THE POWER OF PLAY: THE ROLE OF CHILDREN'S MUSEUMS IN KINDERGARTEN READINESS

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ABSTRACT

This study explores the transformative potential of play in preparing young children for Kindergarten, focusing on the intersection of children's museums, caregiver interactions, and school readiness. The study, conducted over an eight-week Pop-Up Classroom program at The Flowerfield Children's Museum, included 52 participants, primarily from low-income backgrounds. Through a mixed-methods approach, including participant observations and caregiver surveys, the research aimed to answer the fundamental question: What is the role of play in preparing children for Kindergarten?

Two significant findings emerged. Firstly, the study illuminated the pivotal role of play in nurturing social-emotional development and communication skills among children. Structured observations revealed a progression in children's curiosity, self-control, and persistence, highlighting the program's positive impact on these essential skills. Secondly, the research highlighted a critical need for targeted guidance among caregivers. Initial caregiver emphasis on academic skills shifted to recognizing the importance of social, emotional, and communication skills in Kindergarten readiness. Caregivers expressed uncertainty about preparing their children for school, underscoring the necessity for comprehensive and accessible support mechanisms.

This study sheds light on the invaluable contributions of children's museums and similar educational programs and underscores the importance of empowering caregivers with effective strategies. The findings advocate for a holistic approach to early childhood education, acknowledging the symbiotic relationship between play-based learning, caregiver involvement, and children's successful transition to formal schooling. The dissertation concludes by offering recommendations for further research, emphasizing the importance of longitudinal studies, diverse socio-economic considerations, and the continuous development of guidance resources.

Ultimately, this research provides a foundation for shaping inclusive and effective early education policies, ensuring all children have equitable access to quality learning experiences, and setting the stage for a brighter educational future.

DEDICATION

To my beloved children, Ella and Max, and my remarkable wife, Courtney,

This dissertation, exploring the pivotal role of play in shaping school readiness, is dedicated to the heartbeats of my life—Ella and Max, whose laughter reminds me of the joy in learning, and Courtney, whose unwavering support has been my strength. Your presence filled the rigorous academic days with love, reminding me daily of the purpose behind this research. Ella and Max, as you embark on your educational journeys, may this work inspire you to embrace learning with enthusiasm and playfulness. May your days be filled with curiosity, and play always be your companion in understanding the world.

Courtney, your enduring encouragement sustained me through the challenges. Your belief in this endeavor gave me the courage to delve deeper. This dissertation is a testament to our shared commitment to education and the transformative power of play in shaping young minds.

Dr. Noelle Paufler, my esteemed adviser, your guidance and expertise shaped this dissertation profoundly. Your encouragement and insightful feedback propelled my research forward, and I am immensely grateful for that.

To my parents, James and Denise Norman, your unwavering belief in my abilities and your sacrifices made this journey possible. Your love and encouragement have been the foundation for my educational pursuits. This work is a testament to your enduring support and the values you instilled in me.

With profound love and gratitude, I dedicate this achievement to you to celebrate our collective belief in the significance of playful learning in nurturing bright, ready minds for the future.

ACKNOWLEDGMENTS

Completing this dissertation has been a journey marked by numerous contributions, support, and valuable connections, for which I am profoundly grateful.

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I am grateful to my dissertation committee members, Dr. Daniella Hall Sutherland, Dr. Jennifer Geddes Hall, and Dr. Anna Brink, whose expertise enriched this research. Your constructive feedback and encouragement have been instrumental. Each of you contributed a unique perspective that shaped the final outcome.

I am also thankful for my colleagues, both past and present. Your camaraderie and intellectual exchange provided a fertile ground for developing ideas and pursuing excellence. The discussions, debates, and shared insights have been indispensable.

To my friends, near and far, who cheered me on during this academic endeavor, your unwavering support was a constant source of motivation. Your encouragement, understanding, and occasional study breaks were much-needed respite on this journey.

To my parents, James and Denise Norman, I owe the foundation upon which this journey began. Your sacrifices, guidance, and enduring belief in my abilities have been the bedrock of my education. This dissertation is a testament to the values you instilled in me.

Finally, I want to express my heartfelt gratitude to everyone who played a role in this dissertation, no matter how small. Your contributions, whether in the form of academic advice, kind words, or a simple gesture of support, have not gone unnoticed.

This research reflects the collective wisdom and support of an extraordinary network of individuals. With immense gratitude, I acknowledge the collaborative efforts of my family, adviser, committee members, colleagues, and friends. Your influence is indelibly imprinted on this work, which would not have been possible without your generosity of time, knowledge, and spirit. Thank you.

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CHAPTER ONE

INTRODUCTION TO THE PROBLEM OF PRACTICE

For many children, starting Kindergarten is one of the most memorable life experiences. The transition to formal school requires skills children need to know before Kindergarten. These *Kindergarten Readiness skills* vary, but researchers and teachers often include a child's emotional, cognitive, social, and physical development in determining if a child will be successful in Kindergarten and beyond. Social, emotional, and behavioral skills are essential for learning. Children who enter Kindergarten with difficulties in these skills are typically impacted by their quality of life and economic self-sufficiency in adulthood (Bettencourt et al., 2017).

The number of children deemed "Kindergarten Ready" has steadily declined in South Carolina since the 2020 COVID pandemic started. In Fall 2020, public school teachers administered the modified Kindergarten Readiness Assessment (KRA) to 48,521 Kindergartners across South Carolina (WestEd, 2021). Teachers assign students' scores to one of three categories:

- Emerging Readiness: Student *demonstrates limited* foundational skills and behaviors that prepare him or her for instruction based on kindergarten standards.
- Approaching Readiness: Student *demonstrates some* foundational skills and behaviors that prepare him or her for instruction based on kindergarten standards.
- Demonstrating Readiness: The student *demonstrates* foundational skills and behaviors that prepare him or her for instruction based on kindergarten standards. (WestED, 2021, p. 2)

South Carolina public school Kindergarten teachers administer The KRA during the first 45 days of school to every student entering the public school system for the first time in Pre-Kindergarten and Kindergarten (Analysis, 2020). The same report describes the previously

assessed domains: Language and Literacy, Mathematics, Physical Well-Being and Motor Development, and Social Foundations (Analysis, 2020). School officials did not administer the full KRA assessment in 2020 due to COVID-19 conditions but a modified version that includes only the Language and Literacy and Mathematics domains. According to the latest report, public schools will continue using modified KRA (WestEd, 2021). The new guidelines for the 2020 modified KRA advised against comparing previous years' results. This is due to limitations such as the changes made to the domains and the reduction of items (WestEd, 2021).

Only 26.8% of the students tested using The KRA were categorized as "Demonstrating Readiness," meaning they entered Kindergarten with sufficient skills, knowledge, and abilities to engage with Kindergarten-level instruction. Of the students tested, 40.4% were at the "Approaching Readiness" level and would need support to engage with Kindergarten-level instruction. Lastly, 32.9% of students tested would need significant help to engage with Kindergarten-level instruction due to their "Emerging Readiness" level testing. Among the students who tested at the Demonstrating Readiness level, 17% identified as African American, 13% identified as Hispanic, and 35% identified as While. About 18% of Pupils in Poverty (PiP) tested at the Demonstrating Readiness level, and 44% of students not in poverty tested at the same level (WestEd, 2021).

Four-year-old Kindergarten (4K) is available in South Carolina for eligible children who will be four years old on or before September 1st. According to the Child Early Reading and Development Education Program, priority admission is given to students who meet the criteria of developmental or financial need. The program focuses on the developmental support children need for Kindergarten (WestEd, 2021). Five-year-old Kindergarten (5K) is required by South

Carolina law for children who will be five years old on or before September 1 unless the parent or guardian signs a waiver.

Caregiver interactions that are sensitive, consistent, and responsive in the first five years of life are among the strongest predictors of children's social-behavioral competence and developmental well-being (Bettencourt et al., 2017). Children's museums allow caregivers to learn new skills, practice, and help children develop social and cognitive skills through play (Luke et al., 2021). This positive environment allows children to learn from active adult guidance and hands-on learning.

The focus of my research is Kindergarten readiness in the Upstate of South Carolina, with attention to Fern County School District (FCSD), Willow County School District (WCSD), and Lily County School District (LCSD), and the role of The Flowerfield Children's Museum to increase Kindergarten readiness through play and caregiver interactions.

Problem of Practice

Before children enter Kindergarten, they are taught social and academic skills at home. Caregivers are vital influencers on children's play and experiences. LaForett and Mendez (2016) explain that play can work as a strategy to negate the impact of poverty with high-quality, stimulating interactions. My study focused on children who live in high-need areas as defined by the Early Development Instrument (EDI).

The EDI is a "validated, population-based measure of early child development in five key domains (physical health, emotional maturity, social competence, language and cognitive skills, and communication skills and general knowledge)" (Janus & Offord, 2007, p. 2). The results from the EDI are population-based and indicate the percentage of children vulnerable in each of the five domains. Children who score at or below the 10^{th} percentile in any domain are

considered "developmentally vulnerable" (Janus et al., 2007). For my study, I used EDI data to determine which census tracts are the most vulnerable and give those students priority placement in the summer Kindergarten readiness program. This program assists children and their caregivers by modeling play-based activities inside the museum to promote Kindergarten readiness skills and by providing materials to continue practicing school readiness skills at their house.

The South Carolina First Steps *Profile of the Ready Kindergarten*er (The Profile) offers caregivers and community members guidance on children's skills to succeed at school. The Profile states, "The Ready Kindergartner, with engaged support from parents, caregivers, and community, has developed the skills and abilities necessary for achievement at age-appropriate levels. He/she is physically, socially, and emotionally prepared to benefit from a quality kindergarten experience" (South Carolina First Steps, 2020, p. 1). The five domains of The Profile are also incorporated into the goals of the children's museum.

According to The South Carolina KRA Annual Technical Report (2020), about 27% of the students in public South Carolina Kindergarten programs tested at the Demonstrating Readiness level in the Fall of 2020. Only 27% of South Carolina public school Kindergarteners entered the school year with sufficient skills, knowledge, and abilities to engage with Kindergarten-level instruction (WestEd, 2021). Table 1.1 shows similar results in the FCSD, WCSD, and LCSD.

Table 1.1

2020 South Carolina Kindergarten Readiness Assessment Data

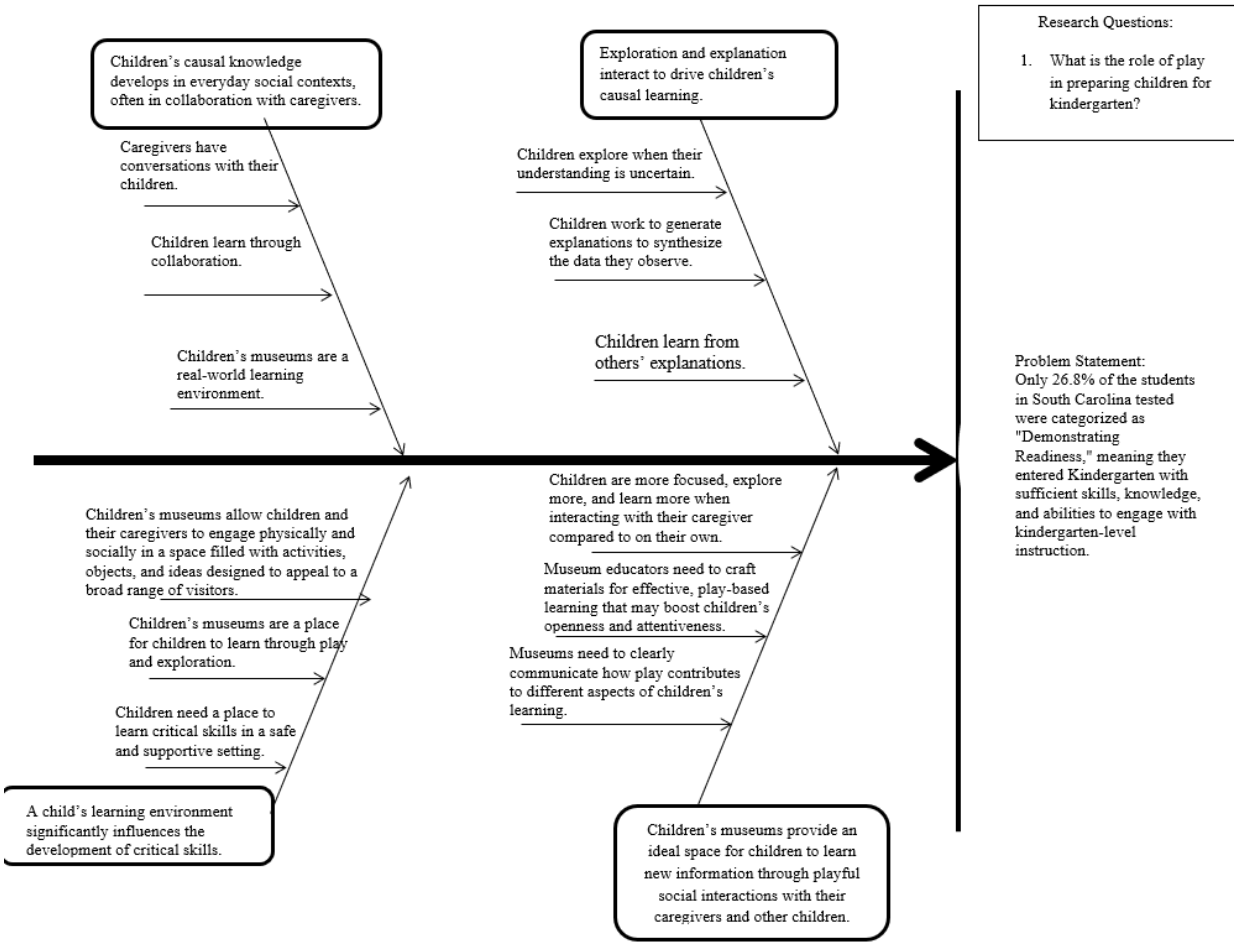
District	Emerging Readiness	Approaching Readiness	Demonstrating Readiness
State Data	33%	40%	27%
Fern County School District	32%	38%	30%

Willow County School District	37%	39%	23%
Lily County School District	40%	28%	32%

My fishbone diagram, Figure 1.1, shows the factors contributing to Kindergarten readiness deficiencies in South Carolina. The purpose of a fishbone diagram is to "determine the quality characteristics you want to improve; identify the major factors causing it; identify the detailed factors that may contribute to the broader factors" (Hinnant-Crawford, 2020, p. 52). My fishbone diagram was created using data from the South Carolina Kindergarten Readiness Assessment, South Carolina Early Literacy Standards, and The South Carolina First Steps Profile of the Ready Kindergartner. My problem statement describes why I am studying ways to help prepare South Carolina children for Kindergarten: Only 26.8% of the students in South Carolina enter Kindergarten with sufficient skills, knowledge, and abilities to engage with Kindergarten-level instruction.

