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Connecting Family Funds of Knowledge with Pre-kindergarten Curriculum: A Strengths-Based Approach

Molly Kathleen Hamel
University of South Carolina

CONNECTING FAMILY FUNDS OF KNOWLEDGE WITH PRE-KINDERGARTEN CURRICULUM: A STRENGTHS-BASED APPROACH

by

Molly K. Hamel

Bachelor of Science
James Madison University, 1986

Master of Education
Lock Haven University, 2014

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Accepted by:

Todd Lilly, Major Professor

Leigh D'Amico, Committee Member

Linda Silvernail, Committee Member

Catherine Compton-Lilly, Committee Member

Ann Vail, Dean of the Graduate School

DEDICATION

This endeavor is dedicated first to my late parents, George and Arline Hamel, who inspired me to pursue education and provided the best examples of the person that I strive to be.

Most importantly, this is dedicated to my three sons, Logan, Connor, and Peyton. You are the best part of my life. Thank you for cheering me on and believing in me! I hope I make you half as proud as you make me. I love you!

Lastly, this is dedicated to my students past, present, and future. You challenge me to be my best and to help you become your best.

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ABSTRACT

This action research study investigated the application of funds of knowledge research to supplement a Pre-Kindergarten curriculum in order to connect the previous knowledge and lived experiences of students and their families with the concepts and objectives of the classroom. The research combined funds of knowledge theory with social constructivism to form its theoretical framework. The research study used semi-structured interviews with parents to collect information about student and family funds of knowledge which the researcher used to supplement the existing curriculum with materials, activities, and experiences with which students were familiar. The findings revealed how enhancing existing curriculum with students' funds of knowledge, particularly at literacy work centers, could increase student engagement. Although qualitative data indicated student growth over the span of the study period, causality could not be effectively proven. Recommendations for future research include expanding participation and including English language learning students and their families.

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CHAPTER 1

OVERVIEW OF STUDY

Introduction

The preschool years have been identified as a critical time for developing the skills in young children that form the foundation for later achievement in learning to read and write. The opportunities and exposure to language experiences that young children have prior to kindergarten entry help develop the skills necessary for success in kindergarten (Whitehurst & Lonigan, 2001).

When children arrive at kindergarten, there is a consistent disparity identified in the kindergarten readiness skills between low-income children and their higher income peers. Children from low-income families are at increased risk of skill deficits in the areas of language and literacy (Walker et al., 1994). In addition, children from low-income families may have exposure to significantly fewer words than children from middle- and high-income families (Hart & Risley, 1995). As children progress through elementary school, this gap in skill level widens, and for many children the gap remains throughout their school career (Walker et al., 1994).

In the state of Maryland, more than half of the children entering kindergarten are identified at entry as not demonstrating the literacy skills that are considered necessary to be successful in kindergarten, based on the Kindergarten Readiness Assessment (KRA) (MSDE, 2020). In 2021, the state of Maryland passed legislation, referred to as the

Blueprint for Maryland's Future, with the goal of transforming the state's education systems. The legislation is comprised of five policy areas, or pillars, one of which is early childhood education. The stated priorities are to eradicate achievement gaps by prioritizing access to high quality early childhood programming and ensuring equity for all students (MDSE, 2023).

My school district, located in a small city on the eastern shore of Maryland, has implemented a full-day pre-kindergarten program targeting low-income students with the goal of better preparing them for the expectations of kindergarten. For the past five years, I have been a pre-kindergarten teacher within the program.

Problem of Practice

As teachers, we want to do the best job possible to provide our students with the skills they need for success in the classroom, as well as to prepare them for success in their next grade level. In Pre-K, which is often a student's first experience in school, this consists of combining what is known about how children learn and develop with the selected grade level curriculum to meet the school district's expectations for academic skills and knowledge.

My school district has adopted one of the state-approved Pre-K curricula, Connect 4 Learning. Connect4Learning is a comprehensive curriculum that encompasses literacy, math, science, and social-emotional foundations. It is comprised of six units of study that are supported by a variety of learning centers that are utilized for both student-selected and teacher-selected play experiences. It is promoted to provide multiple learning domain experiences through a project-based interdisciplinary approach.

In addition to the Connect4Learning curriculum, the school district has provided other resources to supplement the curriculum in the form of additional curricula, such as Message Time Plus, Vocabulary Improvement and Oral Language Enrichment Through Stories (VIOLETS), Writers Workshop, the Heggerty Phonemic Awareness Curriculum, and training in Language Essentials for Teachers of Reading and Spelling (LETRS). Each of these tools has been selected because they are marketed as "researched-based" and are targeted to augment an identified deficit in skills. However, scores on the Kindergarten Readiness Assessment, which is the benchmark state assessment for determining whether children enter kindergarten with the necessary skills and knowledge, have continued to decline (MSDE, 2023). The underlying purpose of this research is to explore a different, research-based approach based on the work Luis Molls and Norma Gonzalez framed "Funds of Knowledge."

The problem of practice identified in this study is how to effectively supplement the school district's approved curriculum by connecting the experiences and funds of knowledge that students and their families have acquired to the activities and instruction within the classroom.

Positionality

I have worked in early childhood education for many, many years in a variety of roles. I began my career as a first-grade teacher after college. After three years, I transitioned to several other roles, eventually shifting to childcare. I worked as a classroom teacher, a curriculum specialist, a researcher, a teacher instructor and mentor, a program director, and a program evaluator. I have worked in many settings: for-profit childcare programs, military childcare programs, a university research and training

institute, and a Head Start grantee. Five years ago, I found my way back into the public-school classroom as a Pre-K teacher. It was time for me to put my experience into practice, and to return to my passion of working with children.

I did not grow up in the community where I teach and have only lived in the state of Maryland for seven years. I do not live in the county where I teach, so am not a residing member of that community. I teach in a Title 1 school, and the children in my class are from families that qualify as low income. I was raised in an upper middle-class area and attended both undergraduate and graduate universities. My classroom is very culturally diverse; there are few children in my school that share my cultural background. From many perspectives, I am positioned as an outsider to the school community.

Five years ago, I jumped at the opportunity to return to classroom teaching, with the bonus of working with Pre-K students. I work hard to develop our close-knit classroom community of learners, eager to respect what each one of us brings to our world. We celebrate our differences and embrace our similarities. My students, their families, and I are our own community within the larger context of our school. My students are the motivation for me to be reflective of my practice, and to strive to become the best teacher for them, or as Herr and Anderson (2015) stated, "to deepen [my] own reflection on practice" (p. 38). Within our classroom community, I am an insider.

For this study, I consider myself an outsider within, a practitioner researcher. Herr and Anderson (2015) explain that "practitioner researchers often want to study the outcomes of a program or actions in their own setting, much like an internal evaluation" (p. 42); this is precisely my purpose in selecting my research topic.

Research Question

How might incorporating student and family funds of knowledge affect student engagement in classroom activities?

Theoretical Framework

Developing a foundation of literacy skills in Pre-Kindergarten children requires achieving a balance between how children of this age learn and the skills that need to be developed. The methods of teaching children this age are as important as the content that is taught (Neuman, 2014). The theoretical framework for this study focuses on two relevant theories. The first is González and Moll's Funds of Knowledge Theory, describing the relationship between a child's sociocultural bank of knowledge and learning (Gonzalez, et al., 2005). The second is Vygotsky's Social Cultural Theory, in which he posits a relationship between social interaction within play and learning in young children (Vygotsky, 1978).

When working with young children, educators become familiar with the term *Developmentally Appropriate Practice* (DAP), originated by the National Association for the Education of Young Children in 1986. Later revised, DAP is based on both theories of child development and constructivist theories supporting the importance of exploration and play in fostering learning, and the importance of incorporating each child's individuality and cultural contexts in the learning environment including that of school (NAEYC, 2009).

When viewing children as individuals within the framework of their home and school, it is essential to learn about their social and cultural contexts. Perceiving their

lived experiences and sociocultural resources from a strengths-based perspective, referred to as funds of knowledge (Gonzalez, et al., 2005), allows teachers to capture this capital to incorporate in the curriculum. Originally developed by Vélez-Ibáñez and Greenberg (1992) to document and capture the capabilities, accumulated knowledge and experiences, skills, and cultural traditions in Mexican American households, the funds of knowledge approach can be applied to help bridge the distance between home and school for all students. Since children learn by relating new information and events to previous lived experiences and social interaction with peers and adults (zone of proximal development), it could be hypothesized that this approach could benefit children's classroom learning (Vygotsky, 1978, Piaget, 1952).

Many of the DAP principles incorporate the social constructionist theories of Lev Vygotsky, who believed that children are actively involved in discovery of their environment and constructing knowledge based on experience. Vygotsky emphasized the role of social interaction in the process of learning and theorized that every individual has two levels of development: one level that an individual can attain through independent learning and another level that an individual can attain with the social influence or instruction from another person, who uses questions, clues, and prompts to help the learner construct their own knowledge to develop the solution (Vygotsky, 1978). This study addresses both levels as materials familiar to the students were added to the learning environment that then provided opportunities for interactions with peers and adults that enhanced literacy concepts.

Methodology

This study used an action research design, As the classroom teacher, I served as the principal researcher. To capture a comprehensive picture of my students' experiential knowledge, development, and learning, I collected quantitative data and used a qualitative case study approach.

Method

This qualitative case study research was conducted with students enrolled in a Pre-K classroom within a Title 1 public elementary school and their families. The qualitative data collected was used to identify student skill level and areas of need to inform instruction and classroom enhancements, to help me focus materials and interactions to scaffold existing skills, and to provide a comprehensive picture of the students, their families, and their funds of knowledge.

Participant Selection

Study participants were selected from a pool of 20 students enrolled in my Pre-K classroom. Due to the age of the students (four and five-year-olds), both the parent and child were considered participants as the parents provided a significant amount of the quantitative data collected. The students were both age and economically similar, due to age and income requirements for the program. Participants were selected based on parent/guardian consent for their child to participate, and parent/guardian agreement to participate. The sample was a convenience sample, as they were a subset of the students in my class that I interacted with daily. Qualitative data was collected from participating students and their parents with provided consent. Quantitative data was collected from the

entire class population, as it is the standard data and data intervals that I use for student progress reports. The initial study goal was to focus on three to five students and their families. The study captured data from three students and their families.

Qualitative Data

The primary data collected was qualitative. Parents/guardians that participated in the study engaged in interviews, with the option of an in-person interview or an interview over Zoom. The interviews were semi-structured, focusing on capturing the family history, resources, experiences, and practices, the student's lived experiences, and the family goals for the student.

