What Asian Caregivers Observe about Their Children's Learning During a Visit to the Children's Museum

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Abstract

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Prior research has examined caregivers' observations of their children's learning in a children's museum. However, considering the cultural variations in beliefs about play and learning, little is known about what Asian caregivers observe about their children's learning during a visit to the children's museum. The purpose of this study was to explore whether or not Asian caregivers learn something about their child(ren)'s learning during a visit to the children's museum, what they learn, and what it is about the children's museum that caregivers feel contributes to that learning. This study replicated an earlier study of the research done by Children's Museums Research Network. The researcher interviewed 35 Asian caregivers at the KidsQuest Children's Museum in Bellevue, Washington. Results showed that more than half of the study participants observed something about how their child(ren) learned. Study participants most frequently referenced their children's learning process, their child(ren)'s interests, peers' impact on that learning, and cognitive skills in the description of what they observed. Asian caregivers attributed a range of aspects of the museum experience to that learning, including the opportunity to watch child(ren) play and, to watch them interact with other children, floor staff who

engaged with child(ren) in conversation, and activities/ exhibits, materials available at the museum designed for young children and their family to do together. These findings have implications for family research in the children's museum and for children's museums making effort to increase diversity, equity, accessibility, and inclusion.

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Chapter One: Introduction

Vygotsky (1978) claimed that "As in the focus of a magnifying glass, play contains all the developmental tendencies in a condensed form" (p. 102). Children learn through play. Decades of research states that play can contribute to children's social, motor, intellectual, and emotional development (Frost, Wortham, & Reifel, 2008; Ginsburg, 2007; Oliver & Klugman, 2002). At the same time that researchers support and advocate for the connection between play and learning, they recognize the importance of parents' role in children's play. Previous research show that children's play is more likely to result in learning outcomes when adults are involved (Puchner, Rapoport, & Gaskins, 2001). Caregiver interaction and conversations can positively enhance children's engagement, their content learning and understanding, and after visit transfer (Tõugu, Marcus, Haden, & Uttal 2017; Jant, Haden, Uttal, & Babcock, 2014; Willard, Busch, Cullum, Letourneau, Sobel, Callanan, and Legare, 2019; Marcus, Haden, & Uttal, 2017).

However, research suggests that not all caregivers want or know how to engage in children's learning during a visit to a children's museum. On the one hand, some caregivers doubt play as a medium for learning (Gaskins, Haight, & Lancy 2007; Fisher, Hirsh-Pasek, Golinkoff, & Gryfe 2008; Downey, Krantz, & Skidmore, 2010). For some caregivers, even if they value the learning outcome of paly, they do not see themselves as playmate (Gaskins, et al., 2007). On the other hand, some caregivers acknowledge the learning opportunities but don't know how to facilitate their children's learning through play (Song, Stuehling, Resnick, Mahajan, Hirsh-Pasek, & Moynihan, 2017; Downey, et al., 2010).

Furthermore, parental involvement takes different forms. Wood and Wolf (2010) argue that for

some parents, parent-child interaction might mean standing back to watch their child, rather than actively engaging. Addressing this perspective, three recent studies have sought to examine caregivers' observations of their children's learning in a children's museum. Letourneau and her colleagues (2017) suggest that caregivers noticed children's abilities and interests, and that they could identify many aspects of children's thinking during the visit. Luke and her colleagues (2019) suggest that caregivers learn about how their children think and solve problems, what they're interested in and not interested in, and how they interact with others at the museum.

Most of this research was conducted with European-American participating caregivers. However, the perceptions of play and learning vary between cultures. Previous research shows cultural variations in beliefs about play and parental support of children's play (Gaskins, et al., 2007; Fasoli, 2014; Haight, & Miller, 1993; Lancy, 2007; Farver & Wimbarti, 1995; Farver & Shin, 2000; Parmar, Harkness, and Super, 2004). Past research focusing on European-American and immigrant Latino parents revealed that ethnic group differences in parent–child play corresponded with parental beliefs about play, and the diversity in ways that these play behaviors and beliefs came together to comprise parents' models of play (Fasoli, 2014). Roopnarine (1994) proposes that play serves a scholastic function in technologically developed societies, whereas it assists in the reproduction of culturally-specific tasks and behaviors in agricultural and hunting-gathering societies. Vandermaas-Peeler (2002) suggests that the amount of attention devoted to play in a particular society depends in part on the cultural beliefs about the nature of childhood, and on the adults' specific goals for their young children.

According to the 2018 population census, 14% of the people living in King County, Seattle are Asian, and people of Asian descent continues to make up the majority of growth in the county.

Considering the cultural variations in beliefs about play and parental support of children's play, little is known about Asian caregivers[1]' perceptions of learning through play at the children's museum and what Asian caregivers observe about their children's learning during a visit to the children's museum.

The purpose of this study was to build on a previous study conducted by the Children's Museum Research Network (Luke et al., 2019) by exploring whether or not Asian caregivers learn something about their child(ren)'s learning during a visit to the children's museum, what they learn, and what it is about the children's museum that caregivers feel contributes to that learning. Specifically, the study was guided by the following research questions:

1. What are Asian caregivers' motivations for visiting the Children's Museum?
2. Do Asian caregivers say they learn something about their children's learning during a visit to the children's museum? If so, what is it they say they learned? If not, what is it they say for not observing anything about their children's learning?
3. What is it about the children's museum experience that Asian caregivers feel contributes to that learning?

Asian families are little known in the museum field now, and thus this research tried to contribute a small piece to bridge the gap in the field. In addition, children's museums that aim to achieve inclusion and diversity will benefit from the results since for museum staff who work with visitors from a diversity of cultures, one way to be better adaptive in facilitation is to have a clear understanding of the needs of the audience. Understanding Asian families' thoughts and needs will help the children's museums be more inclusive, accessible and to create a better community.

[1] Caregivers in this research mean parents, grandparents, and/or nannies. For the purposes of this study, since 24 of the 35 interviews were conducted in Chinese, so Asian caregivers in the current study were referred to mainly Chinese parents.

Chapter 2: Literature Review

The purpose of this study was to explore whether or not Asian caregivers learn something about their child(ren)'s learning during a visit to the children's museum, what they learn, and what it is about the children's museum that caregivers feel contributes to that learning. The three key bodies of literature that support this research are 1) the study of early learning in children's museums; 2) family learning in museums; and 3) the cultural meaning of play and learning in children's museums. An exploration of this literature demonstrates that more research needs to be done to understand parents from non-white and non-western cultures, and their observations about how and what their children learn at the children's museum.

Children's Museum and Early Learning

This section will first briefly review the history of children's museums. Then it will review learning theory and empirical studies about how and what young children learn at the children's museums. Later it will review what is currently about parents' beliefs about play and learning.

Near the end of the nineteenth century, with increasing awareness about the value of education and the realization that children were a unique audience with a distinct learning style (NeCastro, 1988 in Shaffer 2018, p. 31), a space designed exclusively for young museum visitors came into being. This initiative began with the founding of The Children's Room in 1901 at the Smithsonian Institution. Along with the groundbreaking idea that interactive experience is essential for learning (Oppenheimer, 1968), this created a space catering to the interest of children. Shortly after, the Brooklyn Children's Museum, the Boston Children's Museum, and Children's Museum of Indianapolis were founded (Munley, 2012; Shaffer, 2015).

The experience at a children's museum is intended to cultivate children's curiosity and encourage "their powers of observation and reflection" (Hein, 2006, p.166). Early children's museums introduced models to offer active exploration and discovery. The hands-on discovery approach, for instance, was introduced by Anna Billings Gallup at the Brooklyn Children's museum. Gallup acknowledged the importance of tactile experience and the object lessons children's museums can provide for children:

> "Under Gallup's direction, a set of minerals to sort, polish, and examine offered young visitors tactile experiences while staff lectures on natural and social sciences supported student learning through the other scenes" (Hein 2009 in Shaffer 2015, p.36)

As with its predecessor, the Boston Children's Museum encouraged children's hands-on experience with trained docents and introduced the natural world for gallery displays (Shaffer, 2015). Michael Spock, then director of the Boston Children's Museum, emphasized "experiential learning and the joys of touching" (Madden & Paisley-Jones 1987 in Shaffer 2018, p.5). Dr. Charles Douglas believed that children learned through observation with facilitated guidance such as "innovative interpretative techniques", and with which "phenomena are made understandable through guided experience" (Douglas 1921 in Shaffer 2015, p.37).

The visionary efforts of the early children's museums set the stage for the flowing practices that encouraged interactive exploration based on children's interests. According to the Association of Children's Museum (ACM), there are more than 300 children's museums in the world serving millions of families (ACM, 2019). Children's museum nowadays, along with the early ideas, are institutions to committed to "serving the needs and interests of children by providing exhibits and programs that stimulate curiosity and motivate learning" and "Family, culture, environment, and society are recognized as critical factors in all children's lives to effectively serve them"(ACM, 2019).

How and what children learn at the children's museum

Prior empirical research and learning theory shine lights on how young children learn at the museum. To begin with, Dewey, Piaget, and Vygotsky all discuss children's learning through experience (Shaffer, 2015). For example, Piaget's notion is that sensory experience presents an entry point for children to learn. Children also learn from stories and imagination. Researchers found that when stories were used in the museum, young children would hold longer attention (McRainey & Russick, 2010). Another study conducted in the Australian Museum found that children use museum artifacts as a source of imagination to make their own stories (Dockett, Main, & Kelly, 2011). Social interaction also plays an important role in children's learning. For example, Vygotsky suggested that with the support from a more knowledgeable adult or peer, children would reach a higher level of achievement. Researchers (Dockett et al., 2011) found that the importance of grandparents, and other family members, was highlighted by several children in their journals after their visit and that children associated the artifacts with the adult from who introduced them

While children learn in many ways, learning through play lays a foundation for the learning occurring at the children's museum. It's hard to define play. The nature of play has been described differently by theorists in various disciplines. According to Göncü and Gaskin (2007), play is a complex phenomenon, and it has often been difficult to "integrate its multiple perspectives" (p.4). Play takes many overlapping forms, including social, object, pretend, physical, and media play (White,2012). As children play, they develop language and literacy skills (Hanline, Milton, & Phelps, 2010), improve executive function for better regulating their behaviors (White & Carlson, 2011), and experience lasting academic outcomes (Pellegrini, 2009). Children can also learn social and emotional skills through play.