Figure 1.1

Fishbone Diagram



One reason children in South Carolina are not prepared for Kindergarten is that they may not have access to learning environments to collaborate or converse with their caregivers. Children also may not have access to learning environments for exploration and explanation. Caregivers can talk to their children and engage in the learning process with them at children's museums or in the home. Children and their caregivers can practice Kindergarten readiness skills in children's museums and communicate with one another.

Critical skills must be developed in learning environments that allow children to engage physically and socially. Children's museums are where children and their caregivers can learn

through play and exploration. Museum educators can craft materials for effective, play-based learning that may boost children's openness and attentiveness.

This research study aimed to identify interventions needed to increase Kindergarten readiness through play at a children's museum. Children's museums offer a unique environment for caregivers and children to interact and play. The design of the museums is for children to have interactive, imaginative, and fun experiences through play, learning, and discovery (McInnes & Elpidoforou, 2018). My study investigated how children's museums can increase Kindergarten readiness for children from lower socio-economic households through play and at-home caregiver interactions.

I conducted this research at The Flowerfield Children's Museum (Flowerfield). Flowerfield opened in May 2018 as a children's museum explicitly designed for children ages birth to six. The museum is approximately 6,000 square feet with two floors, seven hands-on play exhibits, one classroom, one reading area, and one store. Many Flowerfield visitors attend schools in FCSD, WCSD, or LCSD.

Research Question

This study addressed the following research question: What is the role of play in preparing children for Kindergarten?

Review of Literature

Using play as a tool to increase Kindergarten readiness in children's museums is not a widely researched topic. Literature examining how children's museums affect school readiness through play is limited. My study assists in filling the gap. This literature review looks at the potential of play, school readiness, and the use of children's museums as a resource for caregivers. My study and interventions combined these ideas to examine how children's

museums and other non-traditional educational settings can prepare children and caregivers for Kindergarten.

Children need to play to practice roles, relationships, language, and problem-solving skills (Luke et al., 2021). The Association of Children's Museums (ACM) defines play as children's healthy social, emotional, and cognitive development critical to their learning (Howard, 2019). Luke et al. (2021) explain that play leads to "healthy child development and foundational skill-building from language acquisition to social skills to problem-solving" (p. 64). Play is a learning process (Luke et al., 2021).

Play exposes children to language and allows them to experience social interactions. Children can understand turn-taking through play and learn to express and regulate emotions. Adults can scaffold and act as a guide for these skills and emotions (LaForett & Mendez, 2016). Children's museums give caregivers the space to practice and learn these skills. Children with more opportunities to play before Kindergarten can draw upon these experiences to help them navigate social interactions with peers and classroom expectations (LaForett & Mendez, 2016). Puccioni et al. (2018) explain, "The home literacy environment and, more specifically, the quality and frequency of shared book reading strongly predicts children's learning in mathematics up to 8 years later" (p. 5). These skills can be practiced and observed in children's museums and the home.

Kindergarten readiness skills begin in the home environment. Social, emotional, and behavioral difficulties affect the skills essential for learning. Difficulties in these skills are twice as likely to occur among children who live in poverty (Bettencourt et al., 2017). Studies, such as the Panel Study of Income Dynamics, demonstrated that children of color and those from lower

socio-economic backgrounds spent less time engaging in education-related activities with their caregivers and fewer numeracy-related activities in their home environments (Phillips, 2011).

The caregivers' belief influences the emphasis on school readiness in its importance. Caregivers who place a high value on school readiness help their child's development by enhancing their academic achievement and can offset socio-economic experiences (Puccioni et al., 2018). Caregivers consider school readiness only to include their child's language and literacy skills and do not include higher-order thinking or inferential skills (Puccioni et al., 2018). The National Education Goals Panel (NEGP, 1997) defines school readiness as "children's physical well-being and motor development, social and emotional development, approaches toward learning, communication and language usage, and cognition and general knowledge" (p. 8). Children's museums can offer an educational experience and assist caregivers in learning activities to facilitate learning in the home environment.

Caregivers often need examples of school readiness activities to help their children better. Home-based activities such as making books, telling stories, singing songs, and reading books increase literacy-related skills and reading performance (Puccioni et al., 2018). Part of my study included examples of activities for caregivers to do with their children at home. I also compared the caregiver's perspective of Kindergarten readiness and activities done at home before interventions and after the study concluded.

Purpose of the Study

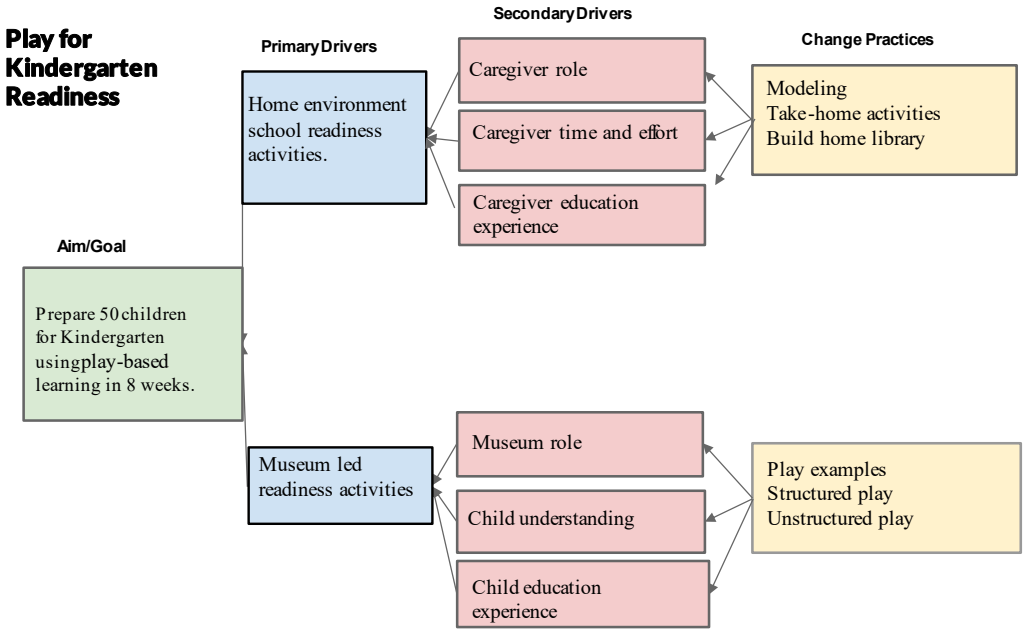
My study aimed to improve Kindergarten readiness for children through play and caregiver interactions at The Flowerfield Children's Museum. For eight weeks, families participated in weekly classes at the museum focusing on one of the domains from The Profile of the Ready Kindergartner. Participants were chosen based on socio-economic status and limited

to those who live within the FCSD, WCSD, or LCSD. If successful, community centers, libraries, and other children's museums throughout South Carolina can replicate the program. This was the second year of school readiness programs at The Flowerfield Children's Museum. Previously, the program was taught by a non-certified teacher and did not follow the same format.

My aim/goal for my study was to prepare 50 children for Kindergarten using play-based learning in eight weeks. The driver diagram in Figure 1.2 shows my aim/goal, primary and secondary drivers, and change practices. The purpose of a driver diagram is to illustrate my hypothesis that I tested during my Plan-Do-Study-Act (PDSA) cycle (Hinnant-Crawford, 2020). In the home environment, caregivers have a defined role, use their time and effort, and have different educational experiences. To better prepare children for Kindergarten, I used a summer program to model school readiness skills, provide take-home activities, and help the children build their home library. The Flowerfield Children's Museum gives play-based learning with structured and unstructured play. A licensed teacher facilitated the museum-led readiness activities.

Figure 1.2

Driver Diagram



Definitions

There are several terms I used in my study. They are defined as follows.

Caregiver: Provision by a family care provider of appropriate personal and health care for a family member or significant other (Swanson et al., 1997, p. 68).

Children's Museum: a nonprofit educational and cultural institution committed to serving the needs and interests of children by providing exhibits and programs that stimulate curiosity and motivate learning (The Association of Children's Museums [ACM], 2019, p. 1).

Kindergarten Readiness: A child's emotional, cognitive, social, and physical development in determining if a child will be successful in Kindergarten and beyond (Bettencourt et al., 2017).

Play: The healthy social, emotional, and cognitive development of children that is critical to their learning (Howard, 2019); play is a learning process (Luke et al., 2021).

Structured Play: Deliberate practice with the specific purpose of creating performance, requiring cognitive and/or physical effort, and relevant to promoting positive skill development (Tortella et al., 2019, p. 2).

Unstructured Play: A form of gross motor or total body movement in which young children exert energy in a freely chosen, fun, and unstructured matter (Tortella et al., 2019, p. 2).

Summary

I studied how children and their caregivers can prepare for Kindergarten using play-based activities in a children's museum. Children need play to practice social and academic skills before they enter Kindergarten. The skills children learn and practice at the museum during their Kindergarten Readiness program are based on the South Carolina First Steps Profile of the Ready Kindergartener. I aimed for the 50 children in my study and their caregivers to be more prepared for Kindergarten.

CHAPTER TWO

METHODS

This mixed methods study examined how children's museums can affect Kindergarten readiness through play and caregiver interventions. The following research question guided the study: What is the role of play in preparing children for Kindergarten?

Research Site

My study was conducted at The Flowerfield Children's Museum in South Carolina in the Lily County School District. Flowerfield is a 6,000-square-foot children's museum for children ages birth to six. The participants for this study were chosen through an application process, see Appendix B, and live within the FSCD, WCSD, or LCSD. Qualifying participants were invited to participate in an eight-week Pop-Up Classroom program designed to prepare the child and caregivers for the start of Kindergarten. The curriculum is based on data collected from The South Carolina KRA and The South Carolina First Steps Profile of the Ready Kindergartner. Applicants for the museum program were chosen on a point system based on zip code, race/ethnicity, age, previous education experience, primary language spoken in the home, school attending in the fall, and age. For my study, I invited all applicants from the museum program who are entering Kindergarten and speak primarily English in their homes to participate.

Positionality

I am a White woman who has lived in South Carolina for over 15 years. I hold a Bachelor of Arts in History, a master's degree in Middle-Level Education, and a master's Certificate in Educational Leadership and Administration. Previously, I worked as a classroom teacher and instructional coach in several Title One middle schools. I worked in the inner city for one year

and in rural environments for six years. As a public middle school educator, I interacted with children and their caregivers daily. My experiences as a classroom teacher gave me a small glimpse into the home lives of my students and the school readiness skills taught to them outside of the traditional classroom. I am currently the Director of The Flowerfield Children's Museum (since November 2021). This was the second year I have implemented this type of summer programming for this age group (i.e., children between four and six years of age).

My role as the museum director could have biased the results of this study. I understand that participants may need to be more confident throughout the data collection process. Even though another museum employee (a summer staff member) facilitated the program, caregivers in this study could have felt inclined to exaggerate activities in the home or the progress their child has made during the interventions. I ensured that caregivers knew that participation was voluntary. Participants were informed that surveys are anonymous, and no identifiable data would be collected. I was not present when participants completed the surveys.

Research Methods and Design

I completed a mixed methods study. This is "a methodological research approach that combines quantitative and qualitative methods for data collection and analysis" (Creswell & Creswell, 2018, p. 4). Qualitative and quantitative data combine surveys, observations, and assessments. Qualitative research involves collecting non-numerical data to investigate participants' concepts, experiences, and perspectives through focus groups, interviews, surveys, observations, and secondary research such as pictures, videos, and audio recordings (Hammarburg et al., 2016). Research to obtain participants' perspectives, beliefs, and experiences regarding a particular situation or context is well-suited for qualitative methodology (Saldaña, 2016). To better understand human experiences and perspectives, qualitative research allows

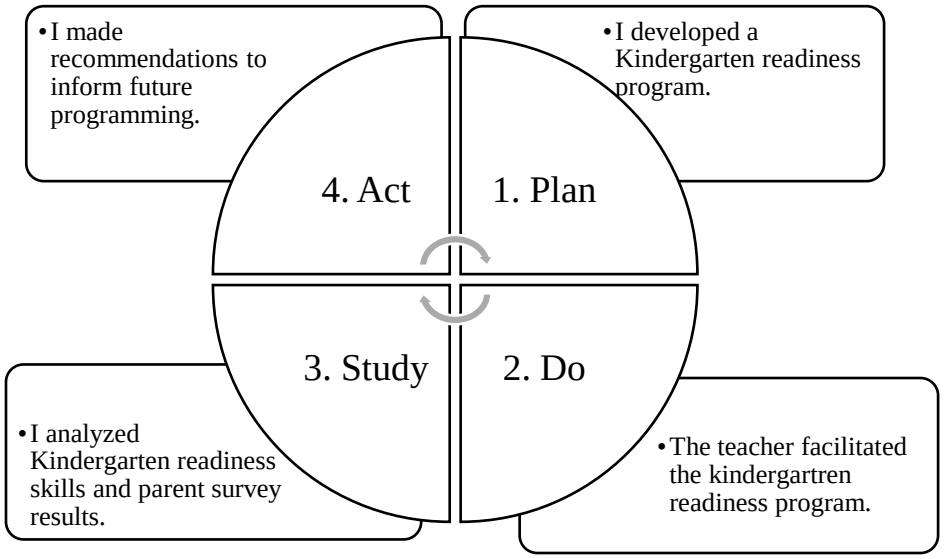
questioning, resulting in answers that are not quantifiable or represented in a numerical value (Cleland, 2017). Quantitative research involves collecting numerical data by examining variables' relationships (Creswell & Creswell, 2018). According to Creswell and Creswell (2018), "these variables, in turn, can be measured, typically on instruments, so that numbered data can be analyzed during statical procedures" (p. 4). I used mixed methods to triangulate my data by integrating quantitative precision and qualitative context.