I maintained a physical portfolio for each student participant in the study. The portfolio contains samples of drawings, writings, and artwork that the student created in class. In addition, I maintained a digital portfolio for each participant to collect photo and/or video documentation of student engagement in learning centers and classroom activities.

Since this study examined incorporating students' lived experiences into the classroom and curriculum, documentation of classroom activities and curriculum enhancements were collected through photos of the classroom and learning centers, lesson and activity plans, and anecdotal notes.

Data Analysis

Interview data was transcribed then provided to the participants to review and verify. Transcripts were then categorized by topic and coded. Initially, a priori coding was

used based on codes identified by the interview questions. As needed, additional codes were developed and implemented based on unanticipated information shared through the interview process. Once organized and coded, I looked for similarities, differences, and patterns in the data. In addition, I considered methods to integrate the students' and families' lived experiences into the classroom materials, curriculum, and activities. Student work samples, photos, and other artifacts were analyzed and were used to illustrate the narrative.

CHAPTER 2

LITERATURE REVIEW

The preschool years have been identified as vital to developing the skills in young children that form the foundation for later achievement in school (Pace, et al., 2019). Currently, children arrive to kindergarten from a variety of early learning experiences: care in their home, family childcare programs, center-based childcare, public or private nursery school and preschool programs, Head Start programs, publicly funded pre-kindergarten programs. Bronfenbrenner (1979) referred to these settings as a child's microsystem, which captures the immediate environment with which a child interacts including people, activities, and experiences.

While children's background experiences are varied, when they arrive at kindergarten there is a consistent disparity identified in the skills between low-income children and their higher income peers. As children progress through elementary school, this gap in skill level widens, and for many children the gap remains throughout their school career (Golinkoff, 2019, Walker et al., 1994). The funds of knowledge theory (Gonzalez, et al., 2005) offers a counter perspective that effective instruction should identify strengths in student's experiences and should be linked to students' lives.

Publicly funded Pre-Kindergarten programs are growing in number to provide high quality learning experiences for young children to help close the "achievement gap" prior to kindergarten entry. For these programs to be successful in their endeavor,

teachers need to implement curriculum and activities that are developmentally appropriate for the children, connect to students' previous knowledge, and support the development of the skills necessary to form a firm foundation for kindergarten readiness and success in future years.

This chapter will define the problem of practice for this research study and will summarize both the theoretical framework and historical perspectives that provide the foundation for the research study. It will continue by examining the elements of skill development crucial to literacy and will illustrate the achievement disparities for low-income and English language learning children. An outline of successful methods and strategies for teachers to implement for successful instruction will follow. The chapter will close with evidence of the long-term benefits of investment in high quality early childhood interventions.

Problem of Practice

The problem of practice that is identified in this research study is that more than half of Pre-Kindergarten children in the state of Maryland are identified at kindergarten entry as not demonstrating the readiness skills needed to be successful in kindergarten (MSDE, 2020). Although the school district featured in this study has provided a variety of curricula and professional development to teachers, this has not resulted in an increase in assessed kindergarten readiness in the county (MDSE, 2023). Some research has shown that children from low-income families are at increased risk of skill deficits in the areas of language and literacy (Walker et al., 1994). The language environment that children are exposed to in the first few years of life has a large and lasting impact on how

prepared they are for school; the number of words they are exposed to and the types of language interactions they engage in correlate to their future academic achievement. Some research has shown that children from low-income families have exposure to significantly fewer words than children from middle- and high-income families (Hart & Risley, 1995), although a re-examination of these findings has identified unexplored areas of exposure to vocabulary for these children (Sperry, et al., 2019), subsequent studies have confirmed that there is a gap in the exposure to language for children from low socio-economic households. These identified disparities illustrate a deficit assessment of student knowledge and skills, but fail to effectively identify student sociocultural strengths, knowledge, and competencies.

One method that this study will explore is that of making connections between students' lived experiences and the classroom. The assumption is that identifying a student's and their family's strengths and resources, or funds of knowledge (Gonzalez, et al., 2005), and including materials and activities that reflect this capital may connect Pre-K learning objectives to lived experiences. By incorporating a child's cultural resources related to language and literacy, teachers may be able to bridge the distance between conventional curriculum learning and a child's bank of knowledge and experiences, creating a valued identity for the child and a connection between the value of school and home (Dyson, 2003, Compton-Lilly, 2006).

Three foundational areas have been identified as predictive of how well children will learn to read: oral language, phonological processing, and print knowledge (NELP, 2008). The intervention in this study will focus on incorporating students' funds of knowledge in classroom materials, activities, and experiences to encourage oral language,

the development of print knowledge, and the development of phonological processing skills. By connecting student's funds of knowledge to the classroom and curriculum, I am using a strengths-based approach with Pre-Kindergarten students in effort to achieve kindergarten readiness skills in the literacy domain.

The students included in this research study were selected to attend a public school district pre-kindergarten program located in a Title I elementary school based on their family's low-income status. They are representative of a population considered at high-risk for low academic achievement in the areas of language and literacy. This study included their parents/guardians as participants to provide background information about the student and family funds of knowledge.

Research Question

How might incorporating student and family funds of knowledge affect student engagement in classroom activities?

Literature Review Methodology

In conducting this literature review, I utilized research library searches, ERIC search engine and Google searches. Searches were based on keywords relevant to the topic, such as "funds of knowledge," "literacy and play," "alphabetic knowledge," "phonological awareness," "emergent literacy," "economic inequality." Additional searches were generated through references and bibliographies contained within reviewed literature, and keywords listed. The literature reviewed included journal articles, state and Federal agency websites and documents, government panel reports and findings, and books relevant to the topic.

Theoretical Framework

Developing a foundation of literacy skills in Pre-Kindergarten children requires achieving a balance between how children of this age learn and the skills that need to be developed. The methods of teaching children this age is as important as the content that is taught (Neuman, 2014). The funds of knowledge theory is based on the premise that all people have competence and knowledge that they have gathered through their lived experiences, and that capturing and documenting these experiences provides teachers with opportunities to connect instruction to students' lives (Gonzalez, et al., 2005). Lev Vygotsky's theory of social cultural constructivism posits that children's development and learning is led by social interactions with peers and adults (Vygotsky, 1978).

Funds of Knowledge

Many interventions implemented with children who are determined to be "at risk" focus on addressing perceived deficits in skills, knowledge, and/or experiences that support success at school. The funds of knowledge approach endeavors to identify strengths, cultural literacy practices, and experiential knowledge of students through interviews with the family and observations of the student within the context of their home environment. In the original studies, researchers worked with teachers to connect these experiential resources to literacy instruction in the classroom (Gonzalez, et al., 2005).

The funds of knowledge approach was originally applied to capture the abilities, knowledge, and cultural assets in Mexican-American families in Tucson, Arizona (Velez-Ibanez & Greenberg, 1992). This strengths-based approach intends to capture language

and literacy practices within the diverse culture of families and use these experiential skills and knowledge to inform curriculum practices within classrooms (Compton-Lilly, 2014). Cultural resources and experiential knowledge can be effectively used to encourage language and literacy skills by making meaningful connections between a child's lived experiences and family culture with classroom instruction and activities (Compton-Lilly, 2006).

A key component in the funds of knowledge theory is that within the context of the family and community structure, there are constant opportunities for children to engage in active learning mediated by their relationships with adults and peers. Much of this learning is motivated by the child's interests and engagement, questions and activities, and the child constructs their own knowledge. This is often in contrast to traditional academic learning in which the teacher delivers information for children to learn (Moll & Greenberg, 1990).

Early childhood classrooms provide a natural setting for combining children's interests and funds of knowledge into learning opportunities. In order to make these connections, teachers need to engage with student's families and communities while drawing on their professional knowledge of curriculum and pedagogy to identify avenues to incorporate student experiential knowledge into curriculum (Hedges, et al. 2011).Learning centers and allowing children time spent in play can provide a context for children to construct new understandings that are connected to their cultural resources (Wisneski & Reifel, 2012). Providing children with materials that they can manipulate into representations of their experiential funds of knowledge provide avenues for teachers to scaffold learning into children's lived context (Karabon, 2016). When teachers engage

students' interests into curriculum, it enhances student motivation and attention, and fosters engagement with curriculum and the process of learning new material (Dewey 1913, Wade 2001).

Research surrounding a funds of knowledge approach focuses on common objectives. First, the approach seeks to enhance the relationship between school and home, specifically between teachers and families, by identifying strengths within the family cultural construct. Second, the approach encourages incorporating student's funds of knowledge into curriculum and school routines. Ultimately, the approach seeks to improve the academic performance of marginalized students by making classroom learning relevant to their lives (Rios-Aguilar, Kiyama, Gravitt & Moll, 2011).

Social Cultural Constructivism

Lev Vygotsky believed that children are actively involved in discovery of their environment and constructing knowledge based on experience. Vygotsky placed emphasis on the role of social interaction in the process of learning. He theorized that the role of education was to encourage and nurture the social elements within the child to develop on an individual basis. (Langford, 2005). Vygotsky used three terms to explain the relationship between society, learning, and development of an individual. These are: zone of proximal development, scaffolding, and the role of language as a tool for promoting cognitive development. The zone of proximal development explains the range of development of an individual. Vygotsky theorized that every individual has two levels of development: one level that an individual can attain through independent learning and

another level that an individual can attain with the social influence or instruction from another person. The difference between these two levels is the zone of proximal development. Scaffolding is a method of helping a child arrive at a solution to a problem or task by adjusting the assistance provided; an adult should adjust the level of support by using questions, clues, and prompts instead of providing the solution, so that the learner can construct their own knowledge to develop the solution. Vygotsky believed that language plays a pivotal role in development, as children use it not only to communicate with those around them, but also to develop their inner voice to regulate their thoughts and behavior (Vygotsky, 1978).

Historical Perspectives

Pre-Kindergarten, referred to in this study as Pre-K, is currently not a required grade in the United States. Since the 1980s there has been a steady increase in the availability of Pre-K programming. Research showing the link between early childhood experiences and brain development, combined with an increased demand for Pre-K due to higher maternal employment rate, has brought more attention at the state and federal level to the benefits of high-quality Pre-K. As a result, most states have implemented Pre-K programming for targeted populations, typically low-income children. This study takes place in a state-funded program that targets low-income children located within a Title I public school.