For example, as children negotiate with others during a conflict, they will develop an understanding of one's self and others (Taylor & Carlson, 1997; Lillard, 1993, as cited in White, 2012).

Parents' beliefs about play and learning

Prior studies reveal the positive influence of parental involvement on young children's learning during a children's museum visit (Benjamin, Haden, & Jant, 2010; Crowley, Callanan, Jipson, Galco, Topping, & Shrager, 2001; Freedman, 2010; Wolf & Wood, 2012). Learning is more likely to occur with adult interaction (Crowley et. al, 2001; Gaskin et. al, 2001). Caregivers verbal and non-verbal interaction will ignite children's curiosity and exploration in exhibits (Benjamin et al., 2010), have a significant positive change in children's knowledge of the content (Freedman, 2010), and improve subsequent memory transfer by children for the information presented in the exhibit (Jant et al., 2014).

However, despite the positive influence of parental involvement, research indicates a divergence between caregivers and children's museum professionals and researchers in light of beliefs and roles about guiding children's learning (Andre, Durksen, & Volman 2017; Wolf et al., 2012; Song et al., 2017). Some caregivers do not want to or know how to engage in children's learning during a visit to a children's museum (Luke et al., 2019). Several factors mediate parental involvement in the children's museum.

To begin with, individual variation exists in caregivers' perceptions of play which correlate with their involvement in children's play (Crowley and Swartz, 2004; Fasoli, 2014; Ihmeideh, 2019). Some parents lack a clear understanding of the learning benefits of play. For example, Please Touch Museum (PTM), —the children's museum of Philadelphia, commissioned an evaluation (Downey, Krantz, & Skidmore, 2010) with questionnaires, in-depth interviews, and timing and tracking observations to

explore parents' perceptions of play and their role at the museum. The results showed that while some parents value play as having fun and enhancing imagination, only about one-sixth of parents explicitly talked about play, the value of PTM, and the outcome of a PTM visit (for children) in terms of learning. Their results also implied that parents do not have a deeper understanding of fun and enjoyment which are intrinsic motivators that make play an effective way for children to learn.

Another study (Fasoli,2014) conducted in Chicago Children's Museum examined the prevalence of the view that play is a mode of learning among Euro-American and immigrant Latino parents. The interviews suggested that 44% of Latino parents and 29% of Euro-American parents denied that their children had learned through playing in the museum. Similarly, Song et al. (2017) asked parents and experts at Baltimore Port Discovery Children's Museum to rate the presence of learning opportunities in two exhibits. Results suggested that parents did not see as much learning potential as child development experts.

However, for some caregivers, even if they acknowledge the value of play, their beliefs are not always consistent with their actual interactions. For example, Downey et al. (2010) observed at the children's museum of Philadelphia that while most parents indicated that their role at the museum is to play with their children and allow their children to play, most adult-child interactions observed were supervisory, instructional, or disciplinary in nature. One explanation, as Downey et al. proposed in the study, is that parents lack the confidence, knowledge, or skills to facilitate play for their children. This explanation is buttressed by a study conducted at the Children's Museum of Pittsburgh (Crowley et al. 2004). As part of the signage project, researchers identified five kinds of parent beliefs about teaching and learning: focus on fun, individual discovery, back to basics, learning together, and explanations

everywhere. Researchers noticed that "It is not always clear to parents, particularly in the context of a children's museum, how they can become seamless participants in their children's activity rather than, as one exhibit developer once put it in a recent signage meeting" (p. 15).

The above-mentioned research reveals a divergence between parents and children's museum professionals in terms of children's learning. Prior research on parent beliefs focuses on children's cognitive and content-related learning. For example, the questions mainly focus on how they value play in terms of learning, how they can best support their children's learning, how their children learn from the exhibition, and what they think their children can learn from the exhibition. Few pieces of research investigate parent actual observation about how and what their children learn at children's museums in light of a broad scope of learning, which not only involves cognitive learning but social and emotional learning.

Family Learning in Museums

This section will review what is currently known about family learning in museums. It will first provide a background on family learning research background and describe theoretical trends. Then it will review the research findings of this area.

Within the context of museums, family learning has been a focus of research since the late 1970s (Borun, Cleghorn, & Garfield, 1995). In their review of the literature, Ellenbogen, Dierking, and Luke(2004) noted that by the late 1980s, there was an extensive body of literature that established the importance of family learning in and from museums (Cone& Kendall,1978; Diamond, 1986; Dierking, 1987; Hensel, 1987; McManus, 1987; Rosenfeld, 1980; Taylor,1986). Ellenbogen et al. also concluded that "these studies demonstrated the significance of families as a focus of museum research, identifying

them as a major audience and unique learning group of mixed ages and backgrounds bound together by a complex shared system of past experiences, beliefs, and values" (p. S49). These descriptive early studies also provide " evidence that families are equipped with an extensive array of personal and cooperative learning strategies that facilitate their experiences in museums" (p. S49) which pointed to the idea that families were "adopting learning agendas" (Dierking & Falk,1994, p. 62). Although groundbreaking in many aspects, Ellenbogen et al. pointed out that "much of the early family learning research focused on the individual family group and their immediate experiences within the museum, rather than the larger social and cultural context within which the family participated" and these early studies reflected that "researchers utilize different terminology and approach similar work from very different perspectives using methodologies that are not based on a shared set of values, beliefs, and assumptions" (p. S49).

A major shift in the last decade of family learning research comes from the increasing popularity of sociocultural and constructivist theories in learning research, and their suitability for museum research which take a more holistic perspective of learning(Ellenbogen et al., 2004; Koster & Falk, 2007) and describe families as "communities of learners" (Astor-Jack, Whaley, Dierking, Perry, & Garibay, 2007, p. 222) and "educational institutions[s]" (Dierking, 2012).

What is the implication of this theoretical shift? For the research focus, according to Ellenbogen et al. (2004), a sociocultural approach "prompts studies that focus not just on the immediate experiences of the family group in the museum, but more broadly on the ways in which the family group is situated within the larger social and cultural context" (p. S50). For example, in terms of studying families' conversation, the early research (Diamond, 1986; Dierking, 1987; Hensel, 1987; McManus,1987) was

descriptive in nature and depicted how families interact and talk about topics presented in exhibits and programs. With the theoretical shift, later studies of family conversations investigate the meaning and uses of such conversations in a sociocultural context (Ash,2003; Borun, Dritsas, Johnson, Peter, Wagner, Fadigan, Jangaard, Stroup, & Wenger, 1998; Crowley et al., 2001; Ellenbogen, 2002; Luke, Wadman, Dierking, Cohen, & Falk, 2002).

Meanwhile, the increasing popularity of sociocultural theory has resulted in more shared vocabulary and a set of beliefs, values, and understandings about what constitutes family learning (Ellenbogen et al., 2004). A sociocultural perspective frames learning as a function of enculturation within a community of practice (Wenger, 1998). From this perspective, Dierking (2010) described family as "Two or more people in a multi-generational group that has an on-going relationship, they may be biologically related, but not necessarily…. If a group defines itself as a family, they are one." In terms of learning, Dierking's (2010) notion is also very broad, including 1)typical ideas such as learning facts and concepts, 2) shifts in attitude, values, and beliefs, aesthetic understanding, and psychomotor skills, and 3) social/cultural dimensions such as learning about family members and the family dynamic. For the purpose of this paper, this notion of learning will be used.

Research on family learning in and from museums, for the last few decades, has investigated general familial behaviors and family group interactions in the museums; and the nature of family learning in the museums (Dierking & Falk, 1994).

One important finding is that families visiting museums come with their own agendas which is a set of desires, needs, and expectations for what the visit will hold. Researchers find that families visiting museums bring with them identity-related motivations, expectations, and visit plans. Families use

shared, past experiences to create a common narrative and family learning builds on this history (Dierking, 1989; Dierking & Falk, 2000; Moussouri, 1997). Falk and Dierking developed an initial framework of contexts that visitors experience before, during, and after their visits to free-choice settings. Their Contextual Model of Learning illustrated how personal, sociocultural, and physical contexts overlap and influence visitor learning through time (Falk et al., 2000). In addition, researchers (Dierking et al., 1994; Hilke, 1987; McManus, 1994; Moussouri, 1997) also find that families are adopting "learning agendas" when visiting museums. These learning agendas include behaviors such as attending to exhibits, reading labels, discussing exhibits, and pushing appropriate buttons at interactive exhibits result in learning.

Another important research area of family learning focuses on familial behaviors and family group interactions in the museums. The early research demonstrated that families' actions follow predictable patterns that are influenced by the physical and social aspects of the visit (Dierking, 1987, 1989, Dierking et al., 1994; Falk, 1991; Hilke, 1989). Family interactions related to information exchange associate with the exhibit content such as asking questions and providing explanation (Dierking, 1987; Hilke & Balling, 1985). Diamond (1986) observed that reciprocal teaching occurs during the family interactions and different family members teaching at different times for different reasons. For example, whereas adults tended to share abstract information gained from reading the labels, children tended to share concrete information observed from the exhibit.