Theory of Improvement

My research aimed to demonstrate how children's museums can positively affect school readiness through play. Bryk et al. (2015) explain that we should move toward a *design-development orientation* in which "we try out change ideas quickly, analyze what happens, modify the ideas based on what we think we have learned, retry, and continue… toward system improvement" (p. 58). Improvement science focuses on how prevailing policies, organizational structures, and norms affect people's tasks, processes, and tools (Bryk et al., 2015). By using rapid tests of change to "guide the development, revision, and continued fine-tuning of new tools, processes, work roles, and relationships" (p. 8), my goal was to accelerate school readiness for children and their caregivers by participating in my study (Bryk et al., 2015).

Figure 2.1

Plan-Do-Study-Act (PDSA) Cycle



Plan-Do-Study-Act Cycles

Improvement science is a methodological framework guided by three questions (Hinnant-Crawford, 2020):

1. What is the exact problem I am trying to solve?
2. What changes might I introduce to solve it (and why)?
3. How will I know that change is an improvement?

I used a *Plan-Do-Study-Act (PDSA) cycle* to guide my intervention. PDSA cycles are "designed to build new knowledge with each additional cycle- about what works, what does not work, for whom, and under what conditions" (Hinnant-Crawford, 2020, p. 160). My PDSA cycle aimed to investigate how children's museums affect school readiness through plan and caregiver interactions.

The first stage of the PDSA cycle, the plan, focused on the hypothesis and design of the cycle (Bryk et al., 2015). During the second stage, I emphasized collecting data and documenting

the implementation of change. I then analyzed the data and compared the data to my predictions during the third stage of the study. The final stage, the act, required me to decide what to do next, adjust, and try again (Bryk et al., 2015, p. 122).

Plan. My PDSA cycle aimed to prepare 50 children for Kindergarten using play-based instruction over eight weeks. There were 10 classes of children participating in the museum's summer programming. The classes were assigned based on availability, age, and language spoken. Each class included up to 10 children and their caregivers. All the classes included children entering 4K (i.e., children who will turn four years of age before September 1, 2023) and children entering 5K (i.e., children who will turn five years of age before September 1, 2023). Children and their caregivers met for one hour each week. Caregivers were allowed to choose their day and time to meet.

Planning for each class session was completed in advance. Each class was structured in the same manner. The program teacher (a summer museum employee) began each class with a read-aloud, morning meeting, and social-emotional lesson. This was followed by structured play, and the class ended with unstructured play. My study defined structured play as "deliberate practice with the specific purpose of creating performance, requiring cognitive and/or physical effort, and relevant to promoting positive skill development" (Tortella et al., 2019, p. 2). Examples of structured play include chemical reactions (e.g., children make volcanoes and mix slime), games that have children follow directions (e.g., Simon Says), lacing cards, and using scissors. Unstructured play is "a form of gross motor or total body movement in which young children exert energy in a freely chosen, fun, and unstructured matter," according to Tortella et al. (2019, p. 2). Children can build with blocks, play dress-up, create artwork, or choose from other activities during unstructured play. These play opportunities foster growth and

development (Laforett & Mendez, 2016). Each lesson focused on one of the five domains (approaches to learning and inquiry; physical development, self-help, and motor skills; emotional and social development; mathematical thinking; and language and literacy development) from The South Carolina First Steps (2020) Profile of the Ready Kindergartener. Table 2.1 shows each week's theme, museum activities, and take-home activities.

Table 2.1

Weekly Themes and Activities

Theme	Museum Activities	Take-Home Activities
Friendship	Colored Ice Cubes Friendship Recipe Geoboard Summer Shapes	Friendship Bracelets Pour to the Lines
Kindness	Kind Kim Says Paint Kindness Rocks Kindness Quilt	Kindness Tic Tac Toe Kindness Scavenger Hunts
Listening, Speaking, and Understanding	Crunchy Sensory Dough Shaving Cream Rain Clouds Geo Says	Water Cycle in a Bag Instant Rainbow
Community	Caterpillar Patterns Watermelon Volcanoes Shape Painting	Sound Walk Penny Spinners
Number Sense	Pendulum Painting Colorful Rainbow Weaving Lacing Beads	Skittle Pattern Cards Shoelace How-To
Empathy	Emotions Playdough Mats Emotions Puzzle Wooden Expression Matching	Spreading Smiles Orange You Glad Feeder
Early Reading and Writing	Invitation to Invent Sunshine Sun Catcher Zig Zag Pre-Writing Art	Indoor Scavenger Hunt Cereal Bracelet Craft
Approaches to Learning and Inquiry	Unpoppable Bubbles DIY Marble Maze	A Jar of Feelings Floor is Lava

Do. Most children start the summer with little to no soft skills such as communicating with peers, sharing, demonstrating ease with transitions, and sitting still and listening to a story. I used the Ages & Stages Questionaries ® Third Edition (ASQ-3™), Appendices E-H, to determine a child's Kindergarten readiness skills baseline before the classes began. The ASQ-3 is an assessment created by Squires and Bricker to monitor the development of designated groups of infants and young children (Squires et al., 2009, p. 11). According to the American Academy of Pediatrics (2006), "assessments of infants and young children's development should be done on a regular and periodic basis because of the rapid behavior changes that occur in the early years" (p. 405). The same assessment was used again at the end of the program.

Children took home several (between 3-4) books, activities, and materials after each class. The activities included directions in the caregivers' native language. Caregivers were asked to complete the activities with their child before the next class and write a reflection in their provided notebook. The activities were chosen based on the week's theme, materials needed for the activity, and the time caregivers would need to spend to complete the activity.

I used the Illinois Kindergarten Individual Development Survey (KIDS) observation tool, Appendix D, each week to track children's growth in the class. The Illinois Department of Education created this observation tool to assess children's developmental readiness (Kindergarten Readiness Stakeholder Committee, 2011). I used the observation tool for each week's selected indicator to observe each child. By the end of the program, I had a completed KIDS for each child. Caregivers were also asked questions chosen from the observation tool regarding their child's growth. The goal was for children to improve their Kindergarten readiness skills each week.

Study. After each session, I analyzed the observation data to determine if a child's Kindergarten readiness skills had improved. In reviewing this data, I looked at which activities showed the most growth, how much caregiver involvement had influenced development, and if there was a gender gap. I used this data to determine what, if any, changes should be made for the next week's play session (e.g., if the duration of the classes should be extended or reduced, the size of the classes should be increased or decreased, or caregiver involvement should change in some way).

Act. Throughout the summer, I adjusted the program as needed. Future cycles will happen next summer. Since this program can be offered with a teacher, meeting space, and participants, programming could be offered year-round and at different locations. Findings and recommendations from this study will inform planning for future programming at both this museum's sites and other museums nationally and internationally.

Data Collection

Ages & Stages Questionnaires®

Data collection for this study included three tools: ASQ-3, KIDS observation protocol, and caregiver surveys, Appendices B-C. I administered the ASQ-3 (Paul H. Brookes Publishing Company, 2009) to participating children before they began and after they completed the 8-week summer program. The ASQ-3 is a developmental screening tool developed by Squires and Bricker in 1997. The Third Edition of the ASQ-3 allows individuals to check children's progress between one month and 5 ½ years (Squires et al., 2009). Five development domains are evaluated: communication, gross motor, fine motor, problem-solving, and personal-social. The ASQ-3 is used nationwide because it is highly valid, reliable, and accurate. The validity of the ASQ-3 has been evaluated extensively in research that includes children that mirror the United

States population in terms of race, ethnicity, and socio-economic groups. The ASQ-3 is recommended by The American Academy of Pediatrics, the American Academy of Neurology, and First Signs (American Academy of Pediatrics, 2006; Lipkin et al., 2020; Valleley & Roane, 2010).

Typically, both caregivers and professionals complete the ASQ-3. The questionnaire is designed to be completed in 10-15 minutes by caregivers and 2-3 minutes by professionals. The ASQ-3 allows caregivers to highlight their child's skills, strengths, and potential concerns. For this study, I completed the questionnaire for each participating child and calculated the child's score using the ASQ-3 calculator. Caregivers were encouraged to complete the questionnaire online through the South Carolina First Steps for recommendations. I only used data and observations from questionaries I completed in my study.

Illinois Kindergarten Individual Development Survey

I also utilized the Illinois KIDS. The KIDS observation survey is a tool developed to help teachers, administrators, and families better understand children's developmental readiness through observation (isbe.net, n.d.). This observation tool also aligns with the South Carolina Early Childhood Learning Standards and the South Carolina Kindergarten Standards.

The KIDS observation survey has five developmental domains identified by the National Education Goals Panel: physical well-being and motor development, social and emotional development, approaches towards learning (like curiosity, creativity, and cooperatives), language development, and cognition and general knowledge (Kagan, 1995). This observation tool examines the holistic child and defines school readiness as "ready child, ready family, ready school, ready community" (Kindergarten Readiness Assessment Stakeholder Committee, 2011).

Caregiver Surveys

I administered caregiver surveys before the program started and after the program was completed. The surveys asked open-ended questions about caregivers' thoughts on Kindergarten readiness, play in the home, and their views on how their child should prepare to enter Kindergarten. The open-ended questions from the ASQ-3 were added to the pre- and post-surveys for participates in the study. The post-survey included additional questions on what skills the caregiver felt their child improved most.

Data Analysis

Quantitative Data

In this study, I collected quantitative and qualitative data. First, I analyzed the quantitative data collected from the initial ASQ-3 screening I completed for each child at the beginning of the summer program. These results provided a baseline measure of each child's Kindergarten readiness. The ASQ-3 includes 30 questions with six in each of five domains (i.e., communication, gross motor, fine motor, problem-solving, and personal/social). I observed children's behavior and responded to each item, indicating how frequently I observed each behavior (Yes, Sometimes, No). I calculated a sub-score for the observed domains using the ASQ-3 calculator provided by the creators of the survey. I completed the ASQ-3 for each child at the end of the summer program. I compared their pre- and post-scores by domain and overall.

Qualitative Data

I also collected qualitative data through observations and an open-ended caregiver survey. I also observed each child once per week using the KIDS observation survey. Throughout the summer program, I observed each child's behavior across two readiness domains (i.e., Approaching Learning and Self-Regulation and Social and Emotional Development). The observation survey has 29 indicators, with each domain having between three and 10 indicators;

I only used nine indicators from the Approaching Learning and Self-Regulations and Social and Emotional Development domains. Each class session focused on a specific domain. I indicated whether the child demonstrated readiness for each domain during that observation. For example, I observed each child's Social and Emotional Development (five indicators) during the class session focused on that domain. Each child's readiness in each domain was scored as "Building" or "Integrating." Three sublevels are within these performance levels (i.e., Earlier, Middle, and Later). I documented each child's readiness using field notes. Each of the five children's classes met at a different hour of the week (i.e., on a different date and at a different time). At most, I observed 10 children per class session in one of the five domains. By the end of the summer program, I had one completed KIDS observation survey in the Approaching Learning and Self-Regulation and Social and Emotional Domains for each participating child. The program teacher and I observed each class at the same time.

I administered an open-ended survey to caregivers at the end of the summer program. I analyzed the qualitative survey data as described below. In qualitative research, data analysis consists of "preparing and organizing the data for analysis; then reducing the data into themes through a process of coding and condensing the codes; and finally representing the data in figures, tables, or a discussion" (Creswell & Poth, 2018, p. 183). Data analysis occurred in stages. These stages included managing and organizing the data, reading and memoing emergent ideas, describing and classifying codes into themes, developing and accessing interpretations, and representing and visualizing the data (Creswell & Poth, 2018, p. 187). I coded and categorized the findings using descriptive coding by hand. Descriptive coding links comparable contents and summarizes the essential topics in a word or short phrase (Saldaña, 2021, p. 134). As I began to code my data, I considered the following questions (Saldaña, 2021):

1. What are people doing? What are they trying to accomplish?
2. How do members talk about, characterize, and understand what is happening? What assumptions are they making?
3. What did I learn from these notes? Why did I include them?
4. How is what is happening here similar to, or different from, other incidents or events recorded elsewhere in the field notes?
5. What surprised me? (to track my assumptions)
6. What intrigued me? (to track my positionality)
7. What disturbed me? (to track the tensions with my values, attitude, and belief system). (p. 32)

I triangulated all three data sources (ASQ-3, KIDS observation survey, and caregiver survey) to see progress in each child's Kindergarten readiness skills. I used this data to determine the next steps in my study. At the end of my study, I made recommendations based on all three data sources.

Validity and Reliability

To establish the validity and reliability of the study's methods, particular attention was given to the internal and external aspects of the research design, as well as inter-rater reliability. Internal validity was safeguarded through a meticulous selection process for participants and the implementation of a structured observation protocol. This protocol, designed based on the South Carolina Kindergarten Readiness Assessment (KRA) and the First Steps Profile of the Ready Kindergartner, ensured the consistent collection of data related to school readiness.

External validity, acknowledging the generalizability of findings, was addressed by including participants from diverse backgrounds within the Flowerfield Children's Museum

program. However, the limitation of a single-site study and specific participant criteria should be noted when considering the broader applicability of the results.

Crucial to the study's methodology was the incorporation of inter-rater reliability measures. The classroom teacher and I observed the participants independently. To enhance agreement between raters, a comprehensive training and calibration session was conducted before data collection. This session aimed to align interpretations of the observation protocol, fostering consistency in data collection. Regular communication and debriefing sessions were maintained throughout data collection to promptly address any emerging discrepancies and ensure ongoing reliability.

