USING SOCIAL MEDIA TO CONNECT FAMILIES AND KINDERGARTEN CLASSROOMS

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Abstract: Schools are generally disconnected from all other areas of children's lives and educational institutions have not been successful at integrating school learning with learning that occurs outside the classroom (NRCNA, 2009; Ryan, Adams, Gullotta, Weissberg, & Hampton, 1995). Addressing this problem is vital, because positive connections between school and home can increase students' motivation to learn, achievement and well-being (Christenson, 1999; Epstein, 1994; Pianta, Rimm-Kaufman, & Cox, 1999; Fan & Chen, 2001). This case study describes a project co-designed with teachers and implemented in kindergarten classrooms that leverages social media to link home and school and increase families' involvement in their child's academic learning. Six kindergarten teachers and thirty-two families from a southwestern Pennsylvania lab school participated in the study. I investigated how families participated in and perceived the project, used social media, and interacted with other families. I examined ways teachers used the project to further their learning goals and the extent to which the project strengthened the kindergarten community. Data was collected through classroom, online and home observations, interviews and questionnaires. Results indicated that not all parents felt more involved as a result of the project, but most families had opportunities to be involved in new ways and families thought the project helped to bridge home and school. The project provided access to families' "funds of knowledge", which helped to contextualize content learning in the classroom and individualize conversations between teachers and students (Moll, Amanti, Neff, &

Gonzalez, 1992). During the project, participants learned more about one another, which in turn, strengthened the kindergarten community. This study explores a potential way forward for making families' home culture and experiences a part of academic learning. The project is a model for using technology to support family involvement in classroom instruction and learning. This study contributes to prior literature on the Connected Learning Model (Ito, et al., 2013) by more thoroughly linking the model to learning and engagement theories and describing ways in which the model can be used to design curricular projects that bridge home and school for elementary-school children and their families.

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PREFACE

To Bill and Luann White - thank you for showing me the importance of family, constantly encouraging me, and inspiring me to try to make the world a better place. Thanks to Kate for pushing me to do more than I ever thought possible. And to Matt, I'm grateful you took this amazing journey with me and forced me to question everything along the way.

1.0 INTRODUCTION

A child's learning and academic success are influenced by social interactions and context: the people they spend time with, what they do in different life spaces and the intertwining of experiences across spaces (Tharp & Gallimore, 1988; Lave & Wenger, 1991; Bronfenbrenner, 1979). According to researchers at the Connected Learning Research Network, "learning is most resilient when it is linked and reinforced across settings of home, school, peer culture and community" (Ito, et al., 2013: p. 76). This study investigated learning and community building in kindergarten, particularly through linking home and school. The purpose of this study was to co-design a classroom project with kindergarten teachers that leveraged social media to bridge home and school and get families more involved in their child's academic learning. The goals of the project were to draw on students' and families' knowledge and experiences to deepen academic content learning and to support relationship building within a kindergarten community. This study addressed two common problems of practice: the disconnection between formal and informal learning contexts and a need for more family involvement in children's learning at school.

1.1 DISCONNECTION BETWEEN INFORMAL AND FORMAL LEARNING

Schools are generally disconnected from all other areas of a ch ild's life and educational institutions have not been successful at integrating school learning with learning that occurs

outside of the classroom (NRCNA, 2009; Ryan, Adams, Gullotta, Weissberg, & Hampton, 1995). Addressing this problem is vital, because positive connections between school and home can enhance students' learning, socioemotional development, and engagement in schooling (Christenson, 1999; Epstein, 1994; Pianta, Rimm-Kaufman, & Cox, 1999; McWayne, et al., 2004).

Students' and families' prior knowledge, interests, and experiences are valuable for bridging home and school because they can help to contextualize academic content in the real world (Tharp, 1997). However, it's difficult for teachers to access students' and families' prior knowledge and use it productively in the classroom to deepen content learning, while still meeting requirements enforced by the education system (Ito, et al., 2013; Collins & Halverson, 2009). Informal contexts, such as home, after-school programs, and online communities are rich sources for learning (e.g. Takeuchi, 2012; Barron, Gomez, Pinkard & Martin, in press; Ito, et al., 2008, 2010; Steinkuehler, 2004), and if effectively leveraged, experiences in these informal contexts have the potential to enhance students' learning in school (NRCNA, 2009).

1.2 NEED FOR MORE FAMILY INVOLVEMENT IN CHILDREN'S LEARNING

A second problem this study addresses is the need for more family involvement in children's learning. Getting families more involved in the transition to kindergarten has the potential to positively influence students' achievement, school experiences, and social and emotional development in school (U.S. Department of Health and Human Services and Administration for Children and Families, 2010; Berger, 1991; Nokali, Bachman, & Votruba-Drzal, 2010; Fan & Chen, 2001; Pianta & Walsh, 1996; Taylor, Clayton, & Rowley, 2004). Educators have stressed

taking an ecological view, rather than focusing only on children's skills and abilities, to understand the transition to kindergarten and school success (Ramey & Ramey, 1999; Pianta, Rimm-Kaufman, & Cox, 1999; Pianta & McCoy, 1997; Bronnfenbrenner, 1979). Two problems emerge when focusing on skills and abilities, rather than the ecological contexts in which children develop. First, focusing on skills and abilities doesn't account for variability in individual differences in school adjustment (Laparo & Pianta, 1998; Pianta & McCoy, 1997). Child factors only account for up to 25% of variance in kindergarten outcomes (Laparo & Pianta, 1998), which suggests that characteristics of the child do not explain all of the outcomes in kindergarten. Second, families and schools interact in ways that affect the child's transition to school.

A national interview of 217 parents found that parents and teachers are often reluctant to communicate and interact around children's learning (Christenson, 1999; Christenson, Hurley, Sheridan, & Fenstermacher, 1997). Olson (1990) found that 19% of parents were reluctant to talk to school educators or felt awkward doing so, while 55% of teachers felt reluctant or awkward approaching parents about their child. This raises concerns for having successful school – home interactions to support the transition to kindergarten. Providing more opportunities for families to get in involved and finding new ways to be involved are essential for supporting the transition to kindergarten.

Family involvement, or parent involvement as it's more frequently called, is not clearly or consistently defined in research or in practice (Fan & Chen, 2001). Previous research has defined many types of family involvement focused on both home-based and school-based strategies, such as participating in school activities or events, volunteering in the classroom, communicating with teachers about school, participating in learning activities at home, and

helping with homework (Epstein, 1987; Hill & Tyson, 2009). However, not much is known about if and how families participate in the learning that takes place as a result of classroom assignments and projects. Family involvement research and interventions often neglect to involve families in the heart of learning that takes place at school. In this study, I argue that families need to participate in learning experiences with their child. It is not sufficient to only inform families of what happens at school, as families can play an important role in their child's learning and in the school community.

There are a few potential challenges in asking families to get more involved in their child's school learning experiences, including minimal time, lack of resources (e.g. access to internet), conflicts about the perceptions of roles, school resistance, and characteristics of parents (Melton, Limber, & Teague, 1999; Sayer, Bianchi, & Robinson, 2004). Families are short on time as a result of commuting, working, taking care of children, and preparing meals, just to name a few responsibilities. Leveraging social media may be an efficient way to increase family involvement and the time parents spend interacting with their child around academic content.

In this study, family involvement is a strategy for bridging home and school learning environments. Family involvement is a way for teachers to better draw on families' knowledge and experiences outside of school to shape learning in the classroom and contextualize academic content. Kindergarten students and families were chosen to participate in the study because of the importance of the transition to kindergarten and the need for family involvement to link home and school learning (Pianta, Rimm-Kaufman, & Cox, 1999). Together, these two problems (i.e. a disconnection between informal and formal learning contexts and a lack of family involvement at the heart of learning) create a challenge for educating children in schools and preparing them to be lifelong learners.

1.3 OVERVIEW OF THE STUDY

1.3.1 Design and methods

The Family Share Project (FSP) was developed in collaboration with four kindergarten teachers at a Southwestern Pennsylvania lab school located on a university campus. A Shutterfly Share Site (2012) was used in each of the two participating kindergarten classrooms. The sites have many characteristics commonly associated with social media, including personal profiles, tagging, recent activity feeds, and the ability to post images and videos and interact with others through message boards and commenting. As a part of the co-designed classroom project, students and families were asked to post their own images and videos and tell stories about their families using media and text. The FSP was embedded in a curricular unit on families.

Our design of the FSP and this study drew on four core themes described by Barab et al. (2005) and include, "(a) creating a vision, (b) the participatory process, (c) developing a meta-context, and (d) supporting project implementation" (p. 93). Within each phase of the process there were numerous sources of data that were valuable for addressing this study's goals and investigating the research questions. These include classroom, home and online observations and field notes; multiple teacher and family interviews; and family questionnaires. Case narratives describing kindergarten students' and their families' experiences were created as a part of this study.

1.3.2 Research questions

There are six research questions for this study. The first four investigate family participation in the FSP and include,

- **Q1**: How did the FSP influence families' use of the classes' social media sites?
- **Q2**: To what extent do families and children co-create the content of the FSP?
- **Q3**: In what ways do parents and children interact with other families during the FSP?
- **Q4**: How do parents perceive the usefulness and feasibility of the FSP?

Two research questions examine how the FSP was taken up in the classroom and the outcome of the project on participants' relationships.

- **Q5**: How did the teachers use the content of the FSP to further their learning goals for the family unit?
- **Q6**: To what extent did the FSP help to build supportive and caring relationships in the kindergarten community?

1.3.3 Definition of "involvement"

In this study, family involvement is a construct that refers to a child's caregiver and the ways in which they participate in classroom activities, interact with other families and teachers in the kindergarten community, and support their child's learning in school and at home. This study aims to move beyond traditional forms of family involvement (i.e. family-teacher communication, family-child communication, helping with homework or school assignments) by inviting parents and children to co-create media at home to share with the entire kindergarten community, encouraging conversations about families at home, encouraging families to interact with one another and by giving families authority to make decisions about what content should be shared and taught during the families unit.

Some prior literature and research has referred to parent "engagement" as a synonym for rich learning that parents and children participate in. I chose not to use the term engagement a priori, due to inconsistent ways of defining engagement (e.g. Fredericks, et al., 2004). I chose to use the term "involvement" instead, because it is broader and can include a spectrum of participation ranging from doing nothing to co-constructing knowledge with a child (Fan & Chen, 2001; Epstein, 1987; Hill & Tyson, 2009). This language was important for capturing all ways families participated and describing the spaces in which families participated.

1.4 THEORETICAL PERSPECTIVES & FRAMEWORKS

This study draws on several theoretical perspectives and frameworks to 1) design and implement the FSP, 2) engage in an analytic inquiry to explain the impact of the project on students' and families' participation and relationship building, and 3) understand how social media can serve as promising tools for promoting family involvement and bridging home and school learning. The two primary frameworks are the Connected Learning Model and "funds of knowledge" (Ito, et al., 2013; Moll, Amanti, Neff, & González, 1992). The Connected Learning Model, a broad framework for supporting learning across contexts, guided the design of the FSP. It was also used to investigate the implementation of the FSP and if and how the FSP supported family involvement and relationship building. The model is based on and aligned with learning and engagement theories, which I describe more in Chapter 2. I also drew from literature on "funds of knowledge" or families' "historically accumulated and culturally developed bodies of knowledge and skills" often necessary for individual and community functioning and well-being (Moll, et al., 1992: p. 133). This framework was used to investigate the information and

experiences families contributed during the FSP, ways in which social media provided access to this knowledge, and ways in which teachers leveraged families' knowledge to enrich academic content learning in the classrooms.

1.5 SIGNIFICANCE OF THE STUDY

Computers, portable and mobile devices, and online technologies continue to be put in more and more classrooms as policy makers and administrators recognize a serious need to have school learning support students' natural learning pathways that they so often experience in informal contexts. The problem is no longer just access to technologies; but more how technologies are used in schools. Teachers struggle to find productive and efficient ways to use technology in the classroom. This study explores how to use social media to increase academic content learning and strengthen a community of learners both in and out of the classroom. To support rich content learning, "the use of technology is not enough; it has to be based on an understanding of its pedagogical value" (Beastall, 2006; p. 102; Jenkins, 2009). Without further attention to how social media are used in classrooms to achieve a specific goal, such as linking informal and formal contexts, teachers may fail to see how using social media can enhance teaching and learning.

This study explores a potential way forward for making families' home culture and experiences a part of academic learning. Many researchers have called for the need to draw on students' and families' funds of knowledge to bridge home and school and make curriculum more relevant, but it's not always clear how to give teachers access to these funds. Social media can help teachers to access knowledge previously unavailable. The FSP is a model for using

technology to support family involvement in classroom instruction and learning. Projects that use social media, can bridge home and school and provide opportunities for families to be involved in rich learning experiences with their child.

The Connected Learning Model is a new framework, so much is to be learned about how it can be applied and used in practice. This study builds on previous literature to more explicitly link the model to learning and engagement theories. Previous work has used the Connected Learning Model to make sense of and improve existing learning environments. Researchers have not described how the model can be used to design a new space or project, although creators of the model suggest it could be used for design (Ito, et al., 2013). The FSP is an example of using the model to design a project that bridges home and school, gets families more involved, and supports a community of learners.

There is very little research on how children under 8 years of age participate in academic activities through using social media. The research that does exist mostly focuses on digital, not necessarily social media and "joint media engagement" with parents and siblings in the home (e.g. Takeuchi & Stevens, 2011; Takeuchi, 2012; Gutnick et al., 2010), which misses an opportunity to focus on formal learning opportunities. While home remains the "hub" of digital media participation for young children, researchers call for further research on the role digital media can play in connecting home life to formal learning environments (Takeuchi, 2012: p. 48; Gutnick et al., 2010). Educators need examples of how social media are used to enhance young children's learning in formal contexts (National Association for the Education of Young Children & the Fred Rogers Center for Early Learning and Children's Media at St. Vincent College, 2012: p.12).

2.0 LITERATURE REVIEW AND DESIGN RATIONALE

In this chapter, I situate this study in prior research on linking formal and informal learning spaces and using technology to support family involvement. I then describe the theoretical frameworks used to guide this study and the design and implementation of the Family Share Project (FSP).

2.1 PREVIOUS RESEARCH ON BRIDGING HOME AND SCHOOL LEARNING

Research on linking home and school learning is vast. For this study, I chose to focus primarily on two areas relevant to this study:

- students' and families' funds of knowledge and the ways in which that knowledge can be leveraged to bridge home and school learning
- the use of technology to support family involvement, including family-teacher communication and family-child learning

Throughout this chapter, I make several arguments about the contributions of this study to prior research. These arguments include:

- Very few studies investigated families' funds of knowledge, and instead focus primarily on students' funds of knowledge.
- Very few studies have investigated the use of technology to access funds of knowledge.
- Most studies that investigate the use of technology to support parent involvement focus on parent-teacher communication and not parent-child learning of academic content.
- No known research has used social media to have families create content to use in the classroom or to interact with other students and families.

- Studies that investigate the use of technology to support parent involvement typically describe ways in which technologies are currently used, but neglect to design interventions specifically aimed at impacting parent involvement or supporting learning.
- There is no known research on "joint media engagement" with social media.

2.1.1 Funds of knowledge

Drawing on students' and families' funds of knowledge can be one way to bridge home and school learning (Moll, Amanti, Neff, & González, 1992: p. 133; González, Moll, & Amanti, 2005; Rosebery, McIntyre & González, 2001). Every individual has a fund of knowledge consisting of unique perspectives and information drawn from their life, experiences, relationships, and culture. According to Grant (2009), "when home funds of knowledge are different to those of school, children's successful experiences of learning at home may not facilitate learning at school and greater discontinuity between the cultures of home and school means children have to work harder in order to adapt between the two spaces" (p. 293; Lam & Pollard 2006; Singal & Swann 2009). Ethnographic studies, typically involving observations in families' homes and in classrooms and interviews with students and families, have found that drawing on funds of knowledge can help build connections between school and home and support parent involvement, student engagement and content learning (Orellana, 2009; Aikenhead & Michell, 2011; McIntyre, Rosebery & Gonzalez, 2001; Foster & Peele, 2001; Pacheco, 2012).

This study investigated families' and students' funds of knowledge and how they were leveraged to teach students about diversity and families. Research that examines families' knowledge is limited and very infrequently do studies leverage technology to access and use funds of knowledge. Research is typically focused on students' cultural knowledge. Next, I

describe research on accessing students', and then families' funds of knowledge and ways in which technology have (and have not) been used.

2.1.1.1 Accessing students' funds of knowledge

Issues accessing children's funds of knowledge have been examined in at least two ways. First, a large body of research has investigated immigrant children's funds of knowledge and the ways in which their knowledge and home cultures can support cognitive, social and academic outcomes (Ito, et al., 2013: p. 58; Gonzalez, Moll, & Amanti, 2005; Lee, 2007; Moll, Amanti, Neff, & Gonzalez, 1992). Second, other studies found that media and popular culture can be leveraged to create interest-driven curriculum, motivate students and extend literacy learning (Hedges, 2011; Alvermann, 2010; Arthur, 2001; Marsh, 2000). Researchers with the Home School Knowledge Exchange, a program in four primary and elementary schools in the UK, describe a project that is particularly relevant to this study, although it doesn't involve technology (Hughes & Greenhough, 2006). Elementary students filled a box or bag with personal objects to share with their peers. The objective was to enhance communication from home-to-school so teachers could access students' and families' funds of knowledge. In classrooms, use of the boxes/bags varied, but in all classes objects were used to teach different subjects. Students found the activity enjoyable and motivating and teachers were able to successfully incorporate students' knowledge and interests into the curriculum. Personal objects provided access to students' funds of knowledge, but this research neglected to tap specifically into families' funds of knowledge. Additionally, little is known about the affordances of using digital or social media to access funds of knowledge.

Research has investigated how to use social networking sites to access students' funds of knowledge, particularly interests (Zywica, Richards, & Gomez, 2011). Zywica, et al. (2011)

categorized students' participation on a social networking site used in the Digital Youth Network (DYN) by describing the frequency of online activities, such as posting comments or critiques, blog entries, and media. Results from field note data from school and after-school observations found that participation on the site was influenced by several factors, including mentors' efforts to tap students' interests. These results speak to ways in which social media could promote family involvement and access to students' and families' funds of knowledge.

At least one study has documented the difficulties in accessing students' funds of knowledge. Grant's (2010) study with pre-K through middle-school students' found that meaningful connections between home and school digital literacy practices were limited. The curriculum didn't naturally support teachers in drawing on students' funds of knowledge and often teachers didn't know how to access information about students' home digital literacy practices. Teachers in the study focused on the tools students used out of school and not the actual literacy practices and development of skills, knowledge or interests. With a focus on the tools, it was difficult to see how practices (playing games, social networking) might be useful to support the curriculum in the classroom. These results emphasize the need for more research on how technologies can leverage students' and families' funds of knowledge. Next, I describe research that has investigated families' funds of knowledge.

2.1.1.2 Accessing families' funds of knowledge

Research has shown that parents' funds of knowledge can help to contextualize classroom instruction in students' lives outside of school, which makes the curriculum more meaningful for children (Tharp, 1997). Teachers have learned about and drawn on parents' funds of knowledge primarily by communicating with them and by encouraging families to share stories and resources (e.g. books, cultural artifacts) in the classroom (Callanan, et al., 2001).

At least two studies have investigated the use of parents' and grandparents' funds of knowledge to create content-rich media, specifically picture books and a website. Objects and media, such as these, can contain rich information about a child and families' funds of knowledge (Kervin, 2005; Lewin & Luckin, 2011; Hughes & Greenhough, 2006). Marshall and Toohey (2010) describe a study in which Punjabi-Sikh elementary students used MP3 players to record their grandparents' stories about life in India. Stories were transcribed and made into picture books. Through discourse analysis researchers found that the production of dual language books supported literacy and conversations about the Punjabi culture and history. Sadly, books weren't shared with the larger community, which limited the extent to which the community could learn from them.

Similarly, a case study of an 11-year old bi-literate Latino investigated Mexican families' funds of knowledge that were accessed to support the creation of a website (Spence, 2011). The student, along with a few of her peers, used the knowledge gained from their families to create a website about Mexican heritage. To access families' funds of knowledge, students discussed with their families, answers to questions about their interests, talents, background, favorite stories, and educational activities done together. Responses were used by students to drive the theme of the website and the content on the site. Families were really interested in the site and the site encouraged visits and contributions from family members and from the greater community. Family involvement was essential in both of these studies, but in neither study did families help to create media. It's also unclear how families were involved in their child's content learning. No known research has used social media to explicitly have families create content to use in the classroom or to interact with other students and families.

2.1.2 Family involvement

To be able to access families' funds of knowledge, families need to be involved in their child's school learning. Family co-learning at home with their child is equally important for making connections and creating knowledge to be shared with a child's teacher and peers. In this section, I describe prior research investigating the use of technology and media to get parents involved and to support parent and child co-learning at home.

2.1.2.1 Technology to support family – school communication

Schools have been attempting to use technology to get families more involved in their child's school experiences for decades. Many studies have aimed to investigate the use of technology to build partnerships with families and to support home learning, but results primarily focus on ways of communicating information, such as grades, homework assignments, behavior or academic problems and most focus on uppe r-elementary, middle, school or high school populations (Olmstead, 2011; Shayne, 2008; Karlie, 2009; Clemente, 2002; Evans-Jackson, 2011; Grant, 2011). Furthermore, the ways in which the technologies are used is mostly one-directional; teachers use the tools to share information with parents (Grant, 2009; Hughes & Greenhough, 2006; Selwyn, Banaji, Hadjithoma-Garstka & Clark, 2011). Additionally, studies that investigate the use of technology to support family involvement typically describe ways in which technologies are currently used, but neglect to design interventions specifically aimed at impacting family involvement or supporting learning (e.g. Olmstead, 2011; Karlie, 2009).

Prior research has explored voice mail (Cameron & Lee, 1997; Bauch, 1994), online grading systems (Osteen, 2005), websites (Clemente, 2002), texting (Villano, 2008) and videos (Hughes & Greenhough, 2006) as means to support family-teacher communication. Vanderpool

(2008) found that the use of various technologies made it easier for parents to get involved in school activities and monitor their child, helped facilitate transparency, and was partially responsible for positive changes in student behavior, such as completing homework.

A common finding in the research is that technologies can provide a means of delivering information between home and school, but the ways in which information is taken in and used to support learning is unclear. For example, teachers in the Home School Knowledge Exchange study created videos describing literacy activities in the classroom, how activities, such as writing, were taught, and how children worked during the activities (Hughes & Greenhough, 2006). The videos were screened at the schools and each family received a copy. Results from interviews with parents, illustrate that the videos helped parents to access teacher's funds of knowledge about teaching literacy practices. However, many parents remained so focused on their own child that they missed the point of the video. There was little evidence to suggest that the video enhanced the ways in which families' supported their child's literacy at home.

Providing the technologies

Several studies have provided students and families with laptops, PDAs or phones to help bridge home and school and get families more involved (Kerawella, et al., 2007; Kervin, 2005; McFarlane, Roche, & Triggs, 2007; Lewin & Luckin, 2010; Penuel, et al., 2002). While these studies had high expectations for supporting learning at home and with parents, evidence is limited. A study with 5-6 year olds and their families found that an online "HomeWork System" was helpful for creating a shared agenda with the school and for learning about classroom teaching strategies and materials (Kerawella, et al., 2007). In addition, children's enthusiasm, confidence, responsibility, and independence in numeracy increased as a result of the HomeWork System. However, the success of using tablet PCs in linking home and school

learning was dependent on the ways in which activities were contextualized. Parents need to understand the relevance of the technologies before they can be useful for linking home and school.

Linking home and school through increased communication

Two studies are unique in how they include the child when attempting to link home and school and use technology to support family involvement. First, Kervin's (2005) study investigated how mobile devices could be used to link parent-child communication while the child was in school. The study took place in a middle school classroom that had a mobile phone students could use to text, email, and send photos to their parents to share what they were doing during class. This approach is promising, but it's unclear if communication between a child and parent might have been limited to where the child was and what they were doing (e.g. "me @ cross country", "me at library") and not focused on what was being learned or how the mobile devices supported content learning at home.

Second, Lewin and Luckin (2010) provided tablet PCs for elementary students to take home and use with their families. The goal was to support family involvement through increased information about what the child had done at school, homework, planning, and parental guidance. In addition, the tablets included supplemental curricular materials, fun activities and ways of communicating with the teacher. Through parent diaries, researchers discovered that students used the tablets to complete homework and learning activities in various locations and with different people. However, evidence describing the ways in which the tablets were used to support learning is vague and there was no data on how resources were used by parents. An important finding from this study is that providing technology and access doesn't lead to parent

involvement and rich-learning at home. Parents need guidance in discovering the best ways to support academic content learning with their child at home.

Many of these studies aimed to use technology to support parent involvement and rich learning, but were not all that successful. Results showed that technology was useful for supporting family-teacher communication, but not necessarily family-child learning. In contrast, Grant (2011) discusses how parent-teacher communication through an online learning environment was limited. Teachers, parents or children sent a few messages, but rarely did anyone reply to the messages. Grant raises an excellent point that digital technologies may raise parents desires to communicate with teachers in a timely manner, but parents still need to know how and be able to effectively respond to teacher requests and communications, and vice versa. Interviews with participants also showed that they weren't immediately clear what the benefits were of positive home-school connections. This shows a disconnection in home and school objectives and purposes for communicating and connecting home and school and uncertainties about how to get involved, which is not uncommon.

More research needs to be done to investigate how technologies, specifically social media, can be used to support parent involvement in rich-learning experiences at home and at school. There is a lack of research on using technology to encourage families to contribute to classroom curricula or content. Blurring the lines between home and school and giving parents authority to help shape student learning is hard. It's contradictory to how schools have worked for hundreds of years. But, it's something that must be done to support students' and families learning across home and school contexts.

2.1.2.2 Parent and child learning with technology

There is a body of research that examines families and children co-viewing and co-creating media together and the implications this has on children's learning. Research in this area most often includes ethnography and case studies, including observations, field notes, and interviews with participants. More research is needed to investigate if and how technologies can be used to support parent and child co-learning of academic content.

"Joint-media engagement"

Researchers have found that preschool children learn more when teachers, parents or older siblings co-view television with them and adult's role in media consumption influences learning (e.g., Reimer, Tessmer, & Phelps, 1984; Salomon, 1977; Reiser, Williamson, & Suzuki, 1988). More recently, research on young children's' use of media has focused on "joint-media engagement", or "spontaneous and designed experiences of people using media together" (Takeuchi & Stevens, 2011: p. 9; Takeuchi, 2012; Stevens & Penuel, 2010). Joint-media engagement refers to how children and families view, participate in and interact with media and speaks to the importance of families and children learning together at home. Joint-media engagement can happen in any context when there are "multiple people interacting together with media". There are six basic components of joint-media engagement: 1) multiple participants, 2) one or more forms of media, 3) a common focus, 4) at least partial attention to the medium and participants, 5) interaction, and 6) engagement. Joint-media engagement has been found to be a successful approach for getting young children to participate in important academic and social activities (Stevens & Penuel, 2010).

Studies that have investigated children's learning through joint media engagement primarily focus on video and not photographs or social media (Takeuchi & Stevens, 2011).

Results from a year-long ethnography of 16 children ages 12 months to 6 years found that during joint-media engagement activities at home, both children and adult viewers learned important content (Dugan, 2012). While watching TV, children helped others learn something new by sharing what they learned and children asked questions about what they're viewing which led to discussions about content. Children were able to transfer what they learned to other contexts and their every day lives. Another study conducted by the Media and Learning Group at SRI International (2010) found that co-viewing supported preschool children's science learning and helped to promote engagement of science learning at home. These results align with prior findings that indicate that children who had supplementary co-viewing activities talked about science with their home caregivers significantly more than children that did not participate (Penuel, et al., 2010).

One of the few quantitative studies in this body of research reported that preschool children (N=398) that were presented with a media-rich curriculum and participated in co-viewing with their teacher, among other strategies, showed positive improvements in literacy skills (Penuel et al., 2009 cited in Takeuchi & Stevens, 2011). Another study found that children often initiate joint media engagement with parents, siblings or peers, but interactions aren't always focused on the learning goals of TV shows (Mehus & Stevens cited in Takeuchi & Stevens, 2011). One way to sustain a child's interest in co-viewing and encourage further exploration is by drawing on materials and media that children find interesting (Leibham, Alexander, Johnson, Neitzel, & Reiss-Henrie, 2005). This can also help to support content learning.

Co-creating media

Creating together can improve children's skills, knowledge, understanding and confidence (Pahl & Kelly, 2005), but more research is needed to investigate how co-creating digital media can support academic content learning and bridge home and school. Research has found that families and children co-create digital media together in the home, often by using digital cameras, video cameras, audio recorders, editing software, and robotics kits (Ito et al., 2008, 2010; Barron, Martin, Takeuchi, & Fithian, 2009; Barron et al., in press). A series of case studies documenting middle school students' digital media production practices in the Digital Youth Network and in Silicon Valley found that parents and children take on different roles and responsibilities when creating digital media at home (Barron, Martin, Takeuchi, & Fithian, 2009; Barron et al., in press). Parents teach and broker learning, collaborate with their child, provide technical and nontechnical resources and support, and learn from their children. Students' digital media production practices outside of school and in school were highly influenced by their parents and different roles parents took on w hile participating with their children. Greater breadth of parent involvement was positively associated with child's expertise and child's engagement in producing with new media (Barron et al., in press). As a result of participating in learning activities at home with their parents, children's learning was "distributed across settings"; students joined clubs, read books, magazines and online information, went to camps based on interests that had developed from digital media production at home.

This study advances research by designing opportunities for young children and families to use social media to co-create projects that support academic content learning, which has not been a focus of prior research studies.

2.2 THEORETICAL FRAMEWORKS

While designing the FSP, teachers and I drew on the Connected Learning Model (CLM), related learning and engagement theories, and empirical research, which I describe in more detail in this section. At the heart of the CLM are three values: equity, full participation and social connection (Ito et al., 2013). Children learn when they have opportunities to contribute and learning is meaningful when there are shared practices and strong, valued relationships. The CLM weaves together three contexts for learning: interest-powered, peer-supported, and academically oriented contexts (See Table 1).

Table 1. Explanation of the Connected Learning Model's three contexts

CLM Contexts	Explanations
Interest-powered	Children spend time doing things that interest them. Interests motivate children to acquire new knowledge and expertise. It's important to support existing interests, but also embrace and nurture emerging and developing interests. Children learn more when they are interested.
Peer-supported	Children spend time interacting with their peers. "Peer-supported" refers to a range of possible social relationships, including support from families, teachers, friends and classmates. Children participate in learning and are engaged when they have opportunities to interact with their peers or adults. Learning occurs when all participants share ideas and contribute.
Academically-oriented	Children spend time, often in school, learning academic content. Interest-driven and peer-supported learning activities need to address important academic content.

"Connected learning" (CL) occurs where and when these three contexts overlap (See Figure 1). The model recognizes that some children learn best at school, others with their friends or family, and some by pursuing their interests. The goal is to create more entry points for young children to learn and to diversify the pathway to learning.

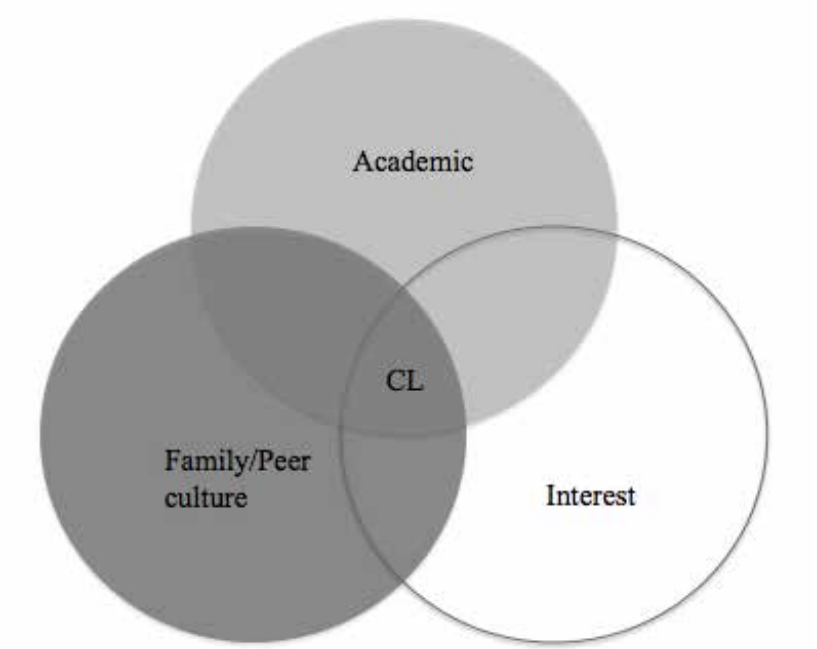

Figure 1. Connected learning occurs when the 3 contexts, interest-driven, peer culture, and academically oriented, spaces overlap. Adapted from Ito, et al., 2013.

The three contexts of learning are brought together by using technology and through three design principles: shared purpose, production-centered and open networks (See Table 2). Together, these contexts and design principles align with the CLM's values and this study's goals of bridging home and school learning.

Table 2. Explanation of the Connected Learning Model's three design principles

CLM Principles	Explanation
Shared purpose	Learning environments should have peers and adults that share interests, goals and purposes. Social media provide opportunities for children, teachers, families and peers with unique interests and expertise to come together, share projects, and explore interests. Learning and relationships thrive when there are common goals and interests.
Production-centered	Learning occurs through producing, which includes creating and sharing media, remixing, commenting, designing, making something, experimenting, etc. Social media provide an avenue for producing and sharing work.
Open networks	Learning occurs when there are strong connections between people within a space (e.g. school) and across spaces (e.g. home, afterschool, school, community, etc.). Social media expand an individual's network by making experts, mentors and peers more accessible.

The CLM is a practical model useful for making sense of and designing learning environments that bridge learning across life spaces and among the people in those spaces. Creators of the CLM describe why the model is so critical:

> *In a world of global interconnection and rapid change, effective learning is lifelong and integrated into the real world of work, civic engagement, and social participation. We can't expect young people to be able to "bank" knowledge and skills from school and apply them to a stable world of work later in life. Instead, we need an approach to educational reform that recognizes learning as an ongoing process, connected to a diverse and evolving ecosystem of learning resources, institutions, communities, and outcomes (Freire, 1970) (Ito et al., 2013: p. 14).*

The CLM is not a learning theory, but it is a useful framework that innately aligns with learning and engagement theories. In this study, I link the CLM to theory and prior research, which has not been explicitly or thoroughly documented yet. In prior literature, the model and language used to describe the model are extremely practice focused, but there is a need for it to be more rooted in theory. If links between the model and theory are laid out more explicitly it might help other people who are trying to use the model to design and research rich learning environments. Additionally, the model is a proposed set of theory-based principles that has been used to make sense of and improve existing learning environments, but is only now being used to guide design. In the following sections, I draw on multiple learning and engagement theories to argue that the CLM is a strong framework for linking home and school learning.

