them to school based expectations.

Family Digital Storytelling Program

The belief that parents can use mobile technology to engage with their children more effectively while supporting language and literacy development, and that these skills best develop within a setting that affirms, develops, and explores cultural identity, first language(s), and multiple literacies guided the design and implementation of the family digital storytelling program.

We worked closely with a site director of a Head Start preschool affiliated with the Mexican American Opportunity Foundation (M.A.O.F.) to establish a familial outreach program that would foster high quality, research-based practices while keeping in line with their mission to preserve Mexican American/Latinx culture.

We attended a school-wide family meeting at the beginning of the year to inform parents of the program and to

invite them to join. The program was open to all stakeholders in the school including directors, teachers, staff, and community members, and everyone was invited bring family members of all ages. Nine sessions were held on Thursday evenings from 6 to 8 p.m.(to accommodate for participants' work schedules) and were facilitated in Spanish, although participants were encouraged to choose the language they were most comfortable in to create their stories. Dinner was served each week to promote congeniality.

The program used a workshop approach to technology learning, which included short mini-lessons on specific technology and storytelling skills while offering ample time for exploration, collaboration, and guided learning. This approach permitted us to provide support to participants based on their individual needs and interests: it also allowed for the flexibility to adapt instruction accordingly. The components of storytelling served as the foundation to participants' technology learning: as participants developed a story that was relevant to their lives, they used multimodal technology to present it.

Participants were able to choose which form of mobile technology to use to create their stories. They had access to their personal smartphones, Chromebooks, and iPads. Most chose to use Chromebooks during the weekly meetings and to work on their story at home using their smartphones. This was made possible through the use of the Google Drive app on all devices. Participants used Slides, a component of Google Drive, to create their story.

They added digital artifacts that complimented their stories and arranged them as a slide show. By the end of the session, they used the Google extension Nimbus to record the screen as they simultaneously went through the presentation and orally told their story. The result was a video that included multiple literacies: digital artifacts, a presentation made on the Cloud, and an oral story.

Google Drive was selected for this project because we understand it to be a gateway literacy into the twenty-first century. Google provides ample, free technological resources that are becoming required knowledge these days. In addition to resembling Microsoft Office and other word processing software, Google Drive also has a simple platform for learning how to share work across devices, an essential literacy for mobile technology users, as it permits access despite location.

Between the Google Drive app and the internet, families could link different devices and work on their stories in locations of their choice. Additionally, participants could share their stories with whomever they wanted using Google's share feature. This was a skill that parents mentioned wanting to learn during the very first recruitment meeting. We felt that participants' technology-learning would be amplified beyond digital storytelling by using Google in the program.

Research Methodology

We used a focused case study approach for studying the experiences of Fernanda, Sofía, and Catalina during the implementation of the family (Stake, 1995). We selected these participants purposefully because of their intergenerational status, the distribution of their ages, and the intriguing features of their home languages. Fernanda, the mother, grew up in Peru, was a native speaker of Spanish, and worked at the school as a teacher where she spoke mostly English and some Spanish. Sofía was a junior in high school and, in addition to speaking Spanish and English, also used American Sign Language to communicate.

Catalina, the youngest, was just beginning middle school, and spoke Spanish and English. This family drew on their entire linguistic repertoire (Spanish, English, and American Sign Language) while navigating storytelling and technology. All three women gave consent/assent to participate in this study and parental consent was given for the children; pseudonyms are used to protect their identities.

As researchers, we observed each session and wrote field notes. Embedded in our practice was to conduct on-going open-ended interviews that were immediately transcribed in our notes. We also collected participants' final digital stories. All data was coded using open and focused coding and triangulated to generate findings (Emerson, Fretz, & Shaw, 2011).

Findings

Throughout the nine weeks of study, Fernanda, Sofía, and Catalina displayed an intriguing form of collaboration that influenced their final stories. Given their mother's role as a teacher at the school, Sofía and Catalina often arrived early to the program and stayed late to help clean up.

Sofía was usually eager to consult with us about the progress she was making with her story while her sister and mother looked on. In fact, she took on the role of the leader in her family's digital stories. Sofía had been using Google Drive some in high school and had a working knowledge of the software. Her energy in discussing the projects invited conversations outside of the formal program that centered on story content, digital artifacts, and innovative ways to use technology.

Some weeks, Fernanda would bring other devices from home (a laptop and a tablet) so that she could better learn how to use them and so that Sofía would be able to help her at home between sessions. Catalina was nearly always present during these discussions. While she worked on her stories primarily with the younger children in the program, she lingered with the adults and often exerted her presence as a new teenager. In turn, when she did work with the younger children, she took on a leadership role much like her older sister and offered technological and storytelling support.