Furthermore, informed by sociocultural theory, several studies link the learning context to the family's larger sociocultural context (Ash,2003; Crowley & Knutson, 2002; Fienberg & Leinhardt, 2000; Luke, Jones, Dierking, Adams, & Falk, 2002). These studies demonstrate that conversations

reflect and change a visitor's identity (Fienberg et al., 2000) and the museum experience influenced family dynamic (Luke et al., 2002).

Fienberg et al. (2000) explored the connections between visitors' identities and the structure and content of their conversations in a museum. Data were collected from conversations among small groups of visitors while they toured the exhibition and from interviews with these small groups before and after their tours. Results showed that "group conversation in a museum can build on the joint experiences of visitors to create a much richer experience than any individual could have alone. As such, it supports our sense that conversations among members of a small, socially cohesive group of friends or family members is privileged and offers each member of the group a special opportunity for enrichment" (Fienberg & Leinhardt, 2000, p.37).

One example examining family learning from identity building and other sociocultural aspects was two studies conducted by Family Learning Research Initiative in The Children's Museum (TCM) of Indianapolis. The first study was designed to document the nature and extent of family interaction and engagement within a science exhibition Bones: An Exhibit Inside You, Welcome Center and Carousel. Data collection included tracking family interactions, conducting interviews, utilizing Personal Meaning Mapping, and recording conversations. Data from the interviews and conversations revealed that the exhibition gave families opportunities to spend time together, relate exhibit content to their family history, and build their collective identity (Cited Ellenbogen et al., 2004, PS51; Luke et al., 2002; Dierking, Ellenbogen, Luke, Andersen, Donnelly, & Cunningham, 2005). The other study examined the long-term impact of two youth-based museum programs (Great Science Adventure Series and Y-Press) on young adults and their families. Findings demonstrated that the impact across four broad learning

dimensions: 1) perspective and awareness; 2) social development; 3) interests and motivations; and 4) knowledge and skills (Luke, Andersen, Donnelly, & Cunningham, 2005, p.2). Findings also demonstrated that "these programs influenced family dynamics, giving young adults the opportunity to explore new roles within their family, gain new perspectives and identities within the family system, and learn new things about family members" (Ellenbogen et al., 2004, p.S51)

Parent-Child interaction in museums

Most recently, the idea of family learning stresses the value of adult-child interactions within the museum setting. Caregivers are among the most influential factors in young children's learning and development (Institute of Medicine and National Research Council, 2012; National Research Council, 2000) and young children regularly learn about and engage with science with caregivers during conversations and interactions (Callanan & Jipson, 2001; Callanan, Siegel, & Luce, 2007; National Research Council, 2009; Rigney & Callanan, 2011; Valle & Callanan, 2006). Investigating parent-child interaction and understanding the role that parents play in supporting learning for young children is an active area of research (Alexander, Johnson, & Leibham, 2013; Ash, 2003; Callanan, Cristine, Cullum, Busch, Letourneau, Sobel, & Willard, 2019; Crowley et al., 2001; Crowley & Fender, 2007; Davidsson & Jakobsson, 2012).

What roles do caregivers play in a family visit experience? Some studies suggest that caregivers play different roles during these interactions. Leinhardt and Knutson (2006) identified roles of grandparents as: 1) storyteller, 2) playmate and 3) modeler of caring interactions. Researchers at UPCLOSE in Pittsburgh have also explored the role of grandparents in children's learning in museums (Sanford, Knutson, & Crowley, 2007). Fender et al., (2007) have investigated the role of parent

conversation and explanation in helping children acquire expertise in a museum setting. In 2006, The Adult Child Interaction Inventory (ACII) was developed as part of a research to practice collaboration between the Boston Children's Museum and Evergreen Research and Evaluation (Beaumont, 2010). Six caregiver roles were identified which support children's experience with science: 1) Player, 2) Facilitator, 3) Interpreter, 4) Supervisor, 5) Student of the Child, and 6) Co-Learner (Beaumont, 2010). Results also show that caregivers moved between multiple interaction roles. Among these interaction roles, both non-verbal and verbal forms are included. For example, "Interpreter" was described as "Verbal scaffolding through cues and prompts, narrating the activity, asking or answering a question, explaining a concept, giving verbal instructions, or giving praise or encouragement; and "Student of the child" was described as "thoughtfully observes the child at play, thinks about the child's developmental needs and notes progress, plans for making connections or extending the experience after the visit" (Beaumont, 2010, p.32).

During the verbal interactions mentioned above, what roles are parents playing in supporting children's learning? In terms of direct support, parents are believed to support science learning by scaffolding learning, and by supporting interest during science-related interactions (Leibham et al. , 2013; Barron, Martin, Takeuchi, & Fithian, 2009; Crowley et al., 2001; Fender et al. , 2007; Valle et al. , 2006).

Specifically, first, question-asking and answering that are related to the exhibit topic can support learning (Chouinard, Harris, & Maratsos, 2007; Haden, 2010; Kelemen, Callanan, Casler, & Pérez-Granados, 2005). Several studies have shown that Wh-questions are important for enhancing children's understanding and the encoding of information across multiple settings (Fivush, Haden, & Reese, 2006;

Haden, 2010, Jant, Haden, Uttal, & Babcock, 2014). Children whose caregivers ask more wh-questions show greater understanding, retention, and recall of the memory (Hedrick, Haden, & Ornstein, 2009).

Secondly, researchers also demonstrate that children who engage in explanatory talk with parents at exhibits are likely to explore more deeply and gain better conceptual understanding of relevant concepts (Crowley et al., 2001; Fender et al., 2007) and parent explanation changes what children learn from everyday shared scientific thinking (Fender et al., 2007). For example, Fender and Crowley (2007) investigated how parent explanation changes what children learn from everyday shared scientific thinking. Children between ages 3- and 8-years-old explored a novel task solo or with parents. Analyses of children's performance on a subsequent posttest compared three groups: children exploring with parents who spontaneously explained to them; children exploring with parents who did not explain; and children exploring solo. Results show that children whose parents had explained were most likely to have a conceptual as opposed to procedural understanding of the task.

The above-mentioned studies focus on the verbal family interaction. Besides the verbal interaction, many researchers acknowledge that nonverbal behaviors such as prompts or physical actions, being nearby and responsive to a child's needs are also commonly occur among families. This area of research provides a second perspective on parent involvement, shines light on parents' thinking, and demonstrates the family learning potential behind the seemingly non-engaging behaviors(Allen, 2004; Beaumont , 2006; Bernstein, Harris, Long, Iida, & Hands, 2005; Barton, Drake, Perez, St. Louis , & George, 2004; Letourneau et al. ,2017; Luke et al. ; Song et al. , 2017).

Wood and Wolf (2010) did a meta-interpretation of The Children's Museum of Indianapolis (TCM)'s exhibit evaluations on parent roles in family learning experiences at TCM over the course of

four years. Data collected for family learning assessments include naturalistic observations that include timing and tracking, behavioral data, and interviews. Across four years of exhibition evaluation, data reveal an observable pattern of adults standing back, apparently not interacting with their children. Though standing back, research found that parents make choices about their actions to mediate behaviors and utilize resources to support their children's learning experience. The study suggested that "stand back should not necessarily be interpreted as non-engagement, nor can the parent be seen as unprepared or unable to interact. It is indeed possible that family learning is still taking place" (p.48).

Caregivers' learning about children in the museum

Three recent studies examine not the interactions between caregivers and children in the museum, but rather what caregivers observe about their children's learning in a children's museum. Letourneau and her colleagues (2017) interviewed parents at Providence Children's Museum about what they saw their children doing, what their children might be thinking about, and what they were thinking about while watching their children play. Their results suggest that caregivers noticed children's abilities and interests, and that they could identify many aspects of children's thinking during the visit. Song and her colleagues (2017) surveyed caregivers at Port Discovery Children's Museum about their perceptions of what children could learn in the exhibits. Their results suggest that caregivers saw museum exhibits as places where children could be creative, engage in cooperative play, engage in physical activity, and understand people's feelings.

Luke and other researchers in Children's Museum Network (2019) investigated whether or not caregivers learn something about their children during a visit to the children's museum, what they learn, and what it is about the children's museum that caregivers feel contributes to that learning. Their results

suggest that caregivers do learn about their children at the museum. They learn about how their children think and solve problems, what they're interested in and not interested in, and how they interact with others. Also, their results suggest that caregivers perceive that the children's museum is a unique place for this learning to happen.

The above-mentioned research studies raise the distinct argument that, in part, what's valuable for caregivers during a children's museum visit is that they have an opportunity to observe their child learning and better understand how their child learns. However, most of this research was done with European-American caregivers. Considering that perceptions of play and learning vary between cultures (Farver, 1993; Gaskin, 1990; Gaskins, Haight, & Lancy, 2007; Schwartzman, 1979), further investigation involving caregivers from different cultures is needed.

The Cultural Meaning of Play and Learning in Children's Museums

Cultural Perspectives on Play

Research on culture and play have accumulated over decades. Much of the early ethnographic work was focused on describing children's everyday activities, and reported that play was an important, and arguably universal, activity because it served as a medium of socialization (Gaskin, 2014). While acknowledging children's play relates to its cultural context and the specific content of play might vary across cultures, earlier anthropologists believed that play should be considered a universal characteristic of children (Schwartzman, 1978).

More recent anthropological work has focused on differences in the meaning of play more than the similarities of form. It describes how cultural understandings influence the process of play as experienced by children in their everyday lives (Gaskins, Haight, & Lancy, 2007). Gaskins and her

colleagues have acknowledged two differences across cultures that influence children's play: the relationship of work and education to play; and caregiver beliefs about the nature and value of play, which are inextricably tied to more general beliefs about mechanisms for children's learning and development. Gaskins and her colleagues have argued that these two differences yield three major cultural perspectives on children's play: i) the cultivation of play, ii) the acceptance of play, or iii) the curtailing of play. This section will look at Gaskins' points and elaborate on them with more research material to explore how play is experienced differently across cultures.

