

Making Home-Based Learning Visual: Family Perspectives on Early Learning and Development Through Photographs

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Abstract

This study examined the ways families support home-based learning during children's early years. Families from higher and lower income backgrounds volunteered for a photography-based study. Following a photo elicitation approach, families used a digital camera to document home-based activities aimed at supporting children's early learning then discussed the meaning behind the images with children's teachers. Data were thematically analyzed, and findings suggested that early learning involved a variety of school-like and naturally occurring activities. Contrary to much research, many similarities were discovered between the higher and lower income families, although some differences also emerged. Implications for practitioners and scholars are discussed.

Key Words: families, children, development, early childhood education, home-based learning, play, photo elicitation, family income, parent perspectives

Introduction

A substantive amount of research links social class to family routines and activities, suggesting that how parents socialize their children for school success varies greatly by a family's income and level of education (Dockett, Perry, & Kearney, 2012; Fletcher & Wolfe, 2016; Lareau, 2003; Sirin, 2005). Recently, Schoellman (2016) stated that it is the parents, rather than the environment,

who are the most important inputs to early childhood human capital formation. Parents can and should play an important role in fostering children's cognitive and social/emotional skills (Tayler, 2015). While most studies on families' involvement in early learning employ a deductive approach through the perspective of schools (Schulting, Maone, & Dodge, 2005; Wildenger & McIntyre, 2011), this study shifted focus to the perspective of families in sharing aspects of their lives that often remain invisible to teachers through an inductive, qualitative process (Miller, 2015).

The purpose of this study was to better understand and potentially explain those socioeconomic differences from the family perspective through a photo-sharing process. We provided families with a digital camera for one week to document how they support their child's learning and development, followed by a conversation with the child's teacher to share and explain those images. This process allowed for the listening to and learning from families which is vital to understanding and addressing disparities in early learning and preparedness for school (Dockett & Perry, 2007; Doucet, 2008; McAllister, Wilson, Green, & Baldwin, 2005). Although mothers are often centralized as the primary manager of academic and social development in children, research has also documented the unique and important contributions of fathers (Downer & Mendez, 2005; Foster, Froyen, Skibbe, Bowles, & Decker, 2016; Greene & Moore, 2000). With this stance in mind, our study investigated home-based learning through the perspective of parents—involving both mothers and fathers—and the inputs they identified as supporting early learning.

Literature Review

Academic Socialization and Home-Based Learning

Scholars assert that the home learning environment is important for children's early learning and readiness for school (Fantuzzo, McWayne, Perry, & Childs, 2004; Melhuish et al., 2008). Family involvement with children's learning is one of the key mechanisms through which children are socialized for academic and social success in school, and parents are internationally regarded as children's first teachers (Niklas, Cohrssen, & Tayler, 2016). As the primary decision-makers of children's home environments, how parents facilitate home-based learning is an essential piece to understanding children's early development (Doucet & Tudge, 2007; Tayler, 2015). The early proximal relationship between parents and children provides a structure and clear behavioral expectations to promote success in school (Snow, 2008).

As a construct, academic socialization captures the range of parental beliefs and behaviors connected to children's school-related development (Taylor,

Clayton, & Rowley, 2004). Familial philosophies of education and knowledge of child development are linked to early skills and cognitive growth (Glick, Bates, & Yabiku, 2009). These philosophies translate to families' engagement in educational activities with children at home (e.g., modeling reading behavior, fine motor skill activities) and parents communicating clear expectations for achievement while integrating school curriculum goals (Copple & Bredekamp, 2009; Mayo & Siraj, 2015).

Research suggests that a variety of informal and formal activities can lead to a range of desirable skills and knowledge for children (Skwarchuk, Sowinski, & LeFevre, 2014). During the early years, academic socialization ideally involves a linguistically strong and resource-rich home environment, which is known to predict children's language and social skill development (Jeon, Buettner, & Hur, 2014; Taylor et al., 2004). However, how parents choose to engage in this academic socialization process looks different across households, often based on social class and ethnic differences (Suizzo, Pahlke, Yarnell, Chen, & Romero, 2014; Taylor et al., 2004). Households can differ on the level and types of cognitive stimulation employed, which might include shared interactions of book reading or teaching numbers, community engagement by visiting a zoo or museum, and access to educational resources such as computers and toys (Melhuish et al., 2008; Miller & Votruba-Drzal, 2013; Son & Morrison, 2010). Based on these differences, mainstream rhetoric, and societal assumptions, many educators have a tendency to assume that lower socioeconomic status (SES) families are not investing in children's learning and academic achievement (Faber, 2015; Mayo & Siraj, 2015). Contrary to mainstream rhetoric, lower SES parents do provide positive learning experiences and respond effectively to the developmental needs of their young children, but these efforts often remain unnoticed and underappreciated (e.g., Machida, Taylor, & Kim, 2002; Miller, 2015).

