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Supporting Parents as Teachers: Foundations of Family Education at the Children's Museum of Houston

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Amelia (9) and Lola (7) walk up to the “Kid Lift” at the Children’s Museum of Houston. They each sit on a tractor seat that is fastened to an upright beam, attach seatbelts around their waists, grab the knotted ropes in front of them, and begin to hoist themselves up the beam as their parents watch. Despite being stronger, Amelia strains to lift herself up, exerting much more effort than her sister. Chagrinned, she points this out to her parents. Her dad asks “Why do you think this is happening - What do you think is going on?”

Introduction

Why is Lola having an easier time pulling herself up? The rope elevating her seat passes through four pulleys that are attached to the ceiling, while Amelia’s only goes through two. As Amelia and Lola look for an answer, they notice the difference in the pulley systems and begin to ask questions and form ideas. They then test their assumptions, switching places and experiencing for themselves the difference in mechanical advantage that the extra pulleys provide. The girls and their parents talk and laugh, with Amelia sharing what she learned about pulleys last year when she was in the third grade. Both of the girls will most likely recall the experience in the years that follow – with Lola now having a head start on what she will learn about pulleys when she enters the third grade, and with Amelia prepared to learn more about mechanical advantage when the subject is introduced to her as a sixth grader.

This interaction is an example of family learning at the Children’s Museum of Houston (CMH), a core priority of the organization. It speaks to

the fact that while many of the Museum's youngest visitors have had a classroom introduction to a concept, few have previously had the chance to experience the phenomena in ways that help them form foundational understandings. This interaction is also just one of the countless experiences that families may have in resource-rich, educational environments that offer socially-enhanced, hands-on interactions. This article provides an overview of the ways in which the Museum supports this type of parent and child exploration, and the underlying learning foundations that serve as critical preparation for secondary school and beyond.

Literacy and language development begin the moment a baby is born. The first five years of a child's life are a period of rapid and remarkable development, with the family serving as the social group that is most critical to early learning. Educators and policy makers recognize that the investment society makes in education is currently insufficient to prepare children – particularly those living in low income households - for school, let alone the workforce. Research performed since the 1960's in a variety of disciplines (including education, psychology, sociology, and criminal justice) has shown that active parental engagement is crucial to children's success in school and throughout life, with this involvement being more predictive of success than factors related to economic status,

ethnicity/race, and parents' levels of educational attainment.¹ In support, a longitudinal study by Belsky showed that early parenting practices have significant impacts on children's reading, vocabulary and math achievement.²

For the past 40 years, it has been widely known that family interactions matter significantly more than the influence of schools with respect to the academic success of economically disadvantaged students.³ When examining the achievement gap between African American and Anglo children in kindergarten through third grade, early parenting behavior has also been shown to have a more significant relationship to school achievement than participation in early childhood education.⁴ This finding mirrors the conclusions of Falk and Dierking, who eloquently explain: "During childhood people develop a foundation for lifelong learning...family members play a vital role in helping children develop a joy for learning and an understanding that learning is a process, something that all children and adults do, all their lives."⁵

Parents (as well as grandparents and other adults who serve as caregivers) need a variety of allies to build school readiness and augment their children's learning outside of the school day, where children in the U.S. spend approximately 80% of their waking hours. Because the learning process happens across multiple timeframes and settings, the

precepts of family learning recognize the importance of “supporting deep links between formal schooling and the many other learning institutions,” including homes, libraries, after-school clubs, and museums.⁶ A growing body of research is demonstrating that these informal learning environments provide a significant influence in building children’s knowledge and skills, with “goal-directed free-time activity in safe, supportive environments with responsive adults and peers making sizable contributions to learning, social skills, and mental health.”⁷ Through an array of programs designed to support learning literacy and success in school, the Museum provides parents with tools that help them use the time outside of school to engage their children in learning experiences that reinforce their growth as young learners. Open to all families, this programming is provided by CMH at the Museum, and through partnerships with other community organizations at schools, libraries, social service agencies, and community centers. The end goal of this work is for parents to become better prepared to engage their children in fun and meaningful learning experiences at home and beyond, and to exhibit confidence in doing so.

The Museum's Tenets for Family Learning

Three interconnected elements underlie the Museum's support of parents as their children's earliest teachers.