While every effort was made to establish and maintain validity and reliability, it is essential to acknowledge the potential impact of my positionality. As a White woman with extensive experience in education and currently serving as the Director of The Flowerfield Children's Museum, there exists the possibility of bias in the results. To mitigate this, measures were taken to reassure participants of the voluntary nature of their involvement, ensuring anonymity in survey responses, and minimizing the researcher's presence during data collection. Participants were encouraged to provide genuine reflections without any pressure to exaggerate their experiences.

In summary, the study's methods were designed with a rigorous focus on validity and reliability, incorporating strategies to enhance internal and external validity, as well as inter-rater reliability. These considerations bolster the credibility and trustworthiness of the findings in the context of exploring the role of play in preparing children for kindergarten within the unique setting of a children's museum program.

Limitations

There were several limitations to this study. One limitation of this study was the inability to generalize findings from the study participants to the population. Study participants may not represent the population since, for example, the participants must provide transportation to the site. The participants were chosen by purposeful sampling procedures but limited to those who applied to participate in the museum program. Lastly, this program was only completed in one museum, in one state, for one summer. Future studies must be conducted comparing different locations, formats, and lengths.

CHAPTER THREE

FINDINGS

In this chapter, I discuss the findings from my mixed methods study on how children's museums can assist in school readiness through play and caregiver interactions. I posed one research question: What is the role of play in preparing children for Kindergarten? I observed the participants, conducted surveys of the caregivers, and collaborated with the instructor throughout the eight-week program.

Notably, 77 children participated in the program, and 52 participated in the study. Of the 52 participating in the study, 32 children entered 4K (61.5%), and 20 joined 5K (38.5%) after completing the program. There were five children (9.6%) who were three years old, 34 children (65.4%) who were four years old, and 13 children (25.0%) who were five years old. In total, 41 children (78.8%) who participated live in areas where 25% or more of the population under age six live <185% of the Federal Poverty Level. My study included predominantly children who live in areas where many of the young children are in poverty. Also, six children speak a language other than English at home. The highest percentage of children participating in the program this year had no educational experience. Table 3.1 summarizes the demographics of the children who participated in the Pop-Up Classroom program study.

Table 3.1

Participant Demographics

Demographic Characteristic	Study Participants	
	n	%
Age		
3*	5	9.6
4	34	65.4
5	13	25.0
Race or Ethnicity		
Black or African-American	9	17.3
White or Caucasian	27	51.9
Biracial or Multiracial	6	11.5
Asian or Pacific Islander	4	7.7
Hispanic or Latino	4	7.7
Prefer not to answer	2	3.8
2023-2024 Grade Level		
4K	32	61.5
5K	20	38.5
2023-2024 School Type		
First Steps 4K	7	13.5
Public School	1 16	30.8
Private School	8	15.4
None/NA	7	13.5
Homeschool	4	7.7
Title One	6	11.5
Public Charter	4	7.7
Previous Education Experience		
None	18	34.6
Daycare	14	26.9
Private School	5	9.6
Public School	11	21.2
Homeschool	4	7.7
Population under age 6 <185% FPL		
0	3	5.8
0-10%	10	19.2
11-29%	9	17.3
30-49%	11	21.2
50-69%	12	23.1
70-89%	6	11.5

Demographic Characteristic	Study Participants	
	n	%
90-100%	1	1.9
Primary Language Spoken at Home		
English	46	88.5
Spanish	2	3.8
Other	4	7.7
Participated in the Program in 2022		
Yes	5	9.6
No	47	90.4

*Children who began the Pop-Up Classroom program at age three would turn four before September 1, 2023.

In my analysis, two key findings emerged. First, the play helped build the children's social and emotional development and communication skills. Second, caregivers need more guidance on how to help their children become school-ready. Below, I will address these findings and explain how they are connected to the research questions.

Key Finding One

The first key finding is that play can help build children's social and emotional development and communication skills. The program teacher and I completed classroom observations that focused on Approaches to Learning and Self-Regulation and Social and Emotional Development. Table 3.2 shows the number of children who demonstrated the selected indicators in Approaches to Learning and Self-Regulation at the beginning of the summer and by the end of the program.

Table 3.2

Approaches to Learning and Self-Regulation Observation Demonstration

	Beginning of the Program	End of the Program
Carries out simple investigations using familiar strategies, tools, or sources of information; finds out about things, people, or events by comparing multiple sources of information.	26	45
Uses strategies to regulate and manage own feelings, behaviors, and emotions	22	44
Work through challenges on your own while engaged in self-selected activities; completes complex multi-step activities, making and adjusting plans as needed	27	46

Approaches to Learning and Self-Regulation

The data from this section was obtained from observations. There are three indicators for "Approaches to Learning and Self-Regulation" (ATL: REG). The classroom teacher and I observed all the participants of the study on each of the three indicators throughout the summer program. I used notes from our observations to describe each child's abilities.

The first indicator, Curiosity and Initiative in Learning, suggests that children should explore their environment in increasingly focused ways to learn about people, things, materials, and events. At the beginning of the summer, the children were less likely to participate unless their caregiver prompted them or they could play with their siblings (ATL: REG 1). Children would also wait for their caregivers to hand them a specific item to build or play with; children who participated in the program last summer could jump in to play. As summer continued, children began to explore the toys and activities in the classroom before being given directions.

The second indicator, Self-Control of Feelings and Behavior, suggests that the child should increasingly develop strategies for regulating feelings and behavior, becoming less reliant on adult guidance. Concerning self-control of feelings and behavior (ATL: REG 2), most children at the beginning of the program could not regulate their emotions and had no awareness of their bodies. Few students could describe what they needed, even with a teacher prompt.

The third indicator, Engagement and Persistence, suggests that children should increasingly develop strategies for regulating feelings and behavior, becoming less reliant on adult guidance. Children at the beginning of the summer mainly could choose their activity if they were interested in the day's topic (ALT: REG 3). If the child faced adversity or could not complete the task quickly, they would likely give up unless the teacher showed them what to do. Caregivers would assist if a challenge emerged or their child needed help; this was often before the child asked the teacher for help. Caregivers were encouraged to allow their children to practice problem-solving and communicating their frustrations.

As the program progressed, children could practice skills to regulate their emotions, engage with peers, and take the initiative in their learning. The most effective tools the children learned were using a timer for rotations, walking away from a frustrating situation, taking a deep breath, and looking for a different solution to a problem. During one of the last sessions, a child demonstrated their new skills when they could not play with the toy they wanted to; they walked over to the teacher, took a deep breath, and waited for their turn.

Most children could use self-control strategies to regulate their feelings and behaviors by the end of the problem. The eight-week program allowed children to practice these new skills, and the teacher modeled different coping strategies for the children and their caregivers. The caregivers were also encouraged to try the process at home. Caregivers felt the program helped

their child with social practice, following directions, and center rotations. One caregiver stated in their survey that the program helped their child "By learning to ask for what they needed and want from available adults, playing with other children and communicating effectively, as well as practicing changing activities and sharing toys and supplies." Their child was able to practice addressing their own needs, transitions, and communicating with their peers.

Social and Emotional Development

Table 3.3

Social and Emotional Development Observation Demonstration

	Beginning of the Program	End of the Program
Describes own preferences or feelings; describes the feelings or desires of family members, friends, or other familiar adults; identifies and evaluates strengths and weaknesses by comparing self with others	23	44
Communicates ideas about why one has a feeling or what will happen as a result of a feeling; uses understanding of another's personality traits to explain and predict their behavior	28	48
Takes initiative in creating cooperative activities with a familiar adult; Shows interest in how familiar adults' experiences, feelings, and thoughts affect their behavior	26	47
Initiates sustained episodes of cooperative play, particularly with friends; explains own feelings, thoughts, and opinions to other children	27	46
Engages in roles in pretend play sequences with others; engages in complex pretend play, especially with friends, involving complicated roles and a well-coordinated activity based on a shared storyline	23	43

Table 3.3 shows the number of children who demonstrated the selected indicators in Social and Emotional Development at the beginning of the summer and by the end of the program. The first "Social-Emotional Development" indicator, SED 1: Identity of Self in Relation to Others, suggests that the child should be able to increase awareness of self as distinct from and related to others. At the beginning of the summer program, the children were less likely to engage with their peers. When the children entered the classroom, they would choose a toy and play by themselves or with the teacher; if the teacher asked another child to join them, the original child would likely leave and pick another toy. The children who chose to play together

had siblings or knew each other outside the program. Children were also encouraged to practice expressing their feelings.

Each class began with a "feelings check-in," where the children were asked how they were feeling that day; they were also asked to explain why they felt a certain way. Children were shown four emoji faces to help describe their feelings and asked to pick one. By the end of the program, many of the children could identify their feelings but still had difficulty explaining why they felt that way.

The program also allowed the children to practice a routine in the classroom. Each class was structured similarly: feelings check, read-aloud, structured and unstructured play. The training helped many children grow their skills with social interactions with their peers and teachers. One caregiver stated that the program allowed their child to "interact with different students with different needs." The children in the program were grouped based on caregiver schedules, not by their demographic characteristics or learning paths (i.e., children with documented learning disabilities).

Communication

The ASQ 3 provided benchmarks for each child based on their age. Most children in the summer program were between 42 and 54 months old. Each questionnaire provided developmentally appropriate activities for children in several categories: communication, gross motor, fine motor, problem-solving, and personal-social. Table 3.4 shows the children's growth in their communication skills during the eight-week program by age, and Table 3.5 shows average growth based on previous education experience.

Table 3.4

Communication Skills Based on Age

	Average Communication Score at the Beginning of the Program	Average Communication Score at the End of the Program	Difference
42 Months	14.2	15.4	1.2
48 Months	12.3	17.1	4.8
54 Months	13.7	16.7	3.0

Table 3.5

Communication Skills Based on Previous Education Experience

	Average Communication Score at the Beginning of the Program	Average Communication Score at the End of the Program	Difference
None (18)	11.4	16.1	4.7
Daycare	11.9	15.9	4.0
Private School	13.8	17.0	3.2
Public School	13.2	15.6	2.4
Homeschool	13.5	16.8	3.3

Communication growth was highest for children who had no educational experience. One caregiver felt the program was "good practice for starting school, especially seeing how my child listens to other adults." Children could practice their communication skills by talking to adults, listening to multi-step directions, and playing with their peers.

Key Finding Two

The second key finding is that caregivers need more guidance in preparing their children for Kindergarten. Caregivers were asked to complete a survey before the program started. Once the program was complete, the caregivers were asked to complete the survey again with

additional questions about the program's activities. The survey consisted of demographic and short answer questions. The first survey had 38 responses (52.8%), and the last had 33 responses (42.9%).

Of those who completed the survey, most caregivers (71%) have a child who entered 4K and was four years old when the program began. I analyzed three questions and caregiver responses: 1. How would you define Kindergarten readiness? 2. How should your child prepare to enter 4K or 5K? 3. What does play look like in your home?

When asked to define Kindergarten readiness at the beginning of the summer, caregivers focused on academic skills such as recognizing letters and numbers or their child being ready to behave in a classroom environment. Few caregivers included skills such as sharing, following multi-step directions, respecting others, or being emotionally prepared. One caregiver defined Kindergarten readiness as "soft skills like sharing with others, listening to an adult, following multi-step directions, respecting others, and having some level of independence." Other caregivers included "recognition of letters and numbers" and "knowing the alphabet" as crucial indicators that their child is ready for Kindergarten.

Caregivers at the beginning of the program felt their children needed to be able to write their names and recall their shapes and colors to be successful in Kindergarten. One caregiver included "being able to recognize letters and know letter sounds and starts to blend sounds and words together" as their indicator that their child was ready for Kindergarten. The caregivers who focused on academic skills in their open-ended questions on their surveys did not include social-emotional skills.

When asked the same question at the end of the eight-week program, more caregivers responded by including social, emotional, and communication skills. Several caregivers added

that kindergarten readiness includes listening, following directions, transitioning between activities, and being responsible for one's needs. A different caregiver stated, "Being able to interact with friends, sharing, and being kind and polite" is how they would now define Kindergarten readiness. The caregivers' definitions of Kindergarten readiness now included indicators that their children were ready to learn and their social-emotional behaviors.

Caregivers were also asked, "How should your child prepare for 4K or 5K?" at the summer program's beginning and end. Again, caregivers focused on academic preparedness and practicing classroom behaviors. At the end of the program, more caregivers practiced listening to non-family adults, a skill offered at the museum. However, caregivers did not know ways to practice these skills at home.

To prepare for school, caregivers needed guidance on activities. When speaking about her daughter attending school for the first time in the fall, one caregiver stated, "A program like this [Pop-Up Classrooms] seems great because, as a parent, I feel kinda clueless of how to prepare her." Another caregiver shared in their survey, "The program helped prepare both of us [caregiver and child] for the next school year." One caregiver added that the materials and activities sent home gave them examples of how to play at their house. This was the purpose of the study and why caregivers were required to stay in the classroom each session.

The end survey showed that caregivers used the books and materials brought home throughout the summer to help prepare their children for school and felt more prepared. At the end of the summer program, a caregiver stated they enjoyed the program because their child practiced "learning to ask for what they need and want from available adults, playing with other children, and communicating effectively, as well as practicing changing activities and sharing toys and supplies."

At the beginning of the summer program, every family participating in the summer program stated that their child played in their home; play looked different in each house. Caregivers indicated that their children enjoyed imaginary play, building, creating, being outdoors, free space, art, and tablets. Answers to this question remained the same for the end of the program, with the addition of books and activities provided to families. Families expressed the activities with directions and materials and gave them other home play ideas.

When asked what activities were the most helpful, caregivers stated the program's structure, practicing sharing and having their children clean up after activities. One caregiver said their favorite part of the program was their child "learning how to be humble and not answering all the teacher's questions, giving other children the chance to have learning and talking opportunities." Caregivers also appreciated the opportunity to observe how their child interacts with other children and their teacher.

Conclusion

My mixed-methods study on how children's museums can impact school readiness through play and caregiver interactions was based on a summer program at The Flowerfield Children's Museum. My study had two key findings: children who participated in the program grew in their social-emotional and communication skills, and caregivers need more guidance in preparing their children for Kindergarten. In my final chapter, I will summarize my findings and present my recommendations for further studies.

