Understanding Adult Social Stances During a Children's Museum Visit

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Abstract: A child's visit to a children's museum is greatly influenced by the adults that accompany them. This paper presents initial work on adult engagement in children's museums, the stances they take, and how the environment may impact these stances. To do so, we build off both Falk and Storksdieck's (2005) contextual model for learning and Shina and Acosta's (2000) categorization of adult pretend play in children's museums. Results suggest that adults take on many roles, shifting quickly between being *playmates*, *educators*, and *timeouts*. Adult stances are influenced by the environment as well as personal reasons for visiting the museum and their knowledge and interests. While previous research highlights children's *islands of expertise* as a way for adults to relate museum exhibits to a child's life, we suggest that the adults' *islands of expertise and interest* also play an important role on what stances the adults take and meaning making.

Introduction

This paper presents initial work on adult engagement in children's museums, the stances they take, and how the learning environment may shape or impact these stances. Adult engagement can include adults asking questions to promote scientific practices (Jant, Haden, Uttal, & Babcock, 2014), engaging in pretend play (Shine & Acosta, 2000), or being a disengaged observer (Dockser, 1989). This observational study describes when and where parents took on these different social stances and examines how these stances related to the adult's exhibit expectations and knowledge of the exhibit content.

Results suggest that parents take on both active and passive stances in pretend play, serve as educators, and periodically take "timeouts" from engagement, often shifting between stances within one exhibit. The patterns of activity are related both to the parents' reasons for visiting and their comfort levels with different knowledge domains, and are also impacted by the total amount of time spent in the museum. We hope to build upon this coding scheme to better understand engagement patterns as we update the museum exhibits to support parental and family engagement.

Theory

While children's museums can offer an engaging and playful learning environment, a child's experience and what they learn is greatly mediated by the adults and peers that accompany them (Crowley, et al., 2001). According to sociocultural learning theory (Vygotsky, 1978), we learn through social interactions with others, and as such, the interactions children have with their parents while experiencing a children's museum exhibit can promote learning (Crowley & Callanan, 1998). Adult stances are important to consider as prior work has found a positive relationship between parent-child interaction quality and exhibit engagement, increasing a child's interest, motivation, and learning (Crowley et al, 2001). In order to better understand parental stances, we utilized both Falk and Storksdieck's (2005) contextual model for learning and Shina and Acosta's (2000) coding scheme for adult pretend play in children's museums.

Contextual model for museum learning

Each visitor to a museum is unique, bringing their own history, experiences, and expectation to the museum space (Falk and Storksdieck, 2005). To understand what, and more importantly why, a person learns in an informal setting, we must look at the visitor's personal history, sociocultural experience at the museum, and the physical setting of the informal learning experience. This wholistic approach to one's visit helps evaluate how both the nature of the museum environment – exhibits and docents – *and* visitors' prior knowledge and experiences can shape meaning-making. This work has been done at historical sites and science centers and we expand this work to children's museums.

Within the contextual model for museum learning, we can look at the personal differences of the parent, the child, and the stances they take. Adults will typically gravitate towards topics they are more familiar and comfortable with, learning more about those areas (Falk and Storksdieck, 2005). They may also utilize their child's knowledge, or *islands of expertise* (Crowley and Jacobs, 2002), to help their children construct knowledge.

Adult stances in children's museums

Shine and Acosta (2000) developed a coding scheme for analyzing adult contributions to pretend play while in a children's museum. They focused on two different types on interactions: in-frame and out-of-frame. During in frame play, the adult is participating in a pretend scenario, either *pretend play* (acting and speaking nonliterally) or *scaffolding* (participating in play, but making it conform to the rules or reality). Adult out-of-frame contributions to play can take on the form of *prompting*, *supporting*, or *observing*. Prompting describes a situation in which the adult gives the child ideas for play but does not actually participate or take on a pretend play role themselves. Supporting occurs when the adult comments on or assists in play without directing the child. Observing, meanwhile, occurs when an adult watches play without comment or participation. This work, however, focuses only on pretend play and does not look at other types of engagement or children's museum exhibits that do not afford pretend play.

Methods

Participants

Five adult-child groups participated. A researcher recruited participants by approaching them as they waited in line to enter the children's museum. All groups were European American, which limits the generalizability of the study, but is representative of the small, Midwestern city in which the research took place. Adults who consented to participate were asked to visit the museum as they normally would and were informed that the researcher would take observational notes.

Data sources

Data were gathered through observations of museum visits and post-visit interviews. Group visits varied in duration between 90 minutes to 150 minutes with an average visit of 135 minutes. During observations, the researcher maintained an unobtrusive distance, staying only close enough to hear participant conversations. The researcher took detailed notes by observing the adult's actions for 15 seconds and then noting the location of the interaction, the adult's actions, and a synopsis of conversational interaction. Each 15 second unit became one segment of interaction. Immediately following the observations, the researcher wrote reflections on the groups' visit and developed vignettes of memorable interactions from the observation notes.