The first perspective —the cultivation of play—is found most strikingly in European-American culture. Play is recognized by adults as having important consequences for cognitive, social, and emotional development. It is encouraged by providing time, space, objects, and play partners, and adults even engage as playmates (Gaskins et al., 2007). Previous research shows that in societies where play is cultivated, parents often actively sustain or even extend the children's play (Haight & Miller, 1993; Lancy, 2007; Farver & Wimbarti, 1995; Farver & Shin, 2000; Parmar, Harkness, & Super, 2004).

Rogoff, Mistry, Göncü, and Mosier (1993) examined how toddlers and their caregivers from four cultural communities collaborate in shared activities. The study focuses both on similarities across communities in processes of guided participation--structuring children's participation and bridging between their understanding and that of their caregivers--and on differences in how guided participation occurs. Four communities were studied: a Mayan Indian town in Guatemala, a middle-class urban group in the United States, a tribal village in India, and a middle-class urban neighborhood in Turkey. In each community, the researchers visited the families of 14 toddlers (aged 12-24 months) for an interview that was focused on child-rearing practices, which included observations of caregivers helping the toddlers

operate novel objects spontaneously during adult activities. One of the results shows that American mothers view play as beneficial for children and often see themselves as play partners more than Guatemalan mothers who do not believe play to be important for children's development.

The second approach—the acceptance of play—is currently very common throughout the world and was common across the United States a generation or two ago, and still is among some non-dominant cultural groups. In this model, play is seen as a spontaneous activity of children, but adults do not structure or participate in it (Gaskins et al., 2007). Farver (1993) gives a good example of how this model shapes the play in Mexico and some Italian families, where mothers accept play but place less emphasis on play as a medium for learning. Mothers do not see their roles in play and leave that activity to older siblings and neighbors.

Moreover, Maureen Vandermaas-Peeler (2002) suggests that the amount of attention devoted to play in a particular society depends in part on the cultural beliefs about the nature of childhood, and on the adults' specific goals for their young children. The third cultural approach, curtailment of play, can be used to further illustrate this idea. In this model, the amount of play is limited because some other activity is judged to be more important, for example, work and education. Gaskins' (1990) research in a Mayan community revealed that preschool children spent very little time playing because of the household work demands. Play is also sometimes discouraged by caregivers when it is seen as conflicting with educational goals. Vong's (2012) research in private Chinese kindergartens demonstrate that Chinese parents prioritize academic goals for children and play at school is not believed to contribute to those goals. This view is also shared by many Asian cultures (Parmar et al., 2004).

The above-mentioned research reveals that parents' perception of play and parent-child

interactions during play differs widely by culture. Although play could at least be one medium for learning in childhood, the cultural specificity of play's role in learning and developmental needs to be more rigorously investigated.

Caregivers' Cultural Beliefs about Play, Learning and Interaction in Children's Museum

During a visit to a children's museum, caregivers across cultures bring different beliefs about play, learning, and family social interactions. Situated in previous research, this section will examine two aspects of learning in children's museum setting: 1) cultural variation in caregivers' perceptions of play and whether play contributes to learning, and 2) cultural variation in parent-child interactions and whether caregivers' view themselves as playmates.

Fasoli (2014) investigated how parents' beliefs about of play impact parent-child interaction among Latino and Euro-American parents. The study included 31 Euro-American and 25 Latino parents visiting the Chicago Children's Museum. Parents' models of play were assessed through interviews and naturalistic observations. Viewing the responses to the reason for children's play, compared to the 66% of Euro-American parents who understood play as a learning activity, 33% Latino held the same belief and 66% of Latinos parents considered play as amusement and fun. Corresponding to the belief of play, Latino parents had less interaction, viewing other children as make the best play partners for their child. Analysis revealed ethnic group differences in parent-child play that corresponded with parental beliefs about play. An unanticipated finding was the similar rate of didactic interaction among Latino and Euro-American parents.

Another research study investigating cultural groups was done by Gaskins (2008). The research studied the ethnotheories of play and learning of three distinct cultural groups that are frequent museum

visitors: European-Americans, African-Americans, and Latin-American. In surveys with mothers, researchers measured whether they identify learning as an outcome of play and how often they identify themselves as appropriate playmates for their children. European-American mothers were the most likely to express a belief that children learn through play (80%), African-Americans were somewhat less likely (60%), and Latinas were least likely (45%). In responding to questions about what they would do in a number of short scenarios, European-American mothers most often indicated that they would choose to be playmates for their children (in 79% of the scenarios). African-Americans make that choice the least often (in 27% of the scenarios), they were more likely to give their children space to play independently. If they perceive an activity as learning, not play, they are more likely to participate. Latinas fall in between (in 49% of the scenarios). Latina mothers are not very likely to identify a connection between play and learning, but they are somewhat likely to join in the play activity anyway.

Future Implications

Aspects of culture are important within their original settings, but they also have weight when people migrate to a new setting, as when people move to a setting where different aspects of culture exist. Slaughter and Dombrowski in their 1989 review and research agenda recognized that "culture should be expanded to include a focus on intergenerational transmission of behavior in both culturally continuous and discontinuous contexts" (Slaughter & Dombrowski, 1989, p. 285 in Frost et al. , 2012, p.223) Slaughter and Dombrowski argue that children should be studied both in continuous contexts, where their cultures have remained in place for generations and in "discontinuous" contexts, where because of migration they may be encountering multiple cultural influences. The research agenda suggested by their writing will require much work, for example, looking at different migrant groups to

see how their cultures and play have meaning in relationship to new contexts.

The above-mentioned research shows cultural variation in caregivers' beliefs surrounding play, learning, and interaction in children's museum. However, there still exist some limitations. First, less is known about other cultural groups, for example, Asian caregivers and children. Second, most research has viewed family visits to children's museum as a child-centered experience, focusing less on what is valuable for caregivers. Third, previous research explored general beliefs about play and whether or not caregivers are involved in child's play. However, less is known about what happens if caregivers do not actively engage in child's play, and whether the learning still happens, or the experience is still valuable. Due to these limitations, further investigation of cultural variation in children's museum is still needed.

Chapter 3: Methods

The purpose of this study was to explore whether or not Asian caregivers learn something about their child(ren)'s learning during a visit to the children's museum, what they learn, and what it is about the children's museum that caregivers feel contributes to that learning. Specifically, the study was guided by the following questions:

1. What are Asian caregivers' motivations for visiting the Children's Museum?
2. Do Asian caregivers say they learn something about their children's learning during a visit to the children's museum? If so, what is it they say they learned? If not, what is it they say for not observing anything about their children's learning?
3. What is it about the children's museum experience that Asian caregivers feel contributes to that learning?

Research Design

This study was designed as a descriptive survey. A survey design "provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population" (Creswell, 2013, p. 155). To generalize findings to a larger population, data were collected from a random sample of the Asian caregivers in children's museum.

Data Collection

The research was conducted at the KidsQuest Children's Museum in Bellevue, WA. This site was selected because it has a significant number of Asian families who visit. Asian caregivers were selected at random, at some point during their museum visit. The researcher used two steps to recruit to participants. First, the researcher used convenience sampling,

wherein every individual who appeared to be an Asian caregiver was approached for participation. Then, the researcher asked whether they identify themselves as Asian caregivers. Prior to participating in the research, all Asian caregivers were informed of their rights as research participants and verbal consent was obtained.

Data were collected through in-person, semi- structured interviews with 11 questions, some open-ended and some closed-ended (see Appendix A for the interview guide). Each interview ranged in time from 10 to15 minutes. This study replicated a research study done by the Children's Museums Research Network(CMRN)which examined what caregivers observe about their children's learning during a visit to the children's museum(Luke, Tomczuk, Foutz, Rivera, Brahms, Nelson, Hahn, Swank, & McKenney, 2019). The questions in the interviews (see Appendix A) were from the instrument used in CMRN study. The questions were intended to explore Asian caregivers' observations about their children's learning during their visit.

Participants

A total of 35 Asian caregivers participated in this study. Thirty-three of them were parents and two of them were grandparents. Table 1 shows the description of the study participants.

Table 1. Description of the participating Asian caregivers (n = 35)

Characteristic	Sample
Caregiver sex	
Female	80% (n=30)
Male	20% (n=5)
Caregiver age	
20-29 years	3% (n=1)
30-39 years	91% (n=32)

60-69 years	6% (n=2)
Group size	
2	63% (n=22)
3-4	37% (n=13)
# of adults in the group	
1 adult	71% (n=25)
2 adults	29% (n=10)
# of children in the group	
1 child	74% (n=26)
2 children	26% (n=9)
Ages of the children in the group	
0-2 years	15% (n=7)
3-5 years	60% (n=26)
6-10 years	25% (n=11)
Museum membership	
Member	89%(n=31)
Non-member	11% (n=4)
Museum visitation	
0–3 visits in the last 12 months	6%(n=2)
4–7 visits in the last 12 months	37%(n=13)
8+ visits in the last 12 months	57% (n=20)

Data Analysis

Interviews were audio recorded and transcribed. Those interviews that were conducted in Chinese were then translated into English by the researcher, who is fully fluent in both languages. Qualitative data from the open-ended questions were analyzed with an emergent content analysis procedure. The responses were coded with the coding rubric (see Appendix B) in order to identify themes across participant response. Closed-ended responses were quantified using descriptive statistics.

Limitations

Limitations of the study first derive from the self-reported nature of the interview. This method collected caregivers' reflections on their museum visit and their children's learning. Data may vary based on how sensitive participants were to their children's learning

cues and how articulate they could be about those observations. As a result, the quality and richness of data might vary depending on how introspective each participant is or could chooses to be during the interview. The closed-ended questions with Likert scale were designed to mitigate this potential limitation.