It is through this intergenerational collaboration that themes regarding these three women's learning experiences emerged in our research. The outcomes and characteristics of each final digital story would not be the same if it was not for their support for each other. Reflective of their family structure, each person's learning experience and final digital story involved commonalities and unique attributes.

Themes of culture, language, and new literacies were present in each final digital story; however, the manifestation of these themes was distinct. The following sections explore each theme and illuminate how the intergenerational learning in an informal space that utilized culturally relevant pedagogy enhanced the overall learning experience and the final pieces of work.

Representation of Culture

All three participants' final stories were representations of their cultures. To explain the cultural component of each story, we invoke a postmodern understanding of the term culture. A traditional understanding of culture normally points to the customs, beliefs, and practices that constitute the life of a certain group of people (Eagleton, 2000). Often, these practices are attached to a specific geographical area or country and are linked closely to the heritage of the specific group.

For example, people from different places are identified as eating certain types of food, celebrating certain holidays, and participating in certain rituals. The traditional perspective views these characteristics as static and it is common to refer to culture as something a person "has" (Gupta & Ferguson, 1992).

However, a postmodern view of culture recognizes that neither people nor their characteristics are static: individuals cross cultural spaces even if they occupy the same geographical place (Eagleton, 2000; Gupta & Ferguson, 1992). Postmodernism suggests that culture is something that we "do" each day. While we may conform with practices that are common with others like us, our lives require that we perform different social roles and interact with others.

We are constantly negotiating the space between "us" and the "other" and this negotiation creates new cultural practices that reflect the reality of our daily lives, our interests, and what is important to us. This understanding of culture connects nicely to new literacies: literacies that are reflective of our lives coincide with our cultural practices.

As program facilitators, it was important to us that participants created stories that were culturally reflective, but that were not restrained by traditional notions of culture and heritage. Participants were asked to reflect on things that were meaningful to their lives and accurate to their experiences in the world. As a result, the final digital stories were tailored to each person's cultural practices as opposed to stagnate heritage characteristics affiliated with their ethnic identity.

Sofía's digital story was intriguing. Titled "Being Deaf," her story focused on a cultural practice that was very distinct from those of her family. Sofía had a 50% hearing loss and, as mentioned earlier, spoke American Sign Language (ASL) in addition to Spanish and English. She decided to create her story about attending Deaf Camp when she was younger.

Going to the camp in Wrightwood, California (approximately 75 miles outside of Los Angeles) was her first time being amongst only people who were deaf and the first time she used ASL to fully communicate. Her story presents photos of the cabins, campgrounds, and different camp activities.

Interestingly, Sofía's focus during the story drifts away from explaining what it was like to be deaf and shifts to describing being in a camp environment for the first time. She discussed making friends, seeing a bear, sleeping in a tent, challenging herself with outdoor activities, and even working through "teenager fights" throughout the week. Only once does she explain that camp skits are unique at Deaf Camp because the audience does not applaud by clapping their hands, but by raising their arms and shaking their hands.

Having a hearing loss and speaking ASL was a cultural practice for Sofía and it lead her to and facilitated her time in Deaf Camp. However, another cultural practice that emerged from her story was her negotiation of camp life and the outdoors as it juxtaposed her life in the city. She placed importance on this aspect of the experience.

Fernanda, Sofía's mother, worked closely with Sofía as she created her story and, thematically, the women's stories were similar. Like her daughter, Fernanda also wrote about leaving her family to go on a trip. Her story had the title, "*Inseperado Final De Un Viaje de Promoción*" [Unexpected End to a Grade Level Promotion Trip]. In 1974, when Fernanda was in high school, she and a group of friends left their homes in Lima, Peru to go on a short two-day trip to Cusco, Peru, to celebrate their recent promotion to the next grade level. When it was time to return home, a strong earthquake hit Lima and all flights were grounded.

Fernanda described the distress she and her friends felt: the phone lines were not working and they relied only on the evening news to learn anything about their families' wellbeing. The girls were scared and depended on each other to feel safe. When they finally were able to return to Lima, they were greeted with disaster. The airport had suffered damage along with several major buildings in the city. Fernanda emphasized the importance of her friends and family during that time. As a teenager, she felt relief to see her family alive and learned in a very tangible way that buildings could be rebuilt, but that family members were irreplaceable. Fernanda stated that this event has had an impact on her life and how she interacts with the people she holds closest.