2.2.1 Sociocultural perspectives

Broadly speaking, this study and the CLM take a sociocultural perspective on learning. Learning and development occur through social interactions, whether that be face-to-face or through web

communities and social media (Tharp & Gallimore, 1988; Lave & Wenger, 1991; Greeno, 1991; Greeno & the Middle School Mathematics Through Applications Project Group, 1998; Vygotsky, 1978). Social processes are internalized and become intrapsychic processes. For participants in this study, that includes interactions with teachers and students in the classroom, parents and siblings in the home and other families online. Understanding learning requires analysis of the individual, but also the contexts and spaces where children spend time. Students' and families' multiple life spaces (e.g. home, school, and online) and experiences in those spaces interact to shape their participation and engagement (Barron, Walter, Martin, & Schatz, 2009: Barron, 2004; Bronfenbrenner, 1979). Comprehension occurs by weaving together new concepts and knowledge across contexts (Tharp & Gallimore, 1998). For example, for students to comprehend differences and similarities in family structures and traditions, which was a content objective for the FSP, they must be able to weave together their interactions and learning at school with their interactions and learning about families outside of school (i.e. the home). In addition, learning with media involves "participation in shared culture and sociability as it is embodied and mediated by new technologies" (Ito, et al., 2008: p. 19).

2.2.2 Learning and engagement theories related to the CLM's contexts and principles

2.2.2.1 Interest-powered

Research shows that when students find an activity or subject interesting and relevant, students are more engaged and have higher learning outcomes (Hidi, 1990; Pintrich, 2003; Dewey, 1913; Krapp & Fink, 1992; Barron, 2006; Renninger, 2000; Renninger, Hidi, & Krapp, 1992; Schiefele, 1991; Schiefele, Krapp & Winteler, 1992). Interest is also positively related to students' feelings, values and knowledge (Hofer, 2010). Students begin to develop interests at an

early age and can even develop expertise and identities around interests, which can be shared with peers, teachers and families (Palmquist & Crowley, 2007; Ito, et al., 2013). With help from peers, teachers and families, students can expand their interests and expertise and deepen knowledge in new subjects (Crowley & Jacobs, 2002).

Hidi and Renninger (2006) propose a four-phase model of interest development. The four phases include triggered situational interest, maintained situational interest, emerging (less-developed) individual interest, and well-developed individual interest. Individual interest refers to students' personal preference and interest, while situational interest refers to interest in a specific situation, activity, or event. The goal of the CLM is to provide a range of interest-driven experiences and to broaden students' depth and breadth of interest (Ito, et al., 2013).

2.2.2.2 Peer-supported

"Peer-supported" actually refers to a range of possible social relationships, including support from families, teachers, friends and classmates. Children participate in learning and are engaged when they have opportunities to interact around interests with their peers or adults (Ito, et al., 2008, 2010). In rich learning environments, we rarely pursue interests alone, but within a community of learners and in the contexts of strong social relationships (Ito, et al., 2013; Rogoff, 1990; Wenger, 1998; Lave & Wenger, 1991; Greeno, 1991; Greeno & the Middle School Mathematics Through Applications Project Group, 1998). Communities and networks of learners bring together unique experiences, perspectives and expertise. Research shows that learning and engagement in learning can be enhanced through peer collaboration (Blumenfeld, Kempler, & Krajcik, 2006; Cohen, 1994; Ryan, 2001; Urdan & Turner, 2005), social feedback (Urdan & Turner, 2005), group discussions, and support for social connections between people (Ryan & Deci, 2000).

Relationships with parents (Steinberg, Darling, & Fletcher, 1995), teachers (Stipek, 2002), and peers (Hymel, Comfort, Schonert-Reichl, & McDougall, 1996) have an impact on children's learning and motivation (Furrer & Skinner, 2003; Hughes & Kwok, 2007). Research investigating this impact has referred to the importance of sense of relatedness (Connell, 1990), connectedness (Weiner, 1990), or belonging (Goodenow & Grady, 1993). Relationships can influence views of the self, the social world and the ways in which children and families respond and participate. Relatedness has been linked to engagement, achievement values, interest in school, grades, success expectations, and self-efficacy (Anderman, 1999; Goodenow & Grady, 1993; Roeser, Midgley, & Urdan, 1996; Wentzel, 1997, 1998; Furrer & Skinner, 2003).

In addition, Vygotsky's zone of proximal development (ZPD) is a learning theory that stresses the importance of peer-support. ZPD is the difference between what a kindergarten child can do or know on her or her own and what that child can do or know with help or assistance from a teacher, parent or more capable peer (Vygotsky, 1978; Tharp & Gallimore, 1998). The goal of learning activities is to move the child along the stages of development; from a socially-regulated child to a self-regulated child. While there are four stages to master prior to becoming fully self-regulated, this study focuses on the first stage, which is appropriate given the developmental stages of kindergarten children.

Assisted performance is the first stage in the ZPD. Assisted performance refers to help and guidance provided to children by more capable adults or peers (Vygotsky, 1978; Tharp & Gallimore, 1998). Young children can only recall pieces of information and need assistance to strategically organize information in ways that can be used accomplish goals such as those of the Family Share Project (Tharp & Gallimore, 1998). Through assisted performance, students can

recall and learn new information and concepts and develop new skills and interests (Rogoff, 1990).

2.2.2.3 Academically oriented

The CLM brings together interests and social relationships to help support academic content learning. As previously mentioned, using social media to draw on students' and families' "funds of knowledge" can help to connect contexts and support the learning of content at home and school.

2.2.2.4 Shared purpose

Learning and relationships thrive when there are common goals and interests. Clear, consistent and shared goals, as well as shared decision making, support engagement in learning (Dickey, 2005; Jones, Valdez, Norakowski & Rasmussen, 1994; Schlechty, 1997; Newmann, 1981; Fredricks, Blumenfeld, & Paris, 2004; Connell, 1990; Deci & Ryan, 1985; Urdan & Turner, 2005). Shared purpose can be developed by giving students and families choices about what they create and what content they focus on, as well as, informing families of their child's school experiences.

Family involvement and use of social media can help to create shared goals and purposes across contexts. Partnership approaches to family involvement focus on relationships and shared decision-making and learning occurs as a result of a strong supportive network (Christenson, 1999). Social media provide opportunities for children, teachers and families to communicate about broad goals and discuss personal goals for projects.

2.2.2.5 Production-centered

Digital media production is an important skill for lifelong learning, which is one reason it is a key component of the CLM (Ito et al., 2013). Creating digital media aligns with constructionist perspectives (Papert, 1991; Kafai, 2006) that view learning as a process of building relationships between old and new knowledge while interacting with others and creating artifacts that are socially relevant. In addition, providing opportunities to develop artifacts and products can increase students' engagement in learning (Blumenfeld, Kempler, & Krajcik, 2006; Newmann, 1981; Fredricks, et al., 2004). Production provides opportunities for students to express ideas and create something personally meaningful, as well as, share physical artifacts across contexts.

Digital tools can provide opportunities to create media, knowledge and content. They also make it possible to share media and content and make learning more visible. The Shutterfly Share Site provides an easy and convenient way for families and students to co-create artifacts at home to be shared at school or in other families' homes. Social media can provide a space for both students and families to contribute ideas and feel like their contributions might make a difference (Schwartz, Lin, Brophy, & Bransford, 1999; Pintrich & Schunk, 1996).

2.2.2.6 Open networks

Learning occurs when there are strong connections between people within a space (e.g. school) and across spaces (e.g. home, afterschool, school, community, etc.). The CLM and social media open up pathways to new networks, mentors, peers and expertise (Ito, et al., 2013; NRCNA, 2009; NRCNA, 2000) and provide opportunities to build supportive communities of learners.

2.3 THE FAMILY SHARE PROJECT

Researchers and educators have used the Connected Learning Model to make sense of existing learning environments and to enrich learning opportunities. Educators are just beginning to use the model to design new spaces and projects, but documentation of designs and outcomes are limited. Next, I describe how this study used the CLM and related learning and engagement theories to drive the design of the FSP. I also provide an overview of the FSP.

2.3.1 Design Principles for the FSP

Prior to collaborating with teachers, I developed an extensive list of design goals that emerged from the CLM and other theories and frameworks described in section 2.2 and described how the goals could be realized during the FSP (See Table 3).

Table 3. Initial list of design principles and ways to realize the goals through implementation

Design Principles	Ways to support connected learning (and engagement)
Provide opportunities to collaborate and interact with others in class and outside of school	– Encourage students to share and draw on their experiences outside of the classroom – Assign tasks that encourage interaction with families – Encourage students and families to view, discuss, build-on, share, and contribute to projects and assignments out of school – Communicate with families so they know about students' assignments and what students are doing in school – Encourage families to ask questions about the project, help students find resources, provide feedback, etc. – Encourage families to co-create and contribute to students' projects and assignments
Build supportive and caring relationships	– Encourage students to share learning experiences they've had with families and peers – Communicate with families through multiple channels (e.g. online, phone, in person) about class updates, positive interactions with students, positive child development and projects – Encourage families to volunteer and attend classroom activities – Encourage families to be partners in their child's learning – Encourage students to talk about their relationships and experiences outside of school – Encourage families to ask students about their relationships and experiences in school
Provide opportunities to (co)develop products and artifacts in multiple contexts	– Encourage students and families to co-create projects and share projects with others – Encourage students to talk about their projects and the process of creating them – Help families to feel like their contributions matter
Provide authentic, useful, and personally meaningful, tasks, activities, and materials	– Assign tasks that require students to draw on personally meaningful experiences – Use tools (i.e. social media) that students and families may use outside of school to serve a larger purpose than classroom instruction – Use discourse that focuses on importance and utility of content and activities, mastery, learning, and understanding content – Communicate with families so they know about students' assignments and work in

	school and know how they are meaningful – Communicate with families so they know how they can help make assignments more meaningful for students
Help students develop clear, consistent, challenging, achievable and common/shared goals and shared decision making	– Communicate goals and expectations to both students and families – Help students and families create and maintain shared goals – Allow families and students to take part in developing goals and making decisions – Communicate with families so they know how they can contribute to and enhance student learning and decision making
Provide stimulating and interesting content, tasks, activities, and materials	– Develop and assign tasks that require students to draw on resources outside of the classroom in order to be successful (e.g. ask families questions, document an event outside of the classroom) – Communicate with families so they know how to support students during tasks
Provide opportunities to have control and choice	– Develop and assign tasks that allow students and families to make choices about the projects/media they create – Develop and assign tasks that allow students and families to make choices about the resources they draw on to create projects/media
Provide clear, accurate, & immediate feedback focused on competence, expertise, skill, importance of effort, strategies, self-controlled learning	– Provide clear, accurate, and immediate feedback on how to improve skills and competence or quality of project/media co-created (to both families and students) – Provide feedback regarding students' effort, persistence, and learning on a task co-created (to both families and students) – Ask students about help or feedback they have gotten from their family outside of school – Encourage students and families to focus on mastery, skill development, learning, effort, progress, and self improvement (less focus on social comparison or norm-referenced standards) – Encourage families to provide students with feedback on how to improve skills, competence or quality of project/media, as well as effort, persistence, and learning – Communicate with families to inform them about feedback given to students

	– Communicate with families so they know what skills students should develop and what students should master and learn
Provide opportunities to communicate using online technologies	– Provide easy access for students, families, and teachers to communicate beyond the physical classroom – Provide organizational structures to encourage social/personal responsibility and provide a safe, comfortable, predictable environment online – Encourage families to frequently view the class projects and online space – Encourage families to co-create with students and possibly even create their own components of the project – Communicate with families to ensure they have access to projects and resources

During planning sessions, the teachers and I narrowed down our goals and chose four principles that were most important for supporting family involvement and the goals of the project. These include,

1. Provide opportunities for families and teachers to use social media to communicate with each other (i.e. bridge home and school).
2. Provide opportunities for parents and children to co-create personally meaningful media and share stories across contexts (i.e. home and school). Co-creating involves shared decision-making where parents and children both exercise control and choice.
3. Provide opportunities for parents and children to interact with other families (i.e. home to home).
4. Build supportive and caring relationships in the classroom and between families.

We felt by addressing these design goals we would indirectly be addressing some of the other principles, as well. Table 4 describes how these design goals emerged from the Connected Learning Model and the related learning and engagement theories.

Table 4. The FSP aligns with the goals of the Connected Learning Model

Design principle for the FSP	CLM	Explanation
Provide opportunities for families and teachers to use social media to communicate with each other (i.e. bridge home and school).	– Open networks – Peer-supported	Social media can broaden families' and teachers' networks and provide more opportunities for peer-supported learning and family involvement. Using social media to share content can broaden participants' access to information and allows teachers to draw on families' funds of knowledge.
Provide opportunities for parents and children to co-create personally meaningful media and share stories across contexts (i.e. home and school). Co-creating involves shared decision-making where parents and children both exercise control and choice.	– Production-centered – Peer-supported – Shared purpose – Interest-powered	Through co-creating projects, families and children are production-centered and learn through peer-support. The FSP encourages families, teachers and children to have a shared purpose and make decisions together about what is important about their families and families more generally. The media posted and conversations in the classroom about the media are based on students' interests.

Provide opportunities for parents and children to interact with other families (i.e. home to home).	– Peer-supported	The FSP is an opportunity for families to provide support to their child, but also to support other families and children in the community and to learn from other families.
Build supportive and caring relationships in the classroom and between families.	– Open-networks – Peer-supported	The FSP aims to build a strong community of kindergarten teachers and families by opening up lines of communication between families, students, and teachers.

2.3.2 The Family Unit

2.3.2.1 Content and skill goals

The FSP was embedded in an existing curricular unit on families. The content goals for the project included:

- Families care for each other and love each other. 'Families' refer to parents, children and other relatives, but friends can also be a supportive and caring family.
- There are many different kinds of family structures. Families vary based on the number of children, extended family, and parent relationships (divorce, same sex marriage, etc.).
- Family names and general family structure/trees. Families are made up of different people with unique relationships to one another.
- Family traditions and holidays. Families celebrate different traditions and holidays based on their beliefs and cultural backgrounds.

Important skill goals were listening and speaking. The project and unit's goals aligned with Pennsylvania State Standards for kindergarten, including communicating with families, learning at home, demonstrating engagement and persistence in a variety of experiences and developing skills around expressing and communicating ideas (Pennsylvania Department of Education, 2006).

2.3.2.2 Prior implementations of the website and unit

Teachers chose to use Shutterfly Share Sites as the tool to interact with families. Prior to the start of this study, each classroom used a Shutterfly Share Site to communicate with families via email and a message board and to post pictures and videos of students in the classroom and on field trips. All parents had accounts and were able to access the class sites. The FSP extended the use of the website by encouraging families and students to post and share media and to comment and discuss content with other families, students, and teachers.

One goal of the FSP was to enrich an existing family unit. According to the teachers, there were at least four approaches to teaching the family unit in previous years. First, teachers read students books about different family celebrations and structures. Second, students shared information about their families during activities like the "windows" activity. Students imagined someone peeking in their windows during the holidays and drew what that person might see. Students drew pictures of their families doing things like opening presents around the Christmas tree or lighting a Menorah with their family. Their drawings were posted in the hallway for others in the school to see. Third, some families shared special holiday traditions in the classroom. For example, one year a parent came in to teach about Hanukah. Fourth, students shared printed photos of their families, hobbies and interests and toys during share time, which overlapped with the content goals of the family unit. The FSP provided an additional route for teaching and learning content during the unit: the FSP became an opportunity to learn about families by interacting with other families in the kindergarten community and drawing on families' funds of knowledge.

2.3.3 Components of the FSP

The FSP was broken down in to two parts. Both parts included activities that were done in the students' homes with their family and activities done in the classroom with teachers and peers. The project was assigned during a time of year when many families celebrated holidays or traditions and teachers viewed the project as an opportunity to celebrate diversity. Teachers and I posted examples from our own families and included captions describing our photos and videos, names of family members, and some of our family traditions.

2.3.3.1 Part 1: Sharing family photos

Families and children were asked to co-create a photo album and post photos of their family, including "special times, ways that [they] enjoy spending time together, traditions and more" (November 2, 2012 R oom A newsletter). During classroom share time or 'show and tell', students shared the photos they posted using a projector and students described who was in each photo, where they were and what they were doing. Often teachers or other students prompted for more information by asking questions or making comments. Share time occurred several times a week for about 8 weeks.

Share time was a pathway for students to discuss and share experiences outside of the classroom and to learn about each other's families (Michaels, 1981). In classroom A, share time occurred at the end of the day, often during snack time. In classroom B, the share time happened during the mid-morning language arts block or first thing in the morning. Share time was an approach and context used for this study because prior research suggests it gives students opportunities to meaningfully communicate through spoken language (Raines & Canady, 1990), develop language that extends what students develop at home (Goodman, 1986), organize and articulate ideas (Cullinan, 1993), enhance self-concept (Burrell, 1992), learn to listen and respond to peers (Whitmore & Goodman, 1995), learn new knowledge and develop new vocabulary (Dailey, 1997). During share time, students could learn from one another's experiences and stories shared about families (Booth-Church, 1995; Dailey, 1997).

2.3.3.2 Part 2: Creating and sharing family videos

The second component of the FSP was similar in structure to the first. The primary difference was that families were encouraged to create and post videos about their family traditions and celebrations. Students shared their videos for approximately 6 weeks.

2.4 SUMMARY

This study is situated in and contributes to bodies of research investigating 1) ways to leverage funds of knowledge to bridge home and school learning and 2) the use of technology to support family involvement, including family-teacher communication and family-child learning. This study is unique in that it focuses on us ing technology, specifically social media, to access families' funds of knowledge, not just students'. This study moves beyond examining parent-teacher communication to focus more on parent-child learning of academic content through joint media engagement and co-creation of media. The FSP is an intervention designed specifically to support parent involvement and bridge home and school learning. I contribute to the Connected Learning Model by explicitly linking the model to learning and engagement theories and providing an example of a project designed based on the model.

3.0 DESIGN AND METHODS

In this chapter, I describe the context, participants and study design. I then outline the procedures used in this study to design the Family Share Project (FSP) and to collect and analyze data to address the research questions.

3.1 CONTEXT

3.1.1 Study design

I used a mixed methods case study approach, which allowed me to triangulate multiple sources of data and conduct research at two levels of analysis: the classroom level and the kindergarten student/family level (Eisenhardt, 1989; Yin, 1984). Case studies provided a deep understanding of student and family participation, while still providing ways to investigate classes as a whole.

I chose to *co-design* the FSP with teachers (Roschelle & Penuel, 2006; Penuel, Roschelle, & Schechtman, 2007). This approach was a collaborative effort to develop a project that fit into the kindergarten classrooms existing curriculum and to address specific needs of teachers and parents. Previous research suggests that classroom adoption of innovations depends on teachers' perceptions of them; how well they address teacher needs, fit into existing classroom and instructional practices, and address student goals and learning (Penuel, Roschelle, &

Schechtman, 2007; Cuban, 2001; Blumenfeld, Fishman, Krajcik, Marx, & Soloway, 2000). Adoption also depends on "social and technical capacity of schools and districts" (p. 52). Therefore, teachers' continuous input was essential to develop a project that fit their needs and the context and could be implemented as intended.

3.1.2 Setting and participants

3.1.2.1 Setting

The study took place at a K-8 school located in an urban neighborhood of a large Southwestern Pennsylvania city. The school is tuition-based and affiliated with a local university. There are approximately 297 students at the school, including 44 kindergarteners. The majority of students at the school are Caucasian (64%), while 13% are Asian, 12% mixed, 5% African American, and 5% Hispanic (NCES, 2012). The participating school is not typical of schools across the country (e.g. financial resources, staff to student ratio, and support from families and the community more broadly), but the school was the best choice for this study. The school provided an opportunity to develop a first prototype under a best-case condition, because parents were typically involved and reliable internet access and technologies were already available.

3.1.2.2 Participants

Table 5 describes the teachers, students and families from two kindergarten classrooms that participated in the study.

Table 5. Summary of participants

	Classroom A		**Classroom B**		**Total**
	Male	Female	Male	Female	
Teachers, including interns	0	3	1	2	6
Total Students	11	11	11	11	44
Consented Students	7	8	8	9	32
Case Study Students & Families	2	2	0	2	6

Teachers

Teachers were recruited through a personal contact at the school. The only requirements for inclusion were an interest in enhancing teaching practices through using social media or supporting family involvement. Each classroom had two co-teachers and a student intern (See Table 6). Teachers mediated initial contact with families by sending home consent forms and describing the project and research to families in person and through email.

Table 6. Description of participating teachers

Name	Position	Gender	Years Teaching at the School	Classroom
Ms. Stefanovic	Teacher	Female	9	A
Ms. Thomas	Teacher	Female	4	A
Ms. Madison	Intern	Female	<1	A
Ms. Sanders	Teacher	Female	18	B
Mr. Anderson	Teacher	Male	<1	B
Ms. Kennedy	Intern	Female	<1	B

Students and families

Thirty-two families agreed to participate in the study (73% of all kindergarten families). Four students, two boys and two girls, in each classroom were chosen by teachers to be case study students. Teachers were asked to select a diverse group of students based on background (e.g. religion, ethnicity, traditions) and students whose parents would be likely to participate in home observations and interviews. Both of these criteria were important for investigating how diverse families participated and how teachers drew on a variety of family experiences and traditions to shape the content of the families unit. While I began with 8 case study students and families, only 5 remained through the duration of the study (See Table 7). Three students were removed as cases, due to a lack of data. All students were 5 or 6 years of age.

Table 7. Description of case study students and families

Student Name	Parent Name	Ethnicity	Gender	Classroom
Becka	Natasya	Caucasian	F	A
Leslie	Neela	Multi	F	A
Kyle	David	Caucasian	M	A
Ariel	Sandy	Caucasian	F	B
Kellie	Andrea	Caucasian	F	B

Data collected online shows that during the FSP, seventy-five percent of all kindergarten families posted pictures and almost 14% posted videos (See Table 8). On average, each family posted 14 photos of their family and included 160 words to describe their family and traditions. Video duration ranged from 25 seconds to 3 minutes and 12 seconds.

Table 8. Number of families that participated and the number of photos and videos posted

	Room A	**Room B**	**Total**
Families that posted pictures	15	18	33
Photos posted by families	199	274	473
Families that created videos	3	3	6
Family videos posted	5	3	8

3.1.3 Project implementation

The FSP was implemented over a 3-month time period. Table 9 describes when different components of the project were implemented.

Table 9. Timeline of project implementation

Date	Event
November 1-26, 2012	Teachers, interns and I posted examples of the first part, including photos and descriptions of our families.
November 2, 2012	Teachers began to introduce the project to parents through a class newsletter, the class website, in person during parent conferences, and in passing as parents dropped off or picked up students.
November 3, 2012 – January 28, 2013	Families posted photos on the site.
November 13, 2012 – January, 2013	Students shared their photos in class.
December 5, 2012	Teachers introduced the second part to parents through the class website.
December 10, 2012	A teacher posted an example of the video project.
December 21, 2012	Teachers reminded families about the second part through the class newsletter.
January 8, 2013	I posted a video of my family tradition as an example.
December 10, 2012 - January 9, 2013	Families posted videos of their traditions on the site.
December 10, 2012 - January, 2013	Students shared their videos in class.

3.2 PROCEDURES

Drawing on Barab, et al. (2005), I describe my research and development process in terms of three phases (See Table 10):

1. Creating a vision
2. The participatory process and developing a metacontext
3. Supporting implementation

Multiple sources of data and procedures for collecting data were employed within each phase in order to address this study's research questions. These included observations and field notes, pre- and post- interviews, artifact collection and multiple family questionnaires.

Table 10. Summary of all data collected

Phase	Goals & Outcomes	Data
1. Creating a Vision	– An understanding of existing classroom norms and culture around using social media in the classroom and family involvement – Broad design goals and a summary of specific features to be built in to the class projects	– ~3 conversations with teachers and field notes about classroom needs and general goals for collaborating – 9 classroom observations and field notes of share time and language arts activities – Ongoing online observations to document how teachers and families used the class websites
2. The Participatory Process	– Specific content and skill goals for the project – Plans for informing families and students about the project – A timeline for implementing the project – A strategy for addressing technical requirements, such as the need for a special family section on the website and access to a projector	– 7 observations and field notes of planning sessions, including project design and rationale – 6 interviews with teachers about their use of the class website, family involvement, and their goals for the projects
3. Supporting Implement-ation	– Reflections and feedback on implementation – Ideas for improving future iterations of the project – Data for addressing the research questions	– Classroom observations and field notes from 17 student shares time activities focusing on opportunities for family involvement and learning about families – 2 home observations and field notes with case study students and families while working on the project at home – Ongoing online observations and logs of activities on the classroom websites – 4 formal reflections with teachers and interviews with teachers (6) and families (5) reflecting on the project implementation, participation and involvement in shaping the unit's content – Artifacts, including written email exchanges, newsletters, and media posted online – Family pre- and post- questionnaires measuring family involvement (pre N=25; post N= 21)

For each case study student, I describe the data collected (See Table 11). Missing data existed for students whose families chose not to participate in home observations, for students and families who did not participate in all elements of the project, or for share time activities I was unable to observe. I describe the varying levels of student participation and family involvement in Chapter 4.

Table 11. Summary of case study data collected

Student	**Classroom Observations of Share Time**			**Home Observation**	**Online Observations**	**Post Family Interview**
	Photos	Video	Other			
Becka	X				X	X
Leslie	X	X	X		X	X
Kyle	X		X	X	X	X
Ariel	X				X	X
Kellie				X	X	X

3.2.1 Creating a vision

Creating a vision and assessing needs ensured that we co-designed a classroom project that was meaningful for teachers, students, and families and provided opportunities for families to contribute during the unit. I began to answer several questions, including: In what ways are families involved in their child's school learning? How could families be more involved in classroom learning? How do teachers and families use the class websites?

Most of the visioning process involved reviewing literature on parent involvement, bridging home and school, and designing engaging learning environments and determining initial design principles, which I described in Chapter 2. I assessed teachers' needs and gained a basic understanding of teachers' existing practices and parent involvement through conversations with teachers, classroom observations of share time and language arts activities and online observations (See Table 12).

Table 12. Summary of data collected during the 'creating a vision' phase

Data	Occurrences	Research Question
Conversations with teachers	1-3	Not Applicable – Baseline
Classroom observations and field notes of share time and language arts activities	9	Not Applicable - Baseline
Online observations to document how teachers and families used the class websites	Ongoing, Weekly	Not Applicable - Baseline

3.2.1.1 Conversations with teachers

Ideas for the project initially emerged through a phone call and follow up email exchanges with the teachers. Email exchanges were documented and field notes were recorded.

3.2.1.2 Classroom observations

During classroom observations, I focused on the structure of share time and language arts activities, the role of teachers and students during activities, and the level of student participation. For example, I documented how long students talked, noting if and how they elaborated on ideas, and I documented questions students and teachers asked. I also investigated existing opportunities for families to be involved in share time activities and what role families played in these experiences.

3.2.1.3 Online observations

I observed activities on the class websites and documented how families, students, and teachers used the sites. I anticipated how the sites could be used to get families more involved.

3.2.2 The participatory process

During the participatory process, I collaborated with teachers to co-design the FSP and embed projects within the meta-context of the curriculum. I addressed questions, such as, what principles are most important for driving the design of projects? How can we implement projects in ways that enhance the existing curriculum? How do we inform families about the project and communicate with them about expectations?

In order to document the design of projects and plans for implementation, I observed and took field notes during planning sessions and transcribed interviews with teachers (See Table 13). Teacher interviews and pre-questionnaires given to families were also used as baseline measures of family involvement.

Table 13. Summary of data collected during the participatory process

Data	Occurrences	Research Question
Observations and field notes from planning sessions	7	Q1: How did the FSP influence families' use of the classes' social media sites? Q5: How did the teachers use the content of the FSP to further their learning goals for the family unit?
Teacher and intern pre-interviews about their use of the class websites, family involvement, and their goals for the projects	6	Q1: How did the FSP influence families' use of the classes' social media sites? Q5: How did the teachers use the content of the FSP to further their learning goals for the family unit?

3.2.2.1 Observations of planning sessions

Planning sessions, ranging from 10 to 30 minutes, took place during breaks in the school day and on a teacher institute day and were audio recorded. There were a total of 7 planning sessions that occurred prior to and during implementation.

As a participant observer (Spradley, 1980; DeWalt, DeWalt, & Wayland, 1998), I simultaneously facilitated sessions, contributed ideas and documented the design of the project through field notes. Particular attention was paid to the design goals and principles and how they were considered in the design of projects. There were three goals for the initial planning sessions (See Appendix A for the complete facilitator agenda), including:

1. Solidify project goals. We discussed content, literacy, and skill goals for the project and the design goals focused on family involvement. We decided how to best address the goals through project design and implementation.
2. Plan for implementation. We addressed technical needs, such as access to a projector and families' ability to post images and videos, strategies for communicating with families, and ways to embed the project in the class schedule. We created an outline and schedule for the project.
3. Describe research goals. We discussed research procedures and data collection and planned for consenting all students and families.

3.2.2.2 Teacher pre-interviews

I conducted short interviews with each teacher and intern to serve as a baseline (See Appendix B for interview protocol). I asked questions about:

- their goals and expectations for the project and how they plan to accomplish them
- how they define family involvement
- how families are currently involved in the classroom activities and instruction
- their plan for encouraging families to get involved
- their current use of Shutterfly and how they plan to use the sites for the projects
- how and why they anticipate families and students participating in the project

Interviews lasted approximately 20 to 30 minutes, were audio recorded, and transcribed.

3.2.3 Supporting and documenting implementation

The final phase of the study involved supporting and documenting project implementation through observations, coaching and reflection in order to address unforeseen problems and challenges and refine implementation, as well as to collect data to investigate the research questions. Data included 1) Observation field notes documenting the implementation and opportunities for family involvement, 2) teacher reflections and interview transcripts with teachers and families asking about perceptions of the project, student learning, and family involvement, 3) a questionnaire asking families about their participation in the FSP and perceptions of the project and 4) artifacts collected during design sessions and implementation (See Table 14).

Table 14. Summary of data collected during implementation

Data	Occurrences	Research Question
Classroom observations, including field notes, audio and some video	13 days, 17 student shares	– Q2: To what extent do families and children co-create the content of the FSP? – Q5: How did the teachers use the content of the FSP to further their learning goals for the family unit?
Home observations, including video	N=2	– Q1: How did the FSP influence families' use of the classes' social media sites? – Q2: To what extent do families and children co-create the content of the FSP?
Online observations and field notes	Ongoing, Weekly	– Q1: How did the FSP influence families' use of the classes' social media sites? – Q3: In what ways do parents and children interact with other families during the FSP (i.e. bridge home to home)?
Teacher and Intern reflections and interviews, including audio & transcripts	4 teacher reflections, plus many informal reflections 6 interviews	– Q1: How did the FSP influence families' use of the classes' social media sites? – Q2: To what extent do families and children co-create the content of the FSP? – Q3: In what ways do parents and children interact with other families during the FSP (i.e. bridge home to home)? – Q5: How did the teachers use the content of the FSP to further their learning goals for the family unit? – Q6: To what extent did the FSP help to build supportive and caring relationships in the kindergarten community?
Family interviews, including audio and some	N=5	– Q1: How did the FSP influence families' use of the classes' social media sites? – Q2: To what extent do families and children co-create the content of the FSP? – Q3: In what ways do parents and children interact with other families during

video		the FSP (i.e. bridge home to home)? – Q4: How do parents perceive the usefulness and feasibility of the FSP? – Q5: How did the teachers use the content of the FSP to further their learning goals for the family unit? – RQ6: To what extent did the FSP help to build supportive and caring relationships in the kindergarten community?
Family questionnaires	Pre N = 25 Post N = 21	– Q1: How did the FSP influence families' use of the classes' social media sites? – Q2: To what extent do families and children co-create the content of the FSP? – Q3: In what ways do parents and children interact with other families during the FSP (i.e. bridge home to home)? – Q4: How do parents perceive the usefulness and feasibility of the FSP? – Q6: To what extent did the FSP help to build supportive and caring relationships in the kindergarten community?
Artifacts, including newsletters, all online photos, videos, and text	Ongoing, weekly	– Q1: How did the FSP influence families' use of the classes' social media sites? – Q3: In what ways do parents and children interact with other families during the FSP (i.e. bridge home to home)? – Q5: How did the teachers use the content of the FSP to further their learning goals for the family unit?

3.2.3.1 Observations

I observed in the classroom, in the online social media space and obtained video recordings of participants working on the projects at home.

Classroom observations

Classroom observations and field notes during the FSP focused on: 1) how design principles were enacted and implemented, 2) opportunities for family involvement, 3) how social media and funds of knowledge were leveraged by teachers, students and families, and 4) student learning about families. Observations occurred several times a week while students shared their photos or videos that were posted online. In total, I observed on 13 days and during 17 student share time activities. Observations lasted 10-30 minutes depending on the number of students sharing that day and how long students shared. A few additional observations took place during key instructional activities focused on the family unit. All observations were audio recorded and most case study students were video recorded when sharing their photos and videos.

I documented teacher discourse when they described the project to students and when they asked students questions or guided students during share time. I also documented students' discourse when they talked about their pictures or videos, focusing on what they said about their family, how much they elaborated on details and the types of questions students asked. I noted how students used the class website while sharing. For example, some pointed to objects or read captions included with the photo to help remember details about the photos.

Home observations

I modified an approach to home observations conducted by Stevens, Satwicz, and McCarthy (2008). Two case study families agreed to video record themselves working on the

project at home. The home observations showed students and their families participating in "joint media engagement" and co-creating photo albums. Families looked through photos on their computer, selected what photos to post and in one instance, discussed what to write about each photo. Video recordings were between 12 and 14 minutes long. Home observations were important for understanding family involvement in the projects, the roles students and families played in co-creating the projects, information each family member contributed and how the class websites were leveraged at home. Home videos were useful for investigating how design principles and project implementation translated to activities at home. For example, I examined if and how students and families co-created media and stories about their family (design principle 2).

Online observations

Observations of online activity on the class websites were documented throughout the project to investigate family involvement, implementation of projects and how the sites were used to access families' funds of knowledge and link home and school. Similar to research conducted by Zywica, et al. (2011), I logged all individuals' activities and postings, such as number of photos posted, comments made, and message board posts in order to assess family involvement and interactions on the site. I took screen shots and collected photos of case study families approximately bi-weekly to visually document activity on the site. The artifacts provided fruitful examples of what kindergarten students' and families found important to share about their family. The data was also useful for comparing participation on the site prior to the start of the project and during the project.

3.2.3.2 Reflections and interviews

Teacher reflections

Informal reflections with teachers occurred in the teachers' office prior to and following classroom observations. These reflections were often very short and followed up with email exchanges. There were more in-depth reflections on 4 occasions when I asked about implementation of projects, parents' and students' reactions to projects, and how to improve implementation (See Appendix C for protocol). I asked teachers to reflect on the design principles, specifically those that had been most useful and applicable. I also provided feedback to teachers and occasionally suggested ways to draw on family postings and funds of knowledge to address the content goals. Reflections were valuable for modifying implementation and for considering how to improve future iterations of the project. Formal reflections were audio recorded and lasted between 10 and 30 minutes.

Teacher post-interviews

Post-interviews with teachers were essential for understanding and describing the design and implementation of the project and opportunities for families to shape the curricular unit. They were also important for reflecting on student learning and ways to improve future iterations of the project. All interviews were audio recorded and lasted between 15 and 30 minutes. Interviews took place before school or during planning periods (See Appendix D for the teacher interview protocol). Teachers were asked about

- family involvement in the project
- ways in which families contributed to classroom instruction or content during the families unit
- ways in which the project enhanced the families unit
- their perceptions about students and families feelings about the project

Family interviews

Post-interviews with case study families focused on what they and their child may have learned from the FSP, their perception of the goals of the project and their impact on the content discussed during the families unit (See Appendix E for protocol). I also asked families to describe the process of choosing and posting media. Interviews took place at locations that were convenient for families (i.e. the school, a coffee shop) and lasted approximately 40 minutes. I interviewed four mothers that described themselves as the family member most involved in their child's schooling and one father who said his wife was much more involved than he was. All participants were the family member who worked with the child to choose and post photos and videos for the FSP.