Tied to this, the nature of the interviewing process itself had potential for social satisficing from participants. Demand characteristics may exist. Participants might have formed an interpretation of the research's purpose and subconsciously responded to fit that interpretation. Participants in this study were asked about their observations about their children's learning. Considering the dynamic between researcher and participant, caregivers might have expressed the more socially acceptable answer and responded in the way they thought the researcher expected them to.

Furthermore, this study only recruited Asian caregivers who spoke Chinese or English. As a result, the data are not be representative of enough the whole Asian population.

Meanwhile, the learning in children's museum is play-based. What caregivers observe about their children's learning might relate to what perceptions they hold about play. As a result, the data might vary depending on how much they understand and value children's play.

Finally, the sample of this study was relatively small due to the onset of the COVID-19 pandemic, and the subsequent closing lockdown of the museum. When presenting the results, the finding was therefore interpreted through a cautionary lens.

Chapter 4: Results and Discussion

This chapter presents the results of the qualitative interviews designed to understand whether and what Asian caregivers observe about their children's learning during a visit to the children's museum. The results provide answers to the following questions:

1. What are Asian caregivers' motivations for visiting the Children's Museum?
2. Do Asian caregivers say they learn something about their children's learning during a visit to the children's museum? If so, what is it they say they learned? If not, what is it they say for not observing anything about their children's learning?
3. What is it about the children's museum experience that Asian caregivers feel contributes to that learning?

Data were analyzed according to the coding rubric found in Appendix B.

R1. What are Asian caregivers' motivations for visiting the Children's Museum?

The very first question of the interview asked caregivers why they came to the children's museum on that day. Participant responses were coded into 6 emergent categories.

Of the 35 Asian caregivers who participated in this study, 83%(n=29) came to children's museum because of some aspects of their child(ren)'s experience. For example, they reported, "It is beneficial for my kid's general development" and "It is a fun place to play". Sixty percent (n=21) of caregivers indicated something specific about the children's museum offered as a motivation to visit. Those things included "safe places for children", various exhibitions, family-friendly facilities, and hands-on activities catering for family. Forty-nine percent (n=17) expressed their motivations in terms of socializing/interacting with others. For instance, they had a playdate, they wanted to have a quality

family time, or they wanted their children to meet with other peers. For some caregivers, visiting the children's museum also offered an opportunity for their children to get familiar with foreign surroundings and culture. Thirty-seven percent (n=13) came to the children's museum out of convenience. Weather, membership, time availability, "having lunch nearby," or "needed something to do" were some factors listed. Thirty-four percent (n=12) mentioned child(ren)'s preference/choice to visit. For example, one caregiver described "my kid loves playing here. So, when we decided to go outside, she asked me to come here."

Finally, twenty-three percent (n=8) noted that they chose the children's museum to visit because of some aspects of the adult's experience. Caregivers viewed the children's museum as a nice place for them to relax without worrying too much about their kids and they felt they had "enough knowledge in facilitating their children." Some elder caregivers specifically mentioned the language barriers. They thought the children's museum was "a comfortable place for adults who cannot speak or read English well."

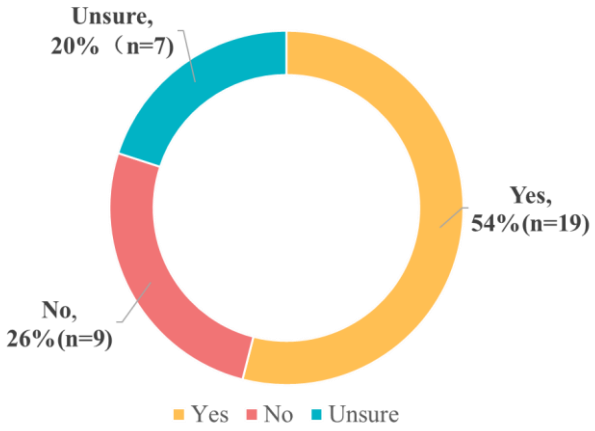
The results of this study were mostly consistent with results from Letourneau (2017) who identified four major motivations amongst caregivers taking their children to a children's museum: 1) The desire to spend time together as a family, 2) The opportunity to have novel experiences, 3) The opportunity for learning experiences, and 4) The opportunity for child-directed play. Taken together, these studies reveal the possibility that a big part of what caregivers are looking for in a children's museum's visit is related to their children's play and learning.

R2. Do Asian caregivers say they learn something about their children's learning during a visit to the children's museum? If not, what is it they say for not observing anything

about their children's learning?

Participant caregivers were asked whether they thought they observed anything about how their child(ren) learn(s). Figure 1 shows the distribution of their responses.

Figure 1：Percentage of the Asian caregivers' indication on whether they observed anything about how their child(ren) learn(s) (N=35)



These findings are slightly different from results in the Children's Museum Research Network study (Luke et al., 2019). Luke et al. found that 70% (n=145) of caregivers said they observed something about how their child(ren) learn during a children's museum visit, while only 54% (n=19) of Asian caregivers said the same in this study.

Caregivers in this study who felt they had not observed anything about how their children learn (26%, n=9) raised a range of reasons to explain. Their responses were coded into 4 emergent categories.

Six of the 9 caregivers who reported not observing anything about their child(ren)'s learning explained that they did not view the experience of a children's museum visit in terms of learning. While most of these caregivers indeed acknowledged the general value of the children's museum for their children, they did not intentionally look for learning. One caregiver shared,

> "…because I didn't intentionally do that. Most of the time, she plays by herself and with her peers. I only check her to see where she is now and if she is safe. I

> don't expect I'm the monitor for her learning here. She does not need to or has to learn anything from here. This is not a school. I don't mean that she can't learn anything from here. It surely will have a good impact on her development while she's exploring and playing with friends…It's good if she makes some progress here but it doesn't matter if she doesn't. And I'm definitely not going to force this to happen."

When explaining their responses, many caregivers in this category specifically referred to their definition of learning. While acknowledging the value of a children's museum visit, they associated learning in the interview question with academic learning/domain specific learning. For example, one caregiver voiced,

> "I didn't observe that she learned the new word or new knowledge like science, art, history... This place is not for those learning. They don't have exhibition in those topics like the traditional museum. But she still might experience something here which is beneficial for her development. I don't mean to achieve that goal. We just play here joyfully and give her any support she needs…"

Five of the 9 caregivers referred to doing other stuff or not paying attention to their child(ren)'s learning. Some of them were reading books, browsing the website, or chatting with others. For example, one caregiver explained,

> "To be honest, I just sit here reading this book. It's safe for him to play alone…No, it's not because of the museum, just me. These activities surely have benefits on his development. But I don't put too much pressure on him to learn something seriously. We just want to have some fun. I didn't really pay attention to see what he's doing. I sometimes check him to make sure he is safe. He might learn something, but I can't tell it explicitly."

Caregivers who said they were unsure about whether they observed about anything their children's learning (20%, n=7) also raised the question of the definition of learning. In the words of another participant,

> "It depends on how you define learning. I mean, if you define it as the content children learn at school, I don't think I observe any of those. But I surely observe something about my child as she interacted with others. I don't know if that count her learning. I don't picture the outcome of this experience is seriously learning something. We just want to play here and have fun together."

These findings are different from results in the Children's Museum Research Network study (Luke et al., 2019). Luke et al. found that when describing the reason why they did not observe anything about their child(ren)'s learning, 33%(n=8) of caregivers reported that they already knew about how their child learns, while this kind of description explanation did not surface among the Asian caregivers' responses. Twenty-nine percent (n=7) of caregivers in Luke et al.'s study explained that they did not look for learning, while 67% (n=6) of Asian caregivers said the same way. Luke et al. found that 21%(n=5) of caregivers thought playing and fun were not learning, while 22% (n=2) Asian caregivers said the same way. While Luke et al. found that 21%(n=7) of caregivers mentioned the museum environment challenges and extraneous pressures, none of the Asian caregivers' responses were related to these categories. Asian caregivers also mentioned about doing other stuff or not paying attention to their child(ren)'s learning and raised the question of the definition of learning, while caregivers in Luke et al.'s study did not report such responses.

R2. What did caregivers say they learned about their children's learning?

In this study, what Asian caregivers said they learned about their child(ren)'s learning was measured in two questions. First, the researcher provided caregivers with 7 statements describing possible discoveries they might have made about their child(ren)'s learning during their visit. For each one, the researcher asked them to indicate that either a) yes, it was true for them; b) no, it was not true for them; c) they were unsure if was true for them; or d) it was not applicable. Table 2 shows the distribution of caregivers' responses across these statements.

Table 2. Asian caregivers' indication of what they learned about their child(ren) during their visit (N = 35).

I discovered something about...	**Yes**	**No**	**Unsure**	**NA**
what my child(ren) is/are interested in or not interested in	97% (n=34)	3% (n=1)	0% (n=0)	0 0%
what my child(ren) is/are good at or not good at	89% (n=31)	3% (n=1)	6% (n=2)	3% (n=1)
how my child(ren) think(s)	26% (n=9)	31% (n=11)	31% (n=11)	11% (n=4)
how my child(ren) solve(s) problems	29% (n=10)	34% (n=12)	29% (n=10)	9% (n=3)
how my child(ren) interact(s) with others	100% (n=35)	0% (n=0)	0% (n=0)	0% (n=0)
how my child(ren) regulate(s) his/her/their emotions	20% (n=7)	49% (n=17)	23% (n=8)	9% (n=3)
my relationship with my child(ren)	31% (n=11)	17% (n=6)	6% (n=2)	46% (n=16)

These findings are different from results in the Children's Museum Research Network study (Luke et al., 2019). The distribution of the indications on discovering child(ren)'s interest, what child(ren) is/are good at, and how they interact with other are quite the same. While Luke et al. found 64% (n=133) of caregivers indicated that they discovered how their child(ren) think(s), only 26% (n=9) of Asian caregivers reported the same. In addition, Luke et al. found that 65% of caregivers reported discovering how their child(ren) solve(s) problems, while only 29% (n=10) of Asian caregiver indicated the same. While in Luke et al.'s study, 46% (n=96) of caregivers reported discovering how their child(ren) regulates emotions, while only 20%(n=7) reported the same. Moreover, Luke et al. found 54% (n=113) caregivers discovering relationship with their child(ren), while only 31% (n=11) reported the same and 46%(n=16) of Asian caregivers responded not applicable to this category.