CHAPTER FOUR

DISCUSSION AND RECOMMENDATIONS

My final chapter summarizes and reflects on my research study, which sought to understand how children's museums can assist in school readiness through play and caregiver interactions. I used the improvement science model of PDSA to create a program for children and their caregivers to discover if play can prepare children for Kindergarten. In a rapid, cyclical progression of *plan, do, study, act*, improvement science addresses change. I used one PDSA cycle to examine play and caregiver interactions with school readiness.

The *plan* cycle began with my fishbone diagram and my driver diagram. I reviewed these two documents with the teacher of the Pop-Up Classroom program. This ensured we were on the same page (Hinnant-Crawford, 2020). We discussed the study's purpose, procedures, growth measurements, and participation.

Next, the *do* cycle began with the Pop-Up Classrooms. Children and their caregivers were assigned a class based on availability and schedules for the eight-week program. I asked each caregiver to complete a Pre-Survey, and I observed the children using the appropriate ASQ-3 assessment based on their age and the KIDS Observation Survey. For the ASQ-3 assessment, I focused on the "Communication" section; for the KIDS Observation Survey, I used the "Approaches to Learning and Self-Regulation" and "Social and Emotional Development" sections. At the end of the program, I asked the caregivers to complete a post-survey. The questions on the surveys were open-ended to add opportunities for caregivers to give their feedback (Hinnant-Crawford, 2020).

The s*tudy* cycle is an "opportunity to reflect on what happened during the do phase" (Hinnant-Crawford, 2020, p. 169). Hinnant-Crawford (2020) continued to add that we can ask three questions during this phase: Did this go as we expected? What happened that was unexpected? What conditions could have influenced our outcome? (p. 169). I had two key findings in my study: play can help build children's social and emotional development and communication skills, and caregivers need more guidance in preparing their children for Kindergarten.

This chapter focuses on the *act* cycle. These are the implications of my study for practice and my suggestions for further research, practice, and policy (Hinnant-Crawford, 2020). I designed this study to focus on play because it can be done anywhere. This study attempted to show how children's museums can impact school readiness through play and caregiver interactions.

Discussion

My study had one research question: What is the role of play in preparing children for Kindergarten? At the Flowerfield Children's Museum, children participating in the Pop-Up Classroom program could play with their peers, practice communication skills, and take activities home to continue learning. As discussed in Chapter 3, the children who participated in my study advanced their social-emotional and communication skills.

The children who participated in my eight-week study at The Flowerfield Children's Museum practiced conflict resolution skills through sharing, identifying their feelings, and expressing themselves. While the children played, their caregivers watched their interactions with other children and adults. After each class, the children took home three books, including

the book the teacher read aloud, activities, and the materials to complete the activities. The activities were tied to the theme of the week.

The read-aloud allowed caregivers to observe a teacher reading to children. Caregivers could learn how to read to their children by asking them questions and helping them see themselves in the story. According to the post-survey, caregivers found this activity helpful. Based on this feedback, this activity is suggested to continue with other programs at the museum and community centers.

Caregivers were given the opportunity to observe their children interact with other children and other adults and how they interacted with the teacher. The teacher also modeled for the caregiver various ways to interact with their child through reading stories, playing with different types of toys, and completing activities together.

Significance

The findings of my study are significant because the program can be replicated in community centers across the county, state, or country. The program's transferability allows community centers, libraries, or other children's museums to implement a play-based school readiness program. Also, due to the program being completed in an informal education setting, I do not have the same standards or testing regulations as a public school system.

My program did not have to follow a district or state-mandated curriculum pacing guide, and I was able to focus on individual children's learning needs. The teacher was able to complete the lessons without the pressure of a pacing guide, and the children participating in the program were not given a standardized test at the end of the summer. Each child was observed based on their own abilities.

Play-based programs encourage better social-emotional, cognitive, and academic skills (O'Sullivan & Ring, 2018). In their study, O'Sullivan and Ring (2018) concluded that educators working with preschool-aged children emphasized children being emotionally and socially ready for school, being independent, communicating well, and complying with classroom procedures (p. 269). While more research needs to be done, children's museums can be used as an informal education setting to practice these skills.

Recommendations

This study was planned to be completed over eight weeks with 50 children. Each class would last one hour, and the caregiver would stay with the child through the program. This short amount of time allowed for some growth and for caregivers to observe their child interacting with other children and adults. My recommendation would be to expand the program. This expansion should include longer classes, more sessions, and more locations. Programs outside the museum's operational hours could consist of more families with working caregivers, and sessions held at community centers could also elevate the transportation barrier.

The Flowerfield Children's Museum eliminated the financial barrier by providing this program at no cost. However, there was still a transportation barrier for many families and a time barrier. This program was conducted during the workday, and the area does not provide sufficient public transportation. The next steps would be to offer this program at community centers in area neighborhoods after traditional working hours or on the weekends. Community partners such as the library system are recommended.

A final practice recommendation is to add a caregiver class for the last four weeks of the program. This caregiver class would allow them to talk about challenges, opportunities to practice activities and practice leaving their child with a teacher for a short amount of time. A set

time would also allow caregivers to ask questions and talk with our caregivers with children the same age as their own. A community partner or museum staff could facilitate this class after professional development.

Educational policy and curriculum need to be updated to include play. Children should be given the opportunity to play while they are learning. My study shows that children can learn critical school-readiness skills through play. It is also recommended to complete a longitudinal study on the effects of play later in the child's education career.

Future research should be conducted on school readiness through play at other community centers. Studying the effects of having siblings on school readiness would also be beneficial.

Conclusion

Pop-Up Classrooms at The Flowerfield Children's Museum allowed children and their caregivers to practice school readiness skills through play. Children practiced their social-emotional and communication skills through sharing, imaginative play, and participation in various activities in the program. The caregivers saw the most growth in their children's communication skills and needed more resources to prepare them for school better. My study will also add to the gap in the literature on how children's museums can be a space for school readiness through play and caregiver interactions.

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APPENDICES

Appendix A

Pop-Up Classroom Application

Pop-Up Classroom Registration 2023

The Flowerfield Children's Museum is hosting an 8-week Pop-Up Classroom program this summer! Pop-Up Classrooms are designed to help your young learner practice important skills for the classroom (rising 4K and 5K).

The program runs from June 5- August 4. Students and caregivers are required to attend the one-hour class one day a week. There are two available session times each weekday: 1pm or 3pm. You will be asked your preferred day of the week and time slot in the form below. We will do our best to accommodate those preferences but cannot guarantee placement in a specific time slot

Spaces are limited. In order to provide an equitable experience, applications will be judged on a point system based on a variety of factors. Applicants will be notified of participation status by Friday, May 25.

If you have any questions, please contact Catie Davis at _____.

* Required

1. Caregiver's Name *

2. Caregiver's Email *

3. Caregiver's Phone Number *

4. Child's Name *

1. Child's age *

2. Which of the following best describes you: *

I prefer not to answer

Asian or Pacific Islander

Black or African American

Hispanic or Latin

Native American or Alaskan Native

White or Caucasian

Multiracial or Biracial

Other

3. The primary language spoken at home. *

English

Spanish

Russian

French

Other

8. Child's Address (Street) *
9. Child's City, State *
10. Child's Zip code *
11. 2023-2024 school year grade (or equivalent) *

4K (4 years old before September 1, 2023)

5K (5 years old before September 1, 2023)

N/A

12. Child's school for the 2023-2024 school year (if not attending school in the fall, please write NA) *
13. Child's previous education experience *

Daycare

Private Preschool

Public Preschool

None

Other

14. Preferred Class Day *

Monday

Tuesday

Wednesday

Thursday

Friday

No Preference

15. Preferred Class Time *

1 PM

3 PM

No Preference

16. Did your child participate in the Pop-Up Classroom program last summer?*

17. Attendance Requirement: If chosen to participate in the Pop-Up Classroom program, you are expected to attend your assigned class each week. Participants who miss more than 1 class will be excused from the program.

Do you agree to the attendance requirement? *

18. Additional Comments

Appendix B

Pop-Up Classroom Survey 2023 (Pre)

Please complete one form for each child who will participate in The "Pop-Up Classroom" during this summer.

The purpose of these classes is to provide children **and** their caregivers a chance to participate in a classroom setting and prepare for the fall. Caregivers will be encouraged to observe their child, ask questions, and take part in classroom activities. The students will be given the opportunity to practice transitions between activities, share with new people, practice new skills, and much more.

This survey is anonymous unless you choose to include your name and contact information at the end of the survey.

* Required

1. Child's Age *
2. Which of the following best describes your child: *
    - I prefer not to answer
    - Asian or Pacific Islander
    - Black or African American Hispanic or Latino
    - Native American or Alaskan Native
    - White or Caucasian
    - Multiracial or Biracial
    - My race or ethnicity is not listed here.
3. Child's zip code *
4. Child's 2022-2023 school year grade (or equivalent) *
    - 4K (4 before September 1, 2023)
    - 5K (5 before September 1, 2023)
5. Where will your child attend school in the fall? *
6. Child's school for the 2023-2024 school year (if not attending school in the fall, please write NA) *
7. How did you hear about our Pop-Up Classrooms?
8. Which day of the week will you attend? *
9. What time will your class be? *
10. How would you define Kindergarten readiness? *
11. How should your child prepare to enter 4K or 5K? *
12. What does play look like in your home? *
13. What type of activities does your child enjoy? *
14. As the caregiver, what activity do you enjoy participating in with your child? *
15. Do you think your child hears well? If no, explain. *
16. Do you think your child talks like other children their age? If no, explain*
17. Can you understand most of what your child says? If no, explain. *
18. Can other people understand most of what your child says? If no, explain. *
19. Do you think your child walks, runs, and climbs like other children their age? If no, explain. *
20. Does either parent have a family history of childhood deafness or hearing impairment? If yes, explain. *

21. Do you have any concerns about your child's vision? If yes, explain. *
22. Has your child had any medical problems in the last several months? If yes, explain. *
23. Do you have any concerns about your child's behavior? If yes, explain. *
24. Does anything about your child worry you? If yes, explain. *
25. Any additional comments?
26. Would you like to be contacted about any of your answers?
27. If yes, please give your name and your preferred way of being contacted.

Appendix C

Pop-Up Classroom Survey 2023 (Post)

Please complete one form for each child who participated in The "Pop-Up Classrooms" this summer.

The purpose of these classes was to provide children **and** their caregivers a chance to participate in a classroom setting and prepare for the fall. Caregivers were encouraged to observe their child, ask questions, and take part in classroom activities. The students were given the opportunity to practice transitions between activities, share with new people, practice new skills, and much more.

This survey is anonymous unless you choose to include your name and contact information at the end of the survey.

This survey will help with future planning, and your completion of the survey is greatly appreciated.

* Required

1. Child's Age *
2. Which of the following best describes your child: *
    1. I prefer not to answer
    2. Asian or Pacific Islander
       Black or African American Hispanic or Latino
       Native American or Alaskan Native
    3. White or Caucasian
    4. Multiracial or Biracial
       My race or ethnicity is not listed here.
3. Child's zip code *
4. Child's 2022-2023 school year grade (or equivalent) *
    1. 4K (4 before September 1, 2023)
    2. 5K (5 before September 1, 2023)
5. Where will your child attend school in the fall? *
6. Child's school for the 2023-2024 school year (if not attending school in the fall, please write NA) *
7. How did you hear about our Pop-Up Classrooms? *
8. Which day of the week did you attend? *
9. What time was your class? *
10. What was your level of satisfaction with our program? *
11. Comments *
12. What was your child's level of satisfaction with our program? *
13. Comments *
14. How would you define Kindergarten readiness? *

15. How should your child prepare to enter 4K or 5K? *
16. What does play look like in your home? *
17. What activities did you find the most useful for your child? *
18. As the caregiver, what activity did you find the most useful? *
19. Are there any specific areas in which you feel we need to improve? *

26. Would you recommend this program to a friend? *
27. Do you think your child hears well? If no, explain. *
28. Do you think your child talks like other children their age? If no, explain. *
29. Can you understand most of what your child says? If no, explain. *
30. Can other people understand most of what your child says? If no, explain. *
31. Do you think your child walks, runs, and climbs like other children their age? If no, explain. *
32. Does either parent have a family history of childhood deafness or hearing loss? If yes, explain. *
33. Do you have any concerns about your child's vision? If yes, explain. *
34. Has your child had any medical problems in the last several months? If yes, explain. *
35. Do you have any concerns about your child's behavior? If yes, explain. *
36. Does anything about your child worry you? If yes, explain. *
37. Any additional comments?
38. Would you like to be contacted about any of your answers?
    1. If yes, please give your name and your preferred way of being contacted.

Appendix D

Illinois KIDS Observation Tool

Five Domains of Readiness

Observation Notes Organizer KIDS (2015)©

This document is intended for teachers to note observations for the 29 measures in the Five Domains of Readiness while implementing the Kindergarten Individual Development Survey (KIDS). The five developmental domains are Approaches to Leaning and Self-Regulation (ATL-REG), Social and Emotional Development (SED), Language and Literacy Development (LLD), Cognition: Math (COG: MATH), and Physical Development (PD).

Approaches to Learning – Self-Regulation (ATL–REG) Measure 1-4		
ATL–REG 1: Curiosity and Initiative in Learning	ATL–REG 2: Self-Control of Feelings and Behavior	ATL–REG 3: Engagement and Persistence

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Five Domains of Readiness

Approaches to Learning and Self-Regulation Handout

The following handout is intended for teachers to document observations for the Kindergarten Individual Development Survey (KIDS) Approaches to Learning and Self-Regulation Domain.

ATL: REG 1: Curiosity and Initiative in Learning

Child explores the environment in increasingly focused ways to learn about people, things, materials, and events.

When will I observe?

_____

How do I plan to collect evidence?

_____

Whom will I observe?