3.2.3.3 Family questionnaires

Pre- and post- family questionnaires were used to obtain specific information about kindergarten families' involvement in and perceptions of the FSP.

Pilot

Pre- and post-questionnaires were piloted with adults not affiliated with the school (Pre: N=9, Post: N=3) in order to check for grammatical errors and confusing questions or instructions. Questionnaires took less than 15 minutes to complete. I conducted a cognitive interview with one additional adult for the pre-questionnaire where we walked through the measure together and discussed instructions and items in each section (See Appendix F for pilot protocol). I asked about the social desirability of questions, such as "Are there questions you felt uncomfortable answering "never"?" and about the meaning of some phrases used in the survey, such as "child's learning experiences".

Administration procedures

One questionnaire was administered to all consented families prior to the start of the project. A slightly modified version of this questionnaire was administered after the completion of the project (See Appendices G, H, and I for pre- and post-questionnaires and a rationale for changes). Families had about two weeks to complete each survey. Teachers sent families a link to the questionnaires, hosted by Qualtrics.com, through email and the Shutterfly site. Families were reminded to complete the survey during parent conferences in early November and early February. For the second administration, teachers asked that the family member who completed the first questionnaire also complete the second one. Allowing only one family member to complete the questionnaire reduced biases that may have occurred if multiple family members responded.

Ninety-percent of post-survey respondents were female, while 10% were male. All parents had obtained a 4-year degree or higher. Thirteen respondents were Caucasian (68%); 3 were African-American (16%); 2 were Latino or Hispanic (11%); and 1 did not respond.

Questionnaire goals and structure

Both questionnaires included 5 sections with a combination of multiple choice and open-ended responses (See Table 15). Three of these sections (1, 2 and 5) were nearly identical and were useful for assessing the impact projects had on family involvement and perceptions of their child's learning experiences at school. Both questionnaires included demographic information, as well. The other two sections differed, which I describe below and in the survey rationale. One section on the pre-survey was not used for this research study and is therefore not described. Some items on the survey were negatively coded to ensure parents were reading each question closely and answering consistently.

Table 15. Description of pre- and post- family questionnaires

Section	Pre-Survey	Post-Survey	Format
1	Family participation (a = 0.730)	Family participation (a = 0.827)	Multiple Choice
2	Perceptions of child's learning experiences at school (a = 0.641)	Perceptions of child's learning experiences at school (a = 0.415)	Multiple Choice
3	*Not used*	Perceptions of the FSP (a = 0.856)	Multiple Choice
4	Reflecting on class assignments	Reflecting on the FSP	Open-Ended
5	Demographics	Demographics	Multiple Choice

Section 1: Family participation (both questionnaires)

The pre-questionnaire consisted of 27 items and asked families about their participation in their child's school experience and with class assignments. Items asked how many times families had done activities such as talking about school experiences or assignments with their child, viewing something made at school, viewing the class website and co-creating class projects. The section asked families, "In the last three weeks, how often did you do each of the following activities?" This wording ensured families were answering questions in response to a specific time frame. Answers were on a 5-point scale, where 1 = never, 2 = 1-3 times, 3 = 4-6 times, 4 = 7-9 times, and 5 = 10 or more times.

The post-questionnaire consisted of 21 items. Several items were removed due to their irrelevance and one question was added based on the FSP. The time frame mentioned in the question was modified to include the time spent on the FSP. It was changed to "In early-November we introduced the Family Share Project. Since then, how many times have you done each of the following activities?"

All questions were used to assess parent involvement and were developed based on the design principles, the Connected Learning Model and types of parent involvement described in the literature (Urdan & Turner, 2005; Pintrich, 2003; Ito, et al., 2013; Fan & Chen, 2001; Epstein, 1987). In addition, several items were drawn from the analytic codes (See Appendix J). Several items in this section were modified from the Parent Involvement Questionnaire (CPPRG, 1991; Miller-Johnson & Maumary-Gremaud, 1995). Cronbach's alpha for section 1 was 0.730. (pre) and 0.827 (post).

Section 2: Perceptions of child's learning experiences (both questionnaires)

The purpose of the second section was to begin to understand how families felt about class assignments, tasks and projects and the school experience, in general. Questions were useful for describing participation and involvement. In this section, families were prompted with "Tell us what you think of your child's school experience" on the pre-survey and "Tell us what you think of your child's learning experiences in his or her kindergarten class" on the post survey. Participants were instructed to choose the number that best described how much they agreed with each statement. Answers were on a 5-point scale, where 1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree, 5 = I don't know.

This section consisted of 16 items on the pre-questionnaire and 15 items on the post-questionnaire. Items focused on family involvement, interests, feelings and opinions about the tasks students were assigned. Similar to the first section of the questionnaire, these categories aligned with the analytic codes, the design principles and parent involvement categories. Cronbach's alpha for section two was 0.641 (pre) and 0.415 (post). While I hoped for values above 0.7, these values are still considered acceptable given that the survey was only used for descriptive purposes.

Section 3.2: Perceptions of the family share project (post-questionnaire only)

The third section of the post-questionnaire consisted of 17 items. Prior to this section, parents were asked if they participated in the project. If they had, they continued on to this section, but if they didn't they were simply asked to explain why they did not participate and then moved on to section 5. Parents who responded that they participated in the project were prompted with, "Tell us what you think of the family share project. Choose the response that best describes how much you agree with each of the following statements. If you did not view or post on the website, please select 'Not applicable". Answers were on a 5-point scale, where 1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree, 5 = I don't know. Items investigated perceptions of the project, such as student interest, relationships that may have developed and challenges associated with completing the project. Cronbach's alpha was 0.856.

Section 4.1: Reflecting on assignments worked on at home (pre-questionnaire only)

The fourth section of the pre-questionnaire included open-ended questions asking families to reflect on assignments or projects assigned to families from the last three weeks. In

doing so, families described their involvement in school-assigned activities and their child's learning (or lack thereof). This provided a useful comparison to responses asking families to reflect on the FSP in the post-questionnaire.

Section 4.2: Reflecting on the family share project (post-questionnaire only)

The fourth section of the post-questionnaire consisted of open ended questions asking families to reflect on the FSP, including who posted the photos and videos, what their goals were for the project, what they learned about other families, what they hoped others learned about their family and how the project could be improved in the future.

Section 5: Demographics (both questionnaires)

Both questionnaires asked for demographic information, such as gender, ethnicity, and household income.

3.3 DATA ANALYSIS

Several processes and analytic categories were used to analyze data. Results from analysis were used to describe project design and implementation and create detailed narratives of case study students and their families. Table 16 summarizes the sources of data and data analysis procedures that were used to investigate this study's research questions.

Table 16. Summary of the sources of data and analysis procedures used to investigate the research questions

Research Question	Sources of Data	Analysis Procedures
Q1: How did the FSP influence families' use of the classes' social media sites?	Observations (online, home)	Summary of online activities and numbers of activities participated in
	Interviews (teacher, family); Teacher reflections & conversations	Coding for evidence of family participation and involvement, including use of the Shutterfly site.
	Family questionnaire - section 1	Descriptive statistics and summary of responses
Q2: To what extent do families and children co-create the content of the FSP?	Observations (classroom, home)	Coding for evidence of family participation and involvement, including helping, communication, roles taken on, content discussed, etc.
	Interviews (teacher, family); Teacher reflections & conversations	Coding for evidence of family participation and involvement, including helping, communication, roles taken on, content discussed, etc.
	Family questionnaire - sections 1, 3.2, 4.2	Descriptive statistics and summary of responses
Q3: In what ways do parents	Observations (online)	Summary of online activities, including interactions

and children interact with other families during the FSP (i.e. bridge home to home)?		between families through commenting and posting media
	Interviews (teacher, family); Teacher reflections & conversations	Coding for evidence of family participation and involvement, particularly communication, relationship building, use of the Shutterfly site, families influencing one another
	Family questionnaire – section 1	Descriptive statistics and summary of responses
Q4: How do parents perceive the usefulness and feasibility of the FSP?	Interviews (family)	Coding for challenges and perceptions of student learning, relationship building, goals, informing content and family involvement
	Family questionnaire – sections 2, 3.2, 4.2	Descriptive statistics and summary of responses
Q5: How did the teachers use the content of the FSP to further their learning goals for the family unit?	Observations (classroom)	Coding for content learning, families informing content and use of Shutterfly
	Interviews (teacher, family); Teacher reflections	Coding for content learning, families informing content and use of Shutterfly

Q6: To what extent did the FSP help to build supportive and caring relationships in the kindergarten community?	Observations (classroom)	Coding for learning and relationship building
	Interviews (teacher, family)	Coding for perceptions of content learning, learning about families and relationship building
	Family questionnaire – sections 3.2, 4.2	Descriptive statistics and summary of responses

3.3.1 Coding observations, interviews and reflections

All interviews and reflections were transcribed. Transcripts and field notes from interviews, observations and reflections were coded and analyzed using HyperResearch (2009), a qualitative analysis software. Coding of family interviews and classroom observations primarily focused on case study students' and families' discourse, participation and perceptions of the project. More general coding was done with teacher interviews and reflections to understand the implementation of projects, overall perceptions of the projects and family involvement.

Codes for analyzing field notes and transcripts came from the design principles and rationale, which were described in Chapter 2 (See Appendix K for a full list of codes). The coding scheme evolved throughout the analysis: inductive coding allowed for new codes to emerge, while axial coding allowed for codes to be combined or removed as appropriate for the goals of the research (Strauss & Corbin, 1998). The codes that were most useful for answering the revised research questions became the focus of all coding activities. Text was chunked in order to consistently manage and code data. Text was chunked based on a few factors, including length of activities, length of conversations, and changes in topic or structure of the classroom. Table 17 describes the codes used to answer each research question.

Table 17. Codes used to answer each research question

Research Question	Data Sources	Codes
Q1: How did the FSP influence families' use of the classes' social media sites?	– Teacher Interviews – Family Interviews – Teacher reflections	– Shutterfly – Family Involvement – Family-Child Communication – Help
Q2: To what extent do families and children co-create the content of the FSP?	– Classroom and home observations – Teacher Interviews – Family Interviews	– Family involvement – Family-Child Communication – Help – Roles – Authority-Decisions-Choice – Content-Family
Q3: In what ways do parents and children interact with other families during the FSP (i.e. bridge home to home)?	– Reflections – Teacher Interviews – Family Interviews	– Family Involvement – Influencing
RQ4: How do parents perceive the usefulness and feasibility of the FSP?	– Family Interviews	– Goals – Challenges – Learning – Relationship – Informing Content
Q5: How did the teachers use the content of the FSP to further their learning goals for the family unit?	– Classroom observations – Teacher Interviews – Family Interviews	– Informing Content – Shutterfly
Q6: To what extent did the FSP help to build supportive and caring relationships in the kindergarten community?	– Classroom observations – Teacher interviews – Family interviews	– Learning – Relationships –

3.3.2 Data from family questionnaires

Questionnaire data was analyzed using frequencies and mean values to describe participation in the project, family involvement, family perceptions of the project, and how the projects impacted learning about families. In addition, I used the descriptive statistics to help illustrate family participation prior to and following the project.

All data collected through Qualtrics.com was exported into summative reports. Due to the qualitative nature of the study and the small sample size, cases with missing data were still included. Frequencies and means were used to help broadly describe family participation and perceptions of the project.

3.3.3 Artifacts and data from the online space

I followed a similar process as Zywica et al. (2011) for documenting and analyzing data collected from the Shutterfly sites. Data documenting activity on the site prior to the start of projects was recorded in an Excel file and was totaled for each type of activity, including the number of photos and albums, number of comments on photos and number of message board posts. These values were also totaled after the start of projects. The two values were used to describe participation on the Shutterfly site prior to and during the project and provided evidence that family involvement increased as a result of the project. These values were triangulated with other data to document and describe the implementation of the project, the ways families used the social media space (Q1) and ways families interacted online (Q3). Documenting and

summarizing what was created, posted and discussed on the Shutterfly site was also important for investigating the extent teachers leveraged the content provided by families to enrich the families unit (Q5).

3.3.4 Making sense of data and coding patterns

I followed with three procedures to analyze the coded data and descriptive data from the questionnaires. After coding was complete, I created reports of coded text (e.g. interviews, field notes) using HyperResearch for each case-study student and their family, which helped to track shifts in participation over time and create narratives of the students and families. I compared the reports to data from questionnaires to make inferences about family involvement, perceptions of the project, learning and community building. Second, I created multiple matrices to investigate patterns and themes in the data (Miles & Huberman, 1994). Matrices included specific information, such as the number and types of media posted on the site and the role family members played in completing projects, which was used to compare and contrast case study students' and families' experiences. Organizing data in to matrices was useful for pulling out important patterns and themes and for creating descriptive narratives of case studies. Third, throughout all procedures (design, data collection, analysis) I kept a log of interesting patterns, challenges and findings that emerged. These were comparable to short analytic memos (Miles & Huberman, 1994). Memoing was useful for making sense of relationships and ideas and for showing that data are "instances of a general concept", such as relationship building (Miles & Huberman, 1994: p. 72). When discrepancies between data sources emerged, they were usually due to gaps in data. To resolve discrepancies, I asked teachers and students questions to clarify and I considered possible explanations for the variations.

I followed this with two more procedures to ensure results drawn from observations and interviews were reliable and valid. First, a colleague and I double coded a selection of field notes and interviews. I trained the coder to use the codebook and code data. The coder and I both applied codes to one set of field notes and one interview transcript, totaling approximately 5-10 pages in text (Miles & Huberman, 1994). We discussed any discrepancies and came to an agreement on how to use the codes. I also created guidelines for coding, to ensure we followed the same procedure (See Appendix L). We repeated the coding process with 2 additional sets of text, reconvening and discussing discrepancies each time. To adjust for low inter-rater reliability, I combined several codes when running reports. I combined "Learning" and "Relationships" because we had many discrepancies using these codes and they often overlapped. I also combined all "Family Involvement" codes into one report, including "Help", "Aspirations", "Family-Teacher Communication", and "Family-Child Communication".

Second, I continuously considered outliers, negative evidence, and representativeness to ensure results were valid and reliable (Miles & Huberman, 1994). This, along with data triangulation, ensured that results were of high quality. I shared results and findings with teachers and asked for feedback and their impressions. I was particularly focused on detecting outliers and ensuring cases were representative of all students.

4.0 FAMILY INVOLVEMENT AT HOME AND ONLINE

I liked that it was a connection between home and school that was very tangible and concrete - Andrea (Kellie's mother)

In this chapter, I describe family participation in the Family Share Project (FSP) and parents' perceptions of the project. I address the first four research questions:

- **Q1**: How did the FSP influence parents' and children's use of the classes' social media sites?
- **Q2**: To what extent do families and children co-create the content of the FSP?
- **Q3**: In what ways do parents and children interact with other families during the FSP?
- **Q4**: How do parents perceive the usefulness and feasibility of the FSP?

Specifically, I describe how the FSP encouraged families' to contribute to the class sites, not just view the sites, and the ways in which families were involved in the FSP. I also describe how families interacted with each other by sharing media and information about themselves and influenced each other's participation.

As mentioned in Chapter 2, the teachers focused on four design goals. Table 18 summarizes the design goals and lists examples of how each was enacted in the classrooms. Throughout this chapter and Chapters 5, I provide evidence that describes how these goals were, and were not, realized during the enactment of the FSP.

Table 18. Examples of how design goals were enacted in kindergarten classrooms

Design Goal	Description of Enactment	Examples from Observation Fieldnotes or Interviews
Provide opportunities for families and teachers to use social media to communicate with each other (i.e. bridge home and school).	– Families and teachers communicated by sharing information (i.e. photos, videos, text descriptions) about their families and traditions. – Parents and teachers used the message board to communicate, but only in a few instances. – Teachers sent messages to parents through the website. – Teachers used the media posted in the online space to shape classroom conversations about families and with specific students.	Kyle's parent posted an image on the site and included the following text describing the photo. *Kyle practicing his cannonball with his sister Veronica at his grandparent's house in South Carolina.* From this posting, teachers know that Kyle has a sister named Veronica, his grandparents live in South Carolina, and most likely Kyle and his sister like to go swimming.
Provide opportunities for parents and children to co-create personally meaningful media and share stories across contexts (i.e. home and school). Co-creating	– Parents and children created a photo album that represented their family, interests and experiences. – Some families created videos about their family traditions. – Many parents and children co-created these artifacts, but not all. Some children made choices along with their parents, such as what photos to include, why to include photos, what to write about photos, or what to tell their teachers and peers about the photos. – Media were used to tell stories and have conversations in the classroom.	Kellie and her mom co-created the text and stories for each picture they chose. *Kellie: are we writing the words?* *Andrea: yes you have to say what you want people to know about …* Becka's mom and sisters helped her choose photos, create a family album and create three videos. Becka said, "…they

involves shared decision-making where parents and children both exercise control and choice.		helped me choose…they chose the my dog eating a marshmallow one" (post interview, 1/28/13).
Provide opportunities for parents and children to interact with other families (i.e. bridge home to home).	– Families had opportunities to interact with other families by commenting on media posted on the site. – Some parents communicated with each other through email and face-to-face conversations. – Families indirectly interacted by viewing each other's photos and videos. In addition, viewing other families' photos influenced some families. – Some families had conversations at home. They talked about other families and their photos posted online and families in general.	In classroom A, families were encouraged to comment on photos to interact with others, but no families chose to do this. They only commented in response to teacher comments on their own photos. However, families did communicate with each other in ways that influenced conversations in their homes. *we did talk about family traditions, even though we didn't actually post the video of our family tradition, so that was nice - a nice thing to talk about. Ariel remembers things and repeats things, so she'll say like - she'll watch like Emma's video of her with the elf, and she'll say well our family tradition is to go - is going to Florida. You know what I mean? She - so we sort of talked about that kind of thing.*
Build supportive and	– By sharing and discussing media, which included family members,	During a post interview, Ms. Stefanovic said, "I think it just

caring relationships in the classroom and between families.	interests, special events or occasions, and traditions, students, teachers and parents got to know each other better.	helped them to get to know one another. My sense is that this project helped this class become a better family, community together."

4.1 FAMILIES' USE OF THE SOCIAL MEDIA SITE

One goal of this study and the FSP was to provide opportunities for families to use social media to help bridge home and school. Next, I address the first research question,

– **Q1**: How did the FSP influence families' use of the classes' social media sites?

Every family surveyed used the social media tool, Shutterfly, prior to the start of the FSP as a way to view photos teachers had posted. Prior to the FSP, most families did not contribute to the site, only consumed media on the site (See Table 19).

Table 19. Family online activity 3 months prior to and 3 months during the FSP

	Room A		**Room B**	
	Prior	*During*	*Prior*[1]	*During*
# message board discussions initiated by families	0	0	1	2
# message board replies by families	0	0	3	4
# of albums created by families	0	16	1	19
# of photos posted by families	0	199	137	285
# of videos posted by families	0	5	0	4[2]
# of comments made by families	1	4	1	1

[1] While there is one album with 137 photos, they were all posted by just one parent.
[2] Families created all 4 videos, but the teacher posted 1 out of 4 due to technical problems.

However, the ways families used the site changed during the FSP. Most notably, families became contributors on the site, posting photos, videos and text. Figure 2 compares pre- and post- survey results describing how families used the class's social media site.

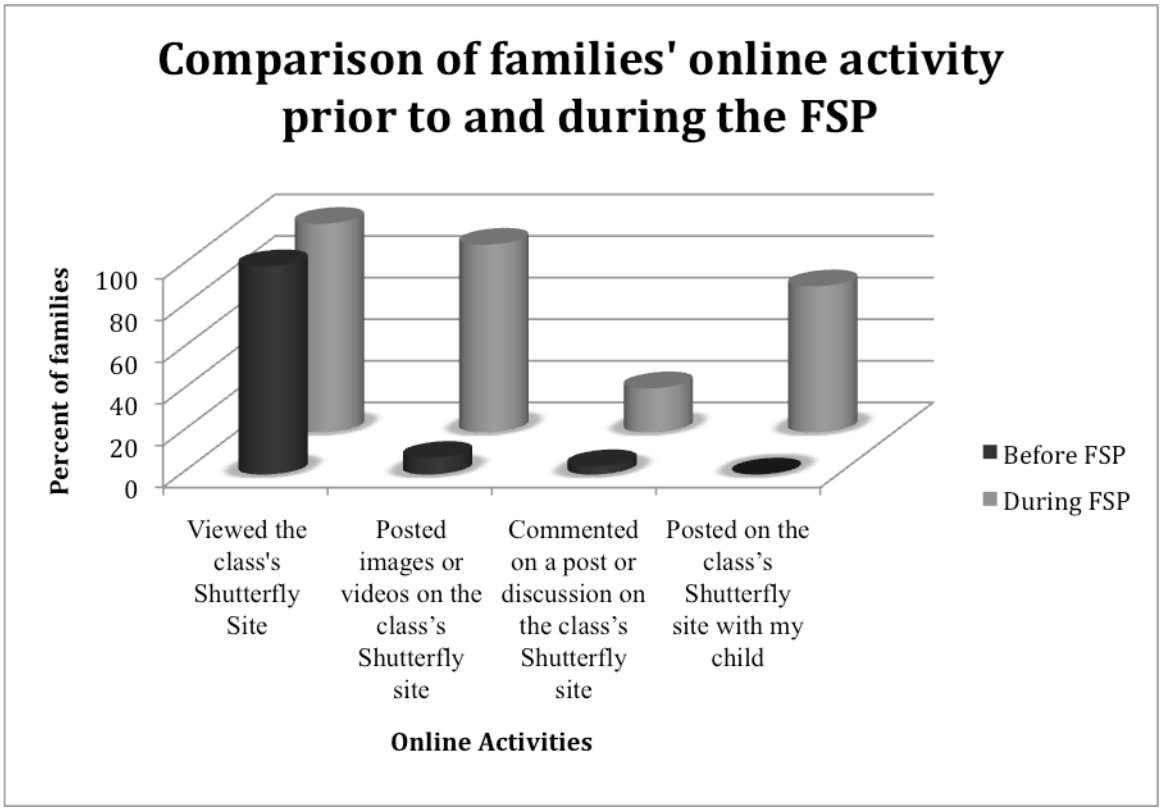

Figure 2. Percent of kindergarten families who viewed and posted content on the site

Families jumped on board and started contributing to the site during the FSP. Prior to the FSP, only 8% (2/25) had posted images or videos on the site; 4% (1/25) had commented on a post or discussion; and no one had posted on the site with their child. During the FSP, 90% (18/20) of families surveyed posted images or videos on the site; 21% commented on a post or discussion (4/19); and 70% (14/20) posted with their child.

Survey results, along with online observations, confirm that families began using the social media space in new ways during the FSP. After the FSP, more parents had contributed something to the site. Some had even posted with their child, which suggests families co-created media to share with the kindergarten community.

4.2 CO-CREATING DURING THE FSP

Co-creating the FSP and family conversations at home were essential for the project to support learning at home and to bridge learning that happens at school with students' lives outside of school. The teachers and I wanted the FSP to be an opportunity for parents and children to learn about families at home, reflect on their own family and to co-create knowledge and media to share with the kindergarten teachers and families. We were concerned that some parents might view the project as a homework assignment and do the work for their child. This would have been problematic since we wanted the children to be involved in discussions about families and contribute their knowledge and interests to what's created and shared. To investigate this further I asked:

- **Q2**: To what extent do families and children co-create the content of the FSP?

Results indicate that the extent to which families co-created and made decisions together varied during the FSP. For example, a few families did not post anything on the site; Becka's mom and sisters helped her to choose and post photos and make videos; Leslie chose all the pictures herself and her mom posted them later without Leslie present; and Ariel chose pictures and her mom asked her to talk through the pictures to practice what she was going to say and to make sure she knew who everyone was in the photos.

Responses from the post-survey suggest parents made some decisions about what to post on their own and made other choices with their child. Ninety-five percent of parents (18/19) responded that they "worked with my child to choose what to post on the website for the FSP". However, 32% of parents (6/19) agreed that they "chose on my own" what to post for the FSP. This aligns with data from case study interviews; parents made some decisions on their own, but often gave their child options to help narrow down their choices.

Some, but not all, parents wanted their child to have control and make decisions when working on the FSP at home. Natasya said it was her intent to make Becka "feel like she was a little bit in charge" and Neela said that Leslie picked out the photos and "the choice was Leslie's". Next, I provide examples from two case study students and families that illustrate two different ways parents were involved in the FSP. Kellie and Kyle co-created the projects with their parents and made decisions and choices about different components of the project.

4.2.1 Choosing media to post: Kyle and David

A home video of Kyle and his dad, David, shows Kyle sitting on his dad's lap while working on the project. They sit at a desk in a room set up like an office. The desk has two computer screens on it; One screen is used to view pictures and search through folders and the other is used to view the class website and scroll through photos. During an interview, David described the process of selecting photos for the FSP,

> *… we have them organized like a family folder, then we have kid-specific folder which is we know they're just pictures of the kids, and then we've got vacations and trips folder, so* ***we kinda just went through each folder and just as we selected a picture****, I would just kinda right-click, copy, just keep copying pictures until we'd selected 100. Then I was, like, "Okay. Now we gotta break this down to like 15." That's how we went about it.* ***That part—the de-selecting process—was very difficult****. [Laughter].*

In contrast to other families, David did not start with a pre-selected set of photos for Kyle to choose from. This lack of scaffolding may have resulted in some challenges. David said, "He was wanting to put all these random photos on. I was thinking, well, we should do family photos, so there was a little bit of a tug-of-war there". In the following exert from the home video observation, David realizes there are multiple photos of Kyle playing hockey and suggests that they eliminate some of them.

1 *David realizes there are a couple more hockey photos. They look at all the hockey photos and decide which one to pick.*
2 *Kyle: Do you think we should do that one or that one or that one?*
3 *Kyle asks if they should have one from hockey graduation or not.*
4 *David: Personally I like the ones where there's motion.*
5 *Kyle: What about this?*
6 *David: I think that's the best.*
7 *Several times Kyle mentions that both of his hands aren't on the hockey stick. David reassures him that this is ok. David and Kyle decide to use two hockey photos.*

Kyle frequently asks for his dad's opinion (Turns 2, 3, 5) on which pictures to include and ultimately the decision regarding which pictures to choose is shared. During an interview, Kyle describes another time (not captured on video) where he and his dad discussed which hockey pictures to include. Kyle said, "He said if I was on the ice, he said it would look better. If I was off the ice, it wouldn't be really good because I would be in the locker room" (See Figure 3).

Figure 3. Kyle's first hockey picture he chose to upload

Kyle and his dad debate on other photos too, such as one that Kyle really doesn't like, but his dad loves.

1 *David: You don't like that one? It's one of the best pictures ever.*
2 *Kyle: NOOO*
3 *Kyle puts his hand up to stop him.*
4 *David: All right, all right, all right. So how's that?*
5 *Kyle: uh uh (as in "no")*
6 *David deletes the photo Kyle doesn't like.*

In the end, Kyle has the final say and chooses not to include the photo. At one point during the process, Kyle gets a little restless and seems tired of sorting through pictures.

1 *David opens another photo and laughs.*
2 *Kyle: What about this?*
3 *David: [pause] Mmm it's up to you.*
4 *Kyle: Sure. Whatever you think. It's up to you.*
5 *David suggests they delete that photo and Kyle is okay with that. David pulls up the photo of Kyle on the tractor and asks what he thinks.*
6 *Kyle says sure and it's "his choice" and "all these are your choice".*
7 *David asks about another photo and Kyle gives the same response.*
8 *David: Kyle, that's not the way it's going to work. You need to have input on this.*

This example illustrates David's intentions for co-creating with his son and making decisions together. It's also clear that selecting photos was a tiring, or perhaps disengaging, task for Kyle and having fewer options and choices might have made the process more interesting for him.

Similar to other families, David and Kyle had conversations about what information to include, which was an important step in creating artifacts and knowledge to share with the other parents, students and teachers. David and Kyle spent most of the documented time discussing what made a photo better than another photo and either David or his wife later uploaded the photos without Kyle's presence. This seemed to be a common approach for other kindergarten families, as well. In the end, David and Kyle ended up selecting 20 photos to upload (See Figure 4). David and Kyle did not discuss what Kyle would say about each photo or what was important for other families to know about their family. David said, "I didn't honestly think about that".

Figure 4. Kyle's photos uploaded on the class website

Interviews and survey results show that many parents and students discussed what media to share, but it's not clear how many talked about why they selected the photos or why they were important representations of their family. Kellie and her mother are an example of one family that did discuss why they should share specific photos of their family.

4.2.2 Deciding what to say about our family: Kellie and Andrea

Together, Kellie and her mother, Andrea, selected photos and created text descriptions to post on the site. Andrea guided Kellie along the way by helping her decide how many photos to select and what to say about them. For example, after Kellie chose about 15 photos of her and her

brother, Andrea suggested she pick only four or five of them and told her that she "can't have 15 pictures of just you guys together". Andrea's goal was to provide a mix of photos to represent her family and its structure, so she encouraged Kellie to choose photos of the whole family, their immediate family and photos of all the individual people (See Figure 5). When posting the photos on the site, Kellie's dad, Alex, was also present in the room occasionally chiming in on how to use the Shutterfly website, but primarily running the video camera set up for the purpose of this study. Kellie and her mom sat on the couch with a portable keyboard and mouse on a coffee table in front of them. The class website was displayed on a large TV to their left (See Figure 6). Andrea created a new album called "Kellie's Family" and selected and upload the photos.

Figure 5. Photos in Kellie's Family album posted on the website

Figure 6. Kellie and her mom, Andrea, at home posting photos and descriptions

The majority of the recorded time together was spent discussing the photos and what to say and write about each photo. Not all families included text descriptions of the photos, but Kellie and Andrea spent time at home creating descriptions together. During a conversation with Kellie she said, "I wrote the words. Well, mommy wrote them, but I said what I wanted them to say".

Co-creating text was important for Kellie to articulate her ideas that she would later share with the class and teachers. Next, is an example of Kellie and Andrea discussing what to say and write about a photo of Kellie's brother, Zach, holding balloons (See Figure 7). Kellie said she chose the picture because "Zach loves balloons".

Figure 7. Photo of Kellie's brother, Zach, selected and discussed by Kellie and her mom

1 *Kellie: …this is a picture of*
2 *Andrea: uhuh*
3 *Kellie: Zach*
4 *Andrea: Wait. Who's Zach? 'Cause they might not even know.*
5 *Kellie: My brother*
6 *Andrea: Ok*
7 *Kellie: Zach, my brother*
8 *Andrea: uhuh*
9 *Kellie: holding balloons in front of our house*
10 *Andrea: Now, why did you pick this picture?*
11 *Kellie: because*
12 *Andrea: mhmm*
13 *Kellie: There's no pictures of Zach by his self.*
14 *Andrea: But why'd you pick this particular one?*
15 *Kellie: because he loves balloons*
16 *Andrea: because he loves balloons*
17 *Kellie: What does it say?*
18 *Andrea: Zach, my brother, holding balloons. I picked this picture because he loves balloons. Do you want to say anything else about it?*
19 *Kellie: He loves holding balloon.*
20 *Andrea: He loves holding balloons…let's do one more.*

In this example, Andrea and Kellie talk about why they selected the photo of Zach and the balloons and what students in the class might need to know about the photo and her brother. Andrea asks Kellie questions (Turns 4, 10, 14, 18) to prompt Kellie and help guide her thinking. This conversation was important for supporting Kellie's learning and helping decide what to share with the kindergarten community. Andrea said this activity, and the project more generally, helped Kellie to be "aware or mindful" of who they are as a family – "what's important to her about that, and who the important players are, and her having an awareness of her own relationships". This was a way for Kellie and her mom to engage in and contribute to knowledge in the kindergarten community.

In contrast to Kellie and Kyle's families, and as noted at the start of this chapter, family involvement during the FSP did not always include the parent and child sitting down to work on the project together. For example, prior to sharing his photos in class, Austin shared that his mom posted the pictures and he didn't even know what pictures he was going to be sharing. Another student, Noah, told me that his parents created his video on their own, which included footage from a traditional holiday meal and information about the special holiday foods his family made.

4.3 INTERACTING WITH FAMILIES

An important goal for the FSP was to encourage families to interact and communicate with one another. Family interactions are important for learning about families, but also developing relationships with families. I investigated,

- **Q3**: In what ways do parents and children interact with other families during the FSP?

In terms of getting families to interact with one another, the FSP did not work as intended; most families did not communicate with each other directly. They didn't use the sites' message boards or commenting features to discuss media and content with each other. However, families did view each other's posts and took advantage of opportunities to learn about other families.

4.3.1 Communicating through media

All parents that completed the post-survey had looked at photos other families posted on the site on at least one occasion. Fifty-five percent of all respondents looked at other families' photos 4-9 times and 40% had looked on more than ten occasions. Survey responses suggest that some parents did use the site to communicate with other families during the FSP. Prior to the FSP, 8% of survey respondents (2/25) said they used the site to communicate with other families. In contrast, 37% (7/19) had used the site to communicate with other families after completing the FSP. It is unclear how families defined their communication with other families, but it's likely they are referring to communication that happened through posting photos and videos of their families and viewing information posted by other families.

The Shutterfly site provided opportunities for families to communicate with each other outside of school or when being physically together wasn't possible, such as during holiday breaks or on weekends. During her interview, Andrea said that Kellie "loves looking at the photos and all the other people. During holiday break or Thanksgiving break or even on the weekends, she could look at those photos…". Similarly, Ariel's mom, Sandy said, "I haven't had any interaction with other parents, although we've looked at other people's pictures and things like that. Ariel loves that."

At least a few families talked to each other in person or via email about media that was posted on the site. Kellie's mother describes how she was encouraged to talk with another parent based on something she saw posted by the family.

> *…**I talked to other families about theirs**; for example, one boy in Kellie's class had a photo of him and a friend. It turned out that Kellie was really close with that friend in preschool. We were like, "oh my god, it's Jonathan". That was really neat.*

Some parents, such as Kellie's mother, did have private conversations with other parents that were sparked by activity and sharing information on the site.

4.3.2 Influencing one another

According to case study parents, families on the site influenced other families in at least two ways. First, families and teachers influenced the content of media posted. Second, some families had discussions at home that were influenced by what other families posted on the site.

4.3.2.1 Content of postings

Several parents selected images or videos that were similar to media that had already been posted by other families and teachers and parents tried to choose a similar number of photos to share. For example, prior to selecting and posting pictures, Kyle's parents had viewed the class website and knew what other families and teachers were posting. They specifically chose 15-20 photos because of what they saw on the site. David said,

> *… so I just kinda looked around and it's, like, "Hey. There's a bunch of pictures of people on vacation and [laughter] stuff like that." That definitely directed our - now, if it was like I went there and it was pictures of random objects, I'd be, like, "Okay. We're supposed to put pictures of random objects on there." For sure, **what other people did would've highly influenced how we went about that.***

In the same manner, Andrea thought that the photos other students posted influenced her and Kellie. During an interview, Andrea commented on how Kellie was influenced by a specific photo posted by a peer.

> *…at least one other child had a photo of herself having her face painted.* ***Kellie was really into that, and she really wanted to put a picture of her with the face painted.*** *It was at a carnival, like that kind of fancy face painting.* ***That's not family at all, but we just put it up there because she wanted us to.***

Andrea was more influenced by the number of photos posted by others. Andrea said, "it was really helpful for me to see who had gone before me, because then I was like, okay, we're doing about 15 to 20…".