Second, Asian caregivers who responded "Yes" to "whether they thought they observed anything about how their child(ren) learn(s)" were then asked to tell what they observed about their child(ren)'s learning in an open-ended question. Participant responses were coded into 7 emergent categories.

Specifically, of 19 caregivers who answered the open-ended question, the largest category of responses (40%, n=14) was references to a process of learning. Respondents described that they found their child(ren) learned by sensory exploration, "observed, imitated, and asked me questions", and "learn from each other". Thirty-one percent of the respondents (n=11) discovered something about their child(ren)'s interest. For example, one caregiver said she found her daughter "likes activities involving storytelling and self-expression" and another caregivers shared his son's preference " he likes the activities related to the former experience, the Lego kits, the train, the picture books about animals. When he plays, he will talk with me about those prior experience".

Twenty-six percent of the respondents(n=9) talked about peer's roles on their children's learning and twenty percent of the respondents(n=7) described the impact of the adults' roles. Those impact were mostly related to imitation, encouragement, and facilitation. For example, one caregiver said "Yeah, I can see how she improves and tries to learn from her peers. For example, they are playing the train(toy) together. I can tell she tries to follow her (the other girl) 's way to improve her road better and more complex." When talking about the role of the adults, one participant remarked,

> "Well, I find she explore it or know things from touching and trying them. I can't just direct her how to do it or help her do it, if I do that, she doesn't know how to do it either the next time. She only knows it from doing it by herself. Oh, I'm not good at this but the staff helps her a lot. He (the staff) is a professional, he knows how to teach her better than me in making a hands-on project. When I help her, I will become impatient and rush to finish a project, I find that every time it turns out to be my project. She doesn't participate in it at the end. I try to learn how he helps her. I think his way is better."

Twenty-three percent of the respondents(n=8) expressed what they observed their children's learning in terms of cognitive skills. For example, caregivers mentioned problem solving, creativity, language and literacy learning, numbers and counting and their children's memory. Seventeen percent of

the respondents(n=6) referred to the social-emotional skills. They reported that they discovered their children learn how to express feelings, share, corporate, and negotiate when interacting with other kids. One caregiver shared,

> "She learns how to communicate and negotiate with others. When it's crowded on weekends, you can't have a large space to play. They need to share pieces with each other. She rarely talks and play with others when we first came here. I encouraged her to talk with peers and she seemed to be really shy. Now she's getting older and getting more familiar with this place, I can see she improves the social skills."

Seventeen percent of the respondents(n=6) referred to the characteristic when speaking about their children's learning. For example, one caregiver described,

> "I'm glad she's willing to try different things. She has so much patience. She can spend a long time focusing on one thing. It surprises me that she won't get bored or upset by the failure. She thinks positively and will keep trying even if she fails."

These findings are slight different from the results in the Children's Museum Research Network study (Luke et al., 2019), Luke et al. found that the most common aspects that caregivers discovered about were child(ren)'s learning process (66%, n=92), what they were interested in or not interested in(17%, n=23), trait or characteristic(12%, n=16), and how child(ren) interact with others(10%, n=14). While among the Asian caregivers' description, the most common were child(ren)'s learning process (40%, n=14), what they were interested in or not interested in(31%, n=11), cognitive skills (23%, n=8), and social-emotional skills(17%, n=6).

R3. What was it about the children's museum experience that Asian caregivers felt contributed to their learning about their children's learning?

In this study, three questions were used to measure what aspects of the children's museum might contribute to caregivers' observation about their child(ren)'s learning. First, Asian caregivers who

responded "Yes" to "whether they thought they observed anything about how their child(ren) learn(s)" were then asked to describe what they and their child(ren) were doing in the museum when they observed something about how their child(ren) learn(s). Participant responses for where they were at the museum were coded into 4 emergent categories, the description of their behaviors was coded into 3 categories, and children's behavior was coded into 7 emergent categories. Tables 3, 4, 5 show the distribution of responses across these categories.

Table 3. Asian caregivers' descriptions of the location when they observed their child(ren) learning (N=19).

Where were you in the museum?	**Frequency**
Interacting with peers and parents *show me his project; try to figure out together*	68% (n=13)
Exhibit or museum area *recycle rebuild; story tree; tot orchard*	53% (n=10)
Materials or objects *stuffed animals; costumes; train; blocks*	53% (n=10)
Interacting with facilitators *asking question to improve his robots*	11% (n=4)

Table 4. Asian caregivers' descriptions of the what were they doing when they observed their child(ren) learning(N=19).

What were you doing?	**Frequency**
Standing by but ready to scaffold at anytime *I watch him and help him when I notice his need*	42% (n=8)
Standing by doing other stuff, only supported if asked *I was here browsing the phone; he came to me for help*	32% (n=6)
Actively play with children *I was having a role-play game together*	26% (n=5)

Table 5. Asian caregivers' descriptions of what were their children doing when they observed their child(ren) learning (N=19).

What were your child(ren) doing?	**Percent of Participants**
Asking question(s) *he asks me why the water spin; ask for advice*	58% (n=11)
Creating or making something *he tries to build a robot out of the recycle materials*	47% (n=9)
Problem solving *she tries to figure out how to balance this tilt board*	42% (n=8)
Imitating/ modelling *she imitates how others play and adds on that to form her way*	37% (n=7)
Social interaction *talk to others; share; negotiate*	32% (n=6)
Language/narration *she elaborates on the stuffed vegies and make up a farm story*	26% (n=5)
Pretending or role playing *they pretend to be customers and the sellers at the marketplace*	16% (n=3)
Sensory exploration *feel; he is touching; smell; observe; watch; listen*	16% (n=3)
Physical activity *use his body to show us how the fish moves*	11% (n=2)

Results in Tables 3, 4, and 5 suggested that handling objects and problem solving can initiate questions which offer context for Asian caregivers to know more about their children. In addition, results in Table 4 suggested that when parents standby, they still learn about their children and can support them in certain ways.

The results are quite the same among two groups of caregivers in the descriptions about the location where caregivers observed their child(ren). The results are different when caregivers describe what they were doing at that moment. Luke et al. found that 41%(n=51) caregivers were playing with children when observing their learning, while only 26% (n=5) of Asian caregivers reported actively playing with their child(ren) and 42% (n=8) Asian caregivers reported they standing by but ready to scaffold at any time. The results are also different when caregivers describe what their child(ren) were

doing at that moment. The most common child(ren)'s behaviors mentioned by caregivers in Luke et al.'s study were watching/observing, manipulating objects, listening, and imitating while Asian caregivers reported as asking questions, creating/making something, problem solving, and imitating.

Second, Asian caregivers who responded "Yes" to "whether they thought they observed anything about how their child(ren) learn(s)" were gave a list of 10 support within the children's museum that might have made it possible for them to observe how their child(ren) learn(s). They were asked to rate each support on a scale from 1 to 7, where 1 was not at all important for observing how my child(ren) learn(s) and 7 was extremely important for observing how my child(ren) learn(s). Table 6 shows caregivers' ratings.

Table 6. Asian caregivers' ratings of museum support that might have made it possible for them to observe how their child(ren) learn (N =19).

Facilitations	Importance Mean (1-7)	NA
Opportunity to watch my child(ren) play	7	0% (n=0)
Floor staff who engaged my child(ren) in conversation	7	68% (n=13)
Opportunity to watch my child(ren) interact with other children	6.91	37% (n=7)
Floor staff who shared specific information	6.8	74% (n=14)
Activities that my child(ren) and I worked on together	6.67	5% (n=1)
Activities that sparked conversations between me and my child(ren)	6.42	0% (n=0)
Floor staff who engaged me in conversation about my child(ren)	6	89% (n=17)
Signs that explained what my child(ren) might be learning at different activities	5.67	68% (n=13)
Materials/activities that I don't have access to at home	5.10	0% (n=0)
Signs that suggested ways I can support my child(ren)'s learning	5	68% (n=13)

The results are different from the findings in the Children's Museum Research Network study (Luke et al., 2019), Luke et al. found that caregivers felt they learned about their children's learning most when engaged in materials/activities they don't have at home and/or activities that involve social interaction. While Asian caregivers felt opportunities to watch their children play and interact with staff or peers contributed the most to their observation.

Thirdly, Asian caregivers were asked to what extent they thought the children's museum presented a unique opportunity for them to observe how their child(ren) learn(s). They were given a 7-point scale, where 1 was not at all unique and 7 was completely unique. The mean rating was 5.08, while the mean rating in the Children's Museum Research Network study were slightly higher which is 5.77.

Caregivers were also asked to describe what made the children's museum a unique opportunity for them to observe how their child(ren) learn(s). Their responses were coded into 5 emergent categories. Caregivers also described if not, why it was not unique. Their responses were coded into 3 emergent categories. Table 7 and 8 shows the distribution of responses across these categories.

Table 7. Asian caregivers' perceptions of what makes a children's museum a unique opportunity for them to observe how their child(ren) learn(s) (N =22).