_____

This observation took place:

_____

Building			Integrating		
Earlier	**Middle**	**Later**	**Earlier**	**Middle**	**Later**
Explores through simple observations, manipulations, or by asking simple questions	Explores by engaging in specific observations, manipulations, or by asking specific questions	Carries out simple investigations using familiar strategies, tools, or sources of information	Carries out multi-step investigations using a variety of strategies, tools, or sources of information	Carries out experiments with things or materials by systematically modifying actions and reacting to the results	Finds out about things, people, or events by comparing multiple sources of information, including experiments, books, and pictures, and asking questions

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ATL: REG 2: Self-Control of Feelings and Behavior
Child increasingly develops strategies for regulating feelings and behavior, becoming less reliant on adult guidance over time

When will I observe?

_____

How do I plan to collect evidence?

_____

Whom will I observe?

_____

This observation took place:

_____

Building			Integrating		
Earlier	**Middle**	**Later**	**Earlier**	**Middle**	**Later**
Demonstrates capacity to regulate emotional or behavioral reactions in some moderately stressful situations, occasionally needing adult support	Expresses strong feelings through constructive forms of communication, seeking the assistance of familiar adults when needed	Uses simple strategies (e.g., leaving a difficult situation, offering an alternative toy to a friend) to regulate own feelings or behaviors	Uses socially appropriate strategies (e.g., negotiation, compromise, verbal reminders to self) to regulate own feelings or behaviors	Uses self-control strategies to regulate feelings and behaviors in order to prevent self from acting impulsively	Uses mental strategies (e.g., changing goals, reappraising the situation) to manage emotions, with some success

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ATL: REG 3: Engagement and Persistence
Child increasingly develops strategies for regulating feelings and behavior, becoming less reliant on adult guidance over time

When will I observe? _____

How do I plan to collect evidence? _____

Whom will I observe? _____

This observation took place: _____

Building			Integrating		
Earlier	**Middle**	**Later**	**Earlier**	**Middle**	**Later**
Continues self-selected activities with adult support, even though interest briefly shifts to other activities	Continues self-selected activities on own, seeking adult support to work through challenges	Works through challenges on own while engaged in self-selected activities	Returns to activities, including challenging ones, on multiple occasions to practice a skill or to complete the activity	Pursues simple multi-step activities, following the steps through to completion	Completes complex multi-step activities, making and adjusting plans as needed

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ATL: REG 4: Shared Use of Space and Materials
Child increasingly develops strategies for regulating feelings and behavior, becoming less reliant on adult guidance over time

When will I observe?

_____

How do I plan to collect evidence?

_____

Whom will I observe?

_____

This observation took place:

_____

Building			Integrating		
Earlier	**Middle**	**Later**	**Earlier**	**Middle**	**Later**
Shows awareness that other children might want to use materials by taking action to control the materials	Maintains control of some preferred materials, allowing others to use the rest, but will need adult support to share preferred materials with other children	Follows expectations or procedures for sharing, most of the time, without adult prompting	Offers to share space or materials with others in the absence of explicit expectations for sharing	Shows concern about everyone being treated fairly in collaborative activities with others	Engages in sustained collaborative activities that involve mutual assistance

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Social and Emotional Development Measures 1-5		
SED 1: Identity of Self in Relation to Others	SED 2: Social and Emotional Understanding	SED 3: Relationships and Social Interactions with Familiar Adults

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SED 1: Identity of Self in Relation to Others

Building			Integrating		
Earlier	**Middle**	**Later**	**Earlier**	**Middle**	**Later**
Expresses simple ideas about self and connection to others	Describes self or others based on physical characteristics	Describes own preferences or feelings; and Describes the feelings or desires of family members, friends, or other familiar	Compares own preferences or feelings to those of others	Describes and compares self and others using personality characteristics	Identifies and evaluates strengths and weaknesses by comparing self with others

SED 2: Social and Emotional Understanding

Child shows developing understanding of people's behaviors, feelings, thoughts, and individual characteristics

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KIDS
Kindergarten Individual Development Survey
Every Illinois Child Ready for Kindergarten

Date:_____

When will I observe?

_____

How do I plan to collect evidence?

_____

Whom will I observe?

_____

This observation took place:

_____

SED 2: Social and Emotional Understanding

Building	Integrating

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Earlier	Middle	Later	Earlier	Middle	Later
Identifies own or others' feelings	Communicates, with adult assistance, about feelings that caused own behavior or others' behavior	Communicates ideas about why one has a feeling or what will happen as a result of a feeling	Communicates ideas about how own or another's personality affects how one thinks, feels, and acts	Compares people's personality traits; and Demonstrates consideration for the thoughts or feelings of others	Uses understanding of another's personality traits to explain and predict their behavior

SED 3: Relationships and Social Interactions with Familiar Adults
Child develops close relationships with one or more familiar adults (including family members) and interacts in an increasingly competent and cooperative manner with familiar adults

Date:_____

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When will I observe?

_____

How do I plan to collect evidence?

_____

Whom will I observe?

_____

This observation took place:

_____

SED 3: Relationships and Social Interactions with Familiar Adults

Building			Integrating		
Earlier	**Middle**	**Later**	**Earlier**	**Middle**	**Later**

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Engages in extended interactions with familiar adults in a variety of situations (e.g., sharing ideas or experiences, solving simple problems)	Seeks a familiar adult's ideas or explanations about events or experiences that are interesting to the child	Takes initiative in creating cooperative activities with a familiar adult	Works cooperatively with familiar adults, over sustained periods, to plan and carry out activities or to solve problems	Seeks to be cooperative or to promote cooperation by showing understanding of familiar adults' goals through words or actions	Shows interest in how familiar adults' experiences, feelings, and thoughts affect their behavior

SED 4: Relationships and Social Interactions with Peers
Child becomes increasingly competent and cooperative interactions with peers and develops friendships with several peers

Date:_____

When will I observe? _____

How do I plan to collect evidence? _____

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Social and Emotional Development (SED) Measures 1-5	
SED 4: Relationships and Social Interactions with Peers	SED 5: Symbolic and Socio Dramatic Play

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Participates in brief episodes of cooperative play with one or two peers, especially those with whom child regularly plays	Participates in extended episodes of cooperative play (including pretend play) with one or two friends	Initiates sustained episodes of cooperative play (including pretend play), particularly with friends	Organizes or participates in planning cooperative play activities with several peers, particularly with friends	Demonstrates understanding of feelings and thoughts of other children (e.g., shows concern for another's feelings) or negotiates conflicts in a fair and constructive manner.	Explains own feelings, thoughts, and opinions to other children

SED 5: Symbolic and Sociodramatic Play

Child develops the capacity to use objects to represent other objects or ideas and to engage in symbolic play with others

Date:_____

When will I observe? **How do I plan to collect evidence?**

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Whom will I observe?

This observation took place:

SED 5: Symbolic and Sociodramatic Play

Building			Integrating		
Earlier	Middle	Later	Earlier	Middle	Later

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Engages in pretend play sequences	Engages in pretend play with others around a shared idea	Engages in roles in pretend play sequences with others	Engages in pretend play sequences with others by organizing and negotiating roles or rules around a shared elaborated idea	Adjusts pretend play activity as it proceeds, taking into consideration the ideas, interests, and preferences of other children in the play group	Engages in complex pretend play, especially with friends, involving complicated roles and a well-coordinated activity based on a shared story line

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14 Domains of Readiness
Social and Emotional Development (SED 3 & 4) Handout

Social Play Observations

SED 3: Relationships and Social Interactions with Familiar Adults	**SED 4: Relationships and Social Interactions with Peers**
☐ Engages in extended interactions with familiar adults in a variety of situations (e.g., sharing ideas or experiences, solving simple problems) ☐ Seeks a familiar adult's ideas or explanations about events or experiences that are interesting to the child ☐ Takes initiative in creating cooperative activities with a familiar adult ☐ Works cooperatively with familiar adults, over sustained periods, to plan and carry out activities or to solve problems ☐ Seeks to be cooperative or to promote cooperation by showing understanding of familiar adults' goals through actions ☐ Shows interest in how familiar adults' experiences, feelings, and thoughts affect their behavior	☐ Participates in brief episodes of cooperative play with one or two peers ☐ Participates in extended episodes of cooperative and pretend play with one or two friends ☐ Initiates sustained episodes of cooperative and pretend play with friends ☐ Organizes or participates in planning cooperative play with friends ☐ Understands feelings and thoughts of others ☐ Explains own feelings, thoughts, and opinions to other children

Date:_____

Name:	Name:
Name:	Name:

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Appendix E

ASQ-3 42 Month Questionnaire

ASQ-3

42 Month Questionnaire *39 months 0 days through 44 months 30 days*

On the following pages are questions about activities children may do. Your child may have already done some of the activities described here, and there may be some your child has not begun doing yet. For each item, please fill in the circle that indicates whether your child is doing the activity regularly, sometimes, or not yet.

Important Points to Remember:

- ☑ Try each activity with your child before marking a response.
- ☑ Make completing this questionnaire a game that is fun for you and your child.
- ☑ Make sure your child is rested and fed.
- ☑ Please return this questionnaire by _____.

Notes:

_____

_____

_____

_____

COMMUNICATION

	YES	SOMETIMES	NOT YET	
1. Without giving your child help by pointing or using gestures, ask him to "put the book *on* the table" and "put the shoe *under* the chair." Does your child carry out both of these directions correctly?	◯	◯	◯	___
2. When looking at a picture book, does your child tell you what is happening or what action is taking place in the picture (for example, "barking," "running," "eating," or "crying")? You may ask, "What is the dog (or boy) doing?"	◯	◯	◯	___
3. Show your child how a zipper on a coat moves up and down, and say, "See, this goes up and down." Put the zipper to the middle, and ask your child to move the zipper *down*. Return the zipper to the middle, and ask your child to move the zipper *up*. Do this several times, placing the zipper in the middle before asking your child to move it up or down. Does your child consistently move the zipper up when you say "up" and down when you say "down"?	◯	◯	◯	___
4. When you ask, "What is your name?" does your child say both her first and last names?	◯	◯	◯	___
5. Without your giving help by pointing or repeating directions, does your child follow three directions that are *unrelated* to one another? Give all three directions before your child starts. For example, you may ask your child, "Clap your hands, walk to the door, and sit down," or "Give me the pen, open the book, and stand up."	◯	◯	◯	___
6. Does your child use all of the words in a sentence (for example, "a," "the," "am," "is," and "are") to make complete sentences, such as "I *am* going to *the* park," or "*Is* there *a* toy to play with?" or "*Are* you coming, too?"	◯	◯	◯	___

COMMUNICATION TOTAL ___

E101420200

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GROSS MOTOR

	YES	SOMETIMES	NOT YET	
1. *Does your child walk up stairs, using only one foot on each stair? (The left foot is on one step, and the right foot is on the next.) He may hold onto the railing or wall. (You can look for this at a store, on a playground, or at home.)* 	○	○	○	___
2. *Does your child stand on one foot for about 1 second without holding onto anything?* 	○	○	○	___
3. *While standing, does your child throw a ball overhand by raising his arm to shoulder height and throwing the ball forward? (Dropping the ball or throwing the ball underhand should be scored as "not yet.")* 	○	○	○	___
4. *Does your child jump forward at least 6 inches with both feet leaving the ground at the same time?* 	○	○	○	___
5. *Does your child catch a large ball with both hands? (You should stand about 5 feet away and give your child two or three tries before you mark the answer.)* 	○	○	○	___
6. *Does your child climb the rungs of a ladder of a playground slide and slide down without help?*	○	○	○	___

GROSS MOTOR TOTAL ___

FINE MOTOR

	YES	SOMETIMES	NOT YET	
1. *After your child watches you draw a single circle with a pencil, crayon, or pen, ask him to make a circle like yours. Do not let him trace your circle. Does your child copy you by drawing a circle?* *Count as "yes"*  *Count as "not yet"* 	○	○	○	___

E101420300

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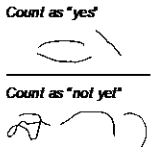
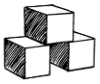
FINE MOTOR *(continued)*

	YES	SOMETIMES	NOT YET	
2. *After your child watches you draw a line from one side of the paper to the other side, ask her to make a line like yours. Do not let your child trace your line. Does your child copy you by drawing a single line in a horizontal direction?* 	○	○	○	___
3. *Does your child try to cut paper with child-safe scissors? He does not need to cut the paper but must get the blades to open and close while holding the paper with the other hand. (You may show your child how to use scissors. Carefully watch your child's use of scissors for safety reasons.)* 	○	○	○	___
4. *When drawing, does your child hold a pencil, crayon, or pen between her fingers and thumb like an adult does?* 	○	○	○	___
5. *Does your child put together a five- to seven-piece interlocking puzzle? (If one is not available, take a full-page picture from a magazine or catalog and cut it into six pieces. Does your child put it back together correctly?)*	○	○	○	___
6. *Using the shape at right to look at, does your child copy it onto a large piece of paper using a pencil, crayon, or pen, without tracing? (Your child's drawing should look like the design of the shape, except it may be different in size.)* 	○	○	○	___
		FINE MOTOR TOTAL		___

PROBLEM SOLVING

	YES	SOMETIMES	NOT YET	
1. *When you point to the figure and ask your child, "What is this?" does your child say a word that means a person or something similar? (Mark "yes" for responses like "snowman," "boy," "man," "girl," "Daddy," "spaceman," and "monkey.") Please write your child's response here:* 	○	○	○	___
2. *When you say, "Say 'seven three,'" does your child repeat just the two numbers in the same order? Do not repeat the numbers. If necessary, try another pair of numbers and say, "Say 'eight two.'" (Your child must repeat just one series of two numbers for you to answer "yes" to this question.)*	○	○	○	___
3. *Show your child how to make a bridge with blocks, boxes, or cans, like the example. Does your child copy you by making one like it?* 	○	○	○	___

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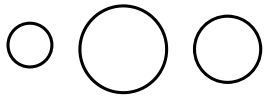
PROBLEM SOLVING *(continued)*

	YES	SOMETIMES	NOT YET	
4. When you say, "Say 'five eight three,'" does your child repeat *just* the three numbers in the same order? *Do not repeat the numbers.* If necessary, try another series of numbers and say, "Say 'six nine two.'" *(Your child must repeat just one series of three numbers for you to answer "yes" to this question.)*	◯	◯	◯	____
5. When asked, "Which circle is the smallest?" does your child point to the smallest circle? *(Ask this question without providing help by pointing, gesturing, or looking at the smallest circle.)* 	◯	◯	◯	____
6. Does your child dress up and "play-act," pretending to be someone or something else? For example, your child may dress up in different clothes and pretend to be a mommy, daddy, brother or sister, or an imaginary animal or figure.	◯	◯	◯	____
		PROBLEM SOLVING TOTAL		____

PERSONAL-SOCIAL

	YES	SOMETIMES	NOT YET	
1. When he is looking in a mirror and you ask, "Who is in the mirror?" does your child say either "me" or his own name?	◯	◯	◯	____
2. Does your child put on a coat, jacket, or shirt by herself?	◯	◯	◯	____
3. Using these exact words, ask your child, "Are you a girl or a boy?" Does your child answer correctly?	◯	◯	◯	____
4. Does your child take turns by waiting while another child or adult takes a turn?	◯	◯	◯	____
5. Does your child serve himself, taking food from one container to another using utensils? For example, does your child use a large spoon to scoop applesauce from a jar into a bowl?	◯	◯	◯	____
6. Does your child wash his hands using soap and water and dry off with a towel without help?	◯	◯	◯	____
		PERSONAL-SOCIAL TOTAL		____

OVERALL

Parents and providers may use the space below for additional comments.