Social and Emotional Skills

The skills required to self-regulate emotions and behavior, as well as build meaningful relationships with others, are essential to school success. It is difficult to do well in a school setting if a child experiences repeated conflict with others, has difficulty following directions, and expresses a great deal of negative emotions (Raver & Zigler, 1997; Webster-Stratton, Reid, & Hammond, 2004). Brunello and Schlotter (2011) argue that noncognitive (social/emotional) skills are as important as cognitive skills, and previous research indicates that children with stronger social skills demonstrate greater academic success later (Arnold, Kupersmidt, Voegler-Lee, & Marshall, 2012; Denham et al., 2012).

Similar to literacy and numeracy skills, children's social and emotional competence are also modeled and nurtured by families. Webster-Stratton and Hammond (1999) found a relationship between children's emotional and social competencies and families that are emotionally positive, specifically when parents promote prosocial behaviors and problem-solving skills. Learning how to build friendships, how to listen and wait, how to relax, how to respond to disruptive behaviors, and how to enter a play interaction therefore are all skills that provide the foundation for healthy social and emotional development and school success (Webster-Stratton et al., 2004).

Family Routines and Everyday Activities

As described above, research links class to home-based learning practices involving academic and social/emotional skills (Barbarin, Downer, Odom, & Head, 2010). Lareau (2003) found that middle-class children's out-of-school activities mirror many school activities, while in contrast, working-class children's afterschool routines are less structured and include informal play, time with peers, and "hanging out." These unstructured activities are often perceived as lacking in educational content, but some research notes the benefits of promoting children's learning and development through everyday routines and activities (Dunst, Trivette, & Raab, 2014).

Descriptive studies of children's everyday experiences have found that any one location, such as a playground, is the source of many kinds of activity settings (e.g., sandbox, swings, slides, etc.) and provides different kinds of learning opportunities and experiences (Dunst et al., 2001). Research indicates that everyday family and community life also provides young children with many kinds of learning opportunities and experiences (Dunst et al., 2014). Natural learning opportunities are part of daily living, which include child/family routines, family rituals, family and community celebrations and traditions, and other everyday activities (Redding, 2000). Across time, all of these natural learning opportunities constitute the life experiences of a developing child (Bronfenbrenner, 1979).

Theoretical Perspective

Given this study's focus on children's environments and the role of the family, Bronfenbrenner's theoretical propositions were a natural fit. Urie Bronfenbrenner (1986) believed that children develop within the complex systems of their changing environments. His perspective considers interactions that occur at the micro-, meso-, exo-, macro- and chronosystem levels, which include the family, community, school, friends, organizations, government, culture, and time (Bronfenbrenner & Ceci, 1994). For example, the amount of time

spent with parents (microsystem), a parent's relationship with the child's teacher (mesosystem), a parent's work demands (exosystem), and cultural norms for parent-child interactions (macrosystem), as well as historic shifts involving technology (chronosystem) will inform the process and outcomes of children's academic socialization (Bronfenbrenner, 1986).

Parents are the knowledgeable source when it comes to describing and interpreting their child's home environment and the multiple influences that shape a child's learning and development (Edwards, 1999; McAllister et al., 2005). Bronfenbrenner's (1979) theory emphasizes that children learn through interactions with their physical and social environment. Consequently, the more opportunities preschoolers have to engage themselves in noncognitive and academic skills, the more likely they are to succeed in school later. In this study, parents' interactions with the children, the activities they engage in together, as well as the social and physical environment are considered in understanding the ecology of children's worlds.

Methods

This qualitative investigation employed visually based ethnographic techniques to investigate early learning through the family perspective. The data for this study came from a larger study on home-based learning and home-school relationships in early childhood (Miller, 2017). The larger study used participant-produced photographs, photo elicitation interviews involving parents and teachers, and semi-structured interviews with teachers. For this study, we focused on the data collected involving participant-produced photographs and parental descriptions of photographs embedded within the photo elicitation interviews. These data were the most relevant to our guiding questions: (1) What types of activities do families document and describe as supporting early learning and development? and (2) How do the types of activities differ between families from higher and lower income backgrounds?