The historical roots of early childhood education in America can be traced back to the early 1800s. In the 1820s and 1830s, “infant schools” became popular in several cities. Originally developed to provide education for the poor, the rationale for the infant

school was both to relieve poor parents of childcare so that they could earn a living, and to provide proper socialization for children from disadvantaged homes that would help prepare them to do better in the regular public schools. Supporters of the infant schools were interested in reducing poverty and welfare costs. Negative attitudes toward the infant schools resulted in their dissolution. Opponents believed that young children should be educated at home, that children needed balanced physical and mental development, and the public schools did not want to provide education for such young children (Vinovskis,1993).

From 1896-1904, educational philosopher John Dewey operated a laboratory school at the University of Chicago. Similar to the funds of knowledge theory, Dewey developed the school around the concept that there were two dimensions to the curriculum: the child's side, which consisted of activities relevant to the student's knowledge base and interest, and the teacher's side, which consisted of organized categories of subject matter (Dewey, 1897). The teachers, masters in their areas of specialty, created and implemented activities that focused on the child's current level of knowledge and created real-life learning activities to build upon the student's knowledge base. Dewey recognized that children had an inner drive to investigate and construct knowledge, and his curriculum design utilized this inherent characteristic to encourage learning. Although his school was short-lived, his learner-centered theories are encompassed in current curriculum design (Flinders & Thornton, 2017). John Dewey's philosophy, known as pragmatism, valued the application of knowledge to solving lived problems and experiences rather than abstract ideas (Dewey, 1897).

Between the early 1900s and the 1960s, early childhood education primarily consisted of a variety of nursery schools and day care programs, but, unlike Dewey's lab school, there was little sustained interest in the establishment of comprehensive programming (Vinovskis,1993). The nursery schools and day care programs were primarily established to care for children who lived with and were part of a family but who, for social or economic reasons, were unable to be cared for by their parents or family during daytime hours (Lascarides & Hinitz, 2000).

From 1962 through 1967, the Ypsilanti, Michigan school district operated the High/Scope Perry Preschool Program for preschoolers. Rather than simply providing care for children, the program was established with the goal of improving outcomes for low-income African American children. Researchers followed 123 children from age 3 to age 40, half of whom had received high quality preschool intervention and half of whom received no intervention. Data was collected annually from ages 3 through 11 and again at ages 14, 15, 19, 27, and 40 (Schweinhart, et al., 2005). The long-term study found that the program group outperformed the non-program group on the dimensions of highest level of education, economic performance, crime prevention, family relationships, and health.

From 1972 – 1977, researchers from the University of North Carolina selected 111 at-risk children, half of whom received a program of educational experiences, the "Abecedarian Approach," which was comprised of four key elements: Language Priority, Conversational Reading, Enriched Caregiving, and Learning Games. The children attended a high-quality childcare center for five years, five days a week, year-round. Researchers monitored children's progress over time, with follow-up at ages 12, 15, 21,

30, and 35 (Campbell, et al., 2012). The study found that program participants were more likely to have attained a college degree and had better economic circumstances than non-program participants.

In 1965, the Federal government established Head Start as part of a "war on poverty." Head Start was the first publicly funded preschool program and was a response to research at the time that described the effects of poverty and its impact on education. The program provided preschool aged children from low-income families with programming to meet their emotional, social, health, nutritional, and educational needs. The program was developed to be culturally responsive to the children and families that it served, and incorporated family and community involvement as contributions to the program. In 2007, the program was strengthened to align Head Start educational goals with state and Federal early learning standards (Lascarides & Hinitz, 2000). The positive effects of Head Start prompted many state leaders to show an interest in educational programming for their youngest learners.

A second component of this "war on poverty" was Title I of the Elementary and Secondary Education Act of 1965. Title I and its associated funding was intended to close achievement gaps for low-income students and ensure that all children have an opportunity to access a high-quality education by providing schools with high numbers or high percentages of children from low-income families additional funding for supplemental academic services and supports. This study was conducted in a Title I elementary school that has an added Pre-K program to serve low-income preschool-age children.

In 1983, the US Department of Education released the report *A Nation at Risk* (Gardner) which voiced concerns about the quality of American education and described public schools as failing to prepare students to be competitive in the global society. This report led to the later establishment of the No Child Left Behind legislation, which resulted in the establishment of consistent learning standards for students for each grade level and mandated testing and reporting of student achievement. The focus on achievement standards led to additional focus on preschool, with pressure to begin teaching academic skills earlier.

In 1995, Betty Hart and Todd Risley published their study, *Meaningful Differences in the Everyday Experience of Young American Children.* Their study found that children living in poverty hear fewer than a third of the words heard by children from higher-income families. This study also correlated the number of words that young children hear and the language experiences they have as young children with their later academic achievement.

In 2000, the National Reading Panel (NRP) report included discussion of the skills necessary to learn to read. The report identified five key components of successful reading instructional programs: phonemic awareness, phonics, vocabulary, fluency, and comprehension. In 2008, the National Early Literacy Panel (NELP) found that alphabet knowledge, phonemic awareness, rapid letter naming tasks, name writing, and phonological short-term memory correlated to provide a solid foundation for learning to read. In addition, repeated reading of quality storybooks with unfamiliar vocabulary helps to develop vocabulary skills in young children (Justice, Meier & Walpole, 2005).

Since the NRP and NELP reports, there has been a great deal of consensus that developing a foundation in phonemic awareness prior to kindergarten yields positive results in student achievement. The National Association for the Education of Young Children (NAEYC) supports the development of the alphabetic principle as a goal for the preschool years (NAEYC, 2009).

Methods for Developing Literacy Skills

There are a variety of terms used to refer to literacy development during children's preschool age. Roskos, et al. (2003) use the term "early literacy" to describe the knowledge and skills that are developed prior to learning to read and write. The process of reading and learning to read is complex and multidimensional and incorporates children's individual differences, cognitive strengths, cultural and linguistic practices, and literacy experiences (Compton-Lilly, et al., 2023). This complexity is supported both by using children's funds of knowledge in instruction, materials, and experiences and by providing children with social opportunities with peers and teachers in play to construct knowledge.

Learning in Early Childhood

There is general agreement among early childhood theorists and educators that play is an essential component of an early childhood curriculum (Vygotsky, 1978, Piaget, 1952, NAEYC, 2009). Play in the early years (0-5) can be divided into three phases: functional play, in which children learn to use common objects for their purpose, symbolic play, in which children use common objects for another purpose, and dramatic play, in which children use props and oral language to create scenarios (Parten, 1932).

Within these phases, children advance through stages of play development. Pre-kindergarten children have typically progressed from parallel play, where children play in proximity to each other but do not play together, to associative play, in which they begin to interact with each other in play, and possibly to cooperative play, in which they play together with a common goal or topic (Nelson, 2010).

There is evidence supporting the link between play and the development of language and literacy skills. Through play, children develop oral language skills, learn to adapt language to differing situations, and incorporate the functional use of drawing and writing into their contexts (Genishi & Dyson, 2009).

In addition to the importance of child-centered, play-based learning opportunities, current research in early childhood education supports the importance of providing intentional instruction to develop children's foundational skills in literacy (NELP, 2008, NAEYC, 2009). Similar to the theories of Dewey (1897) and Vygotsky (1978), recommended instructional methods for pre-kindergarten aged children combine a balance of child-centered activities with teacher directed instruction (Landry et al, 2006). For example, the teacher provides students with brief instruction that identifies the letter name and sound it represents, practices recognizing the letter in text, and provides experience producing the letter form. Students continue to build their understanding by interacting with materials and activities that reinforce the letter/sound concept, such as identifying the letter in classroom display and environmental print, locating the letter in their name or the names of their classmates, singing familiar songs that include words beginning with the letter, etc.

In terms of literacy instruction, there is evidence that direct instruction in a whole group setting can be beneficial to the development of comprehension skills. Teaching strategies and curriculum that include regular storybook reading as a component of instruction enhances both vocabulary and reading comprehension skills for low-income children (Dickinson & Smith, 1994). Incorporating storybooks that are familiar to students or that contain recognizable cultural contexts or language can connect classroom curriculum to student's funds of knowledge and can build upon language and concepts that are part of the child's experiential knowledge (Gonzalez, et al., 2005).

Piasta & Wagner (2010) conducted a meta-analysis of studies providing alphabet instruction and that assessed outcomes through 2006. They analyzed the impact on five outcomes: letter name knowledge, letters sound knowledge, letter name fluency, letter sound fluency, and letter writing. The study differentiated between studies that provided multiple components of alphabet instruction from those that provided alphabet-only instruction. They found that instruction had a statistically significant impact on every outcome except letter name fluency. They also found that letter name outcomes were affected when letter name or both letter name and sound instruction were combined with phonological training, also known as multi- componential instruction. The analysis found that instruction of greater duration and that is provided in small group instructional setting is most beneficial. Incorporating familiar materials, books, poems, logos, signs, and songs that are part of the students' funds of knowledge can connect the concepts of letter/sound learning in the classroom curriculum and instruction to the student's experiential knowledge.

Preschool Phonemic Awareness as a Predictor of Literacy Achievement

Instruction in phonemic awareness is an important component of many preschool and pre-kindergarten programs, due to the relationship to later literacy skills. Conventional literacy skills refer to such skills as decoding, oral reading fluency, reading comprehension, writing, and spelling. The use of these skills is evident within all literacy practices, and they are readily recognizable as being necessary or useful components of literacy (NELP, 2008).

Children begin to acquire the foundational skills necessary for reading and writing at birth, and throughout the years prior to entering school, through the language experiences that they are exposed to in their early years. Conversations and reading experiences with parents, caregivers, siblings, and others in the child's life create the language framework for the child prior to school entry (Hindman, Wasik & Snell, 2016).

> Even before children start school, they can become aware of systematic patterns of sounds in spoken language, manipulate sounds in words, recognize words and break them apart into smaller units. They learn the relationship between sounds and letters and build their oral language and vocabulary skills (NRP, p.1).

These experiences define the child's first microsystem (Bronfenbrenner, 1979) and both establish and reflect their funds of knowledge (Gonzalez, et al., 2005).

Scarborough (2001) describes the skills necessary for reading comprehension using the analogy of a rope, consisting of many intertwined skills that comprise proficient reading. The image of the rope is divided into two major sections: language comprehension and word recognition. Additional strands, or skills, within language

comprehension are background knowledge, vocabulary, language structures (syntax, semantics, etc.), verbal reasoning (inference, metaphor, etc.), and literary knowledge (print concepts, genres, etc.). Strands, or skills, included within word recognition include phonological awareness (syllables, phonemes, etc.), decoding (alphabetic principle, spelling-sound correspondence), and sight recognition of familiar words. All these skills need to be developed for skilled reading comprehension (p. 98). This idea of the complexity of skills is echoed by Compton-Lilly, et al. (2023) as they explain that the process of reading is also impacted by children's experiential backgrounds, especially related to their family culture, and by social and economic inequities. Connecting children's funds of knowledge to classroom activities and instructional materials can help support their connection of the variety of intertwined skills to their experiential knowledge base.