4.3.2.2 Conversations at home

Families were influenced by what others posted in at least one additional way. It's possible that conversations at home were shaped by what was posted online by other families. Families' funds of knowledge provided fruitful sources of discussions at home. For example, Ariel's mom said the FSP "did inspire us to talk about our traditions, which was good." She said,

> *It's nice for Ariel to learn about her friends' families and it was a nice way to think about - I mean* ***we did talk about family traditions****, even though we didn't actually post the video of our family tradition, so that was nice - a nice thing to talk about. Ariel remembers things and repeats things, so she'll say like -* ***she'll watch like Emma's video of her with the elf, and she'll say well our family tradition is to go - is going to Florida.*** *You know what I mean? She - so* ***we sort of talked about that kind of thing****. I think it's nice to get sort of like the challenge to focus yourself on families and traditions and things.*

For Ariel and her mom, seeing Emma's video on the site prompted a conversation about traditions at home. Similarly, Natasya used information from the website to start conversations with her daughter, Becka. Natasya said "the newsletter and the things that I see in the website kind of help me to prompt her with specific questions". When asked if she was influenced in any

way by what other families were posting, Neela described how she might have been influenced if they hadn't been one of the first families to post their photos,

> *I would have been influenced by watching what other people put on except for two things, one, we didn't put any more pictures. Two, Leslie is not - I am much more peer influenced than Leslie is, so she would be like, "No."* ***She has very clear ideas about what she wants, so I wouldn't have had much of say.*** *I would have suggested certain pictures. I would have said, "But look, so and so posted a picture of them doing all these activities that they do." She'd be like whatever; I don't need to put a picture of me doing something. She has her own ideas.*

This example also provides evidence to support enactment of the second design goal; Leslie had control and choice over what was posted during the FSP. For most families, the students' and parents' learning experiences at home and in the classroom were influenced by each other. The social media tool and the FSP helped families to create and share knowledge across learning environments, particularly home and school.

4.4 FAMILY PERCEPTIONS OF THE FSP

Finally, I investigate parents' attitudes towards the FSP and how the project might have influenced their involvement in their child's classroom learning. Specifically, I addressed the fourth research question,

- **Q4**: How do parents perceive the usefulness and feasibility of the FSP?

4.4.1 The usefulness of the FSP

Overall, parents found the FSP to be a positive experience for them and their child. All parents that completed the post-survey said that their child enjoys share time activities in the class,

enjoyed posting photos and/or videos on the site, and enjoyed working on the FSP at home (See Table 20). In addition, 94.4% of families (17/18) thought the FSP was useful for their child and 83.3% (15/18) thought their child was generally interested in what was posted on the site.

Table 20. Parent perceptions of the usefulness of the FSP

	% Agree or Strongly Agree
My child enjoys share time activities in the class.	100%
My child has enjoyed working on the Family Share Project at home.	100%
My child enjoyed posting photos and/or videos on the class's Shutterfly site.	100%
Doing the Family Share Project was useful for my child.	94.4%
My child is interested in what is posted on the class's Shutterfly site.	83.3%

Some of the case study parents weren't sure if and how the FSP helped get them more involved. For example, Neela said the project didn't make her feel more involved in classroom learning. Andrea expressed she wasn't sure that the FSP helped her get more involved, but said, "it definitely makes you feel connected to the school and the other families in a way that, you know, if it didn't exist, there would be a lot missing". She also said, "I liked that it was a connection between home and school that was very tangible and concrete and that Kellie would understand." Similarly, Natasya said the FSP "an added connection, point of communication" between Natasya and the teachers, which she liked. She also responded, "I guess it's nice to feel

like there's some connection between what she does at school and what she does at home. It was nice to be involved in it".

When asked if the FSP helped David to get more involved in Kyle's school learning, David responded,

> *I don't know if I'd call it involved in his learning, but I found—but **it was nice to just be involved with his school**, in a sense, but I didn't really know—is there any education going on. In retrospect, just thinking about it literally right now, I can understand that each kid sharing his experiences would impact the other kids.*

Perhaps what was more important to David was his participation in the activity with Kyle. David said, the FSP "was the first thing we ever did together [for school]—Kyle and me. I've done things with my daughter Veronica, but this is the first with Kyle".

While the FSP might not have helped parents to get involved in classroom learning in the ways they thought aligned with tradition views of parent involvement, we do know that parents got involved in new ways and many positive experiences did come from participating in the FSP.

4.4.2 Ease and feasibility of the FSP

Most families that responded believed the FSP was worth the time it took to complete (94.4%) and expressed interest in doing more projects like the FSP in the future (88.2%) (See Table 21). There were very few difficulties using the Shutterfly Site, or posting photos, but some families did express difficulties in uploading videos.

Table 21. Parent perceptions of the ease and feasibility of the FSP

	% Agree or Strongly Agree
The Family Share Project was worth the time it took.	94.4%
It was easy for me to use Shutterfly for the project.	89.5%
I would like to do more projects like the Family Share Project.	88.2%
It was easy for me to figure out how to upload videos of my family.	63.6%
The Family Share Project took too much of my time.	15.8%
It was difficult for me to figure out how to upload images of my family.	15.8%

4.5 SUMMARY

Family involvement in the FSP ranged from parents selecting and posting photos or videos on their own to parents and children planning, selecting and posting photos together and creating videos together. Findings suggest that parents didn't necessarily feel more involved as a result of the project, but most families had opportunities to be involved in new ways during the FSP: They collaborated at home to create something that was not only shared with students and teachers, but other families; Families used the website to learn about other families; Families used the website to communicate with other families; And families contributed content during the FSP and the families unit. Overall, parents thought the FSP was a positive experience for them and their child and most were interested in doing more projects like the FSP. Families found the FSP to be a useful project for helping to connect home and school.

5.0 ENRICHING THE FAMILIES UNIT AND BUILDING A COMMUNITY

My sense is that this project helped this class become a better family community together.

– Ms. Stefanovic

In the last chapter, I focused on the first three design goals for the FSP and how these goals led to parents and children co-creating and sharing content and knowledge with teachers and other families. In this chapter, I investigate the extent to which teachers leveraged this content and families' funds of knowledge to enrich the families unit. I also describe results that suggest the FSP influenced participants' knowledge of families and supported relationships, which aligns with the fourth design goal for the FSP: Build supportive and caring relationships in the classroom and between families. In this chapter, I address the fifth and sixth research questions:

- **Q5**: How did the teachers use the content of the FSP to further their learning goals for the family unit?
- **Q6**: To what extent did the FSP help to build supportive and caring relationships in the kindergarten community?

5.1 USING THE CONTENT TO FURTHER LEARNING GOALS

The intent for the FSP was for teachers to draw on the content posted by families and shared by students in the classroom to help teach the family unit. In this section, I discuss the extent to which teachers were able to do this. I also describe two shifts in discourse patterns that

contributed to richer instruction during the FSP. These include a shift in presentation styles during share time and a shift in the ways teachers pressed students about the content. Specifically, I investigated,

- **Q5**: How did the teachers use the content of the FSP to further their learning goals for the family unit?

As described in Chapter 2, the content goals for the FSP aligned with an existing unit on families and included understanding:

- families care for each other and love each other.
- there are many different kinds of family structures.
- family names and general family structure/trees.
- family traditions and holidays.

The FSP extended the ways in which the content had been taught in previous years. During this study, the FSP was used in addition to the four approaches described in Chapter 2, to teach the content. In the next sections, I describe *how* the FSP extended the ways in which the unit was taught.

5.1.1 Extending what students learn

The FSP helped to support learning and reinforced concepts from the unit, such as family traditions and structure. Results suggest the FSP influenced how the families unit was taught and provided content to support learning during the unit. Ms. Sanders said,

> *… we've read books and so on about different families, and we have different families, but **the kids actually saw** that within the room there were different family structures, or there was some commonalities between them. I think it just really **supported the learning** that we were doing already.*

Ms. Thomas also talked about the importance of the FSP supporting what teachers were already doing. She said, "I think it just really reinforced the idea of the similarities and differences. Like

we read a book about that, but I think it just reinforced that even more because there's only so much that you can get out of a book, but then seeing these things come to life."

Teachers thought the FSP helped students to understand the concept of diversity and even celebrate diversity. Ms. Kennedy said,

> *I think it* ***helped students kind of understand the diversity of families****, that everyone has a different family, everyone has different traditions. That really helped, because that's a really abstract thing for the kindergartners to understand.* ***I think seeing it in the pictures and seeing everyone's different family really helped them kind of understand that concept***

The teachers and parents agreed that the FSP helped them and their child to learn more about students' families. Ms. Stefanovic said, "…I think that the project helped them to understand each other's families and to see different families because we have different family structures within our class." Ms. Stefanovic stated, "they know more about their peer's home life and their family life because of this."

Ms. Sanders explained how the FSP might have helped students learn about each other's families: "we've done the family unit before, and the kids seemed to get it, but I think this time they actually have a deeper understanding of the families in our room, which is a little different".

Ms. Stefanovic also mentioned that parents' role in the project really helped to enrich the unit.

> *I think that they had to take the time to help us with this and to sit down and find the pictures and support what we were doing so that it gave a visual. We could have had a discussion about these things, but it wouldn't have* ***given that visual representation that we got because of the connection the parents were able to provide*** *with this and using the website.*

However, it took time to figure out how the FSP could best support the unit. At the start of the project, share time did not look all that different from share time activities earlier in the year. The ways in which teachers pressed students for information and supported conversations about the content evolved throughout the FSP, resulting in a project that supported community

building and students' learning. Next, I describe share time activities from prior to the FSP and during the FSP to illustrate how discourse changed and influenced how the FSP was used to teach the unit.

5.1.2 Early share time activities

At the beginning of the school year, I observed students sharing printed pictures of their family and their favorite toys. During share time activities, all teachers had similar instructional strategies; Teachers prompted students for more information by asking questions, encouraged students by making positive comments about what was being shared, and provided feedback regarding students' presentation (i.e. face your peers, speak up, etc.). They had students wait until the end of share time to ask a question or make a comment. After describing their toy or photo, the student sharing chose one of three paper objects: 1) a question mark for a question; 2) a period for a comment; or 3) an exclamation point for an "excited comment". The student called on a peer to ask a question or make a comment based on what object they were holding. This approach had disadvantages and advantages. On the one hand, it made it easy to manage students, because they weren't all shouting comments or questions. However, it led to exchanges between the teacher and one student and most students did not participate in the conversation. By not participating in conversations, students didn't have opportunities to co-construct knowledge about families.

On average these share time activities were about 3 minutes, including questions and comments from students at the end. The following example, particularly turns 5, 7, 8, 10, and 12, shows how Ms. Kennedy and Mr. Anderson supported Nina, a child in room B, during her share.

1 *Ms. Kennedy: Ok come on up, Nina. Go ahead and tell the class what you brought to share today.*
2 *Nina: [inaudible]*
3 *Ms. Kennedy: Can you guys hear her in the back?*
4 *Students: Noo*
5 *Ms. Kennedy: Say it louder.*
6 *Nina: A harmonica*
7 *Mr. Anderson: A harmonica! Wow.*
8 *Ms. Kennedy: Tell them what you do with your harmonica.*
9 *Nina: [pause]*
10 *Ms. Kennedy: Go ahead and tell them.*
11 *Nina: [inaudible]…play with it.*
12 *Ms. Kennedy: Anything else you want to share about it?*
13 *Nina shakes her head no.*

Notably, no student besides Nina spoke during the share, which was very typical. By having students wait until the end to ask questions, the exchanges during share time were very teacher-driven.

In addition, teachers pressed for more information by asking very broad questions (Turn 12). Of the 11 teacher questions documented during these early share activities, 7 were some variation of “"is there anything else you'd like to tell us?" Rarely, did teachers press for more information using explicit questions focused on some aspect of what was being shared.

When students finished sharing, only 1 to 4 questions or comments were permitted from students before the class moved on to a new activity. While some questions were thoughtful, such as “where were you?” and “how do you play with it?”, 9 out of the 11 student comments observed were some variation of “I like it”. Next, I describe how some of these practices continued during the FSP, but eventually began to evolve, which has implications for student learning about families and each other.

5.1.3 The start of the FSP

When the FSP started, teachers used the same instructional practices that they had been using all year. Many of the first share time activities during the FSP were teacher-driven; teachers asked questions while students shared pictures and students in the classroom could only ask questions or make comments after all of the photos were shared. Kiyana, a student in room B, was the first student I observed sharing her family photos posted on the website. The lights in the classroom are dimmed and Kiyana's family album is displayed on a screen at the front of the room. As Mr. Anderson flips through the photos he asks Kiyana to describe the photos and people in them.

1 Mr. Anderson: …So what's going on here Kiyana?
2 Kiyana: Um it's my birthday.
3 Mr. Anderson: Speak louder.
4 Kiyana: It's my birthday and I was at Chuckie Cheese.
5 Mr. Anderson: Wow that is great. Ok what about here?
6 Kiyana: I went over to my cousin's house.
7 Mr. Anderson: You went over to your cousin's house…How about here?
8 Kiyana: That's [inaudible]
9 Mr. Anderson: Speak up. I can't hear you.
10 Kiyana: That's my dad and brother playing basketball.
11 Mr. Anderson: Oh yeah. In your backyard?
12 Kiyana: yeah
13 Mr. Anderson: cool
…
14 Kiyana: And that's me and my dog.
15 Mr. Anderson: What's your dog's name? Speak up.
16 Kiyana: Porkchop
17 Mr. Anderson: Porkchop!

Mr. Anderson asked Kiyana specific questions about her family in some of the exchanges. For example, he asked if her dad and brother where playing basketball in their backyard (Turn 11) and what her dogs name was (Turn 15). Like many share time activities at the start of the project, the teacher did not press for more information about family traditions or celebrations. This was

something that emerged later in the project. Despite this, students saw and heard about Kiyana's family and began to learn about her life outside of school.

Similar to share time prior to the FSP, the conversation was primarily teacher-centered. Students played very little role during the activity until it was appropriate to ask questions at the end. The next example shows a very short exchange between students and Kiyana that occurred after Kiyana shared.

> *Mr. Anderson: Ok you ready? Get your sticks.*
> *Kiyana selects the question mark.*
> *Ms. Kennedy: Question*
> *Mr. Anderson: A question*
> *Student: Like where were you when you were on the horse?*
> *Kiyana: [inaudible]*
> *Ms. Kennedy: She's ready for a comment.*
> *Student: I like it.*
> *Ms. Kennedy: Excited comment*
> *Kiyana calls on a student.*
> *Student: I love your family.*
> *Kiyana: Thank you.*

Despite a minimal amount of time for students to interact, share time lasted over 5 minutes for Kiyana, which was notably longer than most of the share time activities prior to starting the FSP. While not all share time activities were this long in the beginning of the FSP, the time students spent sharing did increase from 2 minutes and 57 seconds on average to 6 minutes and 10 seconds. As a result there was more time for teachers and students to ask questions and make comments. Table 22 compares the number of questions and comments during pre-FSP share time activities to those at the start of the FSP. The average number of teacher questions increased from 1.6 questions per activity to 6.7. The average number of student questions only increased slightly (2.1 to 2.8).

Table 22. Average number of teacher and student comments increased at the start of the FSP

	Pre-FSP Shares	First FSP Shares
Average # of teacher questions per share	1.6	6.7
Average # of teacher comments per share	0.3	1.7
Average # of student questions per share	2.1	2.8
Average # of student comments per share	1.6	2.3

5.1.4 Shifts in discourse during the FSP

The teachers and I weren't sure how to best support students during share time or what to do with the content shared by students and their families. This was something we figured out naturally over time and from reflecting on the share time activities. Consequentially, share time activities evolved during the FSP. We arrived at two pedagogical approaches: First, teachers began pressing students to discuss content. Second, teachers supported student participation by encouraging conversations.

5.1.4.1 Pressing students to discuss content

At the beginning of the FSP, it was not clear if and how teachers were leveraging content posted by students and families to enhance the families unit. I didn't see distinct connections made between the share time activities and other unit activities or lessons. In fact, I noticed a few

missed opportunities for teachers to leverage content; such was the case with Leslie. Leslie shared a picture of her with her grandmother and two cousins (See Figure 8).

Figure 8. Leslie with her grandmother and two cousins in Toronto

A conversation about this photo was very short:

1 *Leslie: This is me. My cousin, my cousin, my grandma.*
2 *Teacher: Do you know where you are in this picture?*
3 *Leslie: Yeah. Toronto.*

After seeing Leslie's share, I began to wonder why teachers didn't use this as an opportunity to talk about Leslie's family traditions, such as wearing Bindis and perhaps her family background. My reflection of this share and a follow up conversation with the teacher highlights the missed opportunity to leverage content posted by Leslie and her mother:

> *After thinking about Leslie's share for a few days, I later talk to Ms. Thomas about it. It's interesting to me that* ***there was a photo of Leslie's family wearing Bindis…but nothing was said or asked about these traditions.*** *Ms. Thomas thinks that students are used to their peers being so diverse, so they don't think it's unusual…****I encourage Ms. Thomas to use these opportunities to talk about traditions…***

As a result of my reflection, I encouraged the teachers to press the students for information to address the content goals.

Around this time, teacher practices started to diverge. Teachers made different uses of the content of the FSP and used different strategies to link the content of the FSP to their learning goals. This divergence occurred naturally as teachers explored new approaches during the project and as I encouraged teachers to draw on the content. As practices started to change, I saw students' positive responses and I encouraged teachers to continue the new practices. In room A, teachers allowed students to ask more questions during shares. In room B, teachers encouraged students to make comments about something they had in common with the student sharing. As a result, the discourse practices of the classroom changed in ways that better supported students' construction of knowledge about families.

The week following Leslie's share, Akhil, another student in room A shows pictures of his family wearing traditional Indian/Hindu clothing and celebrating Diwali. In contrast to Leslie's share, Ms. Thomas asks Akhil several questions about the photo to encourage him to talk about his family tradition (Turns 9, 13).

1 *Akhil: this is me getting ready for Diwali and I was taking a picture with my brother and my grandma and grandpa.*
2 *Akhil goes on to say he was in his grandma and grandpa's hotel room.*
3 *Ms. Thomas: Akhil, can you tell them what Diwali is 'cause I don't know if anyone else celebrates it.*
4 *Akhil: it's a holiday that we celebrate and…*
5 *Ms. Thomas: Can you turn around and tell us. It's a holiday you celebrate and what do you do?*
6 *Student: It's in December?*
7 *A student says "no".*
8 *Student: What's it in?*
9 *Ms. Thomas: do you know what month it's in?*
10 *Akhil: I forget*
11 *Ms. Thomas: I think it's either October or November. I'm not sure. We can look it up.*
12 *Akhil explains that it couldn't be in October because he was on a break during the holiday.*

13 *Ms. Thomas: And why do you dress up like that? Are those clothes called something?*
14 *Akhil: Those are special clothes that we wear.*
15 *Akhil tells the class that during Diwali there's music and "there's a big big circle and all the people are walking around in it".*

As a result of the questioning from Ms. Thomas and even another student, Akhil describes his families' Diwali celebration, which ties in with the unit's content goals regarding traditions. About 6 weeks later this shift is even more apparent when Leslie shares a video of her family lighting the Menorah. Ms. Thomas starts playing the video, but pauses to ask Leslie a question.

1 *Ms. Thomas: I'm going to pause it. Leslie, can you tell us what's going to happen in this video?*
2 *Leslie: It's Hanukah.*
3 *Ms. Thomas: It's Hanukah. And what are you guys doing?*
4 *Leslie: We're singing.*
5 *Ms. Thomas: You're singing. Anything else?*
6 *Leslie shakes her head no.*
7 *Ms. Thomas: No, alright let's let you watch it first and then she can answer any questions you might have.*

Leslie has very little to say, so Ms. Thomas plays the video. Leslie and her family sing a song in Hebrew as they light the Menorah. They end the video by saying "Happy Hanukah" (See Figure 9).

Figure 9. Screenshot of Leslie's Hanukah video

1 *Ms. Madison: That was pretty.*
2 *Ms. Thomas: That was cool.*
3 *Students clap.*
4 *Ms. Thomas: Alright. Does anyone have any questions for Leslie about the video?*
5 *Student: Were you at home?*
6 *Leslie: Yes. Akhil.*
7 *Akhil: Who was lighting the Menorah?*
8 *Leslie: Dad*
9 *Students start talking about who was singing and how their voices in the video sounded "different" in the video.*
10 *Ms. Thomas asks Leslie to call on her so she can ask a question.*
11 *Ms. Thomas: What night of Hanukah was this?*
12 *Leslie: The last night.*
13 *Ms. Thomas: The last. And do you do this for every single night of Hanukah?*
14 *Leslie nods.*
15 *Ms. Thomas: So, every time you light the candle you guys sing this song together?*
16 *Leslie nods yes.*
17 *Ms. Thomas: Cool*
18 *Student: What's the song called?*
19 *Leslie: I don't even know.*
20 *Students start talking and asking questions all at once.*
21 *Austin: It doesn't have a name. It's just a prayer.*
22 *Ms. Thomas: Is it a prayer? In song?*

In this example, Leslie's family provided content for a discussion about Hanukah. One of the students in the class, Austin, was able to explain that the song was actually a prayer (Turn

21), which was something students and the teachers didn't know. Other students asked questions, such as where they were in the video (Turn 5), who was lighting the menorah (Turn 7) and what the song was called (Turn 17) and the teachers asked questions to focus the discussion on Hanukah (Turns 11, 13, 15). This is an example where the FSP helped to "solidify" the content goals relating to family traditions, by providing a concrete example for students; "it connected and it supplemented" what they had already learned about Hanukah. Ms. Stefanovic said the FSP helped "their learning come to life and become real because they had pictures to show". Ms. Stefanovic describes how Leslie's video connected to the unit and helped to reinforce what had been taught about Hanukkah the previous month:

> *Leslie did the Hanukkah [video] and we learned about Hanukkah in here. We were able to use Leslie's video to talk about do you remember what we learned about Hanukkah; we read the book about Hanukkah; we did a little activity with it. What is that? It's a Menorah.* ***It was a live - it connected to what we had taught.***

This example demonstrates how the teachers used the media posted by families to enrich conversations about families and traditions. It also shows how share time became conversations about the photos and videos, which is a shift I discuss more in the next section.

A similar conversation arose when Noah showed the video created and posted by his parents (non-case study). The video explained some of their family traditions on Christmas Eve, or "velija" as it's called by Noah's Slovak family. In my reflection from this share time activity, I describe the video: "Noah's video has been very carefully created and edited. It includes background music and text describing different Slovak foods. The video starts with an image of the country on a map". The video continues with alternating text descriptions of different foods and photos and videos from the celebration (See Figure 10). There are close ups of different

traditional foods and clips of family members, such as Noah's grandma, talking about the foods that were served or Noah himself eating some of the foods.

		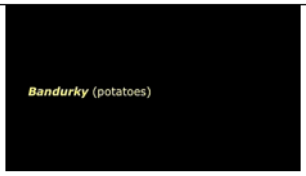	
1:42 Noah's grandma talking about the fish she baked.	2:04 Noah eating a "fish stick".	2:13 Potatoes (Bandurky) were served.	2:14 Video of a family member serving Bandurky.

Figure 10. Screenshots from Noah's family video

In class, Ms. Stefanovic and Ms. Madison read text included in the video and they asked specific questions to help focus conversations on the content of the video.

1 *Ms. Stefanovic: There's bobalky, is that how you say it?*
2 *Student: I think it's soup…*
3 *Ms. Stefanovic: Pierogies*
4 *Students all yell and laugh when the three pierogie characters from the Pirates game show up in the video.*
5 *Ms. Madison: Two kinds of fish are served. Fried cod and something else (she didn't read it fast enough and the text disappeared).*
6 *A woman is on the screen talking about the fish that was served.*
7 *Ms. Stefanovic: Noah, who's that?*
8 *Noah: My grandma*
9 *Ms. Stefanovic asks if it's his mom's side of the family or his dad's.*
10 *Noah says it's his mom's. The video shows Noah eating and he says "fish stick". The students all laugh.*
11 *Ms. Madison: Bandurky are potatoes.*
12 *Student: I love potatoes.*
13 *Ms. Madison: Machanka. Sour mushroom soup.*

The teachers ask Noah questions about his family (Turns 7, 9) and recite some of the main points from the video (Turns 1, 5, 11, 13). In my reflection from the classroom observation I wondered why the teachers didn't talk about the country, particularly later in the share when

students seemed confused about where Noah was in the video. This could have been an opportunity to talk about the differences between countries and states and students' origins. Fieldnotes also describe students not having many questions about the video, which is surprising, because the video shows many unique foods, people and ideas. Talking about differences is a challenge I discuss more in Chapter 6.

During an interview, Ms. Stefanovic mentioned the importance of Noah and Leslie's videos in supporting the families unit. She said,

> ***Noah's enhanced talking about families and traditions because it was something that they haven't been exposed to.*** *It was really cool because I know teachers got excited because we didn't know.* ***We had no idea that his family was from that part of the world and it was cool*** *— we asked him what was that because they mentioned different foods. I think it was Slovak, the name for them and so we were asking him what it was and he was explaining it…**I thought that both of those videos [Noah's and Leslie's] really sparked a conversation that we were able to have and they were both — but different too. Hers was something they already knew about and his was something brand new.***

An example from room B, shows how one of the teachers persistently asked questions to draw out information that could be used to help teach students about family structures and relationships.

1 Ms. Sanders: … And who's this?
2 Jeff: [pause] My dad's other sister
3 Ms. Sanders: Your dad has two sisters?
4 Jeff: Yeah
5 Ms. Sanders: Does your mom have any brothers or sisters?
6 Jeff: Yeah, she has one sister.
7 Ms. Sanders: And that would also be your aunt, right? Mom's and dad's sister and brothers are aunts.

Ms. Sanders intentionally focused on who was in the photographs being shared and how those people were related to Jeff. While this share was still teacher-centric, it was focused on reaching very specific content goals for the unit. During the FSP, teachers used questions as a way to press students for more information. They asked at least two types of questions: clarifying

and content-specific questions. Clarifying questions were asked to find out who was in the pictures, how they were related to students, and what they were doing. Content-specific focused questions asked about relationships and celebrations to press for information related to the content goals (See Table 23).

Table 23. Examples of teacher questions during the FSP

Question Type	Reasons for asking	Examples of questions
Clarifying	To find out who was in a picture, where they were and what they were doing	– Who's that? – Who are these people? – How do you know them? – What's going on here? – And this is your dad?
Content-specific	To press for information about family structures, relationships, traditions	– Are those the people that live in your house? – Does your mom have any brothers or sisters? – Why is he your great grandfather? What does that mean? – Do you celebrate St. Patrick's day together with your family? – Is it a prayer? In a song? – What are you guys doing?

Leveraging the content to enrich the families unit was dependent on what families posted and what students said about the media they posted. Teachers leveraged media that explicitly connected to content goals, such was the case with Jeff, Leslie, Akhil, and Noah's media, but it was more difficult to leverage other types of media depicting every day activities, hobbies or vacations. However, these were important for developing relationships, which I discuss later in this chapter.

5.1.4.2 Supporting student participation through conversations

The same week Akhil shared, Ms. Thomas and Ms. Stefanovic let students ask questions throughout Kyle's share. The next examples show some of the exchanges students had during Kyle's share.

1 *Kyle: That's me at the Steelers game… [inaudible because students get loud due to excitement.]*
2 *Austin: I like the face paint on your cheek.*
3 *Student: Who against who?*
4 *Kyle: um I think it was the Patriots*
5 *Students laugh.*
6 *Student: Boo Patriots.*

In this first example, students were allowed to freely comment (Turn 2), ask questions (Turn 3) and even joke around a little (Turn 6). Later in Kyle's share, he shows a picture of himself playing hockey, which is one of his interests outside of school and a passion he shared with his family. Students began to ask more questions and make more comments.

1 *Kyle: That's when I was in the last hockey game to win the championship.*
2 *Students ask if he won.*
3 *Kyle: No, we lost.*
4 *Student: Who won?*
5 *Kyle: The other team*
6 *Austin: What's their name?*
7 *Kyle: They're called the Red Ash.*
8 *Ms. Thomas: Which one of these is you in the picture?*
9 *Student: Are you goalie?*
10 *Austin: Are you goalie?*
11 *Ms. Thomas & Kyle: No.*

In contrast to previous shares, students asked questions (Turns 2, 4, 6, 9, 10) and made comments during the share and not just afterwards. This resulted in students participating more in conversations about the content and it helped Kyle to tell a story about the picture. Without prompting from students and the teacher, the class would only have heard that it was a picture of

Kyle during a hockey championship. They wouldn't have known who won, who he played, or what position he was in.

During a reflection with the teachers in Room A, I pointed out that the share seemed more like a conversation rather than previous share time activities. Ms. Thomas responded, "I liked it…kind of easier for them". Students seemed very comfortable shouting out questions and comments. When students are asked to wait to ask questions, Ms Thomas said "they can't remember what they were going to ask". Allowing students to ask questions when they first thought of them might have helped to support conversations and students' learning about families. Ms. Stefanovic also said "It seemed like it was really interactive in that way…I noticed it" and felt like they might be able to get more information from the child sharing too. Ms. Thomas and I also discuss the shift in the types of questions that were asked:

1 *Ms. Thomas: I still think it's interesting, the questions and the comments that they're making. It's not just with our [toy] share, it's not like "where did you get that? Who got that for you?...But they're really like "what hockey team did you play? What were the points? Where did you do this or that?"*
2 *Researcher: Yeah, and I've noticed a shift from just saying "I like it" to much more detail.*
3 *Ms. Thomas: Yeah.*

In this exchange, Ms. Thomas compares the kinds of questions and comments students made during the FSP to the questions asked during previous share times. We agreed that students' questions were becoming more detailed. In retrospect, it might have been that students were more eager to ask questions and were allowed to ask more questions than in the beginning of the year. By allowing students to comment or ask questions during a student's share, students were able to have conversations with each other and drive the discussions, rather than just teachers. Table 24 describes some of the questions and comments students made during the FSP. Similar to teachers, students' questions were often for clarification purposes, but they also

commented on s imilarities and differences between students' families and traditions and complimented their peers.

Table 24. Examples of student questions and comments during the FSP

Question/ Comment Type	Reasons for asking	Examples of questions
Clarifying questions (primarily interest-driven questions)	To find out who was in a picture, where they were and what they were doing.	– Where were you? – What happened? – How old were you? – Wait, did you go underwater with your clothes on? – Were you at the beach? – What team were you on? – What's Lebanon? – Where were you going out to dinner? – What's on the bottom of that cliff there?
Similarities and Differences	To express similarities or differences in families or experiences	– I went to Florida (too) – I am going to Florida – I went to Dynamo (too) – My mom went to Turkey (too) – I grew up in Georgia
Compliments	To compliment their peers and their pictures	– I love your family – I like it – That's so cute

In general, students seemed much more excited when they were allowed to talk and ask questions during the shares. In my field notes from Kyle's share, I noted that "students are especially excited today. There are 'ooh's' and 'ahh's' with each new picture. Students shout out comments and questions [many of which I can't hear over the noise]." It's important to note here that the teachers still asked the majority of questions, but students were allowed to ask more than in previous activities and their questions seemed to be more interest-driven. Student participation

during the shares and the richer discussions that followed were important for students to have some authority and for deepening their knowledge of families during the unit.

Another example from a student in Room A demonstrates how conversations became driven by student questions and comments, but also how content posted by families was used to teach about how families are different.

1 *Ms. Thomas moves on to a picture with foods on a table.*
2 *Austin: whoa I don't remember what this is, but this like foods that my mom probably took a picture of*
3 *Ms. Thomas: yeah it says when you were in Lebanon. Do you remember?…*
4 *Austin: Oh yeah! That's where my dad grew up. [Austin sounds excited - loud and higher pitched voice]*
5 *Student: What's Lebanon?*
6 *Austin:…my dad grew up there so he speaks Lebanese and English.*
7 *Student: Do you?*
8 *Austin: No, I didn't grow up there. I didn't grow up there.*
9 *Students start shouting out questions for Austin.*
10 *Austin: Well, my dad grew up in Lebanon and I grew up and my baby brother Peter and me and mommy and Joseph, we all grew up in Pittsburgh, except my dad. My dad's the only one in my family that grew up in a different city.*
11 *Student: I grew up in Georgia.*

In Turn 3, Ms. Thomas asks Austin about being in Lebanon, which is information she got from a caption on the site provided by Austin's parent. In this example, Austin's parent provided information that Ms. Thomas used to discuss Austin's background. Students freely ask questions during the share (Turn 5, 7, 9) and one student commented on how she grew up in Georgia (Turn 11). Again, by allowing students to ask questions and make comments throughout the share interesting similarities and differences between students and their families emerged in conversation.

While the students in room B typically did not ask questions while students shared, starting about one-third through the FSP, Ms. Sanders did allow them to make comments about "connections". This was something she started "on-the-spot" after she noticed "that kids can see

something that they can relate to" during shares. The following excerpt from observation fieldnotes shows how Ms. Sanders introduced this new idea to students during the last part of Jeff's share.

1 *Ms. Sanders: Hey guys I'd like to try something new and Ariel made me think of this. Jeff, one second. If you can connect to something you're seeing Jeff do, so* ***if you see something that Jeff is doing that you have done or that you can say 'hey I've done that' or 'hey I have that', if you can make a connection I want you to do this symbol.***
2 *Ms. Sanders puts hooks her two index fingers together like a chain.*
3 *Ms. Sanders: connect your fingers together, so it's like you're taking Jeff's beach trip and something you've done and you're hooking them together and you're saying I can connect to what Jeff is saying and then if we see you doing this signal if we have time we might say 'what's your connection' and you can tell us'.*

Ms. Sanders asked students to link their fingers together to show that they had a "connection" or something in common with another student. In the next example, Ariel makes a connection to Jeff, a student sharing his photos.

1 Jeff: That's at Florida hotel - me, my dad and my brother.
2 Ms. Sanders: Ok I see some connections. Ariel, what's your connection?
3 Ariel: I've been to Florida before to go to the beach.
4 Ms. Sanders: Do you go to the beach when you're in Florida?
5 Jeff: Yeah, because our hotel is right [on the beach].
6 Ms. Sanders: Ok
7 Ariel: And the beach is right across the street from our hotel.

These "connections" were ways for students to express similarities and comment on students' families and experiences. Just like students asking questions in Room A, pausing to let students share connections in room B helped to make the share time activities conversations between multiple students in the classroom, rather than one to one exchanges between the teacher and a student.

Evidence for conversations among students is apparent when looking at the number of student questions asked and comments made during share time activities across time. Figure 11 compares the average number of questions and comments students made during the designated

question and answer time at the end of a share to the questions and comments made during a students share.

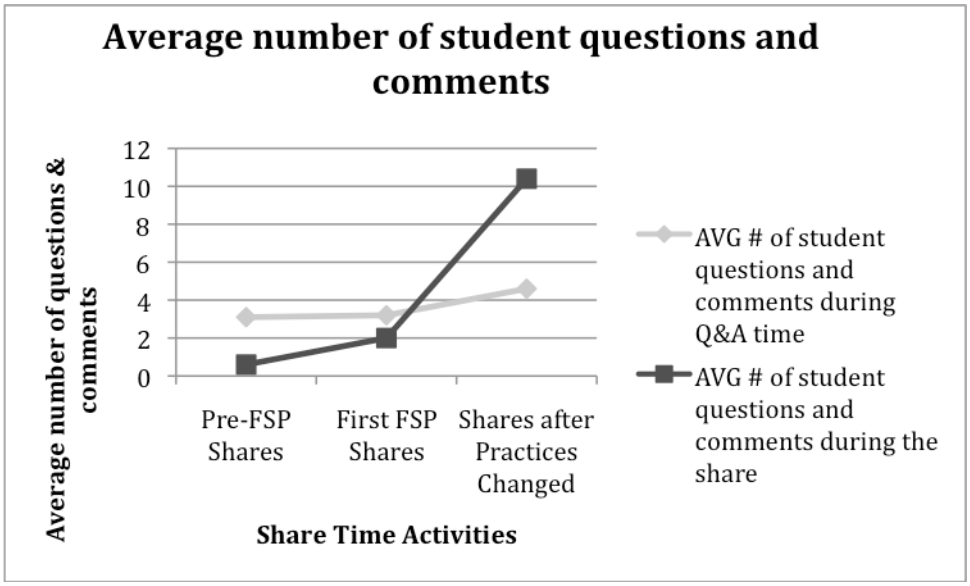

Figure 11. Average number of student questions and comments made during Q&A as compared to those made while a student shared

The dark line in Figure 11 shows the jump in students asking questions and making comments as shares became more conversational. After teachers' changed their instructional strategies, discourse changed and students were able to take a more active role constructing knowledge and learning about families. In addition, the time spent sharing photos and videos, and thus the conversations about the content in the media, increased over time (See Figure 12).