From the paradigms of constructivism and advocacy, we believe that knowledge is constructed by individuals and situated in social contexts (Brown, Collins, & Duguid, 1989). Multiple meanings and understandings of early learning can exist, and while the field has traditionally highlighted the perspectives of schools and institutions, this study focused on the reality for families. We aimed to empower participants by placing high value on their insider knowledge of their home-based learning and constructions of "learning" through their personal criteria or worldviews (Boucher, 2017). There was a conscious intention to respect and examine families' perceptions of learning; therefore, parent participants were not told what learning would or should look like. What parents showed teachers represented their constructions of learning.

Participants

Three early childhood centers in a small-sized Midwestern U.S. city participated in this study, including two small-sized centers serving families from lower income backgrounds and one large-sized center serving families from higher income backgrounds. All three centers cared for children as young as six weeks to kindergarteners. However, we targeted preschool-aged classrooms for the project because those children were nearing a transition into formal education (Pianta & Rimm-Kaufman, 2006).

The first and second centers that served low-income families were subsidized by the state. The same executive director oversaw these two centers, and the majority of the parents paid as little as two U.S. dollars a month in these two programs. Of the families in the first center, 98% were single-parent households, whereas more than half the families were two-parent households in the second center. All children were of diverse backgrounds in these two programs in terms of their racial and cultural backgrounds. However, nearly half of the parents in the second center were Latinos, and there were a few Congolese refugee children enrolled in the first center. The third early childhood center serves families that pay approximately 1,000 U.S. dollars a month for the childcare. The majority of the children that attended the program were White and of middle to upper-middle class and lived in two-parent households. The third center was located in an affluent neighborhood and had an enrollment of 120 or more children. The enrollment of the two first centers combined equaled the size of the third center.

Directors at each site served as the gatekeepers. They provided time for the researchers to meet with each preschool teacher to talk about the project and answer any questions about potential involvement. Participation was voluntary; therefore, teachers either agreed at the time of the initial contact to participate or followed up with the investigator via email. The principal investigator also spent two days at each center during drop-off and pick-up times for children. The director or teacher introduced the investigator to each family member, and the investigator provided each family with an overview of the project and a flyer with contact information. If the family was interested in participating, they provided the investigator with their contact information or they followed up at a later time via phone call or email correspondence.

From the three centers, six teachers and nine households agreed to participate in the larger project, which is a typical sample size for in-depth visual research (e.g., McAllister et al., 2005). For each household, one parent served as the point person for the project and was essentially the “voice” of the family. At the lower income sites, all five parent participants were female and identified as single parents. Three participants reported a high school degree, and two

participants held an associate’s degree. Three participants identified as White, one as African American, and one as Latina. At the higher income site, all four parent participants were White and married; two identified as fathers, and two identified as mothers. Two parents reported a college degree, and two completed a graduate degree. Table 1 provides an overview of these characteristics.

Table 1. Parental Characteristics

	Ethnicity	Gender	Family Structures	Income Category	Education
Participant 1	White	Female	Single	Low-income	High School Diploma
Participant 2	White	Female	Single	Low-income	Associate’s Degree
Participant 3	Latina	Female	Single	Low-income	High School Diploma
Participant 4	White	Female	Single	Low-income	Associate’s Degree
Participant 5	African American	Female	Single	Low-income	High School Diploma
Participant 6	White	Female	Married	High-income	Graduate Degree
Participant 7	White	Male	Married	High-income	Graduate Degree
Participant 8	White	Male	Married	High-income	College Degree
Participant 9	White	Female	Married	High-income	College Degree

The six teachers were not central participants in this specific study as we focused on family data, but they did participate in the larger project. We did, however, consider teacher characteristics in regard to issues of power and data production because families took pictures to share with teachers. Therefore, their peripheral presence is essential to the interpretation of data. The teachers were all female and predominantly White, with experienced teachers at the lower-income sites (M = 19 years) and novice teachers at the higher-income site (M = 4 years).

Photo Elicitation and Procedure

Taking the “autodriven” approach with photo elicitation (Clark, 2004), parents were provided a digital camera to produce data related to home-based learning. The method of photo elicitation was selected for this study as it aligns with the paradigms of advocacy and constructivism by shifting power

to participants and allowing for participant-driven perspectives of the world (Boucher, 2017). While there is always a power differential in research, this approach allowed participants to negotiate some of that power by deciding what information would be shared and how to authentically represent their families.