Additional research has narrowed the skills that are most indicative of future literacy development. Meta-analyses of studies have found that phonemic awareness, the ability to hear, identify, and manipulate the smallest units of sound, and alphabet letter-sound knowledge correlate with future literacy skills (Hulme et al., 2002, Hamill, 2004, Piasta & Wagner, 2010, Hulme et al., 2012). In her work studying children's understanding of the concepts of print, Marie Clay (1989) explains that children learn to read in a variety of settings and instructional programs, but their development of the concepts of print indicates their readiness to benefit from reading and language instruction.

Socio-economic status and differences in achievement

It is well documented that children from lower socio-economic conditions arrive at school with a significant deficit in their vocabulary when compared to their peers from higher socio-economic environments (Hart & Risley, 1995, Farkas & Beron, 2004). This gap begins early; by 18 months, children of higher socio-economic status know 60% more words and are also faster at comprehending words than their lower income peers (Fernald et al., 2013). Hart and Risley's (1995) study identified that there was a vast difference in the amount of speech that children from low socio-economic households heard, and a significant difference in the quality of language experiences that these children had when compared to their higher socio-economic peers. Hart and Risley estimated that by the age of 4 years, the most disadvantaged children had heard 30 million fewer words in their interactions than their more advantaged peers. Their identified phenomena are referred to as the "30-million-word gap." Because vocabulary increases over time, and is cumulative in nature, the disparity in language widens with time (Farkas & Beron, 2004). By fourth grade, half of children who live in poverty are not able to read proficiently (NCES, 2013).

Vocabulary development is not only reliant on the number of words that a child hears, but also on the quality of interactions and type of vocabulary used. Rowe's (2012) investigation of the role of quantity and quality of speech in vocabulary development found not only the quality of interactions and words used are important, but that the types of vocabulary that are significant for development differ based on the age and developmental level of the child. Her results found the following: the quantity of words is most important during the 2nd year of life, the variety or sophistication of the vocabulary

is most important during the 3rd year of life, and the use of decontextualized language such as description and explanations is most beneficial during the 4th year of life (pp. 1771-1773).

More recent research has called into question the accuracy of the Hart & Risley (1995) study. Critics point out that the study both ignores the language that is learned and used in a variety of children's cultural context, the impact of language that is heard but not spoken directly to the child, and the language that differs from "mainstream" oral language. There are also limitations to the scope of the study, as the only interactions that were captured were the interactions between the mother and the child (Sperry, et al., 2019). The funds of knowledge approach supports that capturing a child's cultural context of language can be used to bridge the distance between language and literacy practice in the home and the conventional language of school curriculum (Gonzalez, et al., 2005).

Children expand their vocabulary through the words that they are exposed to in their environment and interactions (Gathercole & Hoff, 2007). Repeated exposure to a word increases a child's likelihood to remember it, and to be able to use it and make it part of their own vocabulary. It is estimated that children need to be exposed to a new word at least 40 times for the word to become part of their vocabulary (McGregor et al., 2007).

In addition to repeated exposure to new words, there are characteristics of the experiences that children have with new words that facilitate learning. Children benefit from the opportunity to hear and understand the meanings of new or unfamiliar words,

especially when there is a visual representation of the word (Biemiller & Boote, 2006). They learn new words more easily when the words are part of a meaningful context for the child, rather than presented in isolation. There is additional benefit when children can connect new words and their meanings to their own previous knowledge, interests, and experiences (Harris et al., 2011). Children also benefit from conversations with adults who ask open-ended questions and continue conversations using the new vocabulary (Tamis-LeMonda, et al., 2014).

In low socio-economic home environments, children are not only exposed to fewer total words in their early years than children from more affluent households, but they are also exposed to a reduced variety of words (Rowe, 2012). Specifically, children in poverty hear fewer unusual words beyond typical functional conversation, such as less-common synonyms (using "observe" as opposed to "look") (Dickenson & Tabors, 2001). Families in poverty also read fewer storybooks than middle-income families, and when reading they are less likely to define new words for children (Evans et al., 2011).

The differences in achievement for low socio-economic children identified in kindergarten extend into later schooling. In a ten-year longitudinal study of school outcomes based on early language production and socioeconomic factors, the elementary school results demonstrated that the earlier differences were predictive of children's language and reading-related achievement 7 years beyond the initial measures. Children from lower-income families continued to demonstrate lower performance on language and reading-related achievement across grades in elementary school (Walker et al., 1994).

Bilingual and English language learning students and phonemic awareness

The term *English language learners* (ELL), or *English learners* (EL), refers to students whose first language is not English but who are learning English. In 2018, 10.2 percent, or 5.0 million students, were English language learners. For 3.8 million of the ELL public school students Spanish was their first language, representing 75.2 percent of all ELL students. Approximately 29% of Latino children in the United States live in poverty, placing them at risk of reading difficulties (NCES, 2021). In the classroom studied 35% of the students are English language learners.

Research tells us that English language learning children from low-income families are less proficient than their peers when they enter kindergarten, even if they attended early childhood programs. This disparity in achievement widens as children progress through elementary school (e.g., Reardon & Galindo, 2006; U.S. Department of Education, 2000). Although not documented, it could be assumed that characteristics of vocabulary development for lower socio-economic English language learners would be similar to the characteristics of other low socio-economic children, who arrive at school with a significant deficit in their vocabulary when compared to their peers from higher socio-economic environments (Hart & Risley, 1995, Farkas & Beron, 2004).

Research shows that English language learning children with phonological awareness skills in one language transferred to their phonological awareness skills in another other language. In addition, it is recommended that phonological awareness instruction is provided in the language that one hopes to develop. If the goal is to foster development of English phonological awareness to support English literacy acquisition,

then it is recommended that instruction is provided in English language and emergent literacy skills (Anthony et al., 2009).

Successful Interventions and Instructional Methods

Children's development of phonemic awareness occurs when they understand that words are comprised of smaller sounds, for example syllables and phonemes. This helps them to acquire the alphabetic principle, the fact that written words represent spoken words and are made up of corresponding sounds. The alphabetic principle helps children "break the code" of written language. The alphabetic principle is the convergence of phonological awareness, letter name knowledge, and letter sound knowledge (Phillips et al., 2008). In addition, children that begin to demonstrate understanding of the concepts of print indicate their readiness to benefit from reading and language instruction (Clay, 1989).

Current research supports the premise that phonemic awareness and the alphabetic principle are not naturally developing skills but develop through intentional instruction and opportunities for practice. Additionally, there is evidence that children's early alphabet knowledge is predictive of later literacy skills (Piasta & Wagner, 2010). The most beneficial instruction includes a balance of teacher-directed and child-directed learning activities (NELP, 2008, Phillips et al., 2008, NAEYC, 2009, Piasta & Wagner, 2010). Teaching approaches that focus on one skill or on a set of interrelated skills are more effective than non-focused instruction (NELP, 2008).

Developmentally Appropriate Practice

Instruction for pre-kindergarten age children must be appropriate for their developmental level. For teachers, this means that every aspect of instruction should be intentional; classroom set up and materials selected, curriculum, teaching methods, assessment, and interactions with the children (NAEYC, 2009).

The theories of Vygotsky and Piaget both support a child-centered approach to teaching and learning, in which the child's natural curiosity is stimulated, the child's environment is structured to encourage exploration, and the child is encouraged to explore and construct knowledge within the context of the relationships with the teachers and peers (Vygotsky, 1978, Piaget, 1952).

Research indicates that there are developmentally appropriate methods of instruction that have been shown to be effective in developing phonemic awareness in pre-kindergarten aged children. Combining letter name instruction with corresponding letter sound instruction has shown to be effective in developing pre-kindergarten student's retention of letter names and sounds (Roberts et al., 2018).

Systematic Instruction

Effective instructional methods for teaching phonological awareness include providing intentional, systematic lessons. The teacher should plan a scope and sequence of instruction that includes the order in which the skills are going to be presented. Important to the plan for instruction is the setting in which instruction is to take place (whole group, small group, one-on-one). The plan should also include opportunities for

repetition of concepts and practice applying skills. Effective instruction should include specific feedback from the teacher (Phillips et al., 2008).

Contextualized vs. Decontextualized Instruction

Interestingly, pre-kindergarten children seem to retain more knowledge of alphabet letters and their associated sounds when instruction is de-contextualized, meaning the instruction is strictly focused on the letter form, name, and corresponding sound, rather than contextualized, meaning letters and sounds are taught through storybook reading and highlighting letters in material that is read aloud. Thus, instruction with the goal of increasing alphabet knowledge should be provided in a de-contextualized format (Roberts et al., 2019) and then reinforced through interactions within the context of play with peers and adults (Vygotsky, 1978, Piaget, 1952).

Use of Environmental Print

When teaching young children, engagement in the lesson is critical to learning and retention. In addition, learning at this age is most effective when children can make connections to their own previous knowledge, interests, and experiences (Harris et al., 2011). Children are exposed to letters and printed words every day by seeing signs, logos, labels, packaging, etc. This is commonly referred to as environmental print. Using environmental print as part of alphabet and language instruction has been shown to result in a higher level of engagement and motivation during instruction, increased level of letter-sound knowledge, increased letter writing ability, and the ability to transfer recognition of letters and words to standard print (Neumann et al., 2013).

Use of Songs, Chants, and Fingerplays

Using songs, chants, and fingerplays in the classroom supports children's learning of concepts such as rhyme and rhythm and allows children the opportunity to play with words and sounds (NAEYC, 2009). Integrating songs into instruction and allowing students to change sounds in words or create their own rhymes or raps reinforces their understanding of sound and symbol relationships and the concepts taught in group lessons (Hansen, et al., 2014).

Order of Letter Learning

Children tend to learn the letters that are in their own names first. Sequentially, they most easily learn the letters in which the letter name closely matches the letter sound. Additional factors that affect letter learning are the order of the alphabet and the consonants whose sounds were learned early in speech development (Justice et al., 2006). These factors should be considered in planning the sequence in which the letter instruction is provided.