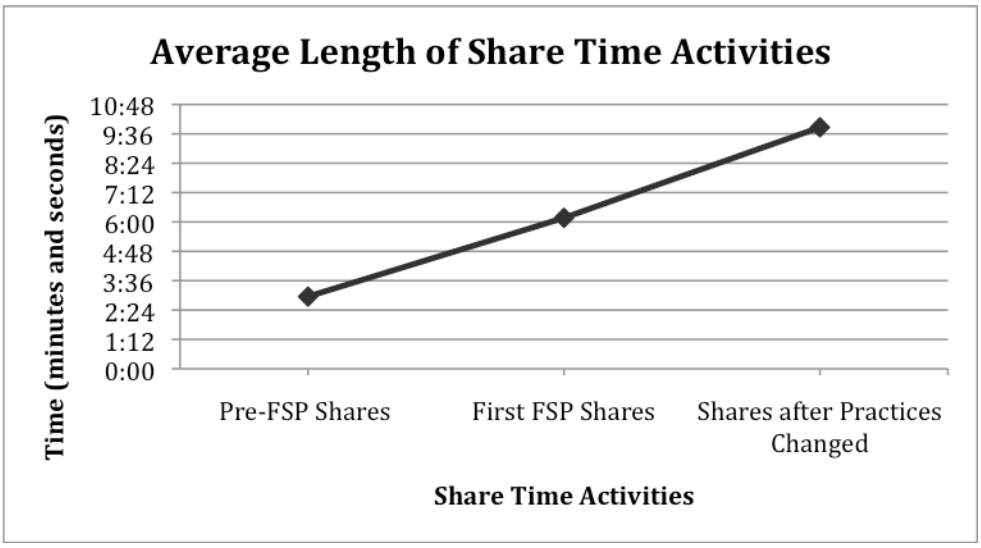

Figure 12. The average length of share time activities (represented in minutes and seconds) increased over time.

Teachers' strategies for having students ask questions and make comments were important steps in using content produced by families to shape the families unit and what students learned. Teachers became facilitators and students were able to drive conversations based on their interests and experiences. As a result, students were able to interact and discuss their families and possibly construct new knowledge about families.

5.2 BUILDING CARING AND SUPPORTIVE RELATIONSHIPS

One of the goals for the FSP that really resonated with teachers was building supportive and caring relationships, which has implications for supporting the transition to kindergarten. I investigated,

- **Q6**: To what extent did the FSP help to build supportive and caring relationships in the classroom (and across contexts)?

As I discussed in Chapter 4, families didn't interact much with each other, but they did communicate, which helped to support relationships. When I asked teachers and families what students learned about families, their responses primarily focused on the connections students made with each other as a result of learning about each other's families. What really emerged from this investigation was how the FSP impacted families' and teachers' relationships, personal connections, and community building. In Ms. Stefanovic's opinion, "I think it just helped them to get to know one another. My sense is that this project helped this class become a better family, community together

In general, parents reported that the FSP helped them and their child get to know other students, families, and teachers better (See Table 25).

Table 25. Percent of parents that "Strongly agree" or "agree" that the FSP helped get to know participants better

	% Agree or Strongly Agree
The Family Share Project helped me to get to know the teachers better.	84.2%
The Family Share Project helped me to get to know other students and families better.	94.4%
The Family Share Project helped my child to get to know the teachers better.	77.8%
The Family Share Project helped my child to get to know other students and families better.	78.9%

In one of Room A's class newsletters, teachers shared with families how they thought the FSP was helping to build relationships in the class,

> *As we have been reflecting on this project* ***we are finding that using the website to share pictures of our families is helping to deepen the relationships and understandings of each other within our Room A community****. Thank you for all of your support with this project. We appreciate your involvement and efforts to make this a success for our class.*

Specifically, the FSP helped to develop the kindergarten community through stronger connections between students, families and teachers.

5.2.1 Connections between students

Teachers and parents thought the FSP helped students to get to know each other better. Ms. Sanders said, "By looking at each other's families, they made connections. They know more about each other. They've learned about their friends in sort of a more meaningful way". Kellie's mom, Andrea agreed and said,

> *I guess one of the things about this project, in particular, is I think* ***they just know more about Kellie****. They know, sort of, what we do as a family, the things we like to do as a family. They know how important her relationship with her brother is, even just the ways they play together.*

The teachers all thought that the FSP helped students feel more connected to one another. During a reflection and planning meeting, I asked Ms. Stefanovic and Ms. Thomas to give an example of students making connections. Ms. Stefanovic responded,

> *I think that they're getting to see, like I think that they probably all knew Kyle was interested in hockey, but I don't know that they knew like that picture of him in his gear, and they were really excited and they were like "Whoa! That's really cool!" He doesn't, he talks about the Penguins and stuff, or he talks about hockey here, but I think that maybe some of the kids didn't realize that* ***he actually plays*** *and he has all of the gear and stuff on…I think just they* ***get to see a***

> ***different side of their friends and they get to know them a little bit deeper in that way.***

Here, she describes Kyle sharing new information with the class and showing a "different side" of himself to the class. Other students were able to express themselves through the FSP, by being silly and making "other kids laugh". Ms. Stefanovic said,

> *I think that the kids are most comfortable with their families so some of the pictures that they showed really made the other kids laugh. There were some silly pictures so it was nice that* ***they could see that side of their friends*** *too whereas they maybe don't see that in the class because of, again, comfort and personality. I think it just* ***helped them to get to know one another****. My sense is that* ***this project helped this class become a better family, community together****.*

Similarly, the project might have helped some kids feel more at ease around their peers. Ariel's mom, Sandy, said, "I think for her, probably learning about her friends' families is something that's helpful for her to feel more comfortable in a community, getting to know people". Leslie's mom, Neela "thought it was a nice way to—for the kids to learn about each other". She also thought the FSP might be particularly good for shyer students and for learning more about their families.

Ariel's mother, Sandy, described her perceptions of the purpose of the FSP,

> ***It's like a way of getting to know each other. Like, it's one way for kids to share who they are, which is a nice thing to do early in kindergarten****, and it was a way to get them to do—to practice talking about things in front of people which is a good thing to do …*

Ms. Kennedy agreed that the FSP helped the students in her class become a community and learn about the importance of knowing and supporting their peers.

> *I think they also kind of* ***learned about how important it is to support each other*** *and their families, 'cause if they hadn't done that, they didn't really ever ask about siblings or say anything, but now, they know a lot of the siblings' names and they use that when they talk. They ask about their siblings, or they ask anything about their families that they wouldn't have known other*wise.

When I asked parents if the FSP help support their child's relationships with other students there was a general consensus that it probably did, but it was not always clear to what extent. David thought it was "good to get kids to stand up and share their thoughts and experiences" and that "it helps them connect". Neela said, "I don't know overtly. But I mean she certainly liked looking at the pictures of people and seeing things they did…can't help but strengthen those". Natasya also explained,

> *I'm not sure about relationships with other kids, really. I guess sharing things, personal things like your family and your traditions and what you do is kind of a* ***good facilitator for friendships****, like getting to know about each other. I would assume that it would be helpful, but I don't know specifically*.

Natasya also mentioned that the students Becka mentioned at home during the FSP "were people we didn't know before". She wasn't sure if this was because it was more interesting when it was someone she knew or not. Natasya felt like it was "good to foster community among the families".

5.2.2 Connections between teachers and students

The FSP also helped to support connections between students and teachers. Andrea thinks Kellie enjoyed learning more about her teachers. "I think she really enjoys the idea that these are teachers who are parents, too. Also, that they're teachers who have lives, you know, have dogs and kids and parents and whatever".

The teachers all felt like the FSP helped them to "feel more connected" to the kids in their classrooms. Ms. Thomas described this during her final interview: "Like it was kind of easier to connect to them in certain ways after knowing what they're interested

in". Ms. Thomas then provided an example of how she felt more connected to Kyle after seeing his photos and hearing him talk about his family in class.

> *Like **I didn't realize how interested he was in hockey…and I love hockey, so after I saw that, like now I can talk to Kyle.** Like he'll come up to me and say, "Did you watch the game last night? Did you see?" **It kind of gave us like a little one-on-one thing.***

Ms. Thomas thought these one on one conversations helped students to feel more "comfortable". Ms. Kennedy agreed and gave an example with a student in her class

> **I *think it helps us feel connected to the kids, too*.** *Like today, Sarah presented her family. She has her little sister, Kari, then her mom and Kari came to eat lunch with her. Everyone said "Oh, look, there's Kari!" They knew from the slide show that was her little sister, whereas if they didn't do that slide, the slide show, it would just be little sister, nothing of it.*

In the case of Kari, students were able to learn about her sister from the photos she shared. Teachers said the FSP helped them to learn more about their students, which in turn, allowed them to deepen their relationships with students. Ms. Thomas described this during her interview:

> *I think just learning about them more in general is helpful because for us, we're so big on **individualizing**, and it's just kind of neat to see like where they come from and how much some families have traveled than others. Just seeing a bit more of their structure, just in pictures, kind of helps us out a little bit more to get to know them…Even their interests.*

This is something that came up in Andrea's (Kellie's mom) interview, as well. She said, "I think one thing that these teachers do really well is individualized learning for the kids". She thought knowing more about her daughter could support personal conversations and learning. Similarly, Ms. Sanders saw the FSP as an opportunity to learn more about their life outside of school and what knowledge they bring to the classroom.

> *I think just learning more about the families of the children that are in my room just **helps me to know the children better as individuals**, and have a better*

> *understanding of what life they live outside of school. Sometimes you get so wrapped up in who they are when we're with them that* ***we forget they have this whole other life and all these experiences that they bring into the room with them.*** *That really helped.*

Ms. Stefanovic enjoyed learning about the students for many of the same reasons the students did. She said,

> *I really just liked seeing the families and it was cool to see some of them had posted travel and things that they've done. It was neat to just see siblings and younger siblings that we may be teaching in a few years. It just* ***helped us to see and to learn more in the same way as the students because I think that — and especially this first year, we're really trying to get to know the kids and get to know who they are.***

Similar to Neela, Ms. Stefanovic also thought the FSP was helpful for getting to know really shy children in the class.

> *Ashley is really, really quiet in class and so it was nice to see her share. It was* ***nice to see her get excited to show a picture of her little sister and get a sense of who she is in that comfort zone.*** *It's the same thing, I think, for the kids as for us. Some of the kids are just really outgoing and you know them, it's easy to know them.* ***I think it helped us to get to see what made them really excited or what they were really proud of through the share.***

This example suggests that it w asn't just the pictures that teachers found useful and informative. It was also seeing students' reactions during share time. Teachers were able to sense what students were excited about and what they were proud of and thus have a better understanding of that child and his or her interests. This understanding made it easier to have personal conversations with students.

Teachers felt like they got to know students better, but families had mixed feelings about the FSP helping to support parent-teacher relationships. The majority of parents (84%) that completed the post-survey thought the FSP helped them to get to know the teachers better. However, several of the case-study families, including David and Neela, did not feel that the FSP helped to support their relationships with teachers. Andrea didn't feel like the FSP helped her to

form relationships with the teachers, because she already communicated with them so frequently. She recognized that she might feel differently about it if she was not able to drop off and pick up her daughter each day and talk to teachers then.

5.2.3 Connections between families

As I mentioned in Chapter 4, as a result of seeing family posts on the website, families felt like they knew the other families better, even if they didn't talk to them directly. Andrea reported that she indirectly got to know families better,

> *…there were parents I saw in their albums that I had never met before, or a sibling who I heard about, but I'd never seen a photo of…**it wasn't like I met them in person, but I now know, oh yeah, Rachel has an older brother and a younger sister…***

When I asked Natasya if it helped her form relationships with other families, she responded "not really", but went on to say,

> *although it kinda **helps to sorta have a sense of who's who**, I guess. 'Cause **if you're not actually in the classroom much, you kinda don't know who the kids are.** That was kinda nice, just to have a sense of who the group is and who the parent, which parents go with which kids and stuff like that.*

Ms. Kennedy agreed with Andrea and Natasya and felt like this helped families to feel more comfortable in the kindergarten community.

> ***I think the families got closer with other families; not necessarily outside of school, but that they felt more comfortable with the families in the classroom,** 'cause you can kind of see – get to know their families a little better, and understand who their kids are interacting with every day, and what their family's like at home.*

Similarly, on t he post-survey parents described learning about family structures, diversity, and family experiences outside of the school, such as traveling. Some responses included:

- *lots of travel, some different holiday traditions/cultures*
- *love, similarities and differences.*
- *Diversity of experience and travel*
- *I got a brief sense of other siblings, and activities those children liked. It also was an opportunity to get to recognize some of my child's new friends.*
- *there were other families similar to ours in the class (multilingual and multicultural). that made my child aware of certain things in common with others that are not typically highlighted during the school day.*
- *I learned about their family structures.*

These responses closely align with the content goals for the FSP project and the families unit, as well as perceptions of what the students learned. When asked if Neela learned anything from the project, she responded, "No, not really", but then went on to say "I learned about other people's families, which was interesting".

While not every parent felt like the FSP helped them get to know other families better or that it supported their relationships, some did. H aving a stronger sense of community among kindergarten families and teachers was important for developing a learning environment that bridged home and school and drew on everyone's knowledge and interest to reinforce and actualize concepts taught during the families unit.

5.3 SUMMARY

The FSP enhanced the families unit and helped to bring the concepts of family structure, similarities and differences and traditions to life. Throughout the project teachers made adjustments to better leverage the content families posted. Overtime, share time became more

student-driven and teachers asked questions to press students for information related to the unit's content goals. The content posted by families served as examples to reinforce concepts and content goals during the family unit. The project also helped teachers and families to learn more about each other and thus be able to individualize conversations and learning. In turn, the FSP helped to strengthen the kindergarten community.

6.0 DISCUSSION

In this chapter, I discuss the contributions of this study for using technology to bridge home and school, get families more involved in their child's academic learning and build a strong learning community. I describe design implications for the Connected Learning Model, limitations of the study and future research endeavors.

6.1 LINKING HOME AND SCHOOL LEARNING

Linking home and school learning is essential for closing the culture gap between what students do at school and what they do outside of school (Grant, 2009). It has the potential to make school learning and the curriculum more relevant to students' lives and thus more interesting and engaging (Christenson, 1999; Epstein, 1994; Pianta, Rimm-Kaufman, & Cox, 1999; Ito, et al., 2013). However, closing the gap has proved challenging (Collins & Halverson, 2009; Grant, 2009). Results of this study suggest that social media can be an easy and accessible tool for closing the gap, and that social media interventions co-designed with teachers and embedded in curricula can be used effectively to bridge home and school. Such interventions can enhance teaching and learning in the classroom by providing teachers with a window into children's home experiences, interests and traditions through the sharing of stories, photographs, and

videos. Knowledge of children's home culture and experiences (i.e., funds of knowledge) can be used to by teachers to help to support and contextualize academic content (Tharp, 1997; Moll, Amanti, Neff, & Gonzalez, 1992). In the classroom, information and media from families were used to have interest-driven and content-rich discussions, which extended and supported the families unit. The project and online spaces provided a real context for teaching different perspectives on families and what's important about a family. Additionally, results from this study are important because they suggest that the FSP provided a way for students to interact with families, peers and teachers in multiple contexts and for experiences to intertwine in ways that shaped students' understandings of families (Tharp & Gallimore, 1988; Lave & Wenger, 1991; Bronfenbrenner, 1979).

Notably, teachers struggled in the beginning to leverage the content of the FSP in their instruction, which is not an uncommon challenge (Grant, 2010). Teachers struggled to use the media families posted to teach about family structures and traditions. Over time, this became easier due to more student-centered approaches; teachers started pressing students for more information and encouraged conversations among students. This suggests that part of the design of interventions should focus on how content from families is used during instruction, not just the tools to access content and the content in which projects are embedded. I address this more later when I discuss implications for design.

Motivation on the part of researchers and practitioners to connect formal and informal learning has been to draw on students' interests, enhance motivation and create more pathways for learning (Ito, et al., 2013). Results from this study suggest that using social media to access families' funds of knowledge can also provide opportunities for teachers to more personally connect with students. Teachers learned more about students and their families, which led to

individualized conversations around interests. Strong teacher-student relationships such as these can help to engage students in classroom learning (Hughes & Kwok, 2007; Anderman & Anderman, 1999; Birch & Ladd, 1997; Skinner & Belmont, 1993). Additionally, students learned more about their peers and thus a wider range of families, which also helped to build caring relationships among peers and a strong kindergarten community. Research has found that feeling known and part of a community like this positively impacts student's self-reliance, vigor, tenacity in the face of obstacles, self-efficacy, success expectations, achievement value, feelings about school, effort, and interest, and therefore, students' engagement and achievement in later grades (Furrer & Skinner, 2003; Anderman & Anderman, 1999; Wentzel, 1998, 1999; Hughes & Kwok, 2007; Roeser, Midgley, & Urdan, 1996). Prior research emphasizes accessing and drawing on adolescents' existing peers and mentors to support learning (Barron, et al. in press; Ito, et al., 2013), but until now little was known about how the Connected Learning Model can be used to strengthen relationships, particularly for elementary children.

6.2 FAMILY INVOLVEMENT

The results of this study also suggest that social media can be a useful tool for getting families involved in content-rich learning with their children. Family participation in their children's schooling has long been known to be critical to students' academic success and important for easing transitions to kindergarten (U.S. Department of Health and Human Services & Administration for Children and Families, 2010; Berger, 1991; Nokali, Bachman, & Votruba-Drzal, 2010; Fan & Chen, 2001; Pianta & Walsh, 1996; Taylor, Clayton, and Rowley, 2004). Finding ways to reach parents has been difficult, and there are many barriers to getting families

more involved, including time constraints, lack of materials or technology access, school resistance, characteristics of families, and uncertainties about how to get involved (Melton, Limber, & Teague, 1999; Sayer, Bianchi, & Robinson, 2004). Additionally, teachers and parents' perceptions of roles may differ. Social media may help to soften the tensions between lack of parent involvement and too much parent involvement, which is a common concern (Christenson, 1999; Christenson, Hurley, Sheridan, & Fenstermacher, 1997). In a networked society, parents can easily use social media to lend their expertise and content knowledge to support classroom teaching and learning. Additionally, this approach puts teachers in a comfortable position of being able to select what information they focus on to shape instruction in the classroom.

Results suggest that social media tools might be useful for promoting "joint-media engagement" in students' homes and classes that are focused on the curricula (Leibham, et al., 2005; Mehus & Stevens in Takeuchi & Stevens, 2011). Joint-media engagement, or families participating in and discussing media as they co-view, can be an important activity for supporting student learning (Takeuchi & Stevens, 2012). The media on the class sites were focal points for having conversations at home and for discussing families more broadly. In this study, we found that students interacted with parents and siblings to view content-rich media on the class sites, but they also interacted to co-create their own media. Results suggest that encouraging parents and children to work together to post photos and videos and tell stories about their family online could be a way to get parents involved in more content rich-learning with their child.

In this study, parents took on different roles to support students' learning. They taught and brokered learning, collaborated with their child, provided technical and nontechnical

resources and support, and learned from their child (Barron, Martin, Takeuchi, & Fithian, 2009; Barron et al., in press). Together, parents and children co-created family albums to share with the kindergarten community. The families co-constructed knowledge together at home by discussing their family, what was important to share, and families more broadly (Tharp & Gallimore, 1988; Lave & Wenger, 1991; Greeno, 1998; Vygotsky, 1978). In some cases, the result was a rich home-based learning experience for families. In a couple instances, families participated in and shared a learning process, such as how to bake Christmas cookies. Co-creating media to share with the community was an important home-based strategy that supported family involvement. However, not all families co-created media, which is a challenge I describe more in the design implications section.

Another important finding from this study is that family-family communication helped to support learning and relationships in the kindergarten community. While families did not directly interact in ways we had hoped, they did share information with each other and learned more about one another. Moving forward, more attention should be given to family-family relationships and communication and ways in which this can support students' relationships and transition to kindergarten. Family-family communication could be consequential to family involvement and is an important area for future investigation.

Family involvement has implications for supporting the transition to kindergarten and creating a positive learning environment. Involving parents in content learning can help to communicate a vision for classroom community that helps families to feel valued. Social media provide more pathways for families to get involved in their child's school learning. Results from this study suggest that there were differences in how families participated. Understanding the scope of family involvement is important for informing design, providing choices for families

and understanding quality of involvement (See Appendix L). Some families need low barriers to entry, while others may be more able or willing to be highly involved. Some possible ways families could be involved in a project like the FSP, include:

- Reading newsletters and teacher emails to get updates on classroom activities
- Viewing content on class websites
- Viewing content on class websites with their child
- Communicating with teachers in person, on the phone or electronically
- Communicating with other parents in person, on the phone or electronically
- Commenting on content on class websites
- Commenting on content with their child
- Discussing with their child other families' postings and media
- Discussing with their child what media and information to post
- Creating digital media to share on class websites
- Discussing with their child other families' media and postings, with the intent of discussing the unit's content goals
- Discussing with their child why specific media should be shared and are important to their family with the intent of discussing content goals
- Co-creating digital media with their child to share on class websites
- Speaking with the class or leading an activity in the classroom to share content knowledge

More research is needed to understand how the scope of involvement from this study might apply to other designs and how the quality of involvement shifts as a result of projects like the FSP.

The FSP was more than just an opportunity to help with homework or communicate with teachers; it was an opportunity for families to have authority over what content was taught. As experts on their own family, students and their families were able to contribute information that teachers didn't have access to. These opportunities influenced what was discussed in the classroom, what students may have learned about families and relationships in the kindergarten community.

6.3 DESIGN IMPLICATIONS FOR THE CONNECTED LEARNING MODEL

Next, I describe the design implications for the Connected Learning Model and reflect on some design challenges that emerged during this study. The FSP is an example of using the Connected Learning Model to design a project that bridges home and school, gets families more involved, and supports a community of learners. This study builds on previous literature to more explicitly link the model to learning and engagement theories and it is a first attempt at using the model to design an intervention (Ito, et al., 2013).

The CLM is made up of 3 contexts and goals for learning, which include: interest-powered, peer-supported, academically-oriented, production centered, open networks and shared purpose. I next apply what was learned from the FSP to more broadly discuss implications for design using the CLM. Additionally, in Appendix M, I provide a thorough rationale and evidence for specific changes to be made to the design and implementation the FSP.

6.3.1 Interest-powered

It was a challenge to balance interest-driven learning with learning that supported content objectives. We invited families and children to share photos that reflected their family life, interests and traditions. The open nature of the assignment and the ability to choose interesting and relevant photos was exciting for children. In class, students were eager to share their experiences and on many days the sound of excitement filled the room. Additionally, teachers were able to see what made children excited and could personalize conversations with students as a result of learning about their interests. However, photos often focused more on interests and

travels than on family members or cultural traditions, as hoped. This made it difficult for teachers to draw on the media and funds of knowledge to address all of the unit's content objectives. This is not a new challenge (Edelson & Joseph, 2001), but future designs need to consider how students' interests are relevant to the curriculum and how interests can be used to emphasize or contextualize content learning. Of particular importance is designing learning activities or projects where interest is instrumental in the learning objectives, such as taking on an interesting role, relating to characters or people, or working to solve a problem or game-like quest (Edelson & Joseph, 2001; Blumenfeld, et al., 1991; Schank, et al., 1993/1994; Cognition and Technology Group at Vanderbuilt, 1992; Salen, Torres, Wolozin, Rufo-Tepper, & Shapiro, 2011).

6.3.2 Peer-supported

In this study, peer-supported learning occurred at home with families and children and in the classroom with teachers and children. While the FSP was successful at leveraging families' funds of knowledge, it wasn't always clear how to interact around knowledge to support content learning. As previously mentioned, teachers initially struggled to use the content shared by families to promote student-driven conversations. As time went on, teachers began asking more questions and helped students to make connections to encourage interactions around the content. However, more guidance for teachers and families is needed to encourage peer-supported learning at home and at school. Supporting materials may be useful, such as suggestions for culminating activities or guiding questions that might have helped teachers, students, and

families to have deeper discussions. This would help to support content reflection and learning, as well, which I discuss more later in this section.

During the FSP, we realized the importance of feedback in supporting peer learning. Parents needed and wanted more feedback from teachers to feel certain about the goals, their role, and how the content they posted was used in the classroom during the families unit. Providing feedback to parents was something that the teachers and I discussed during our initial planning sessions and pre-interviews, but unfortunately these ideas were not implemented as well as they could have been. Two possible modes of feedback were discussed, video and commenting on the site, in addition to email and the class newsletters. First, videos of students sharing information about their families could have been posted on the site to provide feedback to parents. This could motivate and inspire other families to participate in the FSP, as well, and provides another venue for families to learn about one another. Second, feedback could be given through comments in response to families' pictures or videos. Two types of comments would have been helpful in reassuring the value of parents' involvement in peer-supported learning:

- Comments that pose questions about families' structures, names, traditions and celebrations. The commenting feature could be used to get more information from families that can be used to teach the unit goals.
- Comments that provide information about what students talked about in class. Use commenting to share interesting classroom discussions or student questions.

More feedback will be really important for reassuring families that their participation matters and is valued by teachers and other families. Future designs need to provide opportunities for all participants to give and receive feedback on content and learning, as it is an important component of effective peer-support (Ito, et al., 2013).

6.3.3 Academically oriented

An important feature of the FSP was that it was embedded in an existing curricula unit. Often times, using technology in classrooms is something "extra" that teachers are expected to do – and that gets dropped when the teacher feels pressed to teach the curricula (Cuban, 2001). The FSP wasn't tacked on; it was actually part of the unit that is taught every year and it served a pedagogical value. This was important for ensuring the project was academically oriented, yet still interest-driven and peer-supported.

However, at times it was challenging to make connections between the FSP and the families unit. Many teachers felt the FSP was disconnected from the unit and some parents were unclear that the project fit into a unit at all. Part of this disconnection occurred because sharing family traditions happened several weeks after students learned about the tradition, as was the case with the video Leslie's family made about Hanukah. This disconnection might have influenced parents' perceptions of the meaningfulness of the experience. This could be addressed by changing the timing for the FSP and asking students more questions. For example, when students are sharing photos and videos teachers could ask questions such as, Who's in the photo? How is that person related to you? Why did you post that picture? What are you celebrating? Why do you celebrate that holiday? Why does your family do that? This was something teachers were very good at doing, but it could have happened more frequently during some share time activities in order to better connect the project with the unit goals.

The content of the unit in which the FSP was embedded contributed to the value of the project and the ease of leveraging families' funds of knowledge. Families were positioned as experts, which can be important for helping families feel like they had something valuable to contribute. The content was something the teachers couldn't provide, beyond their own personal

experiences or broad examples. Curricular units focused on families, communities, traditions and social and historical events may be most relevant for projects that attempt to leverage families' funds of knowledge, as all families have unique experiences and knowledge to contribute in these areas. Families can support classroom and home learning by providing stories, photographs, videos, and cultural objects.

Technology access alone won't increase family involvement, support rich-learning at home or provide access to funds of knowledge. The success of tools depends on how they are contextualized. Teachers and parents need to understand the context and relevance of using the tools (Kerawella, et al. 2007). Interventions that use social media to access funds of knowledge need to consider what tools will best provide access to information that supports the curricular goals. In future designs, it is critical that technologies be chosen to address a need and serve a pedagogical value rather than finding ways to use technologies that are simply popular or fun.

6.3.4 Production-centered

The design of the FSP drew on joint media engagement by encouraging families to view photos and videos and discuss families together (Takeuchi & Stevens, 2011: p. 9; Takeuchi, 2012; Stevens & Penuel, 2010). Additionally, teachers and students jointly viewed and discussed media in the classrooms. This study demonstrates how social media can be leveraged to promote joint media engagement and bridge home and school learning. However, not all families viewed or created media together. In fact, at least two families chose and posted photos without interacting with their child at all. Future designs need to communicate the importance of doing the work together and suggest more ways for families and children to interact around curricular content at

home. Families may not be familiar with the type of co-creating we hoped for in this study. Co-creating is not the same as helping with homework or providing information to teachers. More guidance and clearer expectations could have helped families to better understand their role and their child's role.

6.3.5 Open networks

This study is a model for using open networks, established through social media to access funds of knowledge, bridge home and school and support relationships. However, families didn't interact with each other or communicate in direct ways, which was a goal for the FSP. Likely, this means that families missed out on important learning opportunities. To better address this goal, it might be useful to seed conversations on the site and bring families together for face-to-face interactions. Teachers could ask families to answer questions or share specific information in a discussion forum or in the comments section associated with a photo or video. This data could be an interesting way to spark conversations online and offline. Teachers could also bring families together for a celebration. Having a celebration at the end of the project where everyone can interact, see posted pictures, and look at posts together would be a great way to celebrate families and their traditions, as well as, to meet each other and talk about things they've learned about each other from the project. This is another way projects can help develop relationships within kindergarten community.

6.3.6 Shared purpose

One of the biggest challenges of the FSP was creating a shared purpose between the researcher, teachers, students and families. In informal learning environments, people are often drawn together because of shared purposes. In formal learning environments, having a shared purpose is more complicated. Shared purposes have to be discovered, established and continuously reinforced. Similar to prior research (Grant, 2011), families in this study weren't always sure about the purpose of their involvement or the FSP, specifically what or how to contribute. Additionally, teachers weren't sure how to use information from families. This can be addressed in at least four ways. First, families need more structure and guidance about what to post and what types of posts would be most useful for enhancing the unit. This might include questions that parents can use to guide the selection of media and content to be shared, such as What are you doing? Why do you do this? What do you want students to know? Second, parents need information about the content goals of the project and how they tie to the curricular unit. Explicitly sharing the content goals with parents may make it easier for them to address the goals and make more informed decisions about the content they post. If families have a better understanding of the project goals and expectations perhaps they would share different content with the kindergarten community. Third, and as previously mentioned, parents need more information about their role during the project and why they are a valuable resource for helping to teach the unit. To avoid uncertainties about roles or expectations, parents should be told what is expected of them and be given examples of ways families could get involved. Fourth, parents should be encouraged to discuss their goals with their child regarding what they want others to know about the content of the project. Having these kinds of conversations at home can reinforce

concepts taught during the unit and the project. It also provides a venue for families to have meaningful interactions at home around the content.

6.4 LIMITATIONS & FUTURE RESEARCH

6.4.1 Implications for engagement

Engagement theories were influential in designing the FSP and in the ways in which I thought about learning, but more attention should be given to parent and child engagement. Problems associated with student disengagement in school are widespread (Wigfield, et al., 2006; Finn, 1989). Disengagement is a problem that could potentially stem from the disconnection between formal and informal contexts and a lack of family involvement. Research suggests that many students are alienated from school as a result of the disconnection between their in school and out of school lives and experiences (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Caraway, Tucker, Reinke, & Hall, 2003; Finn & Rock, 1997; Wang & Holcombe, 2010).

Research has shown that early schooling experiences can have a lasting impact on success in school, including better verbal and reading skills through secondary school and lower rates of retention and special education placement (Entwisle & Alexander, 1999). While engagement is less of a problem in kindergarten than it may be in other grades, it is still critical to design interventions with the purpose of engaging young children in order to support life-long learning and achievement.

One limitation of this study was that I did not measure engagement in systematic ways. I have anecdotal evidence from observations and teacher reflections, which is important for a case study such as this. However, future research should longitudinally investigate both parent and

child engagement in ways that align with behavior, emotional and cognitive engagement from the literature (Fredericks, et al., 2004).

6.4.2 Assessing needs

In assessing needs during the "creating a vision" phase, I learned that teachers deeply cared about getting families more involved. But, I made an assumption about families. I assumed families wanted to be more involved. This may not be the case at the participating school, where many families already felt involved. Families were extremely trusting of teachers and the school and didn't feel the need to get too involved. This may be different in other communities and at other schools, which is why it is important to consider ways to implement the FSP in other contexts.

6.4.3 The FSP in other contexts

Many of the families that participated in this study were of high socio-economic status and already involved in their child's learning. As I mentioned in Chapter 3, the participating school was not typical of schools across the United States and thus we did not face many challenges that would be obstacles in other contexts. This study is limited in that it is a case study of one population. Next, I describe ways the FSP could be modified to better support family involvement in other contexts, such as low-income communities, less culturally diverse classrooms and with adolescents.

6.4.3.1 Low-income communities

A primary concern in low-income communities is a lack of resources that would limit the extent to which families could participate. Perhaps families don't have reliable or consistent access to a computer or internet connection or they have limited time at home with their children due to demanding work schedules. Teachers should reconsider the tool being used when implementing in lower-income communities. In many low-income communities, families rely primarily on mobile devices. Families can easily snap pictures with their phones and post them to a blog or tweet them on Twitter. These are possibilities for ensuring that everyone has a low barrier to entry to participate in the project. One advantage of the FSP, is that parents can participate at any point in time. Participation isn't dependent on being at the school at a certain time or day, which is beneficial for parents that work weekends or nights.

6.4.3.2 Less diverse communities

One thing that made the FSP so interesting was the diversity of each family and their experiences traveling. Families posted photos of themselves in other countries and cities, doing interesting things (skiing, swimming, riding tractors, etc.). I wonder if students and families would have participated and been as interested if the families had never left their community or if everyone celebrated the same cultural traditions. More research needs to be done to investigate participation in other contexts and how families' knowledge could be leveraged to enhance curriculum. There's still much to be learned from sharing personal media, but it's less clear what types of media and content might be shared and how it would influence conversations in the classroom.

6.4.3.3 Adolescents

Doing the FSP with adolescents and their families is more complicated. Adolescents often don't want their parents at school or to be too involved (Hill & Tyson, 2009; Hill & Chao, 2009; Collins & Laursen, 2004). Many adolescents won't post on a website if they know their parents are watching and chances are they won't want to look through old photos with their mom and dad like the students did in this study. However, the FSP could be modified and used to support learning in classes, such as social studies. The online space could be a place to document historical events through stories and first hand evidence (e.g. objects and pictures collected from parents). For example, students might interview parents about 911, asking about their reactions and experiences. They might collect photographs from family members or from other online sites and share them on the class website. In this way, families are involved and can still contribute to student learning.

From a parent's perspective it's difficult too. It's harder for parents and teachers to form relationships, because there are more teachers to communicate with (one for each subject area). One way to modify the FSP, is to focus less on school-based strategies for involvement and focus more on academic socialization (Hill & Tyson, 2009). Perhaps an online space could be used for parents to talk with other parents about issues and concerns. Teachers and counselors could provide resources to support parents' efforts at academic socialization.