Catalina, Fernanda's youngest daughter, created multiple stories that were reflective of her life as a teenager. While she spent a lot of time with her older sister and her mother during the program, most of her story-creating happened in a separate setting with the other children in the program. With the other children, she created a portfolio of five stories. Some of these stories were more in depth and their creation spanned two to three sessions of the program.

For example, Catalina created one story about a girl (named Catalina) who was visiting a friend in the hospital. Both girls eventually succumb to their illnesses and die, only to return as vampires. Another was a short Claymation film that told the story of a shoe that went around stomping on ants. Other stories were made in one sitting, such as the story of selfies that Catalina used to introduce herself and her interests.

When looked at comprehensively, Catalina's digital storytelling portfolio reflects her cultural practices as a new teenager: dramatic friendships and the exertion of self and power. Additionally, there are traces of pop culture reflective in her work, such as the storyline of vampires found in popular novels and movies.

All three of these women, young and old, share heritage roots and were of Peruvian descent. However, their stories reflect their daily cultural practices, or how they 'do' culture in their real lives (Eagleton, 2000; Gupta & Ferguson, 1992). Sofía's story explored how she navigated the world with a hearing impairment and how the experience of attending camp for the first time was intricately linked to this.

While Fernanda did create a story about her home country, its focus was the importance of her family over material objects. Catalina's stories exhibited her life and interests as a young adolescent. What is most important is that these stories emerged from the participants and guided their experiences in the digital storytelling program, in line with Auerbach's (1995) call for a multiple literacies perspective that embraces participants' cultural resources in familial outreach initiatives.

Languages Across Generations

Inherent to cultural practices is language use. Language is a vehicle for cultural expression and promulgating cultural practices. Coinciding with this, cultural practices influence language use (Agar, 1994). Research on multilingual families show that mothers serve as familial language policy makers and make decisions for their families regarding language use and first language maintenance (King, Fogle & Logan-Terry, 2008; Velázquez, 2014). However, given the pressures and social/political policies in line with the dominant language in the United States, English, many multilingual communities experience language loss across generations (Anderson-Mejías, 2005).

We can see the connection between culture and language in the women's stories. Fernanda, the mother, spoke to all of her children in Spanish and all of her children spoke to her in Spanish. However, she was the only person in this family to use Spanish when telling her story orally. Despite the fact that the program facilitators

spoke Spanish and presented all material in Spanish, both Sofía and Catalina consistently responded to us in English and created their stories in English.

This could be explained in a number of ways. First, the program took place in a school setting and the language of school in the United States is dominantly English. The younger girls were likely used to interacting with their teachers in English. (The leader of this project speaks Spanish as a second language and is not a native speaker. Throughout the program, both girls only spoke with her in English, despite her responses to them in Spanish.) It is also likely that Sofía and Catalina have learned about technology in English.

Second, their stories reflected their daily cultural practices and many of those practices happen in English. Sofía's language use was very interesting, in that she also used ASL to communicate. At first, she was eager to make her story bilingual by speaking in English and showing a video of herself signing in ASL. However, she never mentioned including Spanish in her story. Given the topic of her story, English and ASL were culturally relevant.

Despite creating their stories in English, Sofía and Catalina did capitalize on their linguistic repertoire while creating their stories. Their ability to move fluently between languages to accomplish different tasks such as listening to instruction in Spanish, communicating with their mother in Spanish, and then creating a story in English or ASL can be explained as translanguaging. Translanguaging is "the act performed by bilinguals of accessing different linguistic features or various modes of what are described as autonomous languages, in order to maximize communicative potential" (García, 2009, p. 140).

It is important to note that while Sofia's and Catalina's final products do not include a verbal or semiotic illustration of all of the languages they speak, their multilingualism is embedded in the process of creating the story. They drew on all of their languages to develop the final product. However, it is telling that the younger generations in this case study did not use Spanish, their mother's language, even in a space where they were encouraged to.

The move toward multilingual learning in schools is on the rise in California, especially since the passage of Proposition 58 in November of 2016 which makes bilingual education legal again in California (Sanchez, 2016). To be culturally relevant, teaching and learning must embrace students' languages. This is not only key for the high-quality education of multilingual students (García & Kleifgen, 2010), but also to maintain the home language and prevent community-level language loss (Anderson-Mejías, 2005).

It is common that multilingual communities are often over powered by the dominant language, English, for a number of reasons. While learning English is necessary to experience success in school and in the larger society, folks are denied an opportunity to become fully bi/multilingual and bi/multiliterate in the language they first learned in their homes.