Continuum of Phonological Awareness Skills

Phonological awareness develops as a continuum of skills and knowledge. Children first become aware of large units of sound, such as words, to smaller units of sounds, such as syllables and onset-rime, and finally to the smallest unit of sound, phoneme. Additional overarching skills of rhyme awareness and compound word awareness are interwoven in phonological awareness development. As skills and knowledge grow, there is overlap in the stages of skill acquisition (Phillips et al., 2008). In a classroom of pre-kindergarten children, there will be variety of skill levels along the

developmental continuum. Teachers should use assessment to determine each child's skill level and should provide a level of instruction that is near most of the children's level (Lonigan et al., 2005).

Instructional Duration and Setting

With respect to the impact on alphabet and letter sound learning, research has found that certain methods of instruction tend to have the greatest impact. Focused letter name instruction and practice leads to both letter name and letter sound learning. Instruction of greater duration is found to be more effective than instruction over a shorter period. Instruction provided in a small group setting is more effective than instruction provided in a large group setting or instruction provided as one-on-one tutoring (Piasta & Wagner, 2010). This is supported by Vygotsky's (1978) social constructivist theory.

Scaffolding Children's Learning

Engaging the multiple senses and learning styles of children can help reinforce skills and concepts important to phonological awareness learning. Having children clap the number of syllables in their name or in words in a lesson can give them kinesthetic reinforcement of the concepts being taught. Visual props or photos help children have a visual association to an auditory concept, such as a key photo related to a letter sound. Such visual props can also be used to engage children with limited language abilities to participate in active learning (Phillips et al., 2008). Reinforcing these skills through interaction with adults and peers encourages retention of the concepts as they relate to the child's previous knowledge (Vygotsky, 1978).

Content Rich Environment

Pre-kindergarten children also benefit from a content rich environment that includes time to explore and experiment with language and the written word. The learning environment should include a wide variety of reading and writing materials. Children benefit from participation in different grouping patterns (large group, small group, individual) and different levels of guidance to meet the needs of individual children (Vygotsky, 1978, Neuman, 2014).

Connect4Learning

My school district adopted the Connect4Learning curriculum for its Pre-K program 5 years ago. This curriculum was selected in part because it can be aligned with the state's Common Core Learning Standards. The curriculum's authors structured the curriculum around a foundation in math and science conceptual knowledge, with literacy and social-emotional skills developed in the context of these math and science topics and teacher instruction (Sarama, et al., 2016). Although the curriculum and its focus on math and science are based on research that supports a foundation in math and science can produce positive outcomes for children, including those in poverty (Whittaker, et al., 2020, Lerkkanen, et al., 2005), I could not locate research that supports this curriculum's efficacy when implemented or its evidence base for child outcomes. In addition, the curriculum contains little to no evidence of cultural or linguistic responsiveness or individualization for children with special needs (US Department of Health & Human Services ECLKC, 2020).

Benefits of Investment in High Quality Interventions

Evidence from two long-term research studies, the High/Scope Perry Preschool Project and the Abecedarian Project, both of which followed participants from preschool through adulthood, demonstrate the effectiveness and cost-benefit of high-quality interventions in early childhood.

The High/Scope Perry Preschool intervention group demonstrated positive long-term impact on highest level of schooling completed, employment at age 40, higher median income, stable living arrangements, less use of social services, and a reduction in crime. In addition, the economic return on investment of the Perry Preschool program was $244,812 per participant on an investment of $15,166 per participant—$16.14 per dollar invested (Schweinhart, et al.,2005).

The Abecedarian intervention group were more likely at age 21 to attend a 4-year college or university, more likely either to be enrolled in school or to have a skilled job, or both. At age 30, the treated group was more likely to hold a bachelor's degree, hold a job, and delay parenthood. In addition, for every dollar spent on the program, taxpayers saved $2.50 because of higher incomes, less need for educational and government services, and reduced health care costs (Campbell, et al., 2012).

When thinking in terms of state-level economic benefits, based on an increase in earnings per capita of residents, high-quality universal pre-K educational programming increases the value of state residents' earnings by $2.78 per dollar of costs. A program modeled on the Abecedarian project increases the value of state residents' earnings by $2.25 per dollar of costs (Bartik, 2010).

Because high quality early childhood interventions promote healthy development, they can generate savings by reducing the need for more expensive interventions later in a child's life, such as the need for special education services, grade repetition, early parenthood, and incarceration.

Summary

Developing a firm foundation for literacy development in the years prior to kindergarten entry is key for success in learning to read and comprehend material that is read. Strong reading skills are predictive of success for children across all academic areas. The development of these foundational skills is particularly important for children from low-income families, who historically have arrived at kindergarten with a deficit in comparison to their more affluent peers.

In this research study, I will conduct interviews with the families of students in my class to gain insight into their funds of knowledge. I will then analyze this data to make connections between the students' experiential knowledge and our curriculum, materials, and activities at school. I will include this information in the design of a multi-sensory intervention to provide instruction on alphabet letters and their corresponding sounds. The intervention utilizes direct whole group instruction to introduce alphabet letters and their corresponding sounds, incorporating music and movement as well as visual aids and props. Instruction in a small group setting follows, focusing on letter shape and formation, key visual cues, multi-sensory manipulation of letter forms, and the use of manipulatives as tactile reinforcement. Learning games and play activities are used to engage the children in small group activities and interactions with their peers.

As concepts are introduced, play materials in the classroom environment are added to reflect new and previously introduced letters, and to reinforce letter and sound acquisition. Learning center activities provide opportunities for children to explore and expand their knowledge through play with their peers and teachers. Individual skill assessment will be conducted informally during whole-group and small group activities to target instruction to individual needs, and to adjust instruction accordingly.

CHAPTER 3

METHODOLOGY AND METHOD

This chapter will provide an overview of the research study and explain the type of research I will conduct, the participants in the study, ethical considerations, data collection and analysis, and data collection tools.

Problem of Practice

My problem of practice is how to effectively supplement my school district's approved curriculum with developmentally appropriate materials, experiences, activities, and instruction that capture and incorporate the lived learning experiences of my students while achieving kindergarten entry expectations.

Research Question

How might incorporating student and family funds of knowledge affect student engagement in classroom activities?

Methodology

This study used an action research design. Action research is characterized as constructivist, situational, practical, systematic, and cyclical (Efron & Ravid, 2013) As such I conducted my own inquiries based on the context of my setting to investigate questions of concern to me and my teaching practice. I was systematic in my approach to

produce meaningful results that will help me improve my practice, and that may lead me to generate new questions and research. As the classroom teacher, I served as the principal researcher. To capture a comprehensive picture of my students' experiential knowledge, development, and learning, I collected both qualitative and quantitative data, and used a qualitative case study approach.

I selected the case study approach for its effectiveness in studying a particular area of focus (Efron & Ravid, 2020). I was seeking to explore the funds of knowledge approach in depth to study the impact of incorporating students' cultural and lived experiences into classroom materials and activities to evaluate the impact on student engagement and learning.

The qualitative data collected included conducting interviews with families, incorporating information gathered into classroom activities and materials, and collecting data regarding its impact. The study focused on a small sample size (three students and their families.

Setting

This study took place in a Pre-K 4 classroom located within a Title 1 public elementary school located on the eastern shore of Maryland. The school is located on the edge of a small city with a population of approximately 33,000 people, and within a larger county with a population of approximately 105,000 people. Approximately 55% of the city's population are people of color, while approximately 45% are white, with approximately 24% living in poverty. Within the county approximately 40% of the population are people of color, approximately 60% are white, and approximately 12% are

living in poverty. The school's catchment area includes neighborhoods within the city limits as well as neighborhoods within the county limits but outside of the city. The population of the students is approximately 79% people of color and 21% white. The student population is typically identified in research as "at risk" for low academic success, due to the racial and socio-economic composition.

The school serves students from Pre-K through second grade and serves approximately 723 students. The Pre-K program is full-day and provides students with breakfast, lunch, and a snack. Pre-K is not a required grade level in Maryland, and the program was implemented to serve as an intervention to prepare at-risk students for kindergarten. The Pre-K program is accredited by the Maryland State Department of Education (MSDE) and holds the highest rating (5 stars) in the MD EXCELS (EXcellence Counts in Early Learning and School-Age Care) quality improvement system.

The class selected for this research is comprised of 20 students, 8 females and 12 males. Two of the students have identified disabilities and have Individualized Education Programs (IEP) in place, one receiving school-based special education services, speech services, and occupational therapy services, and the other receiving special education services and speech services. One student receives school-based mental health services. Seven of the students are English Language Learning (ELL) students, with varying degrees of English proficiency. Six of the ELL students speak Haitian Creole and 1 speaks Spanish. The ELL students do not receive any additional services. The students ranged in age at the start of the school year from 4 years, 1 month to 4 years, 11 months.

Participant Selection

I selected my study participants using both a probability and convenience sampling method. The Pre-K program has age and income requirements for enrollment, so the students are both age and economically similar. I selected a random sample based on parent/guardian consent for their child to participate, and parent/guardian agreement to participate. The sample was a convenience sample, as they were a subset of the students in my class that I interacted with daily.

For purposes of this study, I eliminated children who are English language learners (7 students) from the pool of participants; while data gathered from these students would enhance the breadth of my study, the language barriers and limited access to translation services would have impacted both the accuracy of the student data and the ability to capture data through interview. In addition, I eliminated students with identified special needs (2 students) from the participant pool; while this was not meant to be exclusionary, these students receive varying levels of intervention and support within the classroom that could impact the data. In addition, I excluded one child who is receiving school-based mental health services.

Possible participants were identified between June and September 2023. Possible participants were identified from the previous school year's Pre-K 3 classroom that were transitioning to the Pre-K 4 program the following year and additional participants were identified from students registering for Pre-K 4 over the summer. The participants that were studied consisted of students that were new to the school at Pre-K enrollment. The study contained two groups of participants: the Pre-K students enrolled in the classroom and their parents/guardians.

Potential participants were provided with a letter of introduction. This letter described the study in detail, outlining the research procedures and the procedures for participation. The introduction letter included a statement of potential risks and benefits, procedures for maintaining confidentiality, and the entities that would have access to the final report. Participants were notified that they could withdraw their participation at any time, with the assurance that it would not impact their student or family. Participants were also informed that there would be no compensation for their participation, nor would their participation impact their student's standing at school either positively or negatively. Once potential participants agreed to become part of the study, they signed an informed consent and permission to participate form. The introduction letter can be found in Appendix A and the Informed Consent form can be found in Appendix B.

Ethical Considerations

Prior to beginning the research, the study was approved by both the University of South Carolina Institutional Review Board (IRB), and the county school board. Each entity had a specific procedure to gain approval, and the school board required university approval prior to applying for school district approval.