This visual method enhances the traditional interview by incorporating a photograph or series of photographs into a conversation (Hurworth, 2003). Further, participant-produced photographs are helpful in displaying social interactions, social context, and concrete activities that can serve as the foundation for a discussion of broader representations (Banks, 2001)—specifically, for this study, early learning. Although not commonly used in educational studies, photo elicitation is gaining attention as a meaningful way to better understand families and provided unique vantage points to answer our research questions (McAllister et al., 2005).

Data collection began when parents met with the researcher to obtain the digital camera. Each participant was instructed to take pictures of their child engaging in any activity that they believed was related to learning. Although it was anticipated that the parent would be in charge of the camera and take pictures, several parents shared the process with their child(ren) and allowed them to take pictures, as well. After one week, cameras were collected, and copies of the photos were printed and delivered to teachers for the interview portion of the process. Digital copies of the images were stored for later analysis by the researchers.

The teachers of participating families attended a training in photo elicitation, which involved direct instruction, simulation, and role playing as both teacher and parent to practice questioning and employing prompts. Teachers were also provided with a one-page guide that described the process and offered a series of questions and prompts that could be used as they facilitated the interviews with parents. Once the photographs were developed, teachers scheduled a meeting with the parent at the center. During the meeting, the teacher used the photographs as prompts to ask parents about home-based learning, such as, “Can you tell me about what is going on in this picture?” “How do you think this might help your child in school?” and “Is there anything else you would like to tell me about this picture?” Each teacher audiorecorded the conversation for the research team to later review.

Data Sources and Analysis

The dataset was composed of photographs and parent–teacher conversations ($N = 9$). Families took between 5–26 photographs for the study. A total of 118 pictures were taken with a mean of 13.1 pictures per family. Parent–teacher interviews lasted from 4–14 minutes and were transcribed for analysis.

We followed Boyatzis' (1998) process for inductively developing codes and thematically analyzing data. Photographs were reviewed, image by image, and matched with participants' verbal explanations of the photographs. Through constant comparison (Corbin & Strauss, 2015), we began with a subsample of three families, and each image and description were compared against another image to group by common activity as described by the parent. Each additional family was added to this process until all photographs were sorted. This iterative process allowed us to group images into clusters of themes representing types of home-based activities. This allowed us to answer our first research question related to the types of activities families documented as supporting early learning.

To answer our second research question related to socioeconomic differences, data within each theme were analyzed for similarities and differences across the two socioeconomic groups. The constant comparative method was utilized again to identify how the activities converged or diverged within the identified themes (Corbin & Strauss, 2015). Greater emphasis was placed on interview data for this portion of analysis to understand how a similar image (e.g., learning activity) can be embodied differently by households. It required revisiting full transcripts to read and reread how participants explained the photographic representations of their children's lives in addition to comparing each photograph and description. NVivo 9 was used to assist the management and analysis of both visual images and interview transcripts as data (QSR International, 2015).

Positionality and Trustworthiness

As researchers, it is important to describe our characteristics and the context of relationships embedded in this study. Although we did not know any of the parent participants, we held prior relationships with the centers as clinical placement sites for early childhood university students. We teach at a predominantly White public university and previously taught in urban settings in the U.S. and abroad. Our racial identities are White and Asian, respectively, and we are both females from middle-class households. All of these characteristics were considered reflexively throughout the research process, from our initial meetings with directors to final analysis and dissemination of findings. Of primary concern was the power of our positions as researchers and previously established relationships with center directors, which can greatly influence relationships with research participants (Merriam et al., 2001). To address issues of power and positionality, we engaged in regular peer debriefings to evaluate our positionality and to self-evaluate our influence on the research process (Berger, 2015; Pillow, 2003).

Triangulation was another strategy we used to support the trustworthiness of the study. By incorporating visual images and interview data, we were able

to triangulate our data (Lincoln & Guba, 1985). Visual images cannot replace participants' verbal explanations, but participant-produced photographs added additional insight into the phenomenon of study and a deeper understanding of home-based learning (Pain, 2011). It provided participants with the opportunity to communicate via different mediums and made the data set more complete.