Follow-up interviews with the adult occurred two to ten days following the visit. These interviews lasted between thirty and fifty minutes. All interviews were audio recorded and transcribed by the researcher.

Context of research

This paper examines five exhibits at a Midwestern United States Children's Museum. Three exhibits are designed around pretend play and are facsimiles of their real-world counterparts: a grocery store, a pizzeria, and a hospital. Two exhibits focus on science inquiry and provide resources and instructions to complete a variety of hands on science activities. One exhibit focuses on physics, inclined planes, and bodies in motion (called the "physics room") and the other focuses on the science of aerodynamics related to airplanes (called the "flight room").

Analysis

Observation data were analyzed using a thematic coding scheme that was iteratively adapted from Shine and Acosta's (2000) work - *pretend play, scaffolding, prompting, supporting,* or *observing* - on adult-child interactions in a museum. Through responsive and repeated analysis of the data, this inquiry suggests two additional categories be added to their original coding scheme: *educating* and *timeouts*. *Educating* captures moments when adults actively try to teach the child something related to (pre-)academic knowledge. This new category looks for times where the adult tries to teach the child explicitly, prompt reflection, or relate information to prior knowledge. In these *educating* moments, the adult uses the items and experience within the children's museum to help the child learn something new about the world. The second new category is *timeouts.* This category was included to capture the moments when an adult was engaged with other adults, individual exploration of an exhibit, or interactions with objects that are not a part of the exhibits, such as phones or magazines.

These codes were then applied to 15 second intervals of the adult's behavior. Through this analysis, we were able to track changes of parental stances over time and across exhibits. We used this data to look for trends both within and across groups.

In line with the contextual model for learning (Falk and Storksdieck, 2005), we used interview data to better understand the reasons behind groups' actions. The adults were able to highlight their reasons for visiting the museum, how their personal knowledge or experience shaped their actions at individual exhibits, and how

they thought about learning and play during their visit. These differences help place behavior, and potential meaning making, into a more wholistic perspective. Together, the interval-based codes, vignettes from observations, and interview data were used to develop cases of adult-child group behavior and meaning making.

Results

Results suggest that parents take on both active and passive stances in pretend play, serving as educators, and periodically taking "timeouts" from engagement, often shifting between stances within one exhibit. One potential indicator of what stance an adult would take is related to their personal *islands of expertise and interest*. It was typically the adult's knowledge or interest that would guide whether they took on a stance of playmate or educator.

Adults moving between stances

All adult participants engaged with each stance at some point during their visit, serving as playmates, educators, supporters, observers, and taking timeouts. At the same time, their individual experiences were vastly different. Although every adult took on each stance, they did so with different frequencies. David, a father in his early 40s, spent far more time than any of the other adults participating in pretend play. While he occasionally took on the stance of educator, he usually played with his daughter in the exhibits. During his interview he explained that he went to the museum to spend quality time with his daughter and create memories. If she learned something along the way, he thought it would be great, but he wanted to make sure they had fun first. This attitude was reflected in their visit to the airplane room. While they were in a flight simulator, David, who enjoys and has played with flight simulators in the past, began to explain the controls and how the flaps on the wings of the plane helped it turn. When she disregarded his tutoring, he quickly reverted to pretend play and became her copilot, calling out mayday as they crashed again.

Adults would sometimes switch quickly between stances, often taking on many stances within each exhibit. This is not to say their experiences at each exhibit were identical, however, as their personal goals and reasons for visiting the museum shaped their actions. While in the pizzeria, Bruce, a father in his early 30s, was helping his son make pizzas. He would shift from the in-frame stance of a pretend customer, giving his order, to out-of-frame activities like asking about the different shapes of the pizza toppings, requesting his bill, or prompting his son to count the money and help make change. Bruce moved rapidly between stances of playmate and educator, taking on the varying stances as they came up in play. Not all adults, however, assumed the 'educating' stance in the pizzeria. David, who was focused on having fun and pretend play, never asked questions about shapes or numbers.

Adult's *islands of expertise and interest*

The stances that parents took at each exhibit was influenced by their personal knowledge and interest in the topic. Crowley and Jacobs (2002) originally conceptualized islands of expertise as a term to describe children's in-depth domain knowledge, such as dinosaurs or trains. In our observations, however, the adults' islands of expertise and interest drove their engagement with their children. The adults used these islands as opportunities to convey to the children more information about domains familiar or interesting to the adult regardless of the children's interest. This was particularly true when the adults took on an educating stance.

Molly, a mother in her early 30s, was visiting the hospital exhibit with her three young daughters. This exhibit offers an opportunity to participate in both pretend play and in moments of educating. Molly spent almost the entire time in this exhibit as an *educator*. She identified the names of bones on x-rays, taught her daughters how to listen to a heartbeat, find a pulse, and properly brush their teeth. As her daughters played doctor, she took on an out-of-frame educating stance, making their play medically accurate by correcting how her daughters tested their reflexes and put on splints. During her interview, Molly told me that her husband is an EMT and that she has picked up a lot of knowledge over the years. She enjoys reading age appropriate books to her daughters about health and going to the hospital. It was through her own knowledge and interest that Molly was able to take on the educator stance.