Participant Agreement

By mid-September, 2023, 4 families agreed to participate in the study. The students whose families agreed to participate included:

- Martin, a 4-year, 2-month-old African American male
- Gabrielle, a 4-year, 2-month-old Caucasian female
- Sterling, a 4-year, 8-month-old African American male

- Madison, a 4-year, 7-month-old African American female

After agreeing to participate in the study but prior to her interview, Martin's mother withdrew from participation in the study. She was expecting a baby and did not feel that she had the time or energy to participate. At the end of October, Gabrielle abruptly changed schools within the school district. I chose to include her data collected to the point of her withdrawal, as information gathered from her mother's interview was included in activities and materials in the classroom, and her abrupt move is not unusual when working with our school population.

Data Collection – Qualitative Data

Interviews

Parents/guardians that participated in the study were invited to participate in interviews either in-person or via Zoom. All the participants chose to engage in the interviews with the researcher via Zoom. The interviews were semi-structured, using open-ended questions to guide the discussion. Interviews were recorded and transcribed, and the transcriptions were provided to the participants for review and approval.

The first section of the interview focused on capturing the family history, resources, experiences, and practices. Interview questions are listed below:

Table 3.1

Interview Questions to Capture Family Funds of Knowledge

Interview Question	Examples/Cues
1.Has your family always lived in this area? In this home/location?	If not, where else have you lived?

2.Who lives at home with you and your child? Are there other places that your child spends time regularly?	Childcare, grandparent's house, other parent's house, etc
3. Is anyone in the family fluent in another language?	Do you speak a language other than English at home?
4. What are some ways that your family celebrates your culture?	Holidays, cultural traditions, family values, faith, food
5.Are there other people that are important in your/your child's life? What is their relationship? Are they close by?	Friends, relatives
6.What places in the community do you visit regularly?	Stores, zoo, library, church,
7.Where do you go for outings/special occasions/vacations?	Beach, cities, restaurants
8.What activities do you do as a family?	Cook outs, play games, attend sporting events
9.Does anyone in the family work outside the home? How does that work impact your family?	Knowledge, schedule
10.Do you have any special areas of interests of hobbies?	Cooking, woodworking
11.What activities do you engage in that involve reading/literacy?	Google/internet, magazines, books, newspapers, following maps/directions
Is there any other information that you would like me to know?	

The second portion of the interview focused on the student, their lived experiences, and the family goals for the student. Interview questions are listed below:

Table 3.2

Interview Questions to Capture Student's Funds of Knowledge

Interview Question	**Examples/Cues**
12.How would you describe your child?	Outgoing, shy, active, curious
13.What are your child's favorite activities?	Play, tablet games, watching TV/movies, singing, dancing
14.Are there any topics that your children has a special interest in?	Dinosaurs, animals, art
15.Has your child had prior experience in out-of-home care? What was the experience like?	Childcare, preschool, Head Start, babysitter

16.Has your child told you how they are feeling about going to school? What have they said?	Excited, nervous
17.What places in the community does your child enjoy going to?	Stores, zoo, library, church,
18.Does your child enjoy music? What are their favorite songs/types of music?	
19.Does your child enjoy being read to? What are their favorite stories?	
20.What games does your child enjoy playing?	Board games, sports, video games, apps
21.What chores/responsibilities does your child have at home?	Cleaning room, feeding pets
22.What is your child's schedule during the week? On the weekends?	
23.Do you do any activities to help your child learn?	Read, practice writing name, work on tying shoes
24.What was your experience in school when you were your child's age? When you were older?	
25.What are your goals for your child at school this year? When they get older?	
26.What concerns or worries do you have for your child at school?	

Work Samples

I maintained a physical portfolio for each student participant in the study. In addition, I maintained a digital portfolio for each participant to collect photo and/or video documentation of student engagement in learning centers and classroom activities.

Since this study examined incorporating students' lived experiences into the classroom and curriculum, documentation of classroom activities and curriculum enhancements were collected through photos of the classroom and learning centers, lesson and activity plans, and anecdotal notes.

Curricular Data

I collected data based upon curricular objectives at regular intervals throughout the study, which consisted of students identifying colors, basic two-dimensional shapes, upper- and lower-case letters, identifying letter sounds, indicating whether two words rhyme or don't rhyme, and counting syllables in words. This data was collected in one-on-one interviews with the students. During these interviews, students were presented with letters, numbers, colors, shapes, etc. in random order for identification. Additional skills such as cutting, assembling puzzles, sorting objects, etc. were assessed during small group and independent activities.

Data was collected using a checklist that was developed by our Pre-K teaching team for use in compiling student skill data to inform instruction, to report to the school and county, and to report to parents. The checklist aligns with both the MD Common Core Learning Standards for Pre-K and the Pre-K report card that is provided to parents each marking period. The literacy focused items on the checklist are included in Figure 3.1.

This checklist illustrates the instructional goals of our program and curriculum. This study did not seek to modify the instructional goals, but rather sought to provide students with instruction that included their funds of knowledge and connected the curriculum and goals to their knowledge and experience to move them toward mastery of the skills and goals.

Student's Name: _____

Pre-K Assessment 2023-2024

	Baseline ELA	**Term 1 RC**	**Term 2 RC**	**Mid-Year ELA**	**Term 3 RC**	**Final ELA**	**Term 4 RC**
Date:							

Shapes

Circle	Square	Triangle	Rectangle	Oval
Trapezoid	Hexagon	Pentagon	Octagon	Rhombus

Colors

Red	Yellow	Blue	Green	Orange	Purple
Brown	Black	White	Grey	Pink	

Uppercase Letter Recognition

A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**
J	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**
S	**T**	**U**	**V**	**W**	**X**	**Y**	**Z**	

Consonant Letter Sounds

B	**C**	**D**	**F**	**G**	**H**	**J**	**K**	**L**
M	**N**	**P**	**Q**	**R**	**S**	**T**	**V**	**W**
X	**Y**	**Z**						

Lowercase Letter Recognition

a	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**i**
j	**k**	**l**	**m**	**n**	**o**	**p**	**q**	**r**
s	**t**	**u**	**v**	**w**	**x**	**y**	**z**	

Name Writing

	ELA	**RC 1**	**RC 2**	**ELA**	**RC 3**	**ELA**	**RC 4**
I Can Write My Name:							

Rhyming **Syllables**

	RC 3	RC 4
Cat-hat		
Dog-log		
Car-can		
Moon-mug		

	RC 3	RC 4
Turtle		
Car		
Dinosaur		
Boat		

Opposites

	RC 2	RC 3	RC 4
Big and little			
Hot and cold			
Hard and soft			
Fast and slow			

Other Skills

	RC 1	RC 2	RC 3	RC 4
Puzzles				
Scissors				
Copy Shapes				
Size	**N/A**			
Classifying				
Sorting				
Parts of a Book				
Author/Illustrator				

Figure 3.1

Pre-K Student Skills Assessment Checklist

Data Analysis – Qualitative Data

Interview data was transcribed then provided to the participants to review and verify. Transcripts were categorized by topic. Initially, a priori coding was used based on 4 themes I identified within the funds of knowledge theoretical framework:

- Enhancing the relationship between school and home, specifically between teachers and families
- Identifying strengths within the family cultural construct and funds of knowledge
- Incorporating student's funds of knowledge into curriculum and school routines
- Identifying practices to improve the academic performance of marginalized students.

As needed, additional codes were developed based on unanticipated information shared through the interview process and/or recurring themes in collected data. Once organized and coded, I looked for similarities, differences, and patterns in the data. In addition, I looked for ways to integrate the students' and families' lived experiences into the classroom materials, curriculum, and activities. Student work samples, photos, and other artifacts were also coded and used to illustrate the narrative. Although the classroom interventions were dependent on the information gleaned from home visits and interviews, some examples of incorporating family experiences may include:

- Adding materials to the dramatic play center, such as props familiar in the home or parent's workplace.
- Incorporating familiar games into small group activities or the games and puzzles center.

- Singing familiar songs and writing down the words on chart paper.
- Including photos of frequently visited places in the community in the block & construction center.
- Adding familiar food, restaurant, and community site logos to environmental print in the classroom.
- Reading familiar stories and adding them to the classroom library.
- Displaying maps of town and including photographs of student's homes and families.
- Inviting parents into the classroom to share a skill, custom, or story with the class.

Data Analysis -Curricular Data

Curricular data was collected through individual assessments with students and analyzed throughout the data collection phase to provide information about student skill growth over the span of the study. Where possible, it was compared with patterns in the qualitative data to look for possible patterns and correlations.

CHAPTER 4

FINDINGS AND ANALYSIS

This research focuses on making connections between student and family funds of knowledge and lived experiences and activities and instruction in a Pre-K classroom.

Problem of Practice

The problem of practice is how to effectively supplement the school district's approved curriculum by connecting the experiences and funds of knowledge that my students and their families have acquired outside the classroom in their lived lives to the activities and instruction within the classroom.

Research Question

How might incorporating student and family funds of knowledge affect student engagement in classroom activities?

Background Information

The state of Maryland has adopted Common Core standards for Pre-K. The curriculum selected and the instruction provided is designed to meet these standards. In theory, achievement of these standards would indicate that students are prepared with the necessary skills when entering kindergarten. Student progress in Pre-K is reported to

school administration and parents within the framework of these standards. The MD Pre-K literacy standards may be found in Appendix C.

Curriculum

Our school district has adopted the Connect 4 Learning curriculum (Sarama, et al, 2016) which is one of the curricula approved in Maryland for use in state funded Pre-K programs. The curriculum includes four domains of learning: mathematics, science, literacy, and social-emotional development.

The Connect 4 Learning curriculum is comprised of six units:

- Unit 1: Connecting with School and Friends – students learn about the routines at school and their new friends at school.
- Unit 2: Our Environment – students learn about their own environment, ways to help their environment, then explore the environment of the coral reef.
- Unit 3: How Structures are Built – students learn about how structures are built and how tools work, then conduct simple experiments and construct games and toys.
- Unit 4: Exploring Museums – students learn about museums and collections, then focus on paleontology and medieval times.
- Unit 5: Growing Our Garden – students learn about growth over time and life cycles of plants and animals, then investigate gardens and the living things within them.

- Unit 6: How We've Grown – students engage in activities that review the year and recognize how they have grown and developed.

This study is being conducted to discover ways in which students' and their families' funds of knowledge can be captured and infused within the curriculum, thus enhancing the home-school connection and providing opportunities for students to learn new skills and concepts by relating new information to familiar experiences and knowledge.