Findings

We identified four main themes based on participants' documentation and descriptions of home-based learning. A clear division did not emerge between the activities and practices of higher and lower income families. In fact, photographs presented more similarities than dissimilarities across participant groups. Rather, there were differences in the articulation of how the activities were described and in the quality of explanations the parents provided during the parent-teacher conversations. Those nuances across socioeconomic groups are explained within each theme with quotations as pieces of evidence.

Learning Involves Academic Content

Higher and lower SES families photographed and described activities that reflected typical academic activities, such as using flash cards, exploring books, completing worksheets, rehearsing letters, and counting. Based on involvement with early childhood centers, families internalized the message from teachers that emerging literacy and math skills were critical to school success. One mother from a higher SES background explained one photograph:

They are like flash cards. I think they have animals on them, and we were just going over some of the word and letter sounds, like we were looking at a cat, and she recognizes the C – A – , and so we were making the ca-ca- sound for cat.

Images of books and reading were also photographed across both groups. Families described reading as part of their nightly routine and actively promoted a general interest in books. Within the two-parent households, fathers were often photographed while reading with a child. In the single-parent households, children were photographed reading independently. Since mothers were taking the picture, they were unable to photograph themselves with the child, but explained in interviews that reading was often done jointly with the child. One mother from a lower SES center reflected on a photograph of her children looking through books:

They are having reading time with like a bookshelf full of books, and they just pick them up and look at the pictures 'cause neither one of them knows how to read yet. But I read to them every night before bed.

Lower SES parents acknowledged that books and other “academic” materials were important to learning and success but spoke less in-depth about specific skills and academic goals for their children.

Learning Involves Technology

Technology appeared across several sets of photographs. As technology advances and digital literacy proliferates and becomes accessible, it appears that families and young children are taking these up (Anderson, Anderson, Friedrich, & Kim, 2010). Several families in the higher SES category photographed children playing games on tablets or other pieces of equipment. One mother even commented on how the games and activities changed as her child matured. She credited many of the child’s emerging literacy skills to the child’s engagement with educational apps on the tablet. She said:

In the fall she was just really working on sounding out the letters, and now she is really able to sound the whole words out, so there are different games, and we have some books on there as well, so it will read the word, and then she will repeat it, so you can see she is advancing and growing a lot.

Similarly, another participant informed the teacher that his daughter had already moved on from the educational apps displayed in the picture and that they continue to seek out new games and activities as her skills increase. Parents contextualized the child’s use of technology as an independent activity that was child-driven. One father further explained that he and his wife had demanding jobs and had to work at night and technology helped to keep their child engaged in learning during that time.

In comparison, digital games and educational apps were not visually captured or discussed by families in the lower SES group. Only one lower SES family documented the use of a tablet. The photograph captured the child in bed with his technology. The mother explained that the tablet was used to watch videos. She did not explicitly describe its connection to learning, but believed it was a part of her child’s development.

Photographs and discussions reflect the cultural changes in children’s macrosystem and the growing importance and ubiquitous nature of technology. Images of children exploring educational websites, playing games, and watching videos appeared across many photographs, specifically of families from higher SES backgrounds. Photographs and interviews also revealed that technology use was an independent activity for the child and not a joint activity with the parents.

Learning Involves Play

The theme of play straddled both SES groups; however, it dominated the images of lower SES families. Some of the activities included visiting the park, rough and tumble play, building forts, playing board games, blowing bubbles, and dressing up. One child from a lower SES household was documented in a series of photographs with his large bin of Hot Wheels. His mother reported that he spends hours with his cars—organizing them by color and size, designing jumps, and facilitating mock races. The mother believed this was one example of his emerging “engineering and math mind.”

The largest division between higher and lower SES families was *where* play occurred and the materials that supported the child during play. Most of the higher SES families documented play inside their home with the assistance of puzzles, board games, and other material items. For example, one higher SES mother described a photograph of her daughter playing a board game with her younger brother: “There she is playing her Doc McStuffin game and using her fine motor skills to pick up the body parts. It is nice to see them [brother and sister] taking turns, and I love that Doc McStuffin is a great role model.” Alternatively, for lower SES families, most play took place outside of the child’s home in yards or public spaces with less structure.