6.4.4 Self-presentation and implications for teaching about differences

One finding of this study is that the first teachers and families to post on the site influenced the content of photos posted by other families. The examples teachers and I provided may have unintentionally steered parents away from some of the main goals of the project. While our

photos were selected with a clear purpose, it's possible that we did not articulate the purpose or link the photos we selected to the unit goals in ways that parents understood. Without clear guidelines regarding what to post, families imitated one another during the FSP. Early participants posted many pictures of travel and vacations and other families followed their lead.

One additional challenge emerged during the projects regarding teaching about differences. During my own reflections, I noticed that teachers didn't ask many questions about traditions or use the postings to teach students about diversity to the extent that they could have. There were no known conversations about divorce, multi-racial families, or cultural/religious beliefs (beyond Santa Claus, lighting the Menorah, and Indian clothing, but nothing on "why" we believe or celebrate different things). Teachers explained that these kinds of differences didn't even "phase" students. Perhaps kindergarten is not the time to teach about these issues, but I was surprised that students didn't ask questions or talk about these differences either. There was little time spent reflecting on differences and students needed to make conclusions on their own. This has implications for what students might have learned about families and diversity.

A related challenge is that teachers were only able to leverage content about families that was posted. Many differences in family structure or traditions might not have been obvious from the photos and text provided by families. For example, parents of one student in the class recently went through a divorce, yet there were pictures of the whole family together. Perhaps some families didn't want to express how their family might have been different. Typically, people post things that make them look similar, which parent interviews confirmed.

During the FSP, families selected the photos and information they wanted to share, which is a form of impression management (Baumeister, 1989; Jones & Wortman, 1973). Future research should explore how families chose to portray themselves and what they want other

families to know about their family. Attempts to make one's family look similar to others or look impressive affects what students learn about families and each other.

6.5 CONCLUSIONS

The FSP was an important step for bridging home and school. This study suggests ways to get families more involved by using social media and results highlight the importance of drawing on family knowledge and bridging home and school learning to shape learning in the classroom. This study demonstrates how digital media can be used to support young children's learning in formal and informal contexts. The FSP did not replace "vital experiences of children", but instead supported them (Barron et al., 2011). The kindergarten students interacted with peers and families, constructed media and knowledge, and built relationships. Results from this study also describe one example of using the Connected Learning Model to design an intervention for kindergarten classes and families. In kindergarten, family involvement is essential to support connected learning.

APPENDIX A

FACILITATOR AGENDA

Agenda
1. Set up Working Examples
2. Project goals
3. Logistics for implementation
4. Create lesson plans & materials
5. Research goals & consent process

PART 1: WORKING EXAMPLES (15 minutes)
Teachers will be introduced to workingexamples.org. Teachers will create an account. Throughout the planning sessions and duration of the project we will use the "progress" tab to record our notes, reflections, lesson plans etc. Final materials will eventually be posted and the example will be made public to share with educators[3].

PART 2: PROJECT GOALS (90 minutes)
Teachers have been given questions ahead of time regarding the content/literacy goals for the project and have been asked to answer the questions prior to this meeting. In addition, teachers have been given links to resources on connected learning and have been asked to skim these materials prior to this meeting.

Discuss content, literacy, & skill goals (10 minutes)
Teachers will be asked to answer the following questions:
1. What are your goals for this project/unit?

[3] Two working examples were created as a part of this study: "Connecting families and classrooms - the research" (http://www.workingexamples.org/example/show/63) and "Connecting families and kindergarten classrooms" (http://www.workingexamples.org/example/show/594). Teachers chose not to contribute to the examples, but they were available for teachers to view updates, documentation and findings from the this study.

    a. What unit or content will the project focus on?
    b. What are the content goals?
    c. What are the specific skill and/or literacy goals?
    d. What other skills do you hope students will develop?
2. What social media tool will be used?
3. What do you want students to be able to do that they currently can't do without social media?
4. How do your students use social media outside of class? Why do they use these tools? (Ask your students!)
5. What personal or teaching goals do you have that Jolene can help to support?

Discuss the design goals focused on connected learning (20 minutes)
Discuss the resources on connected learning that were sent to teachers in advance. Ask teachers the following questions:

1. What is connected learning?
2. What are benefits to designing for connected learning? Do you foresee any drawbacks or challenges in designing for connected learning?
3. What questions do you have about connected learning or the resources I gave you?

Pass out the document presenting the design goals focused on connected learning. Ask teachers to read through the document, focusing on the left column. Ask teachers to jot down design goals that align with some of their personal goals for this project. Discuss the following questions:

1. What design goals are most important for getting families more involved?
2. Do these goals align with your personal goals for the project? If yes, how so. If no, why not.
3. Are there other goals that we should add to increase connected learning/family involvement?

Decide how to best address the connected learning goals through project design & implementation (60 minutes)
Ask teachers to think about how to best enact the goals in practice (this can be done between meetings or for 10-15 minutes during a meeting). Ask teachers to prepare a list of ideas for creating a connected learning environment in their classroom. Teachers should be able to answer the following questions:

1. How can these goals be enacted in your classroom?
2. What are some specific approaches to getting parents and students involved in co-creating across contexts?
3. What can we do to support connected learning?

Specific questions will depend on the goals being focused on, but some examples might include:

1. How can you encourage students to share and draw on their experiences outside of the classroom?
2. How can you encourage students and parents to view, discuss, build-on, share, and contribute to the site out of school?
3. What kinds of activities will be done using social media? What features/activities are most important for the learning goals (e.g. co-creating content, sharing, critiquing, etc.)?
4. How can you help students and parents feel like their contributions matter?

5. How can you provide opportunities for parents and students to set goals together?
6. How can you keep parents informed about school assignments, student progress, and the project?

PART 3: LOGISTICS (20 minutes)

Discuss what needs to happen in order to prepare logistically for this project (20 minutes)

Ask teachers the following questions:

1. Do you have reliable internet access? What will happen if the internet connection isn't working?
2. Does the project require specific software? Does this need to be installed on the computer? What is the process for making this happen?
3. Will accounts need to be created for parents/students? What is the process for making this happen? If everyone is using one account how will you keep track of who contributes to the site?
4. How will the site be monitored?
5. Do you need cameras, recorders, video cameras? How will you get this equipment?
6. How will you ensure that all students and parents have access to equipment and internet outside of school?

PART 4: CREATE LESSON PLANS AND MATERIALS (2 hours +)

During the planning meeting we will create a solid outline of the project. Teachers will be asked to fill in details and create lesson plans over the next several weeks and post updates to the WE progress page. We will meet again in August to review lesson plans and making changes if necessary.

PART 5: RESEARCH GOALS AND CONSENT (30 minutes)

Discuss & plan for consenting all students and parents (10 minutes)

Ask teachers the following questions:

1. What is the best way to get all parents to sign and return consent forms? What do we need to do to get all forms returned?

Write letters to parents (this can be done at home) (10 minutes)

Teachers will be ask to co-write letters to parents that describe the project that all students will be participating in and inviting parents and students to participate in the research. Teachers will be asked to write informal letters that get parents excited about the project and include the follow information:

1. Purpose/goal of the project
2. Link to the class site
3. Parents' role in the project
4. Benefits of the project
5. Purpose/goals of the research

Discuss research procedures & data collection (10 minutes)

Teachers will be given more information about the research procedures. We will discuss the best way to collect data in the classroom and from parents.

APPENDIX B

TEACHER PRE-INTERVIEW PROTOCOL

Family involvement

1. Tell me how families have been involved in your class in the past (volunteer, field trips, etc.)?
2. From your experience what is the ideal type of family involvement in the classroom?
3. How have parents best supported your work in the past?
4. How do parents best support their child's learning?
5. In what ways have families been involved in making decisions about instruction?
6. In what ways have you seen family involvement impact students?
7. How do you intend to promote family involvement through the project?
8. How do you expect families to be involved?
9. How do you intend to encourage families to participate in the project? How will you communicate with families about their roles? How will you provide them with feedback on the information they post on Shutterfly and their involvement?
10. How do you think families might best contribute to students' learning experiences in your classroom? Do you see any advantages to families getting more involved in classroom learning experiences (e.g., designing content, activities)? What might the disadvantages?
11. How do you get families involved in instruction? How might you get families involved in making decisions about classroom activities, content, or instruction?
12. How do you currently use Shutterfly in the classroom?
13. How do families use Shutterfly?
14. How do you think Shutterfly could be leveraged even more to increase/support family involvement? How do you think the project we will design together using Shutterfly be different from how Shutterfly has been used by families in the past?
15. Do you think that parents will be excited about participating in our project? Do you think that some parents may not want to participate? Why or why not?
16. Tell me about share time in your class. How is this usually set up? What expectations do you have for share time? In what ways are students given guidance on what information to present or ask (e.g. what types of questions students should ask, how much detail students should give, how to provide feedback, etc.)

Connecting home and school

17. How might you draw on students' and families' experiences at home to improve instruction? How might you use on the information posted on Shutterfly in your instruction (e.g., in how you design class activities, the questions you ask the students in class discussions, etc.)

Design goals

18. *In our planning meetings we talked about design goals that were important for this project.* What design goals resonate with you? Which are most important now, as we begin these projects?

Content & Skills

19. This unit is on families. How have you covered this unit in the past? Do you have any lesson plans or information you could share that would help me to understand how this was covered in the past?
20. What do you believe is important for students to know about families?
21. In the past, how have you addressed difficult issues that come up with kids…. For example, death, divorce, adoption, GLBT issues, parents fighting).
22. Do you think that involving parents more in the unit might bring these issues up even more?
23. How might the projects help students to develop content knowledge?
24. How might the projects help students to develop literacy or language skills?
25. What other skills do you anticipate students developing through the project?

General Goals & Expectations

26. What are your goals for the project? What are your expectations?
27. How have you prepared to achieve these goals and meet your expectations?

APPENDIX C

TEACHER REFLECTIONS

1. Tell me what you have learned so far about students' families from doing the FSP. How has the project and sharing helped you to learn about students' families?
2. How have families reacted to the project?
3. How have students reacted to the project?
4. What have students learned from this project that they may not have learned otherwise?
5. I noticed when Becka shared her photos none of the students asked questions about her grandmas' traditional Hungarian clothes. They also didn't have any questions when Leslie showed pictures of her family with Bindis. Why do you think this was the case? What kinds of things could the kids have learned if they had talked about the clothing or connections could they have drawn, etc.?
6. In what ways has the FSP impacted conversations in the classroom, if at all?
7. In what ways has the FSP impacted conversations with families, if at all?
8. In what ways has the FSP impacted content covered during the unit on families, if at all?
9. In what ways have the family shares been referenced during the day, particularly during language arts?
10. According to our schedule, we planned to introduce the second part of the project this week.
    - Do we want to create examples using video?
    - What are we going to tell families about the 2nd part?
    - I noticed not many families are interacting on the site. How can we encourage them to comment more?
    - How can we encourage families to tell stories and get more detailed?

APPENDIX D

TEACHER POST INTERVIEW PROTOCOL

General Goals & Expectations

1. What were your goals for the FSP?
2. Did you achieve these goals?
    a. Tell me how you achieved these goals OR Tell me why you didn't achieve these goals.
3. Did the implementation of the project meet your expectations? How so?

Family Involvement

4. In your opinion, what is family involvement?
5. In what ways have families been involved as a result of the project?
6. Can you provide some examples of things you did to encourage family involvement in the projects?
7. What were challenges you faced in providing opportunities for family involvement?
    a. How did you address those challenges?

The Family Share Project

8. How did students react to the projects (sharing photos, posting photos, viewing the website, learning about families, etc.)?
9. How did parents react to the projects?
10. Tell me about the roles families and students took on during the project.
    a. For example, what did students do and what did parents do to post and share?
    b. How did families support the child's learning?
11. In what ways were you able to provide feedback on the projects?
    a. What kinds of feedback did you give families?
    b. What kinds of feedback did you give students?
12. In what ways did families influence one another on the site?

The FSP's impact on instruction and learning

13. In what ways did the family share project impact instruction during the families unit, if at all?
    a. Did the project impact *how* you taught about families? How so?

b. Did the project impact *what* you taught about families? Explain.
c. How did the family shares and the photos posted help you to address the units goals, particularly in understanding that families are similar and different and learning about family traditions?
d. *For Ms. Sanders only:* I noticed that about halfway through the shares you started having students link their fingers to show that they had a "connection" to something. Why did you decide to have them do that? What was your goal?
e. Did the implementation of the families unit differ when compared to previous years? How so?
f. In what ways have families, through their participation in the project, impacted instruction during the families unit?
    i. Do you think families are aware of the impact they had on instruction? Explain.

14. How might the Family Share Project have helped to support students' learning at home?

Learning about Families

15. What have students learned from the family share project that they may not have learned otherwise?
16. How has the project and sharing helped you to learn about students' families?
    a. Tell me what you have learned so far about students' families from doing the project.
    b. Has knowing this information helped you in any way? Explain.
17. In what ways did you extend the content of this project compared to previous years, if at all?
    a. Did you talk more about students' backgrounds, religious celebrations, etc.?

Relationships

18. In what ways do you feel like the projects helped to support your relationships with the students?
19. In what ways do you feel like the projects helped to support your relationships with families and parents?
20. In what ways do you feel like the projects helped to support the students' relationships with each other?
21. What overall benefits do you see as a result of the developing relationships?

The cases

22. Did you notice any changes in [child name] as a result of the project? For example, did he or she develop any new interests after seeing a student's photos or develop a friendship with a child based on something that was shared?

Reflection: Ways to Improve the Project

The next set of questions stem from me beginning to think about how I'd do this project in the future and how we could improve the project. It's not an evaluation of what you did or didn't do, but rather a reflection to help us think about ways to get families more involved next time around.

23. Think about some of the students and what they shared about their families, backgrounds, and family traditions.
    a. Room A: like Leslie's family posting the video of them singing the song and lighting the menorah or Noah's family posting about his Slavic traditions.
    b. Room B: like Nina's family sharing about making pizza
    c. How do you think you used what families posted to teach students about families?
    d. What would you do differently in the future to teach students more about these topics?
24. A few of the parents I interviewed said that the purpose of the project was to help kids get to know each other better. It was not clear to some of them that the project lined up with a unit on families and that we hoped students would learn about family structures and traditions.
    a. Do you think families would have posted different pictures or videos if this was clearer and if they felt like they had some responsibility to teach the class about their family traditions? Explain.
    b. We intentionally left it up to families to decide what to post. This resulted in families posting lots of pictures of their vacations. It also resulted in many families posting what they do, but not explaining why they do things. For example, Leslie's family posted the video of the family lighting the menorah and singing a song for Hanukah, but they didn't explain why they did this or the purpose of it.
        i. How could we encourage families to take it to the next level—to view the project as an opportunity to teach students important things about families and to explain "why" families do certain things?
        ii. In what ways does this align with your goals for the family unit?
    c. What kinds of feedback would have been helpful for family?
        i. In the future, how could you inform families of how their postings are used in class to teach about families?

APPENDIX E

FAMILY INTERVIEW PROTOCOL

Thanks for meeting with me today. I'm going to start with some general questions and I have some questions that ask you to reflect on the first two months of school. Then I'll get in to questions about the Family Share Project. The Family Share Project involved posting pictures and possibly video of your family on the class's Shutterfly site. I'm interested in learning more about your experience with the project and any impact it may have had on you or your child.

1. What is your name? What is your relationship to [child's name]?
2. In your family, would you say you are the person that communicates most with the teachers? If no, explain.
3. Are you the person that is most involved in your child's school experience? If no, explain.

General Questions about Communication

4. In your opinion, what does it mean for a family to be involved in their child's learning at school?
    a. In what ways are you involved in your child's learning in the classroom?
5. How do you learn about what your child does at school? *(prompt: do you…talk to child, communicate with teacher, use Shutterfly site, read newsletter, etc.)*
6. In what ways do you communicate with your child's teachers? *(prompt: email, phone? Frequency?)*
    a. What do you talk about?
7. Do you talk about classroom experiences with your child at home?
    a. What do you talk about?
    b. How often do you talk about ____?
    c. When you talk about ____ what kinds of things do you discuss? *(prompt: learning, grades, interests, how to make projects look better)*
8. What do you know about instruction that happens in the classroom?
    a. How have you become informed of the types of instruction that happen during the school day?
    b. What opportunities have you had to provide input or help shape classroom instruction?
        i. How have teachers respond to your input or ideas?
    c. Can you give an example of a time you felt like you had an impact on the classroom instruction, if at all?

Pre-project Reflection

The next set of questions is about the first two months of school, before you started the Family Share Project.

9. In what ways did you communicate with other families with children in the classroom, if at all?
10. In what ways did you help your child with school projects or assignments, if at all?
11. In what ways were you able to contribute to your child's learning at school, if at all?
12. What did your child share during share time during the first 2 *months (prompt: hallway share - "the scoop" or toy share)*?
    a. In what ways did you help your child to plan for this sharing activity, if at all?

Family Share Project

The next set of questions is about the Family Share Project.

Family involvement in the project

13. Tell me what you know about the Family Share Project.
    a. What was the purpose of the project?
    b. What do you think the teachers' goals were for the project?
    c. How did you learn about the project?
14. How did the teachers communicate with you about the project?
    a. What did the teachers tell you about the project?
    b. In what ways did the teachers encourage you to participate, if at all?
15. Tell me about the project you created with your child *(Have the family show the project and describe different parts of it).*
    a. Why did you decide to post the pictures (and video)?
    b. Why didn't you post any video?
    c. What did you want other families, students, and teachers to know about your family?
16. Tell me about creating the project. What was the process like for you and your child?
    a. In what ways did you interact around the project with your child? *(prompt: talk about project, ask questions, give feedback, help child with it, co-created video, etc.)*.
    b. What was your role in the project?
    c. What was your child's role in the project?
    d. What decisions did you make on your own regarding the project?
    e. What decisions did you and your child make together? (e.g. what pictures to post, what to say, etc.)
    f. In what ways might you have supported your child's learning when working on the project at home?
17. What kind of feedback did you get from the teacher or other families about what you posted, if anything?
18. When viewing and contributing to the Shutterfly site, in what ways were you influenced by any of the other families on the site and what they were posting?
19. I noticed you and your child posted about ___(specific family tradition). What do you think your child said about ___ while sharing the photos/video in class?
    a. In what ways did teachers talk about ___ in class?

b. Did the teachers talk to you about ____? What did you talk about?

20. In what ways did the teacher use the information and the project you co-created with your child to shape the classroom instruction or lessons?
21. In what ways do you feel like the information you posted about your family mattered, particularly in regards to instruction?
22. Did you communicate with the teacher about classroom instruction? What did you talk about with the teacher?
23. In what ways did the Family Share Project make you feel involved in your child's classroom learning, if at all?

Content/Skills

24. The project focused on a unit on families. What do you think is important for kindergarten children to know about families?
25. How might the project have helped your child to learn about other families?
26. Was there something specific your child learned about families from the project? If yes, what?
27. Did you notice any changes in your child's interest throughout the project? *(for example, interest in other students, experiences students had, etc.)*
28. During projects you may have seen information posted by families on Shutterfly or heard information about other families from the teachers or your child. Was there any information about families that surprised you?
    a. If yes what?
    b. Did the teachers handle or present the topic the way you expected?
29. Did you learn anything from participating in the project? What?

Relationships

30. In what ways do you feel like the projects helped to support your relationships with the teachers?
31. In what ways do you feel like the projects helped to support your relationships with other students and families in the class?
32. In what ways do you feel like the projects helped to support your child's relationships with the teachers?
33. In what ways do you feel like the projects helped to support your child's relationships with other students and families in the class?
34. *If parents felt like the projects supported a relationship:*
    a. How did developing the relationship impact your experience completing the project, if at all?
    b. How did developing the relationship impact instruction in the classroom, if at all?

This last part asks about your feelings about the project and your child's school experience, as well as, your perceptions of your child's feelings.

35. In general, what did you think of the family share project?
    a. How did you feel about working on the project at home?
    b. How did you feel about sharing personal information about your family?
    c. How did you feel about posting on the website?

    d. Is there something you wish you had posted to teach students about families or traditions (e.g. specific photos, comments, video)?
36. How do you think your child felt about the Family Share Project?
    a. How did he/she feel about viewing photos on the site?
    b. How did he/she feel about posting on the site?
    c. How did he/she feel about sharing in class?
37. How could the Family Share Project be improved to enhance learning about families and family traditions?
38. How could the Family Share Project be improved to get families more involved in the teaching and learning that happens at school?
39. One of my goals for the project was to have families help teach the unit on families by sharing information about their family structures, experiences, and traditions. Some of the goals were to teach students that all families are similar, yet different and to begin to understand diversity.
    a. Can you describe how you think these goals were met or not met?
    b. Did you feel like you helped to teach the unit on families or did it feel more like you were helping with a homework assignment? Explain

APPENDIX F

PILOT PROCEDURES

Part 1

1. Read the instructions for part 1. What are you supposed to do in this section?
2. Read each item out loud. Tell me if something is unclear or needs editing. I will occasionally stop you to ask questions about specific items.
    a. Is "in the last three weeks" an appropriate time frame? Can you remember what you did the last three weeks? What might be a better time frame?
    b. Are there questions you felt uncomfortable answering "never"? Which ones? Would you have selected "never"?

Part 2

1. Read the instructions for part 2. What are you supposed to do in this section?
2. What do you think is meant by "child's learning experience at school"?
3. Read each item out loud. Tell me if something is unclear or needs editing. I will occasionally stop you to ask questions about specific items.
    a. What do you think is meant by "I have an impact on my child's learning at school"?

Part 3

1. Read the instructions for part 3. What are you supposed to do in this section?
2. Read each item out loud. Tell me if something is unclear or needs editing. I will occasionally stop you to ask questions about specific items.
    a. In general, are questions in this section too vague? Would you always respond with "strongly agree"?

Part 4

1. Read the questions in part 4. Tell me if something is unclear or needs editing. I will occasionally stop you to ask questions about specific items.
    a. Would you be able to answer these open-ended questions?

General

1. What was your first thought when you first clicked on the link and the survey loaded? (too long, I don't have time for this?) Could it be organized in a way that isn't so overwhelming?
2. How long would it take to complete the survey?

APPENDIX G

FAMILY PRE QUESTIONNAIRE

This survey is part of a University of Pittsburgh study investigating the use of online technologies to support family involvement in school. All families of kindergarten children at Falk School are invited to complete the survey. Your responses will contribute significantly toward solving some of the problems we face when integrating technology into teaching practices and getting families more involved in classroom learning. There are 5 sections to the survey and it should take less than 15 minutes to complete. Your responses will be held in the strictest confidence. Your responses will not be connected to your name or be used to evaluate your child. Your child's teachers will not have access to your responses. We welcome any comments you may have concerning this survey or research study. Please contact Jolene Zywica, jzywica@pitt.edu, for more information.

Part 1: In the last month, how many times did you do each of the following activities? If you haven't done the activity in the last month, please select never.

	Never (1)	One to three times (2)	Four to six times (3)	Seven to nine times (4)	Ten or more times (5)
Received feedback from my child's teacher on a class assignment (1)	m	m	m	m	m
Helped my child with a class assignment by providing feedback or suggestions (2)	m	m	m	m	m
Discussed goals for a class assignment with my child (3)	m	m	m	m	m
Discussed goals for a class assignment with my child's teacher (4)	m	m	m	m	m
Looked at something my child made in class (5)	m	m	m	m	m
Looked at something my child made for class (6)	m	m	m	m	m
Viewed the class's Shutterfly site (7)	m	m	m	m	m
Posted images or videos on the class's Shutterfly site (8)	m	m	m	m	m
Commented on a post or discussion on the class's Shutterfly site (9)	m	m	m	m	m

Posted on the class's Shutterfly site with my child (10)	m	m	m	m	m
Helped my child with a class assignment by creating something with him or her (11)	m	m	m	m	m
Told or shared stories with my child (12)	m	m	m	m	m
Helped my child practice reading (13)	m	m	m	m	m
Helped my child practice writing (14)	m	m	m	m	m
Helped my child develop verbal language skills (15)	m	m	m	m	m
Helped my child learn about a topic discussed in class (16)	m	m	m	m	m
Made choices or decisions with my child about how to complete a class assignment (17)	m	m	m	m	m
Communicated with my child's teacher through the class's Shutterfly site (18)	m	m	m	m	m
Communicated with other families through class's Shutterfly site (19)	m	m	m	m	m
Called my child's teacher (20)	m	m	m	m	m

Emailed or texted my child's teacher (21)	m	m	m	m	m
Was emailed or texted by my child's teacher (22)	m	m	m	m	m
Was called by my child's teacher (23)	m	m	m	m	m
Communicated with my child's teacher in person (24)	m	m	m	m	m
Helped my child with a class assignment by providing materials (e.g., books, crafts, a camera, photos, etc.) (25)	m	m	m	m	m
Helped my child with a class assignment by guiding him or her while using the computer, camera, or phone (26)	m	m	m	m	m
Provided supplementary learning activities based on what my child learned in class (e.g. took my child to the museum to learn more about dinosaurs) (27)	m	m	m	m	m

Part 2: Tell us what you think of your child's learning experience in his or her kindergarten class. Choose the response that best describes how much you agree with each of the following statements.

	Strongly Disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)	Don't know (5)
I understand the purpose of my child's class assignments. (1)	m	m	m	m	m
My goals for my child's learning are similar to the teachers' goals. (2)	m	m	m	m	m
The class assignments I help my child with are challenging for my child. (3)	m	m	m	m	m
I am interested in learning more about what my child does in class. (4)	m	m	m	m	m
I want to have more opportunities to work on class assignments with my child. (5)	m	m	m	m	m
I want to have more say in what my child does in class. (6)	m	m	m	m	m
I want to use the class's Shutterfly site more. (7)	m	m	m	m	m
The class assignments I help my child with are meaningful. (8)	m	m	m	m	m

I am happy when I think about what my child does in class. (9)	m	m	m	m	m
I am satisfied with what my child learns in class. (10)	m	m	m	m	m
I have an impact on my child's learning in class. (11)	m	m	m	m	m
I have an impact on the assignments and tasks my child completes for class. (12)	m	m	m	m	m
I know what my child learns in class. (13)	m	m	m	m	m
I trust my child's teachers. (14)	m	m	m	m	m
My child's teachers understand my child. (15)	m	m	m	m	m
My child's teachers understand how to support my child's learning. (16)	m	m	m	m	m

Part 3: How does your child feel about his or her kindergarten class? Choose the response that best describes how much you agree with each of the following statements.

	Strongly Disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)	Don't know (5)
My child feels happy in class. (1)	m	m	m	m	m
My child likes going to class. (2)	m	m	m	m	m
My child talks positively about the teachers. (3)	m	m	m	m	m
My child enjoys share time activities in the class. (4)	m	m	m	m	m
My child enjoys class assignments and projects. (5)	m	m	m	m	m
My child works hard on class assignments or projects at home. (6)	m	m	m	m	m
My child prefers challenging assignments. (7)	m	m	m	m	m
My child is flexible when solving problems for class assignments. (8)	m	m	m	m	m
My child has learned something in class that interests him or her. (9)	m	m	m	m	m
My child is interested in what is	m	m	m	m	m

posted on the class's Shutterfly
site. (10)

Part 4:
Tell us about an experience in the last month when you helped your child to complete a class assignment.

What did you help your child to do? (1)

How did you help your child? (2)

What were your goals for the assignment? (3)

What did you learn from this experience? (4)

What did your child learn from this experience? (5)

What did you like about the experience or the assignment? (6)

What did you dislike about the experience or the assignment? (7)

List one or two examples of how you and your child's teachers are partners in supporting your child's learning.

Part 5: Demographics
What is your child's first and last name?
What is your relationship to the child?
m Parent (1)
m Grandparent (2)
m Aunt or Uncle (3)
m Legal Guardian (4)
m Friend (5)
m Other (6) _____

Are you male or female?
m Male (1)
m Female (2)

What is the highest level of education you have completed?

m Less than high school (1)
m High school/ GED (2)
m Some college (3)
m 2-year college degree (4)
m 4-year college degree (5)
m Master's degree (6)
m Doctoral degree (7)
m Professional degree (8)

What is your total household income?

m (1)
m 25,000-49,999 (2)
m 50,000-74,999 (3)
m 75,000-99,999 (4)
m 100,000-124,999 (5)
m 125,000-149,999 (6)
m >=150,000 (7)

How would you describe yourself?

m African American (1)
m Asian-Pacific Islander (2)
m Caucasian (3)
m Latino or Hispanic (4)
m Native American (5)
m Multiracial (6)
m Other (7) _____

APPENDIX H

POST-QUESTIONNAIRE

This survey is part of a University of Pittsburgh study investigating the use of online technologies to support family involvement in school. All families of kindergarten children at Falk School are invited to complete the survey. Your responses will contribute significantly toward solving some of the problems we face when integrating technology into teaching practices and getting families more involved in classroom learning. There are 5 sections to the survey and it should take less than 20 minutes to complete. Your responses will be held in the strictest confidence. Your responses will not be used to evaluate your child. Your child's teachers will not have access to your responses. We welcome any comments you may have concerning this survey or research study. Please contact Jolene Zywica, jzywica@pitt.edu, for more information. To ensure consistency in responses, please have the family member who completed the first survey also complete this survey. Throughout the survey we refer to the Family Share Project. Here, we are specifically referring to the teachers asking you and your family to post photos and videos of yourselves, your traditions, and interests on the class's Shutterfly site. The project also involved students sharing the photos and videos with the teachers and their peers during class.

Part 1: In early-November we introduced the Family Share Project. Since then, how many times have you done each of the following activities? If you haven't done the activity since early-November, please select never.

	Never (1)	One to three times (2)	Four to six times (3)	Seven to nine times (4)	Ten or more times (5)
Received feedback from my child's teacher on a class assignment (1)	m	m	m	m	m
Helped my child with a class assignment by providing feedback or suggestions (2)	m	m	m	m	m
Discussed goals for a class assignment with my child (3)	m	m	m	m	m
Discussed goals for a class assignment with my child's teacher (4)	m	m	m	m	m
Looked at something my child made in class (5)	m	m	m	m	m
Viewed the class's Shutterfly site (6)	m	m	m	m	m
Looked at images or videos on the class's Shutterfly site that were posted by other families and students (7)	m	m	m	m	m
Posted images or videos on the class's Shutterfly site (8)	m	m	m	m	m

Commented on a post or discussion on the class's Shutterfly site (9)	m	m	m	m	m
Posted on the class's Shutterfly site with my child (10)	m	m	m	m	m
Helped my child with a class assignment by creating something with him or her (11)	m	m	m	m	m
Made choices or decisions with my child about how to complete a class assignment (12)	m	m	m	m	m
Communicated with my child's teacher through the class's Shutterfly site (13)	m	m	m	m	m
Communicated with other families through class's Shutterfly site (14)	m	m	m	m	m
Called my child's teacher (15)	m	m	m	m	m
Emailed or texted my child's teacher (16)	m	m	m	m	m
Was emailed or texted by my child's teacher (17)	m	m	m	m	m
Was called by my child's	m	m	m	m	m

teacher (18)					
Communicated with my child's teacher in person (19)	m	m	m	m	m
Helped my child with a class assignment by providing materials (e.g., books, crafts, a camera, photos, etc.) (20)	m	m	m	m	m
Helped my child with a class assignment by guiding him or her while using the computer, camera, or phone (21)	m	m	m	m	m

Part 2: Tell us what you think of your child's learning experiences in his or her kindergarten class. Choose the response that best describes how much you agree with each of the following statements.

	Strongly Disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)	Don't know (5)
I understand the purpose of my child's class assignments. (1)	m	m	m	m	m
My goals for my child's learning are similar to the teachers' goals. (2)	m	m	m	m	m
I am interested in learning more about what my child does in class. (3)	m	m	m	m	m
I want to have more opportunities to work on class assignments with my child. (4)	m	m	m	m	m
I want to have more say in what my child does in class. (5)	m	m	m	m	m
I want to use the class's Shutterfly site more. (6)	m	m	m	m	m
The class assignments I help my child with are meaningful. (7)	m	m	m	m	m
I am happy when I think about what my child does in	m	m	m	m	m

class. (8)					
I am satisfied with what my child learns in class. (9)	m	m	m	m	m
I have an impact on my child's learning in class. (10)	m	m	m	m	m
I have an impact on the assignments and tasks my child completes for class. (11)	m	m	m	m	m
I know what my child learns in class. (12)	m	m	m	m	m
I trust my child's teachers. (13)	m	m	m	m	m
My child's teachers understand my child. (14)	m	m	m	m	m
My child's teachers understand how to support my child's learning. (15)	m	m	m	m	m

Did you and your child participate in the Family Share Project by posting photos and/or videos of your family on the Shutterfly site?

m No (1)

m Yes (2)

Answer “Did you and your child participate in the Family Share Project by posting photos and/or videos of your family on the Shutterfly site?”…If Yes is Selected

Part 3: Tell us what you think of the Family Share Project. Choose the response that best describes how much you agree with each of the following statements.

	Strongly Disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)	I don't know (5)
The Family Share Project helped me to get to know the teachers better. (1)	m	m	m	m	m
The Family Share Project helped me to get to know other students and families better. (2)	m	m	m	m	m
The Family Share Project helped my child to get to know the teachers better. (3)	m	m	m	m	m
The Family Share Project helped my child to get to know other students and families better. (4)	m	m	m	m	m
I chose on my own what to post on the class website for the Family Share Project. (5)	m	m	m	m	m
I worked with my child to choose what to post on the class website for the Family Share Project. (6)	m	m	m	m	m
My child enjoys share time activities in the class. (7)	m	m	m	m	m

My child has enjoyed working on the Family Share Project at home. (8)	m	m	m	m	m
My child is interested in what is posted on the class's Shutterfly site. (9)	m	m	m	m	m
My child enjoyed posting photos and/or videos on the class's Shutterfly site. (10)	m	m	m	m	m
The Family Share Project was worth the time it took. (11)	m	m	m	m	m
The Family Share Project took too much of my time. (12)	m	m	m	m	m
Doing the Family Share Project was useful for my child. (13)	m	m	m	m	m
I would like to do more projects like the Family Share Project. (14)	m	m	m	m	m
It was difficult for me to figure out how to upload images of my family. (15)	m	m	m	m	m
It was easy for me to use Shutterfly for the project. (16)	m	m	m	m	m
It was easy for me to figure out how to upload videos of my family. (17)	m	m	m	m	m

Answer “Did you and your child participate in the Family Share Project by posting photos and/or videos of your family on the Shutterfly site?” If Yes Is Selected

Part 4: Tell us about your experience posting photos and/or videos of your family on the Shutterfly site.
Who posted the photos or videos? (1)
What were your goals for the Family Share Project? (2)
What do you hope students and teachers learned about your family? (3)
What did you learn about the other families in your child’s class, if anything? (4)
How could the Family Share Project be improved to enhance learning about families and family traditions? (5)

Answer “Did you and your child participate in the Family Share Project by posting photos and/or videos of your family on the Shutterfly site?” If No Is Selected

Please tell us why you and your family chose not to participate in the Family Share Project.

Part 5: Demographics

What is your child's first and last name? (Responses won't be shared with anyone but the researcher.)