The findings and data analysis for this study are presented in a case study format, examining three students and their families' lived experiences and funds of knowledge, and how the curriculum, materials, and activities in the classroom were adapted based on information shared by the families and observations made of the child.

Participant Recruitment

Our school offered an Open House on August 30, prior to the start of school, for families to come to the school, see their child's classroom, and meet their child's teacher. In addition, our Pre-K program allotted two days, September 5 &6, for initial parent conferences which we use to provide parents with specific information about the program, curriculum, expectations, and to gather basic information about their child. During the initial parent conference, I introduced the research study to parents and provided them with the written invitation. I followed up with the identified potential participants by sending the consent to participate information on September 12.

Parent Interviews

The participants included in the study were those families who completed the informed consent form and expressed an interest in participating in the study. These participants engaged in interviews via Zoom conference, which provided them with the opportunity to select a time that was convenient and alleviated the need for them to make an additional trip to the school or for them to secure childcare. Participants were provided with questions ahead of time so that they knew in advance the focus of the interview and had time to think about what would be discussed. Although much of the funds of knowledge research has revolved around visiting families in their homes, this approach was not permitted by the researcher's school district. Zoom interviews provided the next best thing. During each interview the students were present, occasionally with a sibling, but were engaged in other activities.

Each child's family was interviewed using a semi-structured interview format. The following questions guided the interviews:

1. Who lives at home with you and your child? Are there other places that your child spends time regularly?
2. Is anyone in the family fluent in another language?
3. What are some ways that your family celebrates your culture?
4. Are there other people that are important in your/your child's life? What is their relationship? Are they close by?
5. What places in the community do you visit regularly?
6. Where do you go for outings/special occasions/vacations?

7. What activities do you do as a family?

8. Does anyone in the family work outside the home? How does that work impact your family?

9. Do you have any special areas of interests or hobbies?

10. What activities do you engage in that involve reading/literacy?

11. Is there any other information about your family or experiences that you would like me to know?

12. How would you describe your child?

13. What are your child's favorite activities?

14. Are there any topics that your child has a special interest in?

15. Has your child had prior experience in out-of-home care? What was the experience like?

16. Has your child told you how they are feeling about going to school? What have they said?

17. What places in the community does your child enjoy going to?

18. Does your child enjoy music? What are their favorite songs/types of music?

19. Does your child enjoy being read to? What are their favorite stories?

20. What games does your child enjoy playing?

21. What chores/responsibilities does your child have at home?

22. What is your child's schedule during the week? On the weekends?

23. Do you do any activities to help your child learn?

24. What was your experience in school when you were your child's age? When you were older?

25. What are your goals for your child at school this year? When they get older?

26. What concerns or worries do you have for your child at school?

27. Is there any other information that you would like me to know about your child?

The interviews were recorded and transcribed, and the parent responses were coded using a priori coding based on four themes I identified from funds of knowledge theory. Questions and responses were categorized based on the following themes:

- Enhancing the relationship between school and home, specifically between teachers and families
- Identifying strengths within the family cultural construct and funds of knowledge
- Incorporating student's funds of knowledge into curriculum and school routines
- Identifying practices to improve the academic performance of marginalized students.

The interview provided an opportunity to connect with the families on a deeper level than is typically the norm through the regular structure of parent/teacher conferences. Each family shared more about relationships with extended family and close friends, what the child's homelife was like within the context of the family and the daily schedule, and the information that the child shared about school.

Study Participants

Sterling

Sterling is a 4 year 8-month-old African American male student. He lives at home with his mother, his stepfather, and his younger half-brother. He visits his biological father every other weekend. Sterling was born in another city in Maryland, then moved with his family to the city where they have lived since then. His mother grew up and lived most of her life in this city. Sterling's extended family is primarily located in the

city or within one hour of the city, and he spends time with extended family on his mother's side, his biological father's side, and his stepfather's side. He is particularly close to his maternal and paternal grandparents, and his paternal aunt.

> Sterling's mother: "Um I would definitely say that he is really close to his grandmother, his grandmother on his paternal side. He loves her to death. They spend a lot of time together and he really just loves her. He sees her a lot when he goes to see his dad and they are tight."

Sterling's mother was candid in sharing that there are legal issues preventing her and Sterling's father from being in proximity to one another and has informed me and the school of the parameters of the arrangement. Although his mother and father have a challenging relationship, his mother reports that Sterling is close to his father and is excited to spend time with him. Sterling also has close ties to both his maternal and paternal extended families.

Sterling's mother was eager to participate in this study, as she shared that she is also in school. She is attending a local university pursuing her bachelor's degree. She also shared that she is expecting a baby later in the fall.

When asked about how Sterling feels about starting school, his mother reports that Sterling is eager to make friends at school and to engage with a variety of his peers.

> Sterling's mother: "The first thing in school he actually cried. He cried. Yeah, because he's so used to me dropping him and his brother off in daycare, so instead I dropped his brother off just by himself without him getting out the car and he

cried. He wanted to go with his brother. He didn't want to go to school. He didn't want to on the bus, so I had to calm him down. But I was. I took him to McDonald's and then I actually took him to school. The first day just so we could, you know, get used to it. But when got home I asked him how his day was in school and he'll say that it was that he likes, that he liked school and it was good. And the things that the activities that he did throughout the day. So yeah. So he tells me that he likes school."

Sterling's mother shared that she works in an optometry shop, and that is where Sterling got his glasses. They take advantage of local attractions such as the zoo, Chuck E Cheese's, parks, and a local family amusement center. In addition, they go to a nearby beach and enjoy family picnics. She also shared that they like to make day trips and short overnight trips to amusement parks such as Six Flags, Hershey Park and Sesame Place. They attend a Christian church and church activities as a family. They shop at two local grocery stores.

Sterling's mother is attending a local university to complete her bachelor's degree, so explains that Sterling sees her reading for school assignments. In the home they have a bookshelf full of books, and she reads to Sterling and his brother several times a day. Sterling enjoys outdoor play, including games such as tag and hide-and-seek, and enjoys playing Mario and Luigi games on his tablet. She explains that she plays learning games with Sterling that he is really excited about, such as letter matching games and games involving counting objects.

Special areas of interest for Sterling's mother include walking and fitness, and she is in the process of teaching herself to sew both clothing and things for the house.

In the classroom, Sterling is reserved in his demeanor, but eager to make friends. He talks about making friends frequently, especially on the playground during outside play. He engages with a variety of classmates, both boys and girls, and frequently returns to his teachers to report that he is making friends or that he wants to make friends. Sterling is eager to engage in classroom activities and gravitates towards the adults in the room. Sterling's mom describes him as smart and outgoing.

At initial assessment, Sterling was able to:

- Identify 10 basic colors (red, blue, yellow, green, orange, purple, black, brown, white, pink)
- Identify 4 shapes (circle, triangle, rectangle, pentagon)
- Identify 19 Upper case letters
- Identify 6 Lower case letters
- Identify 0 letter sounds
- Recognize his written name in a group of names (although his is the only name in class that starts with S)

After interviewing Sterling's mother, I was able to identify several funds of knowledge:

- Sterling wears glasses, so has visited an optometrist and has been through the process of being fitted for eyeglasses. He may have a more concrete understanding of the sense of sight than his peers. In addition, his mother works an optometry store, so has added knowledge of the vision assessment process and eyeglass fitting process.
- Sterling's mother attends the local university part-time and is working towards her bachelor's degree. Sterling has had the experience of visiting the campus with his mother and observing her continuing her education as an adult.
- Sterling has younger siblings, including a newborn baby, so has experienced baby and toddler care and development.
- Sterling enjoys music and dancing with his mother and younger brother. He particularly enjoys the song "Happy" by Pharell.
- Sterling enjoys being read to and his favorite author is Dr. Seuss.
- Sterling's family visits local parks, the zoo, the beach, and local family amusement centers. In addition, his family has traveled to Six Flags in Maryland, and Hershey Park and Sesame Place in Pennsylvania.
- Sterling has a tablet and frequently plays Mario video games.
- Sterling's mother engages in fitness activities and is learning to sew.

Gabrielle

Gabrielle is a 4 year 2-month-old Caucasian female student. Gabrielle lives at home with her mother and stepfather, and her stepsister is at home every Tuesday and every other weekend. Her stepsister is the same age as Gabrielle, and they were born 10 days apart from one another. Her mother is also expecting a baby. Gabrielle's family is originally from a larger city in Maryland, but Gabrielle's mother grew up in the city that they currently live in, and Gabrielle was born and has lived her life here. Her mother's family has gradually relocated to this city except for her father, who still lives in the larger city, about 3 hours away. Gabrielle is very close to her maternal grandparents and her aunt and cousin. Her aunt and cousin's yard adjoins Gabrielle's, so she spends a great deal of time with them.

Gabrielle's mother describes a structured routine during the week as both parents work outside the home and both girls are in school. On the weekends the family decides together what they will do for the day.

> Gabrielle's mother:" I'm very spur of the moment. I'm one of those people that will wake up in the morning and be like, alright, pack your bags. I've booked us a room here, you know? So DC going to the museums, going to the zoos. She loves Philly zoo. She loves the DC zoo. We like to try different aquariums. She's been to quite a few different aquariums and so forth. But I would say like, you know, it's kind of up in the air. I'll wake up one day and like, I want to do this, and we all just load up and go and do something."

Her mother shared that Gabrielle's biological father is not involved in her life, and that her stepfather has assumed the role of father, with Gabrielle referring to him as her father. Gabrielle lives adjacent to her aunt and cousins, so spends a great deal of time with them.

> Gabrielle's mother: "So my sister's actually our neighbor, so she spends a lot of time with her. We kind of have just like conjoined yards. And so now we kind of share yards as she spends a lot of time outside playing with my niece. She's 7 now, so she's always looked up to her, wanting to be just like her and run around and do what she does. And she's very involved with my sister. And then my parents, she absolutely adores my dad to death. For her, Pop can do no wrong. She spends all of her time talking about Pop. So we are very close knit."

When asked about how Gabrielle feels about school, her mother shares that she was initially nervous but excited. Gabrielle's mother explains that as a child she was shy and very close to her mother, and she feels that Gabrielle is like her in that respect. She also explained that Gabrielle is picked up from school by her aunt and excitedly shares what went on at school, but that when her mother asks about school, she shares very little. Gabrielle's mom describes her as spontaneous and independent.

Gabrielle's mother shared that the family enjoys being on the go on weekends, and frequently visit local attractions, such as the zoo and nearby beach. She explains that they enjoy fishing at nearby lakes and ponds. At home the family enjoys hosting family game nights with the extended family. They have an outdoor movie screen, so also watch

movies together. They have two dogs, two cats, and two turtles that Gabrielle helps take care of.