Learning Involves Others

The majority of participants photographed children’s interactions with siblings, neighbors, friends, and family, demonstrating the belief that learning and development is a social process (Brown et al., 1989). The social interactions of the higher income families focused on individuals in the immediate family, with emphasis placed on the father’s presence, which did not emerge in the lower SES group of single-parent households. For example, one family documented a son performing yard work as he followed his father around in the backyard. Fathers and siblings can provide many benefits to children’s early learning (Downey & Condron, 2004; Wilson & Prior, 2011), and the families in this study viewed family members as a resource. However, discussions of family contributions were always limited to the mother, father, and siblings.

Lower SES families documented a more inclusive world of various stakeholders and extended family, which supports previous research (Dockett et al., 2012; Miller, 2014; Stack, 1974). Photographs produced by the single-parent households captured a wider range of individuals who they believed supported children’s early learning and development. For a mother living in a homeless shelter, her photographs chronicled an assortment of staff members at the shelter who interacted with her daughter on a daily basis and participated in her

learning and development. Other families from lower SES backgrounds photographed moments of neighborhood gatherings to dye Easter eggs or time with extended family. These mothers portrayed their children as being surrounded by a community of people rather than just immediate family members.

All families believed these social interactions supported the social and academic development of children in learning how to share, work together, problem solve, and communicate. These microsystem level interactions are considered the most influential in children's development based on their regular and consistent exposure (Bronfenbrenner, 1986). Furthermore, Bronfenbrenner's theory emphasizes that children's interactions with their social environment and such engaging activities are essential for fostering children's learning-related social skills. The theme demonstrated that there may be a variety of important individuals and stakeholders within the immediate environment of the child's life beyond the traditionally acknowledged immediate family. Findings of this study reaffirm Ansari and Gershoff's (2015) findings that fostering social skills is equally important as facilitating children's academic achievement.

Discussion

Findings from this study show that all families engage in a variety of activities that are connected to early learning skills and knowledge that will benefit children in school. Although the mainstream dialogue often suggests that higher and lower SES households differ in practices, values, and involvement (Barbarin et al., 2010), our findings suggest that differences may be much more subtle and nuanced than previously described. The activities of the lower income families were less structured, which might lead a teacher to assume that less academic socialization occurs in the child's home based on school norms about what "counts" as learning (Lareau, 2003).

This study invites opportunities for schools to incorporate professional development opportunities for teachers to reflect upon the common narrative that families from lower SES backgrounds do little to support learning at home. Practitioners and scholars often assume a deficit perspective about families (Ryan, Fauth, & Brooks-Gunn, 2006); simultaneously, families are often blamed for children's lack of knowledge and skills. Currently, children living in low-income homes make up over 40% of the population in the United States, and this number continues to grow (Addy, Engelhardt, & Skinner, 2013), marking this population a top priority for schools. This is especially true for lower SES families who are often viewed as less involved due to different educational approaches or the constraints of life circumstances (Newman

& Chin, 2003). The influence of sociocultural factors can determine the kind of education activities parents and children might engage in (Bronfenbrenner, 1995; Suizzo et al., 2014). However, the value of unstructured play should not be dismissed, as it can benefit all domains of development (Yogman, Garner, Hutchinson, Hirsh-Pasek, & Golinkoff, 2018).

Our findings expose that families are involved in traditional and nontraditional ways and are conscious of children's early learning and development regardless of their SES background. As suggested by Schoellman (2016), ultimately parents, rather than environment, are the main contributions to children's human capital formation. Participants underscored the importance of individuals who appeared in photographs and the knowledge and skills they are able to share with children. A notable difference emerged between single-parent and two-parent households regarding *who* appeared in photographs and were connected to children's learning. Two-parent households displayed immediate family members, and single-parent households captured a wider range of individuals from the community.

While it is important to highlight the similarities, the differences deserve equal attention. The photographs taken by families yielded minimal differences in "what" activities occur across higher and lower income families, however the "how" and "why" connected to each photograph differed between families during conversations with teachers. Either families embody these activities in varying ways, or the higher income parents were more versed in articulating how the activities contribute to children's early learning. It is unclear as to whether this difference is related to how easily parents were able to express their thoughts to the teacher or whether the activity was viewed as a simplistic or complex activity. Either way, utilizing photography with families may allow for a new type of communication between teachers and families, which is especially important for families who may not feel confident or capable of conversing about home-based learning with a child's teacher (Clark, 2004).