What classroom is your child in?
m Room A - Ms. Stefanovic & Ms. Thomas (1)
m Room B - Ms. Sanders & Mr. Anderson (2)

Is your kindergarten child male or female?
m Male (1)
m Female (2)

How old is your kindergarten child?
m 5 (1)
m 6 (2)
m Other (3) _____

What is your relationship to the child?
m Parent (1)
m Grandparent (2)
m Aunt or Uncle (3)
m Legal Guardian (4)
m Friend (5)
m Other (6) _____

Are you male or female?
- m Male (1)
- m Female (2)

What is the highest level of education you have completed?
- m Less than high school (1)
- m High school/ GED (2)
- m Some college (3)
- m 2-year college degree (4)
- m 4-year college degree (5)
- m Master's degree (6)
- m Doctoral degree (7)
- m Professional degree (8)

What is your total household income?
- m (1)
- m 25,000-49,999 (2)
- m 50,000-74,999 (3)
- m 75,000-99,999 (4)
- m 100,000-124,999 (5)
- m 125,000-149,999 (6)
- m >=150,000 (7)

How would you describe yourself?
- m African American (1)
- m Asian-Pacific Islander (2)
- m Caucasian (3)
- m Latino or Hispanic (4)
- m Native American (5)
- m Multiracial (6)
- m Other (7) _____

APPENDIX I

POST-QUESTIONNAIRE RATIONAL

Table 26. Post-questionnaire rational

	Survey instructions & questions	Rationale	Notes
	Part 1: Family Involvement In early-November we introduced the Family Share Project. Since then, how many times have you done each of the following activities? If you haven't done the activity since early-November, please select never.	The items in this section describe the range of possible experiences families may be involved in.	I developed all questions unless otherwise stated.
1	Received feedback from my child's teacher on a class assignment	Connected learning - Feedback Family Involvement – Family-teacher communication	
2	Helped my child with a class assignment by providing feedback or suggestions	Connected learning - Feedback Family Involvement – Help	
3	Discussed goals for a class assignment with my child	Connected learning - Goals Family Involvement – Family-child communication	
4	Discussed goals for a class assignment with my child's teacher	Connected learning - Goals Family Involvement – Family-teacher communication	
5	Looked at something my child made in class	Connected learning - Interact	
	~~Looked at something my child made for class~~	~~Connected learning - Interact~~	Too broad of a question
6	Viewed the class's Shutterfly site	Connected learning - Interact	
7	Looked at images or videos on the class's Shutterfly site that were posted by other families and students	Connected learning - Interact	NEW QUESTION
8	Posted images or videos on the class's Shutterfly site	Family Involvement	
9	Commented on a post or discussion on the class's Shutterfly site	Family Involvement	
10	Posted on the class's Shutterfly site with my child	Connected learning – Co-create Family Involvement – Help	

11	Helped my child with a class assignment by creating something with him or her	Connected learning – Co-create Family Involvement – Help	
	~~Told or shared stories with my child~~	~~Content or skill goal~~	Not useful to ask twice, disconnected from family share project
	~~Helped my child practice reading~~	~~Content or skill goal~~ ~~Family Involvement - Help~~	Not useful to ask twice, disconnected from family share project
	~~Helped my child practice writing~~	~~Content or skill goal~~ ~~Family Involvement - Help~~	Not useful to ask twice, disconnected from family share project
	~~Helped my child develop verbal language skills~~	~~Content or skill goal~~ ~~Family Involvement - Help~~	Not useful to ask twice, disconnected from family share project
	~~Helped my child learn about a topic discussed in class~~	~~Content or skill goal~~ ~~Family Involvement - Help~~	Not useful to ask twice, disconnected from family share project
12	Made choices or decisions with my child about how to complete a class assignment	Family Involvement Choice	
13	Communicated with my child's teacher through the class's Shutterfly site	Family Involvement - Family-teacher communication	
14	Communicated with other families through class's Shutterfly site	Connected Learning - Interact	
15	Called my child's teacher	Family Involvement - Family-teacher communication	Modified from PTI questionnaire
16	Emailed or texted my child's teacher	Family Involvement - Family-teacher communication	Modified from PTI questionnaire
17	Was emailed or texted by my child's teacher	Family Involvement - Family-teacher communication	Modified from PTI questionnaire
18	Was called by my child's teacher	Family Involvement - Family-teacher communication	Modified from PTI questionnaire
19	Communicated with my child's teacher in person	Family Involvement - Family-teacher communication	Modified from PTI questionnaire

20	Helped my child with a class assignment by providing materials (e.g., books, crafts, a camera, photos, etc.)	Family Involvement - Help	
21	Helped my child with a class assignment by guiding him or her while using the computer, camera, or phone	Family Involvement - Help	
	~~Provided supplementary learning activities based on what my child learned in class (e.g. taking my child to the museum to learn more about dinosaurs, checking out a book at the library about animals, etc.)~~	~~Family Involvement – Help~~	Not useful to ask twice, disconnected from family share project
	Part 2: Perceptions of your child's learning experience at school *Tell us what you think of your child's learning experiences in his or her kindergarten class. Choose the response that best describes how much you agree with each of the following statements.*	This section attempts to capture the families' involvement, perceptions of the project, and relationships.	I developed all items, unless otherwise stated.
22	I understand the purpose of my child's class assignments.	Connected learning - Goals	
23	My goals for my child's learning are similar to the teachers' goals.	Connected learning - Goals	
	~~The class assignments I help my child with are challenging for my child.~~	~~Connected learning – challenging tasks~~	Not essential for the research.
24	I am interested in learning more about what my child does in class.	Family Involvement Connected learning – Interest Family Emotional Engagement - Interest	
25	I want to have more opportunities to work on class assignments with my child.	Family Involvement Family Emotional Engagement - Interest	
26	I want to have more say in what my child does in class.	Family Involvement	
27	I want to use the class's Shutterfly site more.	Family Involvement Connected learning – Interest	

		Family Emotional Engagement - Interest	
28	The class assignments I help my child with are meaningful.	Connected learning – Meaningful tasks	
29	I am happy when I think about what my child does in class.	Family Emotional Engagement – Feelings	
30	I am satisfied with what my child learns in class.	Family Emotional Engagement – Feelings	
31	I have an impact on my child's learning in his or her class.	Family involvement in instruction	
32	I have an impact on the assignments and tasks my child completes for class.	Family involvement in instruction	
33	I know what my child learns in class.	Family involvement	
34	I trust my child's teachers.	Relationships	
35	My child's teachers understand my child.	Relationships	
36	My child's teachers understand how to support my child's learning.	Relationships	
37	Did you and your child participate in the Family Share Project by posting photos and/or videos of your family on the Shutterfly site?		If the response is 'No' the survey will skip sections 3 and 4 and ask participants "Please tell us why your family chose not to participate in the Family Share Project." If the response is 'yes' the survey will continue to section 3 and 4.
	Part 3: Perceptions of the Family Share Project *Tell us what you think of the Family Share Project. Choose the response that best describes how much you agree with each of the following statements.*	This section focused on the Family Share Project. Three questions that were in part 3 of the pre questionnaire are included in this section.	NEW SECTION. I developed all questions.

38	The Family Share Project helped me to get to know the teachers better.	Relationships	NEW QUESTION
39	The Family Share Project helped me to get to know other students and families better.	Relationships	NEW QUESTION
40	The Family Share Project helped my child to get to know the teachers better.	Relationships	NEW QUESTION
41	The Family Share Project helped my child to get to know other students and families better.	Relationships	NEW QUESTION
42	I chose on my own what to post on the class website for the Family Share Project.	Family Involvement	NEW QUESTION
43	I worked with my child to choose what to post on the class website for the Family Share Project.	Family Involvement	NEW QUESTION
44	My child enjoys share time activities in the class.	Perception of child's experience	
45	My child has enjoyed working on the Family Share Project at home.	Perception of child's experience	
46	My child is interested in what is posted on the class's Shutterfly site.	Perception of child's experience	
47	My child enjoyed posting photos and/or videos on the class's Shutterfly site.	Perception of child's experience	NEW QUESTION
48	The Family Share Project was worth the time it took.	Perception of the value and/or burden of the project	NEW QUESTION
49	The Family Share Project took too much of my time.	Perception of the value and/or burden of the project	NEW QUESTION
50	Doing the Family Share Project was useful for my child.	Perception of the value and/or burden of the project	NEW QUESTION
51	I would like to do more projects like the Family Share Project.	Perception of the value and/or burden of the project Family Involvement	NEW QUESTION
52	It was difficult for me to figure out how to upload images of my family.	Perception of the value and/or burden of the project	NEW QUESTION
53	It was easy for me to use Shutterfly for the project.	Perception of the value and/or burden of the project	NEW QUESTION
54	It was easy for me to figure out how to upload	Perception of the value and/or burden of	NEW QUESTION

	videos of my family.	the project	
	~~Part 3: Perceptions of your child's feelings about school~~	~~This section attempts to capture the families' perceptions of child emotional and behavioral engagement. Emotional engagement is examined by asking about feelings about school, teacher, assignments/projects, and literacy activities.~~	All but 3 items were removed from the pre survey. It was not useful to ask these questions twice, since the focus wasn't on student engagement or general feelings about school. Most questions were too broad and disconnected from the Family Share Project.
	~~How does your child feel about his or her kindergarten class? Choose the number that best describes how much you agree with each of the following statements.~~		
	~~My child feels happy in class.~~	~~Student Emotional Engagement – Feelings~~	~~Modified from FAS measure~~
	~~My child likes going to class.~~	~~Student Emotional Engagement – Feelings~~	~~Modified from FAS measure~~
	~~My child talks positively about the teachers.~~	~~Student Emotional Engagement – Feelings~~	
	~~My child enjoys share time activities in the class.~~	~~Student Emotional Engagement – Feelings~~	Moved to new section 3
	~~My child enjoys class assignments and projects.~~	~~Student Emotional Engagement – Feelings~~	Revised in new section 3
	~~My child works hard on class assignments or projects at home.~~	~~Student Behavioral Engagement – Effort~~	
	~~My child prefers challenging assignments.~~	~~Student Cognitive Engagement~~	
	~~My child is flexible when solving problems for~~	~~Student Cognitive Engagement~~	

	~~class assignments.~~		
	~~My child has learned something in class that interests him or her.~~	~~Student Emotional Engagement – Interest~~	
	~~My child is interested in what is posted on the class's Shutterfly site.~~	~~Student Emotional Engagement – Interest~~	Moved to new section 3
	Part 4: Reflecting on assignments	This section asks open-ended questions reflecting on the Family Share Project.	I developed all questions.
		Tell us about an experience in the last month when you helped your child to complete a class assignment. What did you help your child to do? How did you help your child? What were your goals for the assignment? What did you learn from this experience? What did your child learn from this experience? What did you like about the experience or the assignment? What did you dislike about the experience or the assignment?	Student Cognitive Engagement Student Behavioral Engagement Family Cognitive Engagement Family Behavioral Engagement
	55	Tell us about your experience posting photos and/or videos of your family on the Shutterfly site. a. Who posted the photos or videos? b. What were your goals for the Family Share Project? c. What do you hope students and teachers learned about your family? d. What did you learn about the other families in your child's class, if anything? e. How could the Family Share Project be improved to enhance learning about	Family involvement Relationships Learning about families Connected Learning - Goals

		families and family traditions?	
		List one or two examples of how you and your child's teacher are partners in supporting your child's learning.	
		Part 5: Demographics	All questions provided descriptive information about the sample and identifying information about families.
	56	What is your child's first and last name?	
	57	What classroom is your child in?	
	58	Is your kindergarten child male or female?	
	59	How old is your kindergarten child?	
	60	What is your relationship to the child?	
	61	Are you male of female?	
	62	What is the highest level of education you have completed?	
	63	What is your total household income?	
	64	What would you describe yourself?	

APPENDIX J

ANALYTIC CODES

Table 27. Analytic codes

Code	Definition	When to Use	When NOT to use
Design	Code used when discussing design principles	Teachers and/or the researcher mention a design principle or goal. This will be used only for planning sessions, reflections and interviews. How are design principles created and considered when designing projects?	Should not be used for anything the student or family creates or designs. Should not be used to note enactment of design principles during observations (there are other codes for this).
Family involvement	Code based on parent involvement	Teachers and families describe their view of family involvement, what it means to be involved, and how they are or aren't involved. Used when describing family participation (or lack of participation) in the FSP. Families co-creating or talking about co-creating assignments or projects. An umbrella code for family involvement and participation. This code might be used by itself or along with other family involvement codes. It is always used when the specific family involvement codes are used (family-child communication, family-teacher communication, help and aspirations.)	
Family-Child Communication	Code based on parent involvement	Children mention talking to family members about a class assignment or project or vice versa. This includes family members mentioning occasions when they talk to their child about schoolwork, when they encourage their	Does not include communication about topics outside of the classroom context (e.g. talking about

		child to talk about school, or asking their child questions about school assignments or activities. Specifically, this code is for documenting if and how families and children communicate during the FSP and what the discuss relating to the project and their family.	hockey practice)
Family-Teacher Communication	Code based on parent involvement.	Instances of teachers and parents communicating, in person, via email, phone or online regarding the project, student progress, etc. This also includes teachers encouraging families to participate in the project (e.g. newsletter text, emails sent to families, talking at parent conferences). Communication can occur orally or through text or visual media.	
Help	Code based on parent involvement.	Students receive help on an assignment from a family member. This includes students talking about getting help, families talking about helping, or observing students getting help at home. Help may include providing materials (crafts, books), guiding students using technology, providing feedback or suggestions, or providing supplementary learning experiences related to class work. This also includes parents guiding students through what they might say about each photo or their family, helping students to select upload photos, and helping students to create a video.	This code is not to be used when students receive help from a peer or teacher.
Aspirations	Code based on parent involvement.	Families describe their aspirations for their child's learning and education, which may be related to the FSP or unit on families or broader aspirations. May include aspirations for their learning and goals for the project. Used only in family interviews.	Not used for observations, teacher interviews, or student interviews
Content-Family	Code for talk about families, which is the content of the	Students talk about their families or other students' and describe their family experiences, structures, traditions, etc. Students and teachers have conversations about families and read books about families. Parents talk to	

	unit	their child about families, including experiences, structures, traditions, similarities and differences. Teachers describe their goals for the families unit and what they want students to know about families. Students, parents, and teachers describe what was learned about families. Used when teachers talk about the "connections" symbol or when this comes up in observations. An umbrella code for all content related to the families unit and goals	
Learning	Code for documenting what students learned	Instances of students describing what they learned about families or what they know about families (during student interviews). This also includes teachers and families reflecting on what they learned and what the students learned. Often this overlaps with the relationships code. Students learned about each other, which helped them feel more connected (so it's learning, but also relationship building).	
Shutterfly	Code for documenting use of Shutterfly	Instances of teachers, students, or families reflecting on the Shutterfly tool, how it was or wasn't used, and challenges associated with it.	General discussions about postings or content on the site. Use of the site during observations.
Influencing	Code for families being influenced by one another	Use to document families influencing or being influenced by other families. This includes families changing their behaviors, participation, or how much and what information they post on Shutterfly based on what other families post. (Primarily used for interviews.)	
Relationships	Code based on design principle and	Participants talk about developing "relationships" or "connections" between students, teachers, and/or families. This also refers to "getting to know each other"	

	drawn from connected learning and engagement.	or having a better understanding of each other's families. Also includes the impact relationships had on the classroom instruction, parent involvement, student learning, etc. (This comes up mostly in interviews.)	
Questions	Code for questions asked during share time	Use when students or teachers ask students questions during share time to understand the content or promote talking about the content.	Parents ask their child questions at home.
Comments	Code for comments made during share time	Use when students or teachers make comments about the content shared during share time	Parents comment on assignments at home.
Informing Content	Code for teachers drawing on families to inform content	Teachers drawing on families' experiences, knowledge, and traditions in the classroom. This can include using photos, media or text posted by families to start a discussion about families (specific or general). Also used when teachers ask families to come to the class to share an experience. Used when teachers talk about conversations they had with students or parents that were sparked by something they saw posted. Used when teachers talk about how the families unit might have changed or been enhanced by the FSP.	
Authority-Decisions-Choice	Code based on initial design principle and drawn from connected learning and engagement.	Teachers talk about their authority and sharing authority with families. This includes their beliefs about getting families involved in making decisions about content. Instances of teachers designing opportunities for families and students to make choices about the project or assignments. Students and families making choices about projects or assignments.	
Roles	Code based on	Descriptions of family and student roles taken on while	

	design principle and drawn from connected learning and engagement (aligned with co-create)	working on and co-creating the project. Descriptions of how families and kids felt about taking on these roles and working together. For example, who chooses which photos to post, who decides what test to include, how do students decide what to say about their photos? How do families support students during the process? Who makes decisions about the project and what decisions are made?	
Goals	Code based on initial design principle and drawn from connected learning and engagement.	Teachers describe goals they have for the families unit and the FSP. Teachers describe goals they have for students and families and whether those goals were met or not. Families describe goals they have for projects or their perception of teachers' goals. Students and families discuss goals they may have and how to create projects that address shared goals. This code is used for general goals, but also talk of shared goals. In analysis it's used to understand if teachers and families had shared goals.	
Interests	Code based on design principle and drawn from connected learning and engagement.	Students and families express their interests or each other's interests while planning, creating, reflecting on or sharing projects. Teachers reflect on students and families being interested.	

APPENDIX K

CODING PROCESS

Teacher & Family Interviews

1. 'Select all' and code the entire interview with the teacher or child's name.
2. Chunk text by including the interview question and the following response. Do not chunk multiple questions and responses. The only exception would be a prompt like "tell me more" or "how so?".
3. Occasionally there is a dialogue between the interviewee and interviewer, which should be chunked with the question that sparked the conversation.
4. Do not code side conversations that aren't between interviewees or interviewer and interviewees. For example, don't code a conversation between a teacher and a student that occurs in the middle of the interview. This happens infrequently, but ignore it when it does happen. Treat the conversation before and the conversation after the interruption as separate chunks.
5. Some questions and responses don't fit into a code and that's okay. Don't code it. For example, there are some questions about teacher and student feelings that don't need to be coded.

Observations

1. Observations should be chunked in three ways:
    a. Share time activities/conversations should be one chunk. This is likely the majority of the observational field notes. It's important to keep it all together.
    b. "My thoughts and Reflections" should be chunked separately. If there are multiple paragraphs in this section and they are focused on clearly different topics they can be chunked separately by paragraphs.
    c. Any other activities that occurred during the observation (math lesson, reading activity, snack time, etc.) should be chunked separately by paragraphs.
2. Code the entire share time activity/conversation chunk with the name of the child sharing and teachers that participate in conversations during the share. You don't need to code other case study kids that aren't sharing even if they ask a question during the share.

APPENDIX L

SCOPE OF FAMILY INVOLVEMENT

Table 27 summarizes ways parents could be involved in projects like the FSP. Involvement ranged from parents passively taking in information to being co-creators of knowledge and media. Characterizations of low, medium and high are based on the effort and time needed to complete the activity, whether or not the activity is done with a child, and intentionality around supporting the content goals.

Table 28. Scope of family involvement

Level of Involvement	Types of family involvement
Passive - Low	– Reading newsletters and teacher emails to get updates on classroom activities
Passive - Medium	– Viewing content on class websites
Passive - High	– Viewing content on class websites with their child
Creator - Low	– Communicating with teachers in person, on the phone or electronically – Communicating with other parents in person, on t he phone or electronically – Commenting on content on class websites
Creator - Medium	– Commenting on content with their child – Discussing with their child other families' postings and media – Discussing with their child what media and information to post – Creating digital media to share on class websites
Creator - High	– Discussing with their child other families' media and postings, with the intent of discussing the unit's content goals – Discussing with their child why specific media should be shared and are important to their family with the intent of discussing content goals – Co-creating digital media with their child to share on class websites – Speaking with the class or leading an activity in the classroom to share content knowledge

APPENDIX M

MEMO: IMPROVING THE FSP

Throughout this study, teachers, parents, and I reflected on challenges that emerged and ways the design and implementation of the FSP could be improved. In this memo, I share these reflections, which provides evidence and support for the design and implementation challenges and solutions presented in Chapter 6.

M.1 DESIGN OF THE FSP

As described earlier, there are four design goals for this study all aimed at getting parents involved in their children's school learning and making connections between learning environments (i.e. home to school, home to home). These goals include:

1. Provide opportunities for parents and children to use social media to communicate with each teachers (i.e., bridge home and school).
2. Provide opportunities for parents and children to co-create personally meaningful media and share stories across contexts (i.e. home and school). Co-creating involves shared decision-making where parents and children both exercise control and choice.
3. Provide opportunities for parents and children to interact with other families (i.e. home to home).
4. Build supportive & caring relationships in the classroom and between families.

In Chapter 2, I described a list of possible design goals that the teachers and I started with and used to create these four goals. We chose these goals because they seemed to be most important for meeting the needs of the kindergarten teachers and families and the overarching goals of the study. Based on reflections with teachers and parents and my own observations at least two additional goals should have been included in our list of priorities, both of which are essential for getting parents involved and leveraging content created by families. Teachers and parents both described the need for explicit and clear *goals* and *feedback* regarding the FSP.

M.1.1 Explicit and clearly communicated goals

Results from teacher and parent interviews and post-surveys provide evidence that parents did not understand all of the goals of the FSP. On the post-survey, 20% of parents (3/15) were not sure what their goals were or didn't have specific goals for the FSP. In addition, 80% of families that completed the post-survey (16/20) said they had never discussed goals for a *class assignment* with their child's teacher and 45% (9/20) had never discussed goals for a class assignment with their child. Despite this lack of communication about the goals, post-survey results showed that all parents (18/18) generally felt that they understood the purpose of their child's "class assignments" and most parents (17/18) agreed that their goals for their child's learning are similar to the teachers' goals. It's important to note here that there is no way to know if parents who completed the survey believed the FSP was an example of a "class assignment".

During interviews, parents were able to articulate what some of the goals were for the FSP, but they all expressed some uncertainties. Parents used vague or unsure statements like "I'm guessing", "might have", or "I assume" when talking about the goals for the FSP.

- Neela: "Well **I'm guessing** one of the goals was to learn about the families. **I'm guessing** another goal – I'm not sure whether this one was accomplished or not was perhaps to get families to interact with each other…I mean **it might have been** about the kids, it might have been about the families…"
- Natasya: "**I guess I don't really [know]…** I mean, it's good to foster community among the families, but other than that."
- Sandy: "Well I know that Ariel talked about it, **right?** They share their family pictures and so they - like **I assume** for the – it's like a way of getting to know each other.
- David: "**I assumed** it was to give the kids a chance to have something to discuss with each other like in the classroom environment, almost like a show-and-tell kind of thing. **That was my guess, but I didn't know for sure. [Laughter]."**
- Andrea (referring to Kellie's share): "**I have no idea** what she actually said or what the context was for her, other than what she told me, which was not very much."

Kyle's father, David, said that he "would've been more involved" if he'd had clearer instructions about the purpose of the project and what photos should "depict". He had not heard about the second part of the project using video, which seemed to disappoint him. David had not spent much time thinking about the FSP's purpose or impact and he was not aware of how the photos were used in the class. At least two other parents said they were not sure how the photos were used in class either. Ms. Sanders thought that parents knew what was done with the photos in the class and she thought students had told their parents about what was done, however, she also stated, "I don't know that they realize the extent of how it impacted the unit".

In future iterations, this can be addressed by including goal 5: Help students and families develop clear, consistent, challenging, achievable and shared goals that align with teacher and unit goals. This aligns with principles of engagement, as well as the Connected Learning Model (Urdan & Turner, 2005; Pintrich, 2003; Fredricks, et al., 2004; DMLCentral, 2012). This goal can be realized in at least 4 ways:

<u>Give parents structure and guidance about what to post and what types of posts would be most useful for enhancing the unit.</u> Many families needed more information regarding what to post and guidance to support their participation. More guidance on w hat to post might help

families think more about what they want to share about their family. For example, Leslie's Hanukah video could have been more connected to the unit if her family had explained why they made the video, what a menorah is, why they light the menorah, and why they sing the prayer during Hanukah. This would have made it easier to use the video to teach about Hanukah in more in-depth and explicit ways. To address this, families could answer specific questions when they post photos and videos, such as what are you doing? Why do you do this? What do you want students to know?

Provide parents information about the content goals of the FSP and how they tie to the families unit. Explicitly sharing the content goals with parents may make it easier for them to address the goals and make more informed decisions about the content they post. If families have a better understanding of the project, including goals, expectations and how the FSP is embedded in the families unit, perhaps they would share different content with the kindergarten community.

Provide information about parents' roles during the project and why they are a valuable resource for helping to teach the unit. To avoid uncertainties about roles or expectations, parents should be told what is expected of them and be given examples of ways families could get involved during the FSP and the unit.

Encourage parents to discuss their goals with their child regarding what they want others to know about their family. Having these kinds of conversations at home can reinforce concepts taught during the unit and the FSP. It also provides a venue for families to have meaningful interactions at home around the content.

In addition to more explicit goals for the project and expectations regarding family involvement, feedback between teachers and families would help to address families' uncertainties about their role, what to post, and how their postings are used in the classroom.

M.1.2 Feedback

Parents needed and wanted more feedback from teachers. Survey and interview results confirm that parents needed more feedback to feel certain about the goals, their role, and how the content they posted was used in the classroom during the families unit. On the post survey, 50% of families responded that they had never received feedback from their child's teacher on any class assignment.

David and Andrea wanted to know what their children said about their families and the photos during class. Andrea said, "it just would be interesting to hear how your child represents your family". Similarly, David said, "it would've been awesome to have some kind of like a 360 turnaround where it's like, okay, here's your kid and here was their performance in front of the class and describing the photos would've been so cool to get that back".

David also thought it would be helpful to get more specific emails from teachers about what was posted on the site. Shutterfly sends out generic emails about new photos, videos, and comments, but David would have liked to receive emails highlighting specific student albums or conversations on the site. When I asked David if he got any feedback from teachers or other families, he said he hadn't gone back to the site to look, so an email from a teacher might have gotten David and other families to return to the site to interact in new ways.

When Sandy picked up her daughter after school on the day she shared she asked Mr. Anderson "did she do okay?" He told her that she provided "relevant information" and pointed out the different family members in each picture. According to Sandy, he also told her "she was not really effusive and that some—you know what I mean—and that some of that might just be

like her being in front of her friends talking about her family or whatever." Similarly, Ms. Stefanovic mentioned talking to Kyle's mom about the FSP and telling her that "Oh, you know it was really cool, the pictures were great. The kids got really excited seeing Charlie in his gear." This was useful information, but parents who were not able to talk to teachers in person missed out on this kind of feedback.

When asked what feedback they got from teachers, Neela and Natasya said teachers commented on at least one of their photos. However, for Neela and Leslie, the information was relayed to them "well into the project" "a long time after Leslie had presented" the pictures. Ms. Thomas had commented on Natasya and Becka's family photo, "Becka, you look so young! Very nice picture :)" and Ms. Stefanovic had asked, "That's cool! What is the age gap between the oldest and Leslie?" These comments were important and showed that the teachers were interested in the students and their families. However, commenting was not used to provide general information about the FSP.

In future iterations, this can be addressed by including goal 6: *Provide detailed, clear and immediate feedback to parents and students focused on importance of effort, content shared by families and discussions in the classroom about families. Encourage parents to provide teachers with feedback too, specifically regarding the content shared and discussed and the importance of the project.* This goal also aligns with principles of engagement (Urdan & Turner, 2005; Pintrich, 2003; Fredricks, et al., 2004) and the Connected Learning Model's goals of peer-support and open networks.

Providing feedback to parents was something that the teachers and I discussed during our initial planning sessions and pre-interviews, but unfortunately these ideas were not implemented as well as they could have been. Two possible modes of feedback were discussed, video and

commenting on the site, which could be very useful in future implementations, along with email and the class newsletters.

Videotape students sharing information about their families to provide feedback to parents. One way to provide feedback to families is to videotape students when they share their photos and videos and then post those videos on the site for parents to see. This could motivate and inspire other families to participate in the FSP, as well, and provides another venue for families to learn about one another.

Provide detailed written feedback through commenting, email and the newsletter. Prior to starting the FSP, it would be helpful for teachers to discuss what types of comments would be most useful for families and have a strategic plan for commenting and providing feedback. Two types of comments could be posted online in response to families' pictures or videos:

- Comments that pose questions about families' structures, names, traditions and celebrations. The commenting feature could be used to get more information from families that can be used to teach the unit goals.
- Comments that provide information about what students talked about in class. Use commenting to share interesting classroom discussions or student questions.

Email or face-to-face conversations are probably more useful for specific feedback regarding involvement, goals, and implementation of the FSP. More detailed information in the newsletter might be helpful too, such as what students shared, connections that were made or surprising things the class learned about students and their families. More feedback will be really important for reassuring families that their participation matters and is valued by teachers and other families.

M.2 IMPLEMENTATION OF THE FSP

In addition to adding two new design goals for the study, modifications during implementation of the existing design goals could improve the FSP. Specifically, it may be possible to get families more involved, better leverage content posted by families, and make more connections between home and school by addressing the following challenges:

1. Technical issues
2. Lack of interactions among families
3. A disconnect between the FSP and the families unit
4. Difficulties teaching about differences

M.2.1 Technical issues.

Uploading video

Several parents experienced technical challenges, including uploading videos and interacting on the Shutterfly site. As previously mentioned, Andrea found that uploading videos "took forever". She said it wasn't "intimidating, but it definitely felt like it was time consuming". Other families experienced problems uploading video files due to unsupported file types or chose not to participate due to the lack of good video equipment and inexperience uploading videos. Fortunately, there were no known issues related to uploading photos.

Using Shutterfly

Several parents mentioned limitations of Shutterfly. On the post survey, two parents mentioned commenting. One parent suggested the FSP could be improved by having a "better website

experience" and the "ability to like and comment". Another parent wrote "I found it difficult to figure out how to comment on t he photos I uploaded. In general I find Shutterfly pretty cumbersome". Similarly, David wished the site used in the kindergarten class was more conducive and included options to befriend other parents, create groups, interact with the teachers, and save photos from the website. David felt like the Shutterfly Share Site was mostly for just checking out photos, although he admits he hasn't spent much time on the site.

There are at least two options for addressing technical issues: Taking advantage of all of Shutterfly's features or using a different social media tool. Some of the limitations described by parents can be address by changing settings on the Share Site (e.g. to let members save photos) or using all the features on the site. For example, parents had the option to interact with teachers and families through commenting, a discussion board, and private messaging, although most families did not take advantage of these interactive features. Informing families of these options and using them to communicate with families might help them to feel more comfortable using the site and all its features. Shutterfly was initially designed as a tool for sharing photos and not sharing videos or interacting. While the site has adapted to be more interactive and social in nature and supportive of video files, it may not be an idea tool for getting families to participate and share information. Teachers should discuss what their priorities are for the tool and if there are better options for their needs.

By addressing these technical issues, it may be possible to reach the second design goal: Provide opportunities for parents, children and teachers to use social media to communicate with each. If it's easier for families to post videos and interact they will be more likely to use the site features to communicate with one another.

M.2.2 Getting families to interact and communicate

As I mentioned in Chapter 4, families didn't interact with each other or communicate in direct ways, which was the third design goal. To better address this goal, it might be useful to use information posted by families to bring families together for more face-to-face interactions. This could be done by seeding conversations on t he site and bringing families together for a celebration. Teachers could ask families to answer questions or share specific information in a discussion forum or in the comments section associated with a photo or video. This data could be an interesting way to spark conversations online and offline. Having a celebration at the end of the project where everyone can interact, see posted pictures, and look at posts together would be a great way to celebrate families and their traditions, as well as, to meet each other and talk about things they've learned about each other from the project. It's another way the FSP can help develop relationships within kindergarten community.

M.2.3 Making connections between the FSP and the Families unit

Parents and teachers pointed out a disconnection between the FSP and the Family unit. For example, Neela felt that the FSP was disconnected because sharing family traditions happened several weeks after students learned about the tradition, as was the case with the video her and Leslie made about Hanukah. Neela explains,

> *We filmed our video on the last day of Hanukah, so… They watched the video in class. Leslie presented it, but I don't know how much like that influenced - you*

know what I mean, I don't know if they had more than a one-minute discussion about it, ***remember we talked about Hanukkah***

This disconnect might have had an impact on Neela's perception of the meaningfulness of the experience. In addition, she was surprised to learn during an interview that the class was doing a unit on families in which the FSP was a part of. When I described part of the unit, Neela responded with "Yeah. I don't think I knew any of that." and she immediately described a book she would have shared with the class about series and patterns and how they can be families.

While teachers felt that the FSP helped to enhance the unit they also mentioned that the FSP wasn't directly connected to the family unit in ways that it could have been and observational field notes confirm this. For example, when sharing photos teachers didn't always ask students about family names or use photographs to talk about family structures or traditions. Ms. Stefanovic said, "we didn't really make that direct connection, but in some ways they still have a better understanding, in a way, of their peer[s]". By explicitly making connections and reflecting on connections between what families posted, what students shared in class, and the unit concepts, students might have learned more about families and their peers. Teachers mentioned a few ways the FSP could be improved to make more connections to the families unit and content goals, particularly changing the schedule and timing of the FSP.

Teachers thought it would be easier to make more explicit connections to the unit if they had done the FSP earlier in the year and, for teachers in room A, if they had embedded the family shares during social studies rather than having it at the end of the day. Ms. Stefanovic, when pointing out the importance of embedding the family shares during social studies, said,

I think that we shared at the end of the day, but ***we could probably find ways to incorporate that into our social studies unit.*** *I think what we did this year is we*

> *launched the unit and talked about things first and then sort of followed up with this.* ***We probably could have made that bridge. We didn't though, but we could.***

Part of any disconnect between the FSP and the families unit may have been a result of the share time activities not being embedded during the social studies or language arts time blocks.

Ms. Thomas thought it would have been better to see the videos and photos prior to the families unit instead of during and after. For example, if they had seen Leslie's Hanukah video prior to teaching lessons on Hanukah they could have adapted their lesson plans to focus more on the video. Ms. Thomas said,

> ***…it would have been very easy to use that as a teaching moment*** *if we just started from the beginning with like either post pictures or videos because then we could have just straight out referred to that video, or like I said* ***we could've encouraged Leslie to sing it for us, or have her mom come in and do like a little thing on it***

This would have been an opportunity for Leslie's mother, Neela, to get more involved by coming to talk about Hanukah and teach students the song they sang in the video.

Changing when photos and videos are shared during the school day seems to be a simple solution, however, changing when the FSP is done during the school year is a bigger challenge than it may initially appear. Typically, lessons about holidays and celebrations happen in the weeks prior to the actual holiday. Because families created their videos during the celebration there was no way to provide videos or know about family traditions in advance. One solution, recommended by a parent, would be to use the videos created this year to teach lessons next year. Another option is to ask families to post photos and videos from prior celebrations.

Another way to address this challenge is to ask students questions that directly link the project with the unit goals. When students are sharing photos and videos ask questions such as, Who's in the photo? How is that person related to you? Why did you post that picture? What are you celebrating? Why do you celebrate that holiday? Why does your family do that? etc. This was something teachers were very good at doing, but it could have happened more frequently during some share time activities.

M.2.4 Teaching about differences.

One additional challenge emerged during the projects regarding teaching about differences. During my own reflections, I noticed that teachers didn't ask many questions about traditions or use the postings to teach students about diversity to the extent that they could have. There were no known conversations about divorce, multi-racial families, or cultural/religious beliefs (beyond Santa Clause). P erhaps kindergarten is not the time to teach about these issues, but I was surprised that students didn't ask questions or talk about these differences either. Ms. Thomas said, "the similarities came out a little bit more to [students] than the differences". In addition, she said,

> *Like we talk about how different families are, and I don't even know—* ***it's almost like they take it with a grain of salt. They have no idea how different they all are****…I don't even think they recognized it even when we were doing the share…Like I don't even think they understand like how cool that is that this family is so much different than the family and that****. It just doesn't even phase them, so I don't even know if it did anything for them or not, but I still think it did reinforce like those basic concepts that we've gone over in the books that we read to them.***

Teachers thought students didn't think about differences and were accepting of them. Ms. Kennedy provided an example of this from her classroom:

> *We tried to get Priya to tell us about it, but he wasn't making the connection. We were like, 'What are they wearing?' He was like, 'Clothes.' 'Yeah. What about the clothes?' 'Uh, they're wearing clothes.' He couldn't get to that point… That seemed pretty typical for a lot of… I think Ms. Sanders said a brief thing about it, that it's very special, it's their traditional clothing; but they were kind of already not there, as if the kids didn't* - ***that didn't really make an impact on them because they didn't really understand.***

The discussion of differences between families focused primarily on holiday traditions and differences in structure, background, or beliefs were not taught explicitly during the FSP. There was little time spent reflecting on differences and students needed to make conclusions on their own, such as in the example above. This has implications for what students might have learned about families and diversity.