1. Do you think your child hears well? If no, explain: ◯ YES ◯ NO

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OVERALL *(continued)*

2. Do you think your child talks like other children her age? If no, explain: ◯ YES ◯ NO

3. Can you understand most of what your child says? If no, explain: ◯ YES ◯ NO

4. Can other people understand most of what your child says? If no, explain: ◯ YES ◯ NO

5. Do you think your child walks, runs, and climbs like other children his age? If no, explain: ◯ YES ◯ NO

6. Does either parent have a family history of childhood deafness or hearing impairment? If yes, explain: ◯ YES ◯ NO

7. Do you have any concerns about your child's vision? If yes, explain: ◯ YES ◯ NO

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OVERALL *(continued)*

8. Has your child had any medical problems in the last several months? If yes, explain: ◯ YES ◯ NO

9. Do you have any concerns about your child's behavior? If yes, explain: ◯ YES ◯ NO

10. Does anything about your child worry you? If yes, explain: ◯ YES ◯ NO

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Appendix F

ASQ-3 48 Months Questionnaire

ASQ-3

48 Month Questionnaire *45 months 0 days through 50 months 30 days*

On the following pages are questions about activities children may do. Your child may have already done some of the activities described here, and there may be some your child has not begun doing yet. For each item, please fill in the circle that indicates whether your child is doing the activity regularly, sometimes, or not yet.

Important Points to Remember:

- ☑ Try each activity with your child before marking a response.
- ☑ Make completing this questionnaire a game that is fun for you and your child.
- ☑ Make sure your child is rested and fed.
- ☑ Please return this questionnaire by _____.

Notes:

_____

_____

_____

_____

COMMUNICATION

	YES	SOMETIMES	NOT YET	
1. Does your child name at least three items from a common category? For example, if you say to your child, "Tell me some things that you can eat," does your child answer with something like "cookies, eggs, and cereal"? Or if you say, "Tell me the names of some animals," does your child answer with something like "cow, dog, and elephant"?	◯	◯	◯	___
2. Does your child answer the following questions? *(Mark "sometimes" if your child answers only one question.)*	◯	◯	◯	___

"What do you do when you are hungry?" *(Acceptable answers include "get food," "eat," "ask for something to eat," and "have a snack.")* Please write your child's response:

"What do you do when you are tired?" *(Acceptable answers include "take a nap," "rest," "go to sleep," "go to bed," "lie down," and "sit down.")* Please write your child's response:

3. Does your child tell you at least two things about common objects? For example, if you say to your child, "Tell me about your ball," does she say something like, "It's round. I throw it. It's big"?	◯	◯	◯	___
4. Does your child use endings of words, such as "-s," "-ed," and "-ing"? For example, does your child say things like, "I see two cats," "I am playing," or "I kicked the ball"?	◯	◯	◯	___

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COMMUNICATION *(continued)*

	YES	SOMETIMES	NOT YET	
5. *Without your giving help by pointing or repeating, does your child follow three directions that are unrelated to one another? Give all three directions before your child starts. For example, you may ask your child, "Clap your hands, walk to the door, and sit down," or "Give me the pen, open the book, and stand up."*	○	○	○	___
6. *Does your child use all of the words in a sentence (for example, "a," "the," "am," "is," and "are") to make complete sentences, such as "I am going to the park," or "Is there a toy to play with?" or "Are you coming, too?"*	○	○	○	___
			COMMUNICATION TOTAL	___

GROSS MOTOR

	YES	SOMETIMES	NOT YET	
1. *Does your child catch a large ball with both hands? (You should stand about 5 feet away and give your child two or three tries before you mark the answer.)* 	○	○	○	___
2. *Does your child climb the rungs of a ladder of a playground slide and slide down without help?*	○	○	○	___
3. *While standing, does your child throw a ball overhand in the direction of a person standing at least 6 feet away? To throw overhand, your child must raise his arm to shoulder height and throw the ball forward. (Dropping the ball or throwing the ball underhand should be scored as "not yet.")* 	○	○	○	___
4. *Does your child hop up and down on either the right or left foot at least one time without losing her balance or falling?*	○	○	○	___
5. *Does your child jump forward a distance of 20 inches from a standing position, starting with his feet together?*	○	○	○	___
6. *Without holding onto anything, does your child stand on one foot for at least 5 seconds without losing her balance and putting her foot down? (You may give your child two or three tries before you mark the answer.)* 	○	○	○	___
			GROSS MOTOR TOTAL	___

FINE MOTOR

	YES	SOMETIMES	NOT YET	
1. *Does your child put together a five- to seven-piece interlocking puzzle? (If one is not available, take a full-page picture from a magazine or catalog and cut it into six pieces. Does your child put it back together correctly?)*	○	○	○	___

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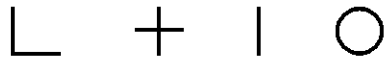
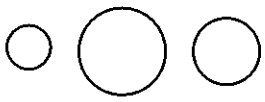
FINE MOTOR *(continued)*

	YES	SOMETIMES	NOT YET	
2. *Using child-safe scissors, does your child cut a paper in half on a more or less straight line, making the blades go up and down? (Carefully watch your child's use of scissors for safety reasons.)* 	○	○	○	___
3. *Using the shapes below to look at, does your child copy at least three shapes onto a large piece of paper using a pencil, crayon, or pen, without tracing? (Your child's drawings should look similar to the design of the shapes below, but they may be different in size.)* 	○	○	○	___
4. *Does your child unbutton one or more buttons? (Your child may use his own clothing or a doll's clothing.)*	○	○	○	___
5. *Does your child draw pictures of people that have at least three of the following features: head, eyes, nose, mouth, neck, hair, trunk, arms, hands, legs, or feet?*	○	○	○	___
6. *Does your child color mostly within the lines in a coloring book or within the lines of a 2-inch circle that you draw? (Your child should not go more than 1/4 inch outside the lines on most of the picture.)*	○	○	○	___
			FINE MOTOR TOTAL	___

PROBLEM SOLVING

	YES	SOMETIMES	NOT YET	
1. *When you say, "Say 'five eight three,'" does your child repeat just the three numbers in the same order? Do not repeat the numbers. If necessary, try another series of numbers and say, "Say 'six nine two.'" (Your child must repeat just one series of three numbers to answer "yes" to this question.)*	○	○	○	___
2. *When asked, "Which circle is the smallest?" does your child point to the smallest circle? (Ask this question without providing help by pointing, gesturing, or looking at the smallest circle.)* 	○	○	○	___
3. *Without your giving help by pointing, does your child follow three different directions using the words "under," "between," and "middle"? For example, ask your child to put the shoe "under the couch." Then ask her to put the ball "between the chairs" and the book "in the middle of the table."*	○	○	○	___
4. *When shown objects and asked, "What color is this?" does your child name five different colors, like red, blue, yellow, orange, black, white, or pink? (Mark "yes" only if your child answers the question correctly using five colors.)*	○	○	○	___

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PROBLEM SOLVING *(continued)*

	YES	SOMETIMES	NOT YET	
5. Does your child dress up and "play-act," pretending to be someone or something else? For example, your child may dress up in different clothes and pretend to be a mommy, daddy, brother, or sister, or an imaginary animal or figure.	◯	◯	◯	____
6. If you place five objects in front of your child, can he count them by saying, "one, two, three, four, five," in order? *(Ask this question without providing help by pointing, gesturing, or naming.)*	◯	◯	◯	____
			PROBLEM SOLVING TOTAL	____

PERSONAL-SOCIAL

	YES	SOMETIMES	NOT YET	
1. Does your child serve herself, taking food from one container to another using utensils? For example, does your child use a large spoon to scoop applesauce from a jar into a bowl?	◯	◯	◯	____
2. Does your child tell you at least four of the following? Please mark the items your child knows.	◯	◯	◯	____
◯ a. First name ◯ d. Last name				
◯ b. Age ◯ e. Boy or girl				
◯ c. City she lives in ◯ f. Telephone number				
3. Does your child wash his hands using soap and water and dry off with a towel without help?	◯	◯	◯	____
4. Does your child tell you the names of two or more playmates, not including brothers and sisters? *(Ask this question without providing help by suggesting names of playmates or friends.)*	◯	◯	◯	____
5. Does your child brush her teeth by putting toothpaste on the toothbrush and brushing all of her teeth without help? *(You may still need to check and rebrush your child's teeth.)*	◯	◯	◯	____
6. Does your child dress or undress himself without help (except for snaps, buttons, and zippers)?	◯	◯	◯	____
			PERSONAL-SOCIAL TOTAL	____

OVERALL

Parents and providers may use the space below for additional comments.

1. Do you think your child hears well? If no, explain: ◯ YES ◯ NO

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OVERALL *(continued)*

2. Do you think your child talks like other children her age? If no, explain: ◯ YES ◯ NO

3. Can you understand most of what your child says? If no, explain: ◯ YES ◯ NO

4. Can other people understand most of what your child says? If no, explain: ◯ YES ◯ NO

5. Do you think your child walks, runs, and climbs like other children his age? If no, explain: ◯ YES ◯ NO

6. Does either parent have a family history of childhood deafness or hearing impairment? If yes, explain: ◯ YES ◯ NO

7. Do you have any concerns about your child's vision? If yes, explain: ◯ YES ◯ NO

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OVERALL *(continued)*

8. Has your child had any medical problems in the last several months? If yes, explain: ◯ YES ◯ NO

9. Do you have any concerns about your child's behavior? If yes, explain: ◯ YES ◯ NO

10. Does anything about your child worry you? If yes, explain: ◯ YES ◯ NO

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Appendix G

ASQ-3 54 Month Questionnaire

ASQ-3™

54 Month Questionnaire

51 months 0 days through 56 months 30 days

On the following pages are questions about activities children may do. Your child may have already done some of the activities described here, and there may be some your child has not begun doing yet. For each item, please fill in the circle that indicates whether your child is doing the activity regularly, sometimes, or not yet.

Important Points to Remember:

- ☑ Try each activity with your child before marking a response.
- ☑ Make completing this questionnaire a game that is fun for you and your child.
- ☑ Make sure your child is rested and fed.
- ☑ Please return this questionnaire by _____.

Notes:

_____

_____

_____

_____

COMMUNICATION

	YES	SOMETIMES	NOT YET	
1. Does your child tell you at least two things about common objects? For example, if you say to your child, "Tell me about your ball," does she say something like, "It's round. I throw it. It's big"?	◯	◯	◯	___
2. Does your child use all of the words in a sentence (for example, "a," "the," "am," "is," and "are") to make complete sentences, such as "I *am* going to *the* park," "*Is* there *a* toy to play with?" or "*Are* you coming, too?"	◯	◯	◯	___
3. Does your child use endings of words, such as "-s," "-ed," and "-ing"? For example, does your child say things like, "I see two cats," "I am play*ing*," or "I kick*ed* the ball"?	◯	◯	◯	___
4. Without giving your child help by pointing or repeating directions, does he follow three directions that are *unrelated* to one another? Give all three directions before your child starts. For example, you may ask your child, "Clap your hands, walk to the door, and sit down," or "Give me the pen, open the book, and stand up."	◯	◯	◯	___
5. Does your child use four- and five-word sentences? For example, does your child say, "I want the car"? Please write an example:	◯	◯	◯	___
6. When talking about something that already happened, does your child use words that end in "-ed," such as "walk*ed*," "jump*ed*," or "play*ed*"? Ask your child questions, such as "How did you get to the store?" ("We walk*ed*.") "What did you do at your friend's house?" ("We play*ed*.") Please write an example:	◯	◯	◯	___

COMMUNICATION TOTAL ___

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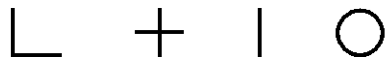
GROSS MOTOR

	YES	SOMETIMES	NOT YET	
1. Does your child hop up and down on either the right foot or the left foot at least one time without losing her balance or falling?	○	○	○	___
2. While standing, does your child throw a ball overhand in the direction of a person standing at least 6 feet away? To throw overhand, your child must raise his arm to shoulder height and throw the ball forward. (Dropping the ball or throwing the ball underhand should be scored as "not yet.") 	○	○	○	___
3. Does your child jump forward a distance of 20 inches from a standing position, starting with her feet together?	○	○	○	___
4. Does your child catch a large ball with both hands? (You should stand about 5 feet away and give your child two or three tries before you mark the answer.) 	○	○	○	___
5. Without holding onto anything, does your child stand on one foot for at least 5 seconds without losing her balance and putting her foot down? (You may give your child two or three tries before you mark the answer.) 	○	○	○	___
6. Does your child walk on his tiptoes for 15 feet (about the length of a large car)? (You may show him how to do this)	○	○	○	___