As generations settle, often the language other than English is lost: grandchildren and great-grandchildren can no longer communicate with their relatives and lose a connection to their heritage. For these reasons, it is imperative that educators make spaces for multilingualism in their practices. Even settings that have not yet fully embraced formal bi/multilingual education, like the Head Start program with which we collaborated, can create spaces that value and promote the use of the home language(s).

In our case, the informal learning environment permitted this to occur. However, our findings raise the question: how can we encourage students to capture their cultural practices in their home language(s) while still maintaining an open-atmosphere that is largely driven by the participants? This is a question we are still grappling with and will consider during the next iteration of this program.

Technology, Literacies, and the Learning Process

The women's final products emerged from their learning experiences regarding combining the use of mobile technology with oral storytelling. This process was dependent on their prior knowledge, their participation in the program sessions, and their everyday lives. It was our intention to infuse the digital storytelling workshop with multiple literacies (Gee, 2012) that were present in the participants' lives (e.g., oral storytelling and mobile technology) while also scaffolding new ways to utilize and interact with these literacies.

In a previous pilot of the digital storytelling program, we used different storytelling apps made for smartphones and tablets (Stacy & Sarmiento, 2017). We found that specialized apps for storytelling are not always kept up-to-date and are not available across operating systems.

So, the decision was made for this iteration of the program to use Google Drive because it is a gateway literacy, or a way to learn additional technological platforms and skills, and because of its accessibility across devices and operating systems. In addition to using Google Slides to create a digital story, participants also learned how to create a Google account, access email, back up their photos, and explore all of the other apps that Google has to offer.

The participants' literacies developed as they made progress through the planning of their story and the intergenerational characteristics of these three women largely influenced their trajectories. Fernanda eagerly participated in mini-lessons that focused on developing a strong story. As a preschool teacher, she brought a lot of insight to group discussions.

For example, participants listened to several stories in Spanish and discussed whether or not they were "good" stories. They generated their own list of criteria for "good" stories and, during these discussions, Fernanda integrated the school-based literacy skill of story mapping narratives to her peers. She also suggested to the group that they think of an event that was important to their lives as a starting point for their story.

When Sofía was brainstorming ideas for her story, it was Fernanda that reminded her of the time she spent at Deaf Camp. Her leadership role as a mother and a teacher guided others' learning experiences in the program. Like her mother, Catalina took on a similar leadership role with the younger children. She led group discussions, offered topic suggestions to the other children, and encouraged creativity within stories. Given that she was often the eldest child in the group, the younger children had immense respect for Catalina, viewing her as another teacher in the program.

Not surprisingly, the roles between Fernanda and her daughters switched for the technological components of the project. Sofía was very confident and comfortable using Google Drive. She had used it several times for school and had many files archived on her Drive.

In fact, before she had even determined the topic of her story, Sofía asked us if she would be able to create and embed a video of her using sign language to tell her story in the Google Slide. (Eventually, she shied away from this idea, not wanting to appear on camera once we worked with her to figure out a way to do this.)

Sofía was able to manipulate Google Slides with little help. To create her story, she used the Google search engine to locate pictures and add them to the slides. She

created title pages. Only a couple of times did she ask for help with formatting the pictures on the slide. Once we demonstrated a skill like cropping a photograph, she was able to do it independently. Sofía understood how to access the Screencastify extension for Google Chrome and used it to record multiple versions of her final story.

She presented the story using Google Slides, pressed the icon to begin recording, and told her story (in English) while advancing the slides. She also shared her final story with us by using Google's share function independently. Sofía's technological literacies and confidence were essential to her mother's success with the final digital story project.

At the beginning of the program, Fernanda had a working knowledge of Microsoft Office, but had never used Google Drive. During the second session, we supported Fernanda as she set up a Gmail account: Sofía played a large role in helping her decide on a username and password. All of the components of creating a story with Google Slides were new to Fernanda. She paid close attention as we introduced how to go to Google Drive, open a new slideshow, and search and add pictures for the story.

Sofía sat next to Fernanda each week and supported her in completing these tasks after the mini-lesson. Sofía would repeat the instructions to her mother, demonstrate how to do the task, and observe while her mother tried it independently. Both women used Spanish to communicate. Fernanda would then work on her own until she ran into an issue. Typically, she would first ask Sofía for help before signaling to one of us.

This pattern continued at home, outside of the program hours. Midway through the program, Fernanda brought a laptop from home to the program. At the beginning of the session, she logged in to Google Drive independently, selected her slideshow, and showed us the work she had done at home. With the help of Sofia, she had searched Google for pictures and news articles from the 1974 earthquake in Lima. Additionally, they had digitized photos of Fernanda's family from that time period and added them in to the slideshow.