How the museum is unique	**Frequency**
Activities/ exhibits, materials available at the museum designed for young children and their family	100% (n=22)
General environment designed for family and safe for children	81% (n=18)
Staff or Facilitator	36% (n=8)
Presence of other young visitors	36% (n=8)
Children's behaviors encouraged at the museum	27% (n=6)

Of the 35 Asian caregivers who participated in this study, all of the caregivers indicated that the activities/exhibits catering for young children and their families present unique opportunities for them to

learn about their children's learning. One caregiver shared,

> "There are various activities at the same place(here), so I can know what he is interested and what he is not interested. Then I can support his interest. For example, after finding out he's interested in the water room, we watch crash course kids on water and engineering at home."

The next highest rate reason caregivers reported was referred to the general safe and comfortable environment designed for family with young children. Caregivers felt relaxed so they have time and space to watch their kids without worrying anything. For example, one participant voiced,

> "This place offers so many hands-on activities for children. They are designed for reasons, which make it unique. I believe in that my child can get some good impact from here. (also) It's a safe and comfortable place for family. You know, if a parent wants to watch their children, they need to have a cozy environment, which enable them to do that. Unlike other museums, here, I don't need to rush to the next things to see and watch my child closely in case he gets lost. I feel comfortable here and get spare time to play with and watch my kid."

The results are quite same as the findings in the Children's Museum Research Network study (Luke et al., 2019). Both Euro-American and Asian caregivers most frequently referenced activities and materials enabled the museum to be a unique place to learning about their children.

Table 8. Asian caregivers' perceptions of why children's museum is not a unique opportunity for them to observe how their child(ren) learn(s) (N =12).

How the museum is not unique	**Frequency**
Parents do not look for learning *It's not a place intentionally for learning and it's not that unique*	75% (n=9)
Museum do not reveal learning value *I don't really know what he is supposed to learn here*	50% (n=6)
Museum activities found elsewhere *We also join these activities such as go to the playground*	41% (n=5)

Results from Table 8 suggest Asian parents who did not view children's museum as a unique place for them to obverse their child(ren)'s learning in large part because they did not intentionally look for learning during the visit, which echoed with the explanation of those caregivers who described why they did not observe anything about their children's learning. Different from the Asian caregivers, Euro-

American caregivers in Luke et al.'s study did not refer to this. The Euro-American however most frequently referenced museum activities could be found elsewhere in the explanation of why they did not perceive children's museum as a unique place to observe their children's learning.

Chapter 5: Conclusions and Implications

The purpose of this study was to explore whether or not Asian caregivers learn something about their child(ren)'s learning during a visit to the children's museum, what they learn, and what it is about the children's museum that caregivers feel contributes to that learning. Data were collected through in-person structured interviews. Only 35 caregivers participated in the study due to the onset of the COVID-19 pandemic, and the subsequent closing lockdown of the museum. Results revealed the facilitations within the children's museum experience that may have contributed (and those that may not have contributed) to Asian caregivers learning about their child(ren)'s learning. As the field's interest in visitors from different cultures continues to develop, this study may contribute to the larger discussion on cultural variation and constant in parents' belief about play and learning. Before discussing the results, it is important to note that the range of socioeconomic variation in this study was relatively restricted and participants likely represented more economically affluent families.

Conclusions

Asian caregivers reported three main motivations for visiting a children's museum, including a positive benefit for their child(ren), a specific aspect of children's museum, and their child's ability to engage socially. This finding is consistent with results from Letourneau (2017) who identified four major motivations amongst caregivers taking their children to a children's museum: 1) The desire to spend time together as a family, 2) The opportunity to have novel experiences, 3) The opportunity for learning experiences, and 4) The opportunity for child-directed play. Taken together, these studies reveal the possibility that a big part of what caregivers are looking for in a children's museum's visit is related to their children's play and learning experience.

Overall, more than half of the Asian caregivers reported that they observed something about how their child(ren) learn(s). This reinforces previous research demonstrating that caregivers learn from their children during a visit to a children's museum (Letourneau et al., 2017; Luke et al., 2019; Wood et al., 2010).

When describing what they observed about their child(ren)'s learning, Asian caregivers learned about their children's learning process, their child(ren)'s interests, peer's impact on that learning, and cognitive skills their child(ren) acquired during the museum visit. While there has been some research contributing to what parents notice about their children in the museum (Letourneau et al., 2017; Luke et al., 2019, Song et al. 2017), less research has been conducted specifically with Asian caregivers. This study addressed the gap by contributing empirical data that shows more specifically what aspects Asian caregivers learn about their children.

The majority of participants were standing nearby but ready to scaffold at any time when they observed how their child(ren) learns. Some participants also observed how their child(ren) learns by actively playing with them or just standing nearby doing other stuff, only supported if asked. This finding reinforces previous research showing that caregivers play different roles during a museum visit and some caregivers though standing back, they make choices about their actions to mediate behaviors and utilize resources to support their children's learning experience (Allen, 2004; Barton et al., 2005; Beaumont, 2010; Bernstein et al., 2005; Letourneau et al. 2017; Leinhardt et al., 2006; Wood, 2010). The majority of participants reported that they observed how their child(ren) learns when their children were asking questions and handling the object. This finding is consistent with previous research which demonstrates question-asking and answering can support children's learning (Chouinard et al., 2007;

Fivush et al., 2006; Haden, 2010; Hedrick, 2009; Kelemen et al., 2005; Uttal et al., 2014).

Asian caregivers felt they learned about their children most while watching their children play and watching or engaging in activities which initiated social interaction and conversation between children or between children and caregivers. This finding reinforces the idea that family learning happens during conversations and interaction (Callanan et al., 2001; Callanan et al., 2007; National Research Council, 2009; Rigney et al., 2011; Valle et al., 2006). The finding also reinforces previous research showing the family learning potential behind seemingly non-engaging behaviors (Alexander et al., 2013; Ash, 2003; Callanan et al., 2019; Crowley et al., 2001; Crowley et al., 2007; Davidsson et al., 2012; Downey et al., 2010; Wood et al., 2010).

Implications

Research

In this study, half of the participants stated that they observed something about their child(ren)'s learning while the other half said they did not, or they were unsure. The within-group analyses revealed that Asian caregivers who did not observe anything about their child(ren)'s learning mainly struggled with the definition of learning. They seemed to associate "learning" with formal, academic learning and they did not feel that the children's museum experience could prompt much of that learning. They also did not intentionally look for that type of learning in a children's museum. However, they acknowledged that the children's museum experience especially play could have developmental value for their children. They seemed to have different goals between formal and informal education, and have their own principles to adjust their behavior to support their children. Meanwhile, some Asian caregivers who stated observing about their child(ren)'s learning by simply watching reported that they ascribed more

learning value in the child-child interaction in a children's museum.

The sample of current study is small and while these results are suggestive, they are by no means generalizable. More interviews are needed with Asian caregivers. Further research could replicate this study to have more data from Asian caregivers and test the findings from the current study.

In addition, consistent with previous research, the current finding also suggests that if a study is to understand the role of culture in shaping parents' belief of play and learning, it needs to approach variety of factors that may have utility in explaining parents' belief. Thus, further research could employ focus group or interview to examine Asian parents' belief about their children's learning among different age groups of children to see what role age plays in whether or not Asian parents observe something about their children's learning in a children's museum. That study might compare caregivers with toddlers to caregivers with preschoolers, to see if there are differences.

Furthermore, another further study could interview Asian parents about their belief about the relation among play and learning in both informal and formal settings to examine whether the various context influences parents' beliefs about learning through play.

At the same time, the current findings also question cultural variation in parental beliefs of the value of play as a main factor to understand parental involvement. Some participants in this study reported that they did not interact with their children not because they value less about play but they thought children playing alone or playing with peers could maximize their children's learning. Future research could employ interview to examine Asian caregivers' personal philosophy about the ways how children learn, exploring whether or not Asian caregivers believes that being playmates with children is the best way to improve their children's learning.

Practice

When ratings of museum facilitations that might have made it possible for them to observe how their child(ren) learn, Asian caregivers in this study assigned relatively high value on the facilitation from the floor staff. This finding suggests that Asian caregivers may value of staff facilitation and the opportunities which initiate the staff involvement might not be enough. In consideration of this finding, to better serve the local community, children's museum could conduct internal evaluation studies to investigate caregivers' need and expectation for floor staff, asking questions such as what would the museum need to change about the floor staff facilitation, and testing differential outcomes of the various facilitation strategies.

Meanwhile, Asian caregivers rated signage as least important and relevant in observing their children's learning. In light of this result, children's museum could conduct evaluation study to examine whether it about the language barrier or whether the informational being delivered is not helpful. Based on that result, children's museum could use multiple languages on their signage to meet the local needs and employ more effective interpretive strategies.

In addition, Asian caregivers in the current study reported that handling objects and problem-solving during activities can initiate questions which offer context for them to know more about their children's learning process, interest, and social interaction. Asian caregivers also ascribed the uniqueness of the children's museum visit to the activities/ exhibits, materials available at the museum designed for young children and their family. In consideration of this finding, children's museum could continue designing activities and exhibits catering to families and children's developmental needs.

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Appendix A: Instrument

Hello, my name is Shiyu and I'm a UW graduate student doing a research to better understand what caregivers learn about their children during a visit to the children's museum. Your participation is voluntary. If you have questions about this study, please tell me or contact me at shiyus2@uw.edu.

1. **Think back to your children's museum visit today. Why did you come to the children's museum today? Please be as specific as possible.**

2. **During your visit, did you discover anything about your child(ren) (or the child(ren) you were with)?**

I discovered something about...				
	Yes	No	Unsure	Not applicable
What my child(ren) is/are interested in or not interested in	☐	☐	☐	☐
What my child(ren) is/are good at or not good at	☐	☐	☐	☐
How my child(ren) think(s)	☐	☐	☐	☐
How my child(ren) solve(s) problems	☐	☐	☐	☐
How my child(ren) interact(s) with others	☐	☐	☐	☐
How my child(ren) regulate(s) his/her/their emotions	☐	☐	☐	☐
My relationship with my child(ren)	☐	☐	☐	☐

3(a). During your children's museum visit, do you think you observed anything about how your child(ren) learn(s)?