Parenting Self-Confidence

On some level most parents are nervous about their parenting skills and this doubt may continue to grow along with their children and their children's changing needs. What mother or father hasn't asked, "Am I doing the right things and enough for him? Am I showing her plenty of interesting activities so that she develops confidence and talent? Will they be okay and how can I help them?" Renowned pediatrician, T. Barry Brazelton, has characterized CMH as an institution that fosters parents' confidence, because of the Museum's high regard for the skills that parents have, and for many ways in which CMH encourages their use and further development. Research consistently confirms the relationship between child behavior and the self-esteem of parents, as well as the connection between parents' behavior and their children's self-confidence.^{8,9}

Educational Resources

In articulating Constructivist Theory, Jerome Bruner emphasizes the heuristic nature that is intrinsic to understanding complex concepts such as mechanical advantage. In light of this, he stresses the importance of supporting children with tangible learning experiences from which they can form understandings of inherent, basic principles. These experiences can then function as foundations for later learning as it becomes more abstract in nature.¹⁰ The use of these tangible, hands-on learning experiences is clearly demonstrated when families engage with interactive exhibits at the Museum, conducting their own experiments to learn about related phenomena. Through conversations around these resources, like those in the “Kid Lift” story at the beginning of the article, parents are able to facilitate a direct experience that they and their children might not otherwise have, and may continue their discussions and related associations to things in the world around them long after the experience. For example, by having enjoyed learning by investigating the properties of pulleys at the Museum, children will be much more likely to exhibit curiosity and confidence when instructional material related to pulleys and mechanical advantage is presented in their classrooms. And while the Museum provides many exhibit components that could not be replicated easily in children’s homes, the educational resources it provides through

outreach to parents make use of a wide range of inexpensive items that are generally present in family's homes.

Deep Engagement

The notion of deep engagement (from museum education and research) characterizes the relationship between museums and families as being multilayered and subject to development over time. Research has demonstrated the critical link between museum experiences, deep engagement with exhibits, and informal learning outcomes. And although the learning that takes place at a museum may only represent a beginning, it is a beginning that most often deepens upon reflection on the experience and serves as a scaffold that supports the application of related learning.¹¹ Deep engagement builds upon theories that indicate that learning is an inherently social activity. Lev Vygotsky showed that learning often initiates through interaction with others, and then continues with an individual's independent and internalized understanding.¹² This type of socially motivated experimentation and dialogue is at the heart of what the Museum helps families pursue.

The Museum's Parent Engagement Programs

The exhibits and programming that are provided at the Museum offer a diverse array of learning experiences, with access guaranteed through programs that grant free admission to families in low income situations. To expand the Museum's reach, it provides additional learning resources that are used in families' homes and serve as the basis for facilitation in many locations across the Greater Houston area. These resources provide parents grandparents and other caregivers with activity ideas and strategies for engagement, while also supporting understandings of how family learning is relevant to their children's learning needs. Three of the initiatives that operate under the umbrella of the Museum's Institute for Family Learning include:

Family Literacy Involvement Program

Current efforts to improve student achievement in Houston area schools have exposed a significant gap in children's reading skills, with the acquisition of strong foundational skills in literacy being of primary importance for pre-school and elementary-school aged children. Children who struggle with reading in the early grades will find most subjects difficult, as literacy is a key part of almost every classroom activity. The Family Literacy Involvement Program (FLIP) is strategically designed to

motivate children to be excited about reading with their families and to help them get the most out of these experiences. FLIP is a city-wide system for increasing family learning through the circulation of 2,080 literacy kits loaned through 35 branches of the Houston Public Library. Parents check out the FLIP Kits with a library card and use them at home with children ages birth through eight. Each FLIP Kit includes a book and a description of a related activity, for which all of the needed materials are provided. All the FLIP kits are available in English and Spanish, with a portion provided in Chinese and Vietnamese.