Although school-like materials were documented across the photographs of all families, a greater number of school-like materials existed in higher income parents' photographs, and those parents emphasized their role in children's cognitive development. Lower SES parents may not facilitate and describe more school-like learning activities in the home because of their own schooling experience (Lawrence-Lightfoot, 2003). The activities they did with their children are nonetheless educational and can contribute profoundly to their children's learning and long-term development (Skwarchuk et al., 2014). Bronfenbrenner's (1986) macrosystem can help explain the activities specific groups may engage in, namely, the culture related to SES deciphers the pattern of beliefs and behaviors within a specific culture. This difference might also be an issue of

access to school-like materials such as technology (Celano & Nauman, 2008). Higher SES families photographed a variety of pieces of technology (e.g., laptops, smart phones, tablets) and even described how new educational apps were added as the child reached a higher cognitive level. School-like materials can be viewed as a luxury for families because they rely upon the financial capacity of a family. Although the sample size of this study was small, we noted this digital divide between the higher and lower income groups of families, which is recognized in a growing body of research on technology use in households (Aerschot & Rodousakis, 2008; Braverman, 2016; Miller, 2014). It also served as a luxury to provide parents with a break. Technology was not pictured as part of a parent–child interaction; rather, it was a tool the child used independently and allowed parents to perform other tasks (Vittrup, Snider, Rose, & Rippy, 2016).

Although previous research suggests a link between family income and children's noncognitive skills (e.g., Fletcher & Wolfe, 2016), as well as claims that parenting is negatively influenced by poverty (e.g., Melhuish et al., 2008), our findings challenge the notion that lower income families are not engaging in home-based learning. The children in lower SES households were found to engage in a great number of social/emotional activities in this study, and the parents were utilizing a variety of resources (e.g., toys, costumes, arts/crafts). These activities appear to foster children's noncognitive skills but are also likely to lead to cognitive skills in the long term (Brunello & Schlotter, 2011; Dunst et al., 2014). Caregivers, regardless of SES backgrounds, should be encouraged to engage in both cognitive and noncognitive activities at home, as both are necessary for school success. Early experiences in the home environment could likely reduce the SES-related gap in academic achievement and lay a strong foundation for later learning (Ramani, Rowe, Eason, & Leech, 2015).

Implications and Limitations

There are several implications for practice based on the findings of this study. Teacher education programs and professional development workshops should help educators recognize the fact that parents provide care and education at home regardless of their income levels or educational backgrounds. Training educators to use photography as a mode of communication may increase a school's ability to form mutual, two-way connections with families, rather than relying on traditional one-way connections with schools focusing on providing families with information (Graham-Clay, 2005). Visual images can assist a family's ability to communicate information about a child's life outside of the school day that is often invisible to teachers and can certainly be a great tool to better assist teachers in understanding families and their funds of knowledge.

The transferability of this study's findings must be viewed in light of its limitations and how this line of inquiry should be extended. Due to the nature and purpose of our study, we intentionally avoided defining "learning" for parents prior to the beginning of the study. We were interested in finding out parents' perceptions and their involvement in the learning activities at home, rather than restricting their views of what activities could be linked to learning. However, it would be irresponsible not to acknowledge that issues of power and social desirability can influence the data production and findings of any qualitative study (Boucher, 2017). Families were documenting learning-related moments that would be shared with the child's teacher which therefore could inform how they decided to visually present their lives. Our measure of learning activities in the home was limited to caregiver reports and their willingness to share aspects of their lives.

Although the small sample size was appropriate for this type of visual study, it only represents the lives of nine families with limited ethnic diversity. A larger sample size with an emphasis on racial and linguistic variability could generate a more nuanced understanding of families based on different family characteristics. Additionally, this study only considers the perspectives of parents. We did not anticipate children's active involvement with the selection of moments to be photographed and their role as photographers as described by the parents. Future work should include children in the process to further triangulate perspectives on early learning.

Conclusion

It is important to create opportunities for families to share aspects of their lives that often go uninvestigated or are misunderstood. Using photography to share information from the home to school allows schools and communities to identify existing strengths and extend these strengths, rather than focus on deficits or assume families are not engaging in learning-related activities (Carreón, Drake, & Barton, 2005). Our findings shed light on the different types of activities children engage in at home in both lower income and higher income families, as well as how parents explicate those activities. Certainly, the influence of parenting on educational achievement is complex and difficult to define because of the layers of influences on parents' decisions and their interactions with children (Bronfenbrenner, 1986). This study further emphasizes that focusing on "what" children are doing must be considered in relationship to "how" and "why" they are engaging in those activities to fully understand home-based learning.

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