Yes☐	No☐	Unsure☐

3(b). If no, what's your gut feeling about why you didn't observe anything about how your child(ren) learn? Was there something about the museum environment that made this challenging? Please be as specific as possible.

3(c). If yes, please tell me what you observed about your child(ren)'s learning. Be as specific as possible.

3(d). If yes, think of a specific instance during your visit where you felt that you observed something about how your child(ren) learn(s)? Where were you in the museum, and what were you and your child(ren) doing at that time? Be as specific as possible.

3(e). If yes, still thinking about that same instance, indicate what it was about the children's museum environment that you think made it possible for you to observe how your child(ren) learn(s).

	1 Not at all important	2	3	4	5	6	7 extremely important	Not applicable
Opportunity to watch my child(ren) play	☐	☐	☐	☐	☐	☐	☐	☐
Opportunity to watch my child(ren) interact with other children	☐	☐	☐	☐	☐	☐	☐	☐
Floor staff who shared specific information	☐	☐	☐	☐	☐	☐	☐	☐
Floor staff who engaged my child(ren) in conversation	☐	☐	☐	☐	☐	☐	☐	☐
Floor staff who engaged me in conversation about my child(ren)	☐	☐	☐	☐	☐	☐	☐	☐
Signs that suggested ways I can support my child(ren)'s learning	☐	☐	☐	☐	☐	☐	☐	☐
Signs that explained what my child(ren) might be learning at different activities	☐	☐	☐	☐	☐	☐	☐	☐
Activities that my child(ren) and I worked on together	☐	☐	☐	☐	☐	☐	☐	☐
Activities that sparked conversations between me and my child(ren)	☐	☐	☐	☐	☐	☐	☐	☐
Materials/activities that I don't have access to at home	☐	☐	☐	☐	☐	☐	☐	☐
Other: _____								

4.a) To what extent does the children's museum present a unique opportunity for you to observe how your child(ren) learn(s), unlike any other place or experience? [Scaled response, 1=Not at all and 7=Completely]

1	2	3	4	5	6	7

b) Explain your rating above. If you said it's not unique, how is it similar to other activities in which you learn about your child(ren)? If you said it is unique, how so?

5. Please tell us about yourself

a) Tell us about everyone who came to KidsQuest with you today

	Age	Gender	Relation to you
You			
Companion1			
Companion2			
Companion3			
Companion4			
Companion5			
Companion6			

b) Are you a member of KidsQuest Children's museum?

☐ Yes
☐No
☐Unsure

c) How many times have you visited this particular children's museum in the last 12 months?

Thank you so much for sharing your opinions.

Appendix B: Coding Rubric

1. Think back to your children's museum visit today. Why did you come to the children's museum today? Please be as specific as possible.

Code	Code Description	Examples
1	Child's preference/ choice	child loves the museum; child asked to come here; child's favorite place
2	Socialize/ interact with others	parents want their children to meet other children and people; playdate with friends; quality family time; get familiar with surrounded by foreigners; get familiar/experience with new culture;
3	Aspect of the child(ren)'s experience	fun; good for their general development; opportunity for play; good for their personality building; recommended by friend/social media who said it's good for children; prepare for the preschool
4	Something specific the children's museum offers	Hands-on; activities designed for young children and their families; safe place; professional and engaging staff who can facilitate the children; family-friendly facilities;
5	Aspect of the adult's experience	nice place to relax because the place is safe, and I don't need worried about my kids get hurt or lost; nice to place for me to relax; good choice for adults who can't speak or read English well; comfortable for elder people; activities without too many challenges and barriers; have enough knowledge in facilitating their children; have confident in taking care of their child in this place
⑥	Convenience	Rain day; live nearby; have lunch nearby; needed to get out of the house; have a day-off; needed something to do; membership
77	Other	
88	Did not provide relevant answer	

3(b). If **no**, what's your gut feeling about why you didn't observe anything about how your child(ren) learn? Was there something about the museum environment that made this challenging? Please be as specific as possible.

Code	Code Description	Examples
1	Doing other stuff/Not paying attention	Chat with others; browse the website; read a book.
2	Not looking for learning	"I'm here making sure he is safe and having fun in this place. I don't think about this visit in that way (in terms of I need to observe something about his learning). I

		guess he learned something since he tried the water room, he spent time pushing that boxes seeing the transit. This is just my casual seeing. I didn't do it on purpose to see what he and how he's learning. I'm just watching to make sure he is safe".
3	Play/having fun is not learning	"Learning? I think this word is a too serious and formal and it doesn't suit this place. I just want her to play with peers, play freely… have fun here." This is a children's museum for play. Not the traditional museum for learning specific subject. She's too young to learn anything related to science, art, or history, like things in traditional museums. That's why we bring her here to play and development some thinking. For example, I know playing Lego will help children building some skills in later study of math or engineering. （Do you think this thinking can be counted for learning?) No, it's just playing.
77	Other	
88	Did not provide relevant answer	

3(c). If yes, please tell me what you observed about your child(ren)'s learning. Be as specific as possible.

Code	Code Description	Examples
1	Described a process of learning	trial and error; imitate; observe; touches; asks questions; explores then learns by doing; connect to the prior experience
2	Interest/Preference	He likes building stuff; He likes train; She likes to try different things; She likes activities involving storytelling and self-expression
3	Cognitive skills	Problem solving; creativity; language and literacy learning; numbers and counting; memory
4	Social-emotional skills	Learn how to corporate with others; learn how to deal with conflict; how to interact with others; how to express feeling; share; negotiate;
6	Emotional Reaction	Get frustrated when failing many times; get bored if familiar with materials; lose patience after several trials; get upset if no one help;
7	Characteristic	Shy to brave; more outgoing; learn to be more careful; be more confident and independent once she gets familiar with the surrounding, she needs me more when she doesn't know how to do it. "She has so much patience. She can spend a long time

		focusing on one thing. It surprises me that she won't get bored or upset by the failure. She thinks positively and will keep trying even if she fails."
8	Adult's role/ impact on learning	I. "I can't just direct her how to do it or help her do it, if I do that, she doesn't know how to do it either the next time. She only knows it from doing it by herself. When I help her, I will become impatient and rush to finish a project, I find that every time it turns out to be my project. She doesn't participate in it at the end."
9	Peer's role/ impact on learning	I. "She hasn't learned to read yet. He shows her how to read. Sometimes it's wrong. It's lovely. He opens the book read like how I did at home.
77	Other	
88	Did not provide relevant answer	

3(d). If yes, think of a specific instance during your visit where you felt that you observed something about how your child(ren) learn(s)? Where were you in the museum, and what were you and your child(ren) doing at that time? Be as specific as possible.

Coding Rubric: Where and what in the museum?

Code	Code Description	Examples
1	Exhibit name or museum area	Art studio; Recycle Rebuild; Story Tree; Tot Orchard
2	Materials or objects	Ball maze; playing Legos; counting plastic garlic; building stuff
3	Interact with peers and parents	"We were at the marketplace. I sat here (the sofa near her), She wants to stand there and groom the cow. That place has already been taken. She asks my help to talk to another girl to play with her. I encourage her to communicate it by herself. (what she did?) Well, she then asked if she could play with the other girl and they played together."; "Learn from each other"
4	Interact with facilitators	
77	Other	
88	Did not provide relevant answer	

Coding Rubric: What were you doing?

Code	Code Description	Examples
1	Actively play with children	Build stuff together; role-play; story telling;
2	Standby doing other stuff, only supported if asked	"I was here chatting with my sister; he comes to me ask for help..."
3	Standby but ready to scaffold at anytime	"I watched him playing and trying several times, I find him get frustrated, so I offered some advice…."

Coding Rubric: What were you child(ren) doing?

Code	Code Description	Examples
1	Sensory exploration	feel; touch; smell; observe; watch; listen
2	Imitating/ modelling	"She imitates how others play and adds on that to form her way"; "He just follow her moves"
3	Social interaction	talk with others; share; negotiate;
4	Asking 1uestion	Ask for help; ask for advice; ask if confused
5	Physical activity	Us his body to show us how the fish moves; show us the dance she saw on TV; climb the rope tower
6	Language/narration	Elaborate on the stuff vegies and make up a story; tell me about his feeling; teach her brother how to read
7	Pretending or role playing	They pretend to be customers and the sellers at the marketplace
8	Creating or making something	He tries to build a robot out of the recycle materials
9	Problem Solving	She tries to figure out how to balance this tilt board

4.a) To what extent does the children's museum present a unique opportunity for you to observe how your child(ren) learn(s), Explain your rating above. If you said it's not unique, how is it similar to other activities in which you learn about your child(ren)? If you said it is unique, how so?

Coding Rubric: If you said it's unique

Code	Code Description	Examples
1	General environment designed for family and safe for children	"It's a safe and comfortable place, it's design for children and their parents which enable me have time and space to observe my children".
2	Activities/ exhibits, materials available at the museum designed for young children and their family	"the activities here cover different topic and help her development from various aspects, engineer, art, social, literacy…It offers opportunities for me to learn more about her."
3	Staff or Facilitator	"they are professional educators, who know how to engage and help my child learning more than I do"; "they are good at teaching young children"
4	Presence of other young visitors	"they can meet and play with their peers here which give me opportunity to see how she interacts/cooperate with others when create something"
5	Children's behaviors encouraged at the museum	Encourage to explore, make mistakes, play, experiment, have fun
77	Other	

Coding Rubric: If you said it's not unique

Code	Code Description	Examples
1	Parents do not look for learning	"It's not a place intentionally for learning and it's not that unique"

2	Museum do not reveal learning value	"I can't tell much of the learning value here"
3	Museum activities found elsewhere	We also join these activities such as go to the playground
77	Other	