Each of the FLIP activity cards detail engaging ways to read the featured book, provide instructions for a related activity, and suggest a range of similar activities to do as a family. Each of these activities is focused on building literacy skills through reading and related hands on investigations that are engaging to children. In collaboration with Dr. Susan Landry of the University of Texas' Children's Learning Institute, CMH conducted a research study of the effectiveness of the FLIP Kits in Summer 2010, drawing on the experiences of 128 families. Half of these families served as the treatment group and received 10 FLIP Kits during the course of the summer months. The other half (control) received only the books that were in the 10 Kits. The FLIP Kit group surpassed the books-only group on two statistically significant measures. Ninety-four

percent of parents who used the FLIP Kits discovered new skills and interests of their children, as compared to 74% of parents within the books only group. Additionally, 71% percent of parents who used the FLIP Kits anticipated changing their home reading practices as compared to only 48% in the books-only group.¹³

In addition to the external evaluation by University of Texas, FLIP kit users are continually surveyed to assess experience outcomes, age-appropriateness, relevance, and satisfaction. Findings from the 2012-13 annual evaluation (n=1,637) include the following:

- 97% of users planned to check out more FLIP Kits in the next three months.
- 95% felt the FLIP Kits gave them ideas about learning activities to do with their children.
- 94% of user families enjoyed using the FLIP Kits.
- 92% of children learned something new by using FLIP Kits.
- 90% of adults discovered interests and skills of their children for which they were not previously aware.
- 88% of adults reported that FLIP Kits helped them understand how their children relate to reading.
- 84% of children practiced reading skills with the FLIP kits. (The target population is birth through eight with 40% of the children in the sample under three.)

Para los Niños

The Para los Niños program is facilitated in libraries and community centers in locations across Houston, Harris, and Fort Bend Counties. Focused on reaching Spanish-speaking parents, participants engage in

one or more sessions of an eleven-session series of workshops in which they learn and practice methods of igniting the interests of their young children in reading and involving them in educational activities. A museum educator or librarian begins each workshop by singing a song in Spanish and English and then models story-reading. Families then engage in hands-on activities that are related to the story theme and illustrate how they can enhance their family learning engagement at home.

A 2012 survey of Para los Niños participants showed that the program helped parents better understand how to read with their children. One hundred percent of parents reported that they were reading more books with their child and doing more educational activities at home, and 92% reported that the workshops improved their reading habits by prompting them to pause to ask their children to describe the content of illustrations, talk about the story's progression, and ask for a summary of the story line. Additionally:

- 100% of parents felt more confident in their role as their child's first teacher and had a better understanding of how their children learn.
- 92% of parents sang more songs and spent more time playing with their children.
- 50% of parents had begun to network with one to three other parents.

In 2013, a similar survey of attendees provided additional illustrations of the benefits of participation. Ninety-seven percent of respondents

reported feeling more confident about their parenting abilities and 89% had gained new ideas about educational activities. The majority of participants attended more than one workshop (often attending five or six sessions during the course of a year), and 89% indicated that they had repeated activities from the workshops at home.

Parent Stars

This bilingual outreach program is delivered in elementary schools and early childhood centers. Through two program frameworks – large Family Learning Events and smaller Parent Workshops, parents engage in activities designed to improve their ability to build children’s learning literacies and associated success in school. Each event hosts 6 to 15 activities that parents can repeat at home with their children, with coaching tips provided in the activity descriptions that are given to each family. A 2011–2012 study of the program by Professor Patrick Leung, Ph.D., of the University of Houston’s Graduate College of Social Work compared Parent Stars participants to members of the general public. Findings showed that participants in Parent Stars events were 15% more likely to be engaged in, and 17% were more likely to trust their children’s school; 9% more likely to report that their children enjoyed school; and 7% were more likely to rate their children’s school work as excellent.¹⁴

A subsequent evaluation in the 2012-2013 school year compared experimental and control groups over time - prior to the Parent Stars event(s) at a school, and three and six months afterwards. This evaluation tested and confirmed major findings of the prior year's evaluation. Thirteen of fifteen (93%) statically significant measures showed that participation in Parent Stars benefitted parents, children and schools. Participants were more likely to trust and be involved in their schools. Parents were more engaged in their children's learning at home and at school, and their children enjoyed and were excelling in school significantly more.¹⁵

Conclusion

The Children's Museum of Houston's Family learning programs strengthen and reinforce parents in their role as children's foremost teachers by increasing parental self-confidence, providing educational resources and fostering deep engagement. The programs reviewed in this article show how these concepts are actualized through an array of CMH programs that are open to all families. Families learn together and parents receive the tools and activity ideas that connect children's early learning and classroom experiences to their lives at home, and to real experiences in the outside world. Given these programs' solid grounding in educational

theory and their use of research-based practices, evaluations confirm that families served realize significant outcomes. In addition to the immediate benefits of facilitating learning and engagement in the short term, these programs produce long-term benefits that are preparing children for success in secondary school and in the workplace.

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