Fernanda was immensely proud of this work and stated that she and Sofía had worked for hours on it during the weekend. By the end of the program, Fernanda was operating Google Drive somewhat independently. For the oral recording of her final story, Fernanda also navigated the Screencastify app independently. She started the screen recording with the support from a volunteer by presenting the title page of her story and pressing play. From there, she told her story with fluency and expression. However, she never advanced the slides to show all of the photos she had spent so much time organizing! After she told the story, she advanced through a few of the slides before calling over a volunteer to help her stop the recording. Fernanda decided to keep this version as the final story and Sofía helped her share it with us.

Catalina's technology use was similar to her older sister's: she moved fluidly through the technology components of the creating stories. Catalina used multiple mediums to create her stories. In addition to taking photos, she also drew pictures using the draw feature on an iPad and filmed clay figures she created. Catalina was able to use the apps immediately after receiving instructions during a short mini-lesson. (It is important to note that these short mini-lessons were made for a multiage classroom, spanning from preschool to middle school).

She also helped the younger children navigate the iPads and use the apps successfully. Catalina's interest during the sessions was sustained mostly in using technology, as she focused on creating with apps (drawing, filming, taking photos): her stories were generally short and followed a basic plot line. Before the sessions began, Catalina often looked on at her mother's progress and sometimes requested to use an iPad to create or play games in the presence of her older sister and mother.

The culturally relevant approach to family learning throughout this program permitted the participants' literacies to align with their cultural practices. These women were all able to showcase their strengths regarding technology and oral storytelling, which stemmed from their daily lives. Additionally, they were able to support each other as they grew in these areas.

Perhaps because the control of this workshop was shared between the participants and the program leaders, it was a safe space to explore and enhance different literacies while keeping motivation high. The majority of each session (approximately one full hour) was dedicated to open workshop time, where the participants worked according to their own pace, interests, and needs. Many, including Fernanda, even used this time to become familiar with their new email accounts, explore other websites, and share photos with each other.

Our findings about using mobile technology with multiple generations are in accordance with Zhang et al. (2015). The younger participants who were native users of technology, and who were presumably receiving instruction in school and had access to smart devices at home, needed very little instruction regarding how to use the technology. The older participants needed a lot of one-on-one support. The workshop model with multiple facilitators permitted this to happen. Most weeks there were at least three or four representatives from the university available to support the creation of digital stories.

However, based on this case study, we posit that intergenerational support between children and parents enhances the learning of the older relative in a unique manner. Fernanda and her daughter had a relationship that, realistically, cannot be replicated by a teacher. Sofía was able to work closely with her mother and to extend her mother's learning into the home environment. Not only does mobile technology follow parents from home to school and back again, in this case the technological support also went with the parent into the home. We also observed similar patterns of behavior between Catalina and the younger children.

Thus, not only did the digital storytelling program enhance literacy learning, it also illuminated how schools can capitalize on familial relationships to bridge the technological divide. When parents and their children are together invested learning that is culturally relevant and in tune with their interests and needs, the entire learning experience is enhanced and more meaningful. This can and should be extended to the notion of familial outreach and the learning of new literacies.

Conclusions

This case study of intergenerational learning in the family digital storytelling program provides insight about how families' cultural practices like mobile technology use and oral storytelling can be leveraged to promote the development of new literacies. As mobile technology continues to be ubiquitous, it is essential that students of all ages, including older students not in the PreK-12 system, develop the literacies needed to successfully navigate these new cultural practices. A multigenerational classroom, like the one explored in this article, brings Dewey's (1902) vision of school as a community learning center opened to all citizens to life. The open-ended workshop model permitted the inclusion of cultural

practices along with multilingualism while promoting essential literacy skills.

Implementing culturally responsive outreach is crucial for ensuring that families see themselves reflected in local school settings so that they can be in charge of their learning and empowered by public education. Instead of an interventionist approach to working with parents in a way that seeks to "fix" their home practices, familial outreach programs should embrace the cultural practices of their participants, shifting the control, and augmenting investment in learning.

Furthermore, family learning should reflect the family structure: instead of completely separating family members during these programs, they can work together and learn from each other. Pivotal to the learning of the featured participants was the way that they interacted across generations. In fact, in hindsight, we feel like the family digital storytelling program should have done more to integrate family members throughout the learning process.

From Fernanda, Sofía, and Catalina, we learned how their relationships were powerful tools in their learning processes. They could do something that we as leaders could not: extend learning organically into their cultural practices outside of the school. Oral digital storytelling with mobile technology accomplishes more than enriching literacies: it has the potential to open channels to fluid learning practices between school and home.

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