A related challenge is that teachers were only able to leverage content about families that was posted; so many differences may not have been obvious. For example, parents of one student in the class recently went through a divorce, yet there were pictures of all of them together, and happy, posted on the site. It's possible that families did not feel comfortable sharing what makes them different from other families.

BIBLIOGRAPHY

Aikenhead, G., & Michell, H. (2011). *Bridging Cultures: Indigenous and Scientific Ways of Knowing Nature*. Done Mills, Ontario: Pearson Education Canada.

Alvermann, D. E. (2010). *Adolescents' online literacies: Connecting classrooms, digital media, & popular culture*. New York, NY: Lang.

Anderman, L. H. (1999). Classroom goal orientation, school belonging, and social goals as predictors of students' positive and negative affect following transition to middle school. *Journal of Research and Development in Education, 32*, 89-103.

Anderman, L. H., & Anderman, E. M. (1999). Social predictors of changes in students' achievement goal orientations. *Contemporary Educational Psychology, 24*(10), 21-37.

Arthur, L. (2001). Popular culture and literacy learning. *Contemporary Issues in Early Childhood, 2*(3), 295-308.

Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (1996). Multifaceted impact of self-efficacy beliefs on academic functioning. *Child Development, 67*, 1206-1222.

Barab, S., Thomas, M., Dodge, T., Carteaux, R., & Tuzun, H. (2005). Making learning fun: Quest Atlantis, a game without guns. *Educational Technology, Research and Development, 53*(1), 86-107.

Barron, B. (2004). Learning ecologies for technological fluency: Gender and experience differences. *Journal of Educational Computing Research, 31*(1), 1-36.

Barron, B. (2006). Interest and self-sustained learning as catalysts of development: A learning ecology perspective. *Human Development, 49*, 193-224.

Barron, B., Cayton-Hodges, G., Bofferding, L., Copple, C., Darling-Hammond, L., & Levine, M. H. (2011). *Take a giant step: A blueprint for teaching young children in a digital age*. New York: The Joan Ganz Cooney Center at Sesame Workshop and Stanford University. Retrieved from http://www.joanganzcooneycenter.org/wp-content/uploads/2012/01/jgcc_takeagiantstep1.pdf

Barron, B., Gomez, K., Pinkard, N., & Martin, C. K. (Eds.). (in press). *Cultivating Creative Production and Digital Citizenship in Urban Communities: The Digital Youth Network.* Cambridge: MIT Press.

Barron, B., Martin, C. K., Takeuchi, L., & Fithian, R. (2009). Parents as learning partners in the development of technological fluency. *International Journal of Learning and Media, 1*(2), 55-77.

Barron, B., Walter, S. E., Martin, C. K., & Schatz, C. (2009). Predictors of creative computing participation and profiles of experience in two Silicon Valley middle schools. *Computers & Education, 54*(1), 178-189.

Baumeister, R. F., Tice, D. M., & Hutton, D. G. (1989). Self-presentational motivations and personality differences in self-esteem. *Journal of Personality, 57*, 547-579.

Bauch, J. P. (1998). *Applications of technology to linking schools, families, and students.* Paper presented at the Families, Technology, and Education Conference, Chicago, IL. Retrieved from http://ecap.crc.illinois.edu/eecearchive/books/fte/links/bauch.pdf.

Beastall, L. (2006). Enchanting a disenchanted child: Revolutionising the means of education using information and communication technology and e-learning. *British Journal of Sociology of Education, 27*(1), 97-110.

Berger, E. H. (1991). Parent involvement: Yesterday and today. *The Elementary School Journal, 91*, 209-219

Birch, S., & Ladd, G. (1997). The teacher-child relationship and children's early school adjustment. *Journal of School Psychology, 35*, 61-79.

Blumenfeld, P., Fishman, B. J., Krajcik, J., Marx, R. W., & Soloway, E. (2000). Creating usable innovations in systemic reform: Scaling up technology-embedded project-based science in urban schools. *Educational Psychologist, 35*(3), 149-164.

Blumenfeld, P. C., Kempler, T. M., & Krajcik, J. S. (2006). Motivation and cognitive engagement in learning environments. In R. K. Sawyer (Ed.), The Cambridge handbook of the Learning Sciences. Cambridge: Cambridge University Press.

Blumenfeld, P. C., Soloway, E., Marx, R. W., Krajcik, J. S., Guzdial, M., & Palincsar, A. (1991). Motivating project-based learning: Sustaining the doing, supporting the learning. Educational Psychologist, 26(3 & 4), 369-398.

Booth-Church, E. (1995). A new twist to show-and-tell. Early Childhood Today, 9(4), 30-31.

Bronfenbrenner, U. (1979). The ecology of human development: Experiments by nature and design. Cambridge: Harvard University Press.

Buckingham, D. (2007). Beyond technology: Children's learning in the age of digital culture. Malden, MA: Polity.

Burrell, S. (1992). New ideas for "show and tell". *First Teacher, 13*(5), 30-31.

Callanan, M., Coto, P., Miranda, L., Striffler, A., Allen, J., Crandall, C., et al. (2001). Preschool science: Contextualizing curriculum with children's questions and family stories. In E. McIntyre, A. Rosebery & N. Gonzalez (Eds.), *Classroom Diversity: Connecting Curriculum to Students' Lives.* (pp. 61-75). Portsmoutn, NH: Heinemann.

Cameron, C. A., & Lee, K. (1997). Bridging the gap between home and school with voicemail technology. *The Journal of Educational Research, 90*, 182-190.

Caraway, K., Tucker, C. M., Reinke, W. M., & Hall, C. (2003). Self-efficacy, goal orientation, and fear of failure as predictors of school engagement in high school students. *Psychology in the Schools, 40*, 417-427.

Christenson, S. L. (1999). Families and schools: Rights, responsibilities, resources, and relationships. In R. C. Pianta & M. J. Cox (Eds.), *Transition to Kindergarten* (pp. 143-178). Baltimore, MD: Paul H. Brookes Publishing Co.

Christenson, S. L., Hurley, C. M., Sheridan, S. M., & Fenstermacher, K. (1997). Parents' and school psychologists' perspectives on parent involvement activities. *School Psychology Review, 26*(1), 111-130.

Clemente, J. S. (2002). *Parental involvement: Empowering parent/teacher communication through technology.* Columbia University.

Cognition and Technology Group at Vanderbilt. (1992). The Jasper Series as an example of anchored instruction: Theory, program description, and assessment data. *Educational Psychologist, 27*(3), 291-315.

Cohen, E. G. (1994). Restructuring the classroom: Conditions for productive small groups. *Review of Educational Research, 64*(1), 1-35.

Collins, A., & Halverson, R. (2009). *Rethinking Education in the Age of Technology: The Digital Revolution and Schooling in America*: Teachers College Press.

Collins, W. A., & Laursen, B. (2004). Parent-adolescent relationships and influences. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (Vol. 2). Hoboken, NJ: Wiley.

(CPPRG), Conduct Problems Prevention Research Group (1991). Parent-Teacher Involvement Questionnare - Parent Version Retrieved from http://www.fasttrackproject.org.

Connell, J. P. (1990). Context, self, and action: A motivational analysis of self-system processes across the life span. In D. Cicchetti (Ed.), *The self in transition: Infancy to childhood* (pp. 61-97). Chicago: University of Chicago Press.

Crowley, K., & Jacobs, M. (2002). Building islands of expertise in everyday family activities. In G. Leinhardt, K. Crowley & K. Knutson (Eds.), *Learning conversations in museums* (pp. 401-423). Mahwah, NJ: Lawrence Erlbaum Associates.

Cuban, L. (2001). *Oversold and Underused: Computers in the Classroom*. Cambridge: Harvard University Press.

Cullinan, B. (Ed.). (1993). *Children's voices: Talk in the classroom*. Newark, DE: International Reading Association.

Dailey, K. (1997). Sharing centers: An alternative approach to show and tell. *Early Childhood Education Journal, 24*(4), 223-227.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum Press.

DeWalt, K. M., DeWalt, B. R., & Wayland, C. B. (1998). Participant observtaion. In H. R. Bernard (Ed.), *Handbook of methods in cultural anthropology* (pp. 259-299). Walnut Creek, CA: AltaMira Press.

Dewey, J. (1913). *Interest and effort in education*. Cambridge: The Riverside Press.

Dickey, M. D. (2005). Engaging by design: How engagement strategies in popular computer and video games can inform instructional design. *Educational Technology Research and Development, 53*(2), 67-83.

Dugan, T. E. (2012). *Early Learning with Digital Media: A Naturalistic, Ethnographic Investigation of Children's Engagement with and Learning from Television and Digital Technology in Early Childhood.* University of Washington, Seattle, WA. Retrieved from https://digital.lib.washington.edu/researchworks/handle/1773/20253.

Edelson, D. C., & Joseph, D. M. (2001). *Motivating active learning: A design framework for interest-driven learning*: Designbasedresearch.org. Retrieved from http://www.designbasedresearch.org/reppubs/edelson-joseph.pdf.

Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review, 14*, 532-550.

Entwisle, D. R., & Alexander, K. L. (1999). Early schooling and social stratification. In R. C. Pianta & M. J. Cox (Eds.), *Transition to Kindergarten* (pp. 13-38). Baltimore, MD: Paul H. Brookes Publishing Co.

Epstein, J. L. (1987). Parent involvement: What research says to administrators. *Education and Urban Society, 19*(2), 119-136.

Epstein, J. L. (1994). Theory to practice: School and family partnerships lead to school improvement and student success. In C. L. Fagnano & B. Z. Werber (Eds.), *School,*

family and community interaction: A view from the firing lines (pp. 39-52). Boulder, CO: Westview.

Evans-Jackson, I. D. (2011). *The role of technology in family and school partnerships.* Texas Woman's University, Denton, Texas.

Fan, X., & Chen, M. (2001). Parental involvement and students' academic achievement: A meta-analysis. *Educational Psychology Review, 13*, 1-22.

Finn, J. D. (1989). Withdrawing from school. *Review of Educational Research, 59*, 117-142.

Finn, J. D., & Rock, D. A. (1997). Academic success among students at risk for school failure. *Journal of Applied Psychology, 82*, 221-234.

Foster, M., & Peele, T. B. (2001). Ring my bell: Contextualizing home and school in an African American community. In E. McIntyre, A. Rosebery & N. González (Eds.), *Classroom diversity: Connecting curriculum to students' lives* (pp. 27-36). Portsmouth, NH: Heinemann.

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*(1), 59-109.

Freire, P. (1970). *Pedagogy of the Oppressed*. New York: Herder and Herder.

Furrer, C., & Skinner, E. (2003). Sense of relatedness as a factor in children's academic engagement and performance. *Journal of Educational Psychology, 95*(1), 148-162.

Glaser, B., & Strauss, A. (1967). *The discovery of grounded theory: Strategies of qualitative research*. London: Wiedenfeld and Nicholson.

González, N., Moll, L. C., & Amanti, C. (Eds.). (2005). *Funds of Knowledge: Theorizing Practices in Households and Classrooms*. Mahwah, NJ: Lawrence Erlbaum Associates.

Goodenow, C., & Grady, K. E. (1993). The relationship of school belonging and friends' values to academic motivation among urban adolescent students. *Journal of Experimental Education, 62*(1), 60-71.

Goodman, K. S. (1986). *What's whole in whole language?* Portsmouth, NH: Heinemann.

Grant, L. (2009). *Children's role in home-school relationships and the role of digital technologies: A literature review.* London: Futurelab. Retrieved from http://archive.futurelab.org.uk/resources/documents/lit_reviews/HomeSchool.pdf.

Grant, L. (2010). *Connecting digital literacy between home and school*. London: Futurelab. Retrieved from http://www.futurelab.org.uk/sites/default/files/Connecting_digital_literacy_between_home_and_school.pdf.

Grant, L. (2011). "I'm a completely different person at home": using digital technologies to connect home and school. *Journal of Computer-Assisted Learning, 27*, 292-302.

Greeno, J. G., & the Middle School Mathematics Through Applications Project Group (1998). The situativity of knowing, learning, and research. *American Psychologist, 53*(1), 5.

Greeno, J. G. (1991). Sense as situated knowing in a conceptual domain. *Journal for Research in Mathematics Education, 22*(3), 170-218.

Gutnick, A. L., Robb, M., Takeuchi, L., & Kotler, J. (2010). Always connected: The new digital media habits of young children. New York: The Joan Ganz Cooney Center at Sesame Workshop. Retrieved from http://www.joanganzcooneycenter.org/wp-content/uploads/2011/03/jgcc_alwaysconnected.pdf.

Hamre, B. K., & Pianta, R. C. (2001). Early teacher-child relationships and the trajectory of children's school outcomes through eighth grade. *Child Development, 72*, 625-638.

Hedges, H. (2011). Rethinking sponge bob a nd ninga turtles: Popular culture as funds of knowledge for curriculum co-construction. *Australasian Journal of Early Childhood, 36*(1), 25-29.

Hill, N. E., & Chao, R. K. (2009). *Families, schools, and the adolescent: Connecting research, policy, and practice*. New York: Teachers College Press.

Hill, N. E., & Tyson, D. F. (2009). Parental involvement in middle school: A meta-analytic assessment of the strategies that promote achievement. *Developmental Psychology, 45*(3), 740-763.

Hidi, S. (1990). Interest and its contribution as a mental resource for learning. *Review of Educational Research, 60*(4), 549-571.

Hidi, S., & Renninger, K. A. (2006). The four-phase model of interest development. *Educational Psychologist, 41*(2), 111-127.

Hofer, M. (2010). Adolescents' development of individual interests: A product of multiple goal regulation. *Educational Psychologist, 45*(3), 149-166.

Hughes, J., & Kwok, O. (2007). Influence of student-teacher and parent-teacher relationships on lower achieving readers' engagement and achievement in the primary grades. *Journal of Educational Psychology, 99*(1), 39-51.

Hughes, M., & Greenhough, P. (2006). Boxes, bags and videotape: Enhancing home-school communication through knowledge exchange activities. *Educational Review, 58*(4), 471-487.

Hymel, S., Comfort, C., Schonert-Reichl, K., & McDougall, P. (1996). Academic failure and school dropout: The influence of peers. In J. Juvonen & K. R. Wentzel (Eds.), *Social*

motivation: Understanding children's school adjustment (pp. 313-345). New York: Cambridge University Press.

HyperRESEARCH 2.8.3. (2009): ResearchWare, Inc.

Ito, M., Horst, H., Bittanti, M., boyd, d., Herr-Stephenson, B., Lange, P. G., . . . Tripp, L. (2008). *Living and learning with new media: Summary of findings from the digital youth project*. The John D. and Catherine T. MacArthur Series on D igital Media and Learning. Cambridge: The MIT Press. Retrieved from http://digitalyouth.ischool.berkeley.edu/files/report/digitalyouth-WhitePaper.pdf.

Ito, M., Baumer, S., Bittanti, M., boyd, d., Cody, R., Herr-Stephenson, B., et al. (2010). *Hanging out, messing around, and geeking out: Kids living and learning with new media*. Cambridge, MA: The MIT Press.

Ito, M., Gutierrez, K., Livingstone, S., Penuel, B., Rhodes, J., Salen, K., et al. (2013). *Connected Learning: An agenda for research and design*. Irvine, CA: Digital Media and Learning Research Hub. Retrieved from http://dmlhub.net/sites/default/files/ConnectedLearning_report.pdf.

Jenkins, H., Purushotma, R., Weigel, M., Clinton, K., & Robinson, A. J. (2009). *Confronting the challenges of participatory culture: Media education for the 21st century*. Cambridge: The MIT Press. Retrieved from http://mitpress.mit.edu/sites/default/files/titles/free_download/9780262513623_Confronting_the_Challenges.pdf.

Jones, B., Valdez, G., Norakowski, J., & Rasmussen, C. (1994). *Designing learning and technology for educational reform*. Oak Brook, IL: North Central Regional Educational Laboratory.

Jones, E. E., & Wortman, C. (1973). *Ingratiation: An attributional approach*. Morristown, NJ: General Learning Press.

Kafai, Y. B. (2006). Constructionism. In R. K. Sawyer (Ed.), *The Cambridge handbook of the Learning Sciences* Cambridge: Cambridge University Press.

Karlie, T. A. (2009). *Promising practices for using technology in parent involvement activities in school.* The Pennsylvania State University, State College.

Kerawalla, L., O'Connor, J., Underwood, J., duBoulay, B., Holmberg, J., Luckin, R., et al. (2007). Exploring the potential of the Homework System and tablet PCs to support continuity of numeracy practices between home and primary school. *Educational Media International, 44*(4), 289-303.

Kervin, L. (2005). Students talking about home-school communication: Can technology support this process? *Australian Journal of Language and Literacy, 28*(2), 150-163.

Krapp, A., & Fink, B. (1992). The development and function of interests during the critical transition from home to preschool. In K. A. Renninger, S. Hidi & A. Krapp (Eds.), *The role of interest in learning and development* (pp. 397-429). Hillsdale, NJ: Erlbaum.

Ladd, G. W., Birch, S. H., & Buhs, E. S. (1999). Children's social and scholastic lives in kindergarten: Related spheres of influence? *Child Development, 70*(1373-1400).

Lam, M. S., & Pollard, A. (2006). A conceptual framework for understanding children as agents in the transition from hom to kindergarten. *Early Years, 26*, 123-141.

LaParo, K., & Pianta, R. C. (1998). Predicting adjustment in the early school years from childrens' competencies: A meta-analysis. *Review of educational research, 70*(4), 443-484.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge, MA: Cambridge University Press.

Leibham, M. E., Alexander, J. M., Johnson, K. E., Neitzel, C. L., & Reiss-Henrie, F. P. (2005). Parenting behaviors associated with the maintenance of preschoolers' interests: A prospective longitudinal study. *Journal of Applied Developmental Psychology, 24*(4), 397-414.

Lee, C. D. (2007). *Culture, Literacy, and Learning: Taking Bloom in the Midst of the Whirlwind*. New York, NY: Teachers College Press.

Lewin, C., & Luckin, R. (2010). Technology to support parental engagement in elementary education: Lessons learned from the UK. *Computers & Education, 54*(3), 749-758.

Marsh, J. (2000). Teletubby tales: Popular culture in the early years language and literacy curriculum. *Contemporary Issues in Early Childhood, 1*(2), 119-133.

Marshall, E., & Toohey, K. (2010). Representing family: Community funds of knowledge, bilingualism, and multimodality. *Harvard Educational Review, 80*(2), 221-242.

McFarlane, A., Roche, N., & Triggs, P. (2007). *Mobile learning research findings: Report to Becta*. Bristol: University of Bristol.

McIntyre, E., Rosebery, A., & Gonzalez, N. (2001). *Classroom Diversity: Connecting Curriculum to Students' Lives*. Portsmouth, NH: Heinemann.

McWayne, C., Hampton, V., Fantuzzo, J., Cohen, H. L., Yumiko, & Sekino. (2004). Multivariate examination of parent involvement and the social and academic competencies of urban kindergarten children. *Psychology in the Schools, 41*(3), 363-377.

Media and Learning Group at SRI International (2010). *Joint media engagement and learning*: Newcoviewing.org. Retrieved from http://www.newcoviewing.org/wp-content/uploads/2010/11/BillPenuel_SRI.pdf.

Mehus, S., Stevens, R., & Dugan, T. (in preparation). How do children watch "interactive" television? Insights from an observational study. Cited in Takeuchi, L., & Stevens, R. (2011). *The new coviewing: Designing for learning through joint media engagement*. New York: The Joan Ganz Cooney Center at Sesame Workshop.

Melton, G. B., Limber, S. P., & Teague, T. L. (1999). Changing schools for changing families. In R. C. Pianta & M. J. Cox (Eds.), *Transition to Kindergarten* (pp. 179-216). Baltimore, MD: Paul H. Brookes Publishing Co.

Michaels, S. (1981). "Sharing time": Children's narrative styles and differential access to literacy. *Language in Society, 10*(3), 423-442.

Miles, M. B., & Huberman, M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.): Sage Publications.

Miller-Johnson, S., & Maumary-Gremaud, A. (1995). Parent-Teacher Involvement Questionnare: Parent Version (Fast Track Project Technical Report). Durham, NC: Duke University. Retrieved from http://fasttrackproject.org/techrept/p/ptp/.

Moll, L. C., Amanti, C., Neff, D., & Gonzalez, N. (1992). Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms. *Theory Into Practice*(2), 132-141.

National Association for the Education of Young Children & Fred Rogers Center for Early Learning and Children's Media at St. Vincent College (2012, January). Technology and interactive media as tools in early childhood programs serving children from birth through age 8. Retrieved from http://www.naeyc.org/files/naeyc/file/positions/PS_technology_WEB2.pdf.

(NCES) National Center for Educational Statistics (2012). Search for Private Schools. Retrieved from http://nces.ed.gov/surveys/pss/privateschoolsearch/.

(NRCNA) National Research Council of the National Academies (2009). *Learning Science in Informal Environments: People, Places, and Pursuits*. Washington, D.C.: The National Academies Press.

(NRCNA) National Research Council of the National Academies, Committee on Developments in the Science of Learning with additional material from the Committee on Learning Research Educational Practice (2000). *How People Learn: Brain, Mind, Experience, and School: Expanded Edition*: The National Academies Press.

Newmann, F. (1981). Reducing student alientation in high schools: Implications of theory. *Harvard Educational Review, 51*, 546-564.

Nokali, N. E. E., Bachman, H. J., & Votruba-Drzal, E. (2010). Parent involvement and children's academic and social development in elementary school. *Child Development, 81*(3), 988-1005.

Olmstead, C. (2011). *Using technology to increase parent involvement.* California State University, Fullerton.

Olson, L. (1990). Parents as partners: Redefining the social contract between parents and schools *Education Week, 9*(28), 17-24.

Orellana, M. F. (2009). *Translating Childhoods: Immigrant Youth, Language, and Culture*. New Brunswick, NJ: Rutgers University Press.

Osteen, J. A. (2005). Effects of an online grading system on parent involvement. *Instructional Technology Monographs, 2*(2). Retrieved from http://itm.coe.uga.edu/archives/fall2005/josteen.htm

Pacheco, M. (2012). Learning in/through everyday resistance: A cultural-historical perspective on community resources and curriculum. *Educational Researcher, 41*(4), 121-132.

Pahl, K., & Kelly, S. (2005). Family literacy as a third space between home and school: Some case studies of practice. *Literacy, 39*(2), 91-96.

Palmquist, S., & Crowley, K. (2007). Studying dinosaur learning on an island of expertise. In R. Goldman, R. Pea, B. Barron & S. J. Derry (Eds.), *Video Research in the Learning Sciences*. Mahway, NJ: Lawrence Erlbaum Associates, Inc.

Papert, S. (1991). Situating constructionism. In I. Harel & S. Papert (Eds.), *Constructionism* (pp. 1-14). Hillsdale, NJ: Lawrence Erlbaum Associates.

Pennsylvania Department of Education (2006). Pennsylvania's Standards for Kindergarten. Harrisburg, PA. Retrieved from http://www.pdesas.org/.

Penuel, W. R., Bates, L., Pasnik, S., Townsend, E., Gallagher, L. P., Llorente, C., et al. (2010). *The impact of a media-rich science curriculum on low-income preschoolers' science talk at home.* Paper presented at the Learning in the disciplines: Proceedings of the 9th International Conference of the Learning Sciences, Chicago, IL.

Penuel, W. R., Kim, D. Y., Michalchik, V., Lewis, S., Means, B., Murphy, R., et al. (2002). *Using technology to enhance connections between home and school: a research synthesis*. Planning and Evaluation Service, U.S. Department of Education.

Penuel, W. R., Pasnik, S., Bates, L., Townsend, E., Gallagher, L. P., Llorente, C., et al. (2009). *Preschool teachers can use a media-rich curriculum to prepare low-income children for school success: Results of a randomized controlled trial.* . Newton, MA: Education Development Center and SRI. http://rtl.cct.edc.org/pdf/RTLEvalReport.pdf.

Penuel, W., Roschelle, J., & Shechtman, N. (2007). Designing formative assessment software with teachers: An analysis of the co-design process. *Research and Practice in Technology Enhanced Learning, 2*(1), 51-74.

Pianta, R. C., & McCoy, S. (1997). The first day of school: The predictive utility of an early school screening program. *Journal of Applied Developmental Psychology, 18*, 1-22.

Pianta, R. C., & Walsh, D. J. (1996). *High-risk children in schools: Constructing sustaining relationships*. New York: Rutledge.

Pianta, R. C., Rimm-Kaufman, S. E., & Cox, M. J. (1999). Introduction: An ecological approach to kindergarten transition. In R. C. Pianta & M. J. Cox (Eds.), *The transition to kindergarten* (pp. 3-12). Baltimore, MD: Paul H. Brookes Publishing Co.

Pintrich, P. R. (2003). A motivational science perspective on the role of student motivation in learning and teaching contexts. *Journal of Educational Psychology, 95*(4), 667-686.

Pintrich, P., & Schunk, D. (1996). The role of expetancy and self-efficacy beliefs. In P. Pintrich & D. Schunk (Eds.), *Motivation in Education: Theory, Research & Applications*. Englewood Cliffs, NJ: Prentice-Hall.

Ponitz, C. C., Rimm-Kaufman, S. E., Grimm, K. J., & Curby, T. W. (2009). Kindergarten classroom quality, behavioral engagement, and reading achievement. *School Psychology Review, 38*(1), 102-120.

Raines, S. C., & Canady, R. J. (1990). *The whole language kindergarten*. New York: Teachers College Press.

Ramey, C. T., & Ramey, S. L. (1999). Beginning school for children at risk. In R. C. Pianta & M. J. Cox (Eds.), *Transition to Kindergarten* (pp. 217-252). Baltimore, MD: Paul H. Brookes Publishing Co.

Reiser, R. A., Tessmer, M. A., & Phelps, P. C. (1984). Adult-child interaction in children's learning from Sesame Street. *Educational Technology Research & Development, 32*(4), 217-223.

Reiser, R. A., Williamson, N., & Suzuki, K. (1988). Using Sesame Street to facilitate children's recogition of letters and numbers. *Educational Communication and Technology Journal, 36*(1), 15-21.

Renninger, K. A. (2000). Individual interest and its implications for understanding intrinsic motivation. In C. Sansone & J. M. Harackiewicz (Eds.), *Intrinsic and extrinsic motivation: The search for optimal motivation and performance* (pp. 373-404). New York: Academic Press.

Renninger, K. A., Hidi, S., & Krapp, A. (1992). *The role of interest in learning and development*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Roschelle, J., & Penuel, W. R. (2006, June 27-July 1, 2006). *Co-design of innovations with teachers: definition and dynamics.* Paper presented at the 7th International Conference on Learning Sciences, Bloomington, IN.

Roeser, R. W., Midgley, C., & Urdan, T. C. (1996). Perceptions of the school psychological environment and early adolescents' psychological and behavioral functioning in school: The mediating role of goals and belonging. *Journal of Educational Psychology, 88*, 408-422.

Rogoff, B. (1990). *Apprenticeship in Thinking*. New York: Oxford University Press.

Rosebery, A., McIntyre, E., & González, N. (2001). Connecting students' cultures to instruction. In E. McIntyre, A. Rosebery & N. González (Eds.), *Classroom Diversity: Connecting Curriculum to Students' Lives* (pp. 1-13). Portsmouth, NH: Heinemann.

Ryan, A. (2001). The peer group as a context for the development of young adolescent motivation and achievement. *Child Development, 72*, 1135-1150.

Ryan, B., Adams, G., Gullota, T., Weissberg, R., & Hampton, R. (Eds.). (1995). *The Family-School Connection: Theory, Research, and Practice*. Thousand Oaks, CA: Sage.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68-78.

Salen, K., Torres, R., Wolozin, L., Rufo-Tepper, R., & Shapiro, A. (2011). *Quest to Learn: Developing the school for digital kids*. Cambridge: MIT Press.

Salomon, G. (1977). Effects of encouraging Israeli mothers to co-observe Sesame Street with their five-year-olds. *Child Development, 48*(3), 1146-1151.

Sayer, L. C., Bianchi, S. M., & Robinson, J. P. (2004). Are parents investing less in children? Trends in mothers' and fathers' time with children. *American Journal of Sociology, 110*(1), 1-43.

Schank, R. C., Fano, A., Bell, B., & Jona, M. (1993/1994). The design of goal-based scenarios. *The Journal of the Learning Sciences, 3*(4), 305-346.

Schiefele, U. (1991). Interest, learning, and motivation. *Educational Psychologist, 26*(3), 299-323.

Schiefele, U., Krapp, A., & Winteler, A. (1992). Interest as a predictor of academic achievement: A meta-analysis of research. In K. A. Renninger, S. Hidi & A. Krapp (Eds.), *The role of interest in learning and development* (pp. 183-212). Hillsdale, NJ: Erlbaum.

Schlechty, P. (1997). *Inventing better schools: An action plan for education reform*. San Francisco: Jossey-Bass.

Schwartz, D. L., Lin, X., Brophy, S., & Bransford, J. D. (1999). Toward the development of flexibly adaptive instructional designs. In C. M. Reigelut (Ed.), *Instructional Design Theories and Models: Volume II* (Vol. III, pp. 183-213). Hillsdale, NJ: Erlbaum.

Selwyn, N., Banaji, S., Hadjithoma-Garstka, C., & Clark, W. (2011). Providing a platform for parents? Exploring the nature of parental engagement with school learning platforms. *Journal of Computer-Assisted Learning, 27*(4), 314-323.

Shayne, P. A. (2008). *Home-school communication with parents of middle schools students: A study on the effects of technology.* St. Louis University, St. Louis, MO.

Shutterfly, Inc. (2012). https://www.shutterfly.com/.

Singal, N., & Swann, M. (2009). Children's perceptions of themselves as learner inside and outside school. *Research Papers in Education, 26*(4), 469-484. Spence, 2011)

Skinner, E. A., & Belmont, M. J. (1993). Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. *Journal of Educational Psychology, 85*, 571-581.

Spradley, J. (1980). *Participant observation*. New York: Harcourt Brace.

Steinberg, L., Darling, N. E., & Fletcher, A. C. (1995). Authoritative parenting and adolescent adjustment: An ecological journey. In P. Moen, G. H. E. Jr., K. Luscher & H. E. Quick (Eds.), *Examining lives in context: Perspectives on the ecology of human development* (pp. 423-466). Washington, DC: American Psychological Association.

Steinkuehler, C. A. (2004). *Learning in massively multiplayer online games.* In Y.B. Kafai, W.A. Sandoval, N. Enyedy, A.S. Nixon, & F. Herrera (Eds.) Proceedings of the Sixth International Conference of the Learning Sciences (pp. 521-528), Mahwah, NJ: Erlbaum. Accessed on April 4, 2012 f rom http://soe-b5.ad.education.wisc.edu/~steinkuehler/blog/papers/Steinkuehler2004.pdf

Stevens, R., & Penuel, W. R. (2010). *Studying and fostering learning through joint media engagement*. Paper presented at The Principal Investigators Meeting of the National Science Foundation's Science of Learning Centers, Arlington, VA.

Stevens, R., Satwicz, T., & McCarthy, L. (2008). In-game, in-room, in-world: Reconnecting video game play to the rest of kids lives. In K. Salen (Ed.), *The Ecology of Games: Connecting Youth, Games, and Learning* (pp. 41-46). Cambridge, MA: The MIT Press.

Stipek, D. (2002). Good instruction is motivating. In A. Wigfield & J. S. Eccles (Eds.), *Development of achievement motivation*. San Diego, CA: Academic Press.

Strauss, A., & Corbin, J. (1998). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Takeuchi, L. (2012). Kids closer up: Playing, learning, and growing with digital media. *International Journal of Learning and Media, 3*(2), 37-59.

Takeuchi, L., & Stevens, R. (2011). The new coviewing: Designing for learning through joint media engagement. New York: The Joan Ganz Cooney Center at Sesame Workshop.

Retrieved from http://www.joanganzcooneycenter.org/wp-content/uploads/2011/12/jgc_coviewing_desktop.pdf.

Taylor, L. C., Clayton, J. D., & Rowley, S. J. (2004). Academic socialization: Understanding parental influences on children's school-related development in the early years. *Review of General Psychology, 8*(3), 163-178.

Tharp, R. (1997). *From At-Risk to Excellence: Research, Theory, and Principles for Practice*. Santa Cruz, CA: Center for Research on Education, Diversity, and Excellence.

Tharp, R. G., & Gallimore, R. (1989). *Rousing Minds to Life: Teaching, Learning, and Schooling in Social Context* Cambridge University Press.

U.S. Department of Health and Human Services & Administration for Children and Families, (2010). *Head Start Impact Study: Final Report*. Washington, D.C. Retrieved from http://www.acf.hhs.gov/node/8375.

Urdan, T., & Turner, J. C. (2005). Competence motivation in the classroom. In A. J. Elliot & C.S. Dweck (Eds.), *Handbook of Competence and Motivation* (pp. 297-317). New York: The Guildford Press.

Vanderpool, J. P. (2008). *A study of promising practices in two California charter schools: Using technology to increase parent involvement.* University of Southern California.

Villano, M. (2008). Meet the parents. *THE Journal, 35*(4).

Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press.

Wang, M.-T., & Holcombe, R. (2010). Adolescents' perceptions of school environment, engagement, and academic achievement in middle school. *American Educational Research Journal, 47*(3), 633-662.

Weiner, B. (1990). History of motivation research in education. *Journal of Educational Psychology, 82*, 616-622.

Wenger, E. (1998). Communities of practice: Learning, meaning, and identity. Cambridge, England: Cambridge University Press.

Wentzel, K. R. (1997). Student motivation in middle school: The role of perceived pedagogical caring. *Journal of Educational Psychology*, 25, 68-81.

Wentzel, K. R. (1998). Social relationships and motivation in middle school: The role of parents, teachers, and peers. *Journal of Educational Psychology*, 90, 202-209.

Wentzel, K. R. (1999). Social-motivational processes and interpersonal relationships: Implications for understanding motivation at school. *Journal of Educational Psychology*, 91, 76-97.

Whitmore, K. F., & Goodman, Y. M. (1995). Transforming curriculum in language and literacy. In S. Bredekamp & T. Rosegrant (Eds.), Reaching potentials: Transforming early childhood curriculum and assessment (pp. 145-166). Washington, D.C.: National Association for the Education of Young Children

Wigfield, A., Eccles, J. S., Schiefele, U., Roeser, R., & Davis-Kean, P. (2006). Development of achievement motivation. In W. Damon & N. Eisenberg (Eds.), *Handbook of child psychology: Vol. 3 Social, emotional, and personality development* (6th ed., Vol. 3, pp. 933-1002). New York: John Wiley.

Yin, R. (1984). *Case study research*. Beverly Hills, CA: Sage Publications.

Zywica, J., Richards, K., & Gomez, K. (2011). Affordances of a scaffolded-social learning network. *On the Horizon, 19*(1).