This stands in contrast to Jenna's experience in the physics room. Jenna, a mother in her mid-20s, and her daughter went into the physics room where there are a variety of scientific exhibits related to gravity, slopes, and friction. This room was designed with the goal of helping parents take on the stance of an educator. Instead, Jenna spent most of the time in the room focusing on play. Her and her daughter built and raced cars, sent golf balls down ramps, and tried to get a golf ball to land into a cup. They did not talk about science or follow the experiments as they were presented by the museum signage. Jenna said she did so for two reasons: First, her goal for the visit was to have fun with her daughter. Second, she could not remember the terms and lessons from her own science education. She said, "There were definitely things I was stumped on, like terms like friction and weight or whatever…so it made me definitely had to think about, oh gosh, how do I explain this to her because I

don't think about that stuff anymore." It was her past experiences, her purpose for visiting, and her personal knowledge on the topic that shaped what stance she took in the exhibit. This is not arguing that no learning took place as her daughter had experiences that she will shape how she thinks about gravity and friction, even if the words were never said, but rather is highlighting that Jenna took on the stance of playmate rather than educator due to her personal relationship with the topic.

Museum fatigue

Parental engagement as both playmates and educators decreased drastically over time. This falls in line with Falk, Koran, Dierking, and Dreblow's (1985) finding that most visitors have their peak amount of content focus during the first 15 minutes and that it tapers off considerably by the end of the visit. Visitors only deeply focus on exhibits for a short period of time before they stop engaging and instead move quickly between exhibits. All parents started with high engagement levels as both educators and playmates, shifting frequently between the two. The interval-based coding of adult behavior over time, described previously, revealed that the time spent educating and playing decreased over time and that the number and duration of timeouts increased. David, for example, said that he really would have liked to have seen what was on the second floor, but they had already been there for over two hours and he was ready to go. While it is disingenuous to expect parents to spend all, or even most, of their time engaged as educators or playmates, these trends may help museum designers think about how visitors engage with exhibits, what may help relieve museum fatigue, and how to support adults and our learning goals.

Implications and conclusions

Children's museum exhibit designers that are oriented towards children's meaning making should think about how the experience for adults shapes the nature of these visits. Design of these spaces is often child-focused, but the ways in which the accompanying adult engages can change the child's experience. Adults take on many stances within and across exhibits, serving as playmates and educators. The stances that they take, however, are influenced by their personal islands of expertise and interests. While museum designers may have intended for certain exhibits to focus on learning or on pretend play, the accompanying adult's knowledge and interest drives the stance they take and how their experience with the child is framed. Designers can think about how to speak to adults' prior knowledge, their social stances as parents, educators, and playmates, and how they experience fatigue throughout a visit. This could materialize through the placement of seating, prompts to reflect on personal experiences, or brief educational material that may help parents feel comfortable leading their children through the exhibits. This initial work needs to be replicated in other settings and with a wider variety of families with different ethnic and socioeconomic backgrounds to validate its usefulness for museum designers.

References

Crowley, K., & Callanan, M. (1998). Describing and supporting collaborative scientific thinking in parent-child interactions. *Journal of Museum Education, 23*(1), 12-17

Crowley, K., Callanan, M. A., Jipson, J. L., Galco, J., Topping, K., & Shrager, J. (2001). Shared scientific thinking in everyday parent-child activity. *Science Education, 85,* 712-732

Crowley, K., & Jacobs, M. (2002). Building islands of expertise in everyday family activity. In Leinhardt, G., Crowley, K., & Knutson, K., *Learning conversations in museums* (333-356) Mahwah, NJ: Lawrence Erlbaum Associates, Publishers

Dockser, L. S. (1989). Mothers in children's museums: A neglected dynamic. (Unpublished doctoral dissertation). University of Pennsylvania, Philadelphia, PA. http://repository.upenn.edu/dissertations/AAI9004780

Falk, J. K., Koran, J. J., Dierking, L. D., & Dreblow, L. (1985) Predicting visitor behavior. *Curator*, *28*(4), 326-332

Falk, J., & Storksdieck, M. (2005). Using the contextual model of learning to understand visitor learning from a science center exhibition. *Science Education*, *89*(5), 744-778

Jant, E. A., Haden, C. A., Uttal, D. H., & Babcock, E. (2014). Conversation and object manipulation influence children's learning in a museum. *Child Development, 85*(5), 2029-2045.

Shine, S., & Acosta, T. Y. (2000). Parent-child social play in a children's museum. *Family Relations, 49*(1), 45-52

Vygotsky, L. S. (1978). Mind in society: The development of higher psychological processes. Cambridge, MA: Harvard University Press