GROSS MOTOR TOTAL ___

FINE MOTOR

	YES	SOMETIMES	NOT YET	
1. Using the shapes below to look at, does your child copy at least three shapes onto a large piece of paper using a pencil, crayon, or pen, without tracing? (Your child's drawings should look similar to the design of the shapes below, but they may be different in size.) 	○	○	○	___
2. Does your child unbutton one or more buttons? Your child may use his own clothing or a doll's clothing.	○	○	○	___
3. Does your child color mostly within the lines in a coloring book or within the lines of a 2-inch circle that you draw? (Your child should not go more than 1/4 inch outside the lines on most of the picture.)	○	○	○	___

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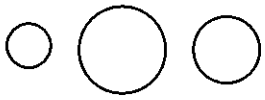
FINE MOTOR *(continued)*

	YES	SOMETIMES	NOT YET	
4. *Ask your child to trace on the line below with a pencil. Does your child trace on the line without going off the line more than two times? (Mark "sometimes" if your child goes off the line three times.)*	○	○	○	___
5. *Ask your child to draw a picture of a person on a blank sheet of paper. You may ask your child, "Draw a picture of a girl or a boy." If your child draws a person with head, body, arms, and legs, mark "yes." If your child draws a person with only three parts (head, body, arms, or legs), mark "sometimes." If your child draws a person with two or fewer parts (head, body, arms, or legs), mark "not yet." Be sure to include the sheet of paper with your child's drawing with this questionnaire.*	○	○	○	___
6. *Draw a line across a piece of paper. Using child-safe scissors, does your child cut the paper in half on a more or less straight line, making the blades go up and down? (Carefully watch your child's use of scissors for safety reasons.)* 	○	○	○	___

FINE MOTOR TOTAL ___

PROBLEM SOLVING

	YES	SOMETIMES	NOT YET	
1. *When shown objects and asked, "What color is this?" does your child name five different colors, like red, blue, yellow, orange, black, white, or pink? (Mark "yes" only if your child answers the question correctly using five colors.)*	○	○	○	___
2. *Does your child dress up and "play-act," pretending to be someone or something else? For example, your child may dress up in different clothes and pretend to be a mommy, daddy, brother, sister, or an imaginary animal or figure.*	○	○	○	___
3. *If you place five objects in front of your child, can she count them by saying, "One, two, three, four, five" in order? (Ask this question without providing help by pointing, gesturing, or naming.)*	○	○	○	___
4. *When asked, "Which circle is smallest?" does your child point to the smallest circle? (Ask this question without providing help by pointing, gesturing, or looking at the smallest circle.)* 	○	○	○	___
5. *Does your child count up to 15 without making mistakes? If so, mark "yes." If your child counts to 12 without making mistakes, mark "sometimes."*	○	○	○	___

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PROBLEM SOLVING *(continued)*

	YES	SOMETIMES	NOT YET	
6. Does your child know the names of numbers? *(Mark "yes" if he identifies the three numbers below. Mark "sometimes" if he identifies two numbers.)*	◯	◯	◯	___

3 1 2

PROBLEM SOLVING TOTAL ___

PERSONAL-SOCIAL

	YES	SOMETIMES	NOT YET	
1. Does your child wash her hands using soap and water and dry off with a towel without help?	◯	◯	◯	___
2. Does your child tell you the names of two or more playmates, not including brothers and sisters? *(Ask this question without providing help by suggesting names of playmates or friends.)*	◯	◯	◯	___
3. Does your child brush his teeth by putting toothpaste on the toothbrush and brushing all of his teeth without help? *(You may still need to check and rebrush your child's teeth.)*	◯	◯	◯	___
4. Does your child serve herself, taking food from one container to another, using utensils? *(For example, does your child use a large spoon to scoop applesauce from a jar into a bowl?)*	◯	◯	◯	___
5. Does your child tell you at least four of the following? Please mark the items your child knows.	◯	◯	◯	___

◯ a. First name ◯ d. Last name

◯ b. Age ◯ e. Boy or girl

◯ c. City he lives in ◯ f. Telephone number

6. Does your child dress and undress herself, including buttoning medium-size buttons and zipping front zippers?	◯	◯	◯	___

PERSONAL-SOCIAL TOTAL ___

OVERALL

Parents and providers may use the space below for additional comments.

1. Do you think your child hears well? If no, explain: ◯ YES ◯ NO

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OVERALL *(continued)*

2. Do you think your child talks like other children her age? If no, explain: ◯ YES ◯ NO

3. Can you understand most of what your child says? If no, explain: ◯ YES ◯ NO

4. Can other people understand most of what your child says? If no, explain: ◯ YES ◯ NO

5. Do you think your child walks, runs, and climbs like other children his age? If no, explain: ◯ YES ◯ NO

6. Does either parent have a family history of childhood deafness or hearing impairment? If yes, explain: ◯ YES ◯ NO

7. Do you have any concerns about your child's vision? If yes, explain: ◯ YES ◯ NO

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OVERALL *(continued)*

8. Has your child had any medical problems in the last several months? If yes, explain: ◯ YES ◯ NO

9. Do you have any concerns about your child's behavior? If yes, explain: ◯ YES ◯ NO

10. Does anything about your child worry you? If yes, explain: ◯ YES ◯ NO

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Appendix H

ASQ-3 60 Month Questionnaire

ASQ-3

60 Month Questionnaire *57 months 0 days through 66 months 0 days*

On the following pages are questions about activities children may do. Your child may have already done some of the activities described here, and there may be some your child has not begun doing yet. For each item, please fill in the circle that indicates whether your child is doing the activity regularly, sometimes, or not yet.

Important Points to Remember:

- ☑ Try each activity with your child before marking a response.
- ☑ Make completing this questionnaire a game that is fun for you and your child.
- ☑ Make sure your child is rested and fed.
- ☑ Please return this questionnaire by _____.

Notes:

_____

_____

_____

_____

COMMUNICATION

	YES	SOMETIMES	NOT YET	
1. Without your giving help by pointing or repeating directions, does your child follow three directions that are *unrelated* to one another? Give all three directions before your child starts. For example, you may ask your child, "Clap your hands, walk to the door, and sit down," or "Give me the pen, open the book, and stand up."	◯	◯	◯	___
2. Does your child use four- and five-word sentences? For example, does your child say, "I want the car"? Please write an example:	◯	◯	◯	___
3. When talking about something that already happened, does your child use words that end in "-ed," such as "walk*ed*," "jump*ed*," or "play*ed*"? Ask your child questions, such as "How did you get to the store?" ("We walk*ed*.") "What did you do at your friend's house?" ("We play*ed*.") Please write an example:	◯	◯	◯	___
4. Does your child use comparison words, such as "heavier," "stronger," or "shorter"? Ask your child questions, such as "A car is big, but a bus is _____" (bigger); "A cat is heavy, but a man is _____" (heavier); "A TV is small, but a book is _____" (smaller). Please write an example:	◯	◯	◯	___

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COMMUNICATION *(continued)*

	YES	SOMETIMES	NOT YET	
5. *Does your child answer the following questions? (Mark "sometimes" if your child answers only one question.)*	○	○	○	___

"What do you do when you are hungry?" (Acceptable answers include "get food," "eat," "ask for something to eat," and "have a snack") Please write your child's response:

"What do you do when you are tired?" (Acceptable answers include: "take a nap," "rest," "go to sleep," "go to bed," "lie down," and "sit down.") Please write your child's response:

6. *Does your child repeat the sentences shown below back to you, without any mistakes? (Read the sentences one at a time. You may repeat each sentence one time. Mark "yes" if your child repeats both sentences without mistakes or "sometimes" if your child repeats one sentence without mistakes.)*	○	○	○	___

Jane hides her shoes for Maria to find.

Al read the blue book under his bed.

COMMUNICATION TOTAL ___

GROSS MOTOR

	YES	SOMETIMES	NOT YET	
1. *While standing, does your child throw a ball overhand in the direction of a person standing at least 6 feet away? To throw overhand, your child must raise his arm to shoulder height and throw the ball forward. (Dropping the ball or throwing the ball underhand should be scored as "not yet.")* 	○	○	○	___
2. *Does your child catch a large ball with both hands? (You should stand about 5 feet away and give your child two or three tries before you mark the answer.)* 	○	○	○	___
3. *Without holding onto anything, does your child stand on one foot for at least 5 seconds without losing her balance and putting her foot down? (You may give your child two or three tries before you mark the answer.)* 	○	○	○	___

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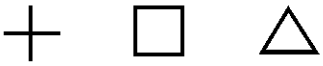
GROSS MOTOR *(continued)*

	YES	SOMETIMES	NOT YET	
4. *Does your child walk on his tiptoes for 15 feet (about the length of a large car)? (You may show him how to do this)*	○	○	○	___
5. *Does your child hop forward on one foot for a distance of 4–6 feet without putting down the other foot? (You may give her two tries on each foot. Mark "sometimes" if she can hop on one foot only.)*	○	○	○	___
6. *Does your child skip using alternating feet? (You may show him how to do this.)*	○	○	○	___

GROSS MOTOR TOTAL ___

FINE MOTOR

	YES	SOMETIMES	NOT YET	
1. *Ask your child to trace on the line below with a pencil. Does your child trace on the line without going off the line more than two times? (Mark "sometimes" if your child goes off the line three times)*	○	○	○	___
2. *Ask your child to draw a picture of a person on a blank sheet of paper. You may ask your child, "Draw a picture of a girl or a boy." If your child draws a person with head, body, arms, and legs, mark "yes." If your child draws a person with only three parts (head, body, arms, or legs), mark "sometimes." If your child draws a person with two or fewer parts (head, body, arms, or legs), mark "not yet." Be sure to include the sheet of paper with your child's drawing with this questionnaire.*	○	○	○	___
3. *Draw a line across a piece of paper. Using child-safe scissors, does your child cut the paper in half on a more or less straight line, making the blades go up and down? (Carefully watch your child's use of scissors for safety reasons.)* 	○	○	○	___
4. *Using the shapes below to look at, does your child copy the shapes in the space below without tracing? (Your child's drawings should look similar to the design of the shapes below, but they may be different in size. Mark "yes" if she copies all three shapes; mark "sometimes" if your child copies two shapes.)*	○	○	○	___



(Space for child's shapes)

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FINE MOTOR *(continued)*

	YES	SOMETIMES	NOT YET	
5. Using the letters below to look at, does your child copy the letters without tracing? Cover up all of the letters except the letter being copied. *(Mark "yes" if your child copies four of the letters and you can read them. Mark "sometimes" if your child copies two or three letters and you can read them.)*	◯	◯	◯	___

V H T C A

(Space for child's letters)

6. Print your child's first name. Can your child copy the letters? The letters may be large, backward, or reversed. *(Mark "sometimes" if your child copies about half of the letters.)*	◯	◯	◯	___

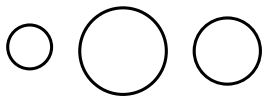
(Space for adult's printing)

(Space for child's printing)

FINE MOTOR TOTAL ___

PROBLEM SOLVING

	YES	SOMETIMES	NOT YET	
1. When asked, "Which circle is smallest?" does your child point to the smallest circle? *(Ask this question without providing help by pointing, gesturing, or looking at the smallest circle.)*	◯	◯	◯	___



2. When shown objects and asked, "What color is this?" does your child name five different colors like red, blue, yellow, orange, black, white, or pink? *(Mark "yes" only if your child answers the question correctly using five colors.)*	◯	◯	◯	___

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PROBLEM SOLVING *(continued)*

	YES	SOMETIMES	NOT YET	
3. Does your child count up to 15 without making mistakes? If so, mark "yes." If your child counts to 12 without making mistakes, mark "sometimes."	◯	◯	◯	___
4. Does your child finish the following sentences using a word that means the opposite of the word that is italicized? For example: "A rock is *hard*, and a pillow is *soft*."	◯	◯	◯	___

Please write your child's responses below:

A cow is *big*, and a mouse is ☐

Ice is *cold*, and fire is ☐

We see stars at *night*, and we see the sun during the ☐

When I throw the ball *up*, it comes ☐

(Mark "yes" if he finishes three of four sentences correctly. Mark "sometimes" if he finishes two of four sentences correctly.)

5. Does your child know the names of numbers? *(Mark "yes" if she identifies the three numbers below. Mark "sometimes" if she identifies two numbers.)*	◯	◯	◯	___

3 1 2

6. Does your child name at least four letters in her name? Point to the letters and ask, "What letter is this?" *(Point to the letters out of order.)*	◯	◯	◯	___

PROBLEM SOLVING TOTAL ___

PERSONAL-SOCIAL

	YES	SOMETIMES	NOT YET	
1. Can your child serve himself, taking food from one container to another, using utensils? For example, does your child use a large spoon to scoop applesauce from a jar into a bowl?	◯	◯	◯	___
2. Does your child wash her hands and face using soap and water and dry off with a towel without help?	◯	◯	◯	___
3. Does your child tell you at least four of the following? Please mark the items your child knows.	◯	◯	◯	___

◯ a. First name ◯ d. Last name

◯ b. Age ◯ e. Boy or girl

◯ c. City he lives in ◯ f. Telephone number

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PERSONAL-SOCIAL *(continued)*

	YES	SOMETIMES	NOT YET	
4. Does your child dress and undress himself, including buttoning medium-size buttons and zipping front zippers?	◯	◯	◯	____
5. Does your child use the toilet by herself? *(She goes to the bathroom, sits on the toilet, wipes, and flushes.)* Mark "yes" even if she does this after you remind her.	◯	◯	◯	____
6. Does your child usually take turns and share with other children?	◯	◯	◯	____

PERSONAL-SOCIAL TOTAL ____

OVERALL

Parents and providers may use the space below for additional comments.

1. Do you think your child hears well? If no, explain: ◯ YES ◯ NO

2. Do you think your child talks like other children her age? If no, explain: ◯ YES ◯ NO

3. Can you understand most of what your child says? If no, explain: ◯ YES ◯ NO

4. Can other people understand most of what your child says? If no, explain: ◯ YES ◯ NO

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