A special area of interest for Gabrielle is dinosaurs. Her mother explains that she can identify most of them and knows many facts about them. Her favorite activities include riding her bike, jumping on the trampoline, playing the game Memory, and assembling puzzles. Her mother enjoys reading, so Gabrielle sees her mother reading frequently, and her mother reports that she reads to Gabrielle and her stepsister daily. The girls will frequently look at books together while dinner is cooking and will tell each other what is happening in the story based on the illustrations.

In the classroom, Gabrielle loves to engage in activities and play with her classmates. She tends to gravitate towards pretend play and art activities and enjoys looking at books with her friends. Gabrielle spends most of her time playing with other girls in the classroom, but will also play with boys, especially on the playground during outdoor play. Gabrielle has one friend that she especially enjoys spending time with, and they will frequently choose activities and play together.

At initial assessment, Gabrielle was able to:

- Identify 11 basic colors (red, blue, yellow, green, orange, purple, black, brown, white, pink, grey)
- Identify 4 shapes (circle, triangle, rectangle, pentagon)
- Identify 4 Upper case letters
- Identify 3 Lower case letters

- Identify 0 letter sounds

After interviewing Gabrielle's mother, I was able to identify several funds of knowledge:

- Both of Gabrielle's parents work in aspects of the construction industry. Her mother works for a disaster restoration company and her stepfather works for a general contractor.
- Gabrielle's family frequently visits local areas of interest such as parks, the zoo, the beach, and lakes and ponds. In addition, the family travels to larger cities to visit zoos, aquariums, museums, and monuments.
- Gabrielle's family enjoys fishing and frequently spends time fishing.
- Gabrielle's family enjoys camping and goes on a yearly camping trip to a local campground that has many Halloween activities. The trip includes several members of her mother's extended family.
- Gabrielle has a variety of puzzles at home that are a favorite activity of hers. Some of the puzzles include math concepts and skills.
- Gabrielle has a special interest in dinosaurs and knows many facts about them.

Madison

Madison is a 4 year 7-month-old African American female student. She lives at home with her mother, father, and younger brother. Madison's family is originally from the local area, with her father's family primarily in the city where they live and her mother's family primarily from another small city about an hour away. Madison is close

to her grandparents, who live locally. In addition, Madison's family is particularly close to one of her mother's friends, who she refers to as her sister. The two families spend a great deal of time together and live around the corner from each other. Madison's family attends church and is very involved in church activities, which often focus on providing services to the community.

Madison's mother shares that Madison attended a Pre-K program at a local childcare center that was part of the state's Pre-K expansion program. She reported that Madison enjoyed the program and that her teachers were impressed by how much she knew and was capable of. Madison's mother reported that the family primarily keeps to themselves but are very active in their church which does a lot of community service. Madison's father and grandfather are bus drivers for the school, and her mother reports that Madison is close to her grandparents.

> Madison's mother: "She is really close to Grandma and grandpa. And we have I guess you could say not really an adoptive family, but we kind of just mesh together and we call them like our sister. We call her our sister. So her and her children, which is kind of like around the corner from us."

Madison tells her mother that she loves school and is excited to report about her day.

> Madison's mother, "That's like one of the first things we do when she gets home, she always says how great her day has been. Just the other day she showed me her piece of artwork with her little art award. She was excited about that…. She's just in love with it."

Madison's mother explains that their family is very involved in their Christian church. The church focuses on community service, so has many activities and service projects that the family assists with. They also participate in social activities at the church. Madison's mother is a liturgical/spiritual dancer, and her father plays lead guitar in a church musical group. Madison's mother explains that Madison really hasn't been exposed to a variety of musical genres, but that she enjoys Christian music, Bob Marley's "Three Little Birds," and songs from Gracie's Corner.

Madison's mother explains that the family celebrates Thanksgiving, Christmas, and Easter with their extended family, but that other holidays are celebrated with just Madison's immediate family. Her mother shared that the family extends celebrating Black History Month throughout the year. It is important to Madison's mother that her children are proud of their race and heritage, and that they know they are smart and strong. She explains, "Typically we are seen as, like you know, not all that great, not intelligent, can't do nothing type of people. So I let them know that they're, you know, strong and everything like that."

Madison's mother describes her as explorative, energetic, and excited. Madison enjoys art and anything creative and crafty. She likes pretend play, especially princess play. Her mother also describes her as a "nature girl" and says that she loves walking outside and finding plants and bugs and things like that.

In the classroom, Madison is eager to participate in class discussions and activities and engage with a variety of classmates during play. She tends to enjoy art activities

along with building and playing with manipulatives. Madison plays with both boys and girls in the classroom and often plays with children that other children aren't playing with.

At initial assessment, Madison was able to:

- Identify 11 basic colors (red, blue, yellow, green, orange, purple, black, brown, white, pink, grey)
- Identify 5 shapes (circle, square, triangle, rectangle, oval)
- Identify 26 Upper case letters
- Identify 26 Lower case letters
- Identify 21 letter sounds
- Recognize her written name in a group of names

After interviewing Madison's mother, I was able to identify several funds of knowledge:

- Music plays a large role in Madison's family. Her mother dances and her father plays guitar in a local church band.
- Madison's father and grandfather both drive school buses in our school district.
- Madison's family is involved in many community service and outreach programs through their church.
- Madison's family visits local attractions such as the zoo and parks, and her mother takes Madison and her brother to the local library weekly.

Common Themes

All three participants have primarily lived in this city, as have the students. Each of the participants reported strong family connections within their homes as well as with extended family and have extended family that are local (within 1 hour drive) to the area. All three students have two parents (or parent figures) that live with them, and one has a non-residing parent that he visits regularly. Each of the students has at least one sibling or stepsibling. Each student has a close relationship with at least one grandparent. None of the students had someone at home that was fluent in another language.

Each parent reported a consistent schedule for their child that included routines (indoor/outdoor play, family dinner, story time, consistent bedtime, etc.), especially during the week. The students each have age-appropriate responsibilities at home, such as cleaning up their toys/room and clearing their dishes from the table. All three students had been in prior out of home care that had been a positive experience, and the parents reported that their child enjoyed being around other children their age. All three parents reported that their child enjoyed going to school.

Each of the three parents seemed to have difficulty answering question #4: What are some ways that your family celebrates your culture? All three reported family reunions/get- togethers and holidays celebrated with extended family members.

Identifying Strengths Within the Family Cultural Construct

Based on the interview responses, each of the participating families had strengths that may not be considered funds of knowledge, but support school readiness. The strengths that were common to all three families include:

- Two parents residing in the household.
- Supportive and positive relationships with extended family members that live locally.
- Predictable, consistent daily schedules.
- Parents who model reading as an enjoyable and beneficial activity.
- Daily story reading to children for enjoyment.
- Parents that value education and that provide educational activities for the children.
- Parents that are interested in participating in this research study.

Practices to Encourage Academic Skills

Sterling's mother reports that she does a lot of reading and homework for school and that Sterling sees her working on her education. She works with Sterling to learn alphabet letters and numbers/counting, and Sterling is able to identify numerals, several upper- and lower-case letters, and a few shapes. Sterling's mother would like Sterling to learn what he needs to know to be successful at school.

Gabrielle's mother reports that she works with Gabrielle to learn alphabet letters using flash cards, and that they play memory and complete math puzzles together. Gabrielle's mother would like Gabrielle to find something she "has a soul for" or a

passion for in school. She regrets that she herself did not find something to be passionate about in school.

Madison's mother reports that she reads to her children daily, several times throughout the day. She takes the children to the local library weekly. She has Madison practice writing her name and works with her to learn letters and counting but explains that if Madison becomes frustrated, she stops the activity. Madison's mother hopes that Madison not only meets grade level expectations at school, but that she exceeds them. She would like Madison to find areas of interest and pursue them.

Incorporating Family's Funds of Knowledge into Curriculum and School Routines

Once the interviews had been completed and the responses were analyzed, I identified materials and activities that could supplement classroom learning centers and activities based on student interest and identified funds of knowledge. I also determined which units, themes, and activities within the Connect4Learning curriculum these materials and/or activities would enhance, and correlated skills with the MD Common Core Learning Standards.

Learning Centers:

The Connect 4 Learning curriculum defines several learning centers that should be present in classrooms implementing their curriculum. In this study, information gathered from parent interviews was used to make additions to the following centers:

- Writing Center

- Book Nook
- Construction Zone
- Dramatic Play Center
- Exploration Station
- Games and Puzzles Center

Table 4.1

Materials Added to Learning Centers Based on Funds of Knowledge

Learning Center	Materials Added	Student With Funds of Knowledge	MD Early Learning Standards
Writing Center	Copy of alphabet book with logos/environmental print including locations familiar to children Photos of local attractions/restaurants with visible signage	Sterling, Gabrielle, Madison Sterling, Gabrielle, Madison	RF.PK.1.b RF.PK.1.d RF.PK.3.a RF.PK.3.c SL.PK.1 SL.PK.4
Book Nook	Class created books in which each child creates a page Alphabet book with logos/ environmental print that is familiar to children and includes local businesses/attractions Books by Dr. Seuss with photos & toys of book characters- these books are also read to the class when talking about alphabet letters and rhyming words	Sterling, Gabrielle, Madison Sterling, Gabrielle, Madison Sterling, Gabrielle, Madison	RL.PK.1 RL.PK.2 RL.PK.3 RL.PK.4 RL.PK.5 RL.PK.6 RL.PK.7 RL.PK.9 RL.PK.10

	Collections of books by other authors (Eric Carle, Mo Willems, etc.) Three Little Birds storybook Books from series Ordinary People Change the World Additional books about dinosaurs added	 Madison Madison Gabrielle	
Construction Zone	Blocks with photos of local stores, attractions (zoo, parks, family amusement center) that include environmental print (store signage, etc) Photos and map of city locations Photos of museums and aquariums that include environmental print (signage) Photos of amusement parks (Hershey Park, Six Flags, Sesame Place) Dinosaur figures added with books and photo cards about dinosaurs	Sterling, Gabrielle, Madison Sterling, Gabrielle, Madison Gabrielle Sterling Gabrielle	RF.PK.1b RF.PK.2 RF.PK.3.c RF.PK.4
Dramatic Play	Environmental print/containers from familiar/local restaurants (Chuck E. Cheese, etc.) Going to the Eye doctor props: Eyeglasses,	Sterling, Gabrielle, Madison Sterling	RF.PK.1.b RF.PK.1.d RF.PK.3.a RF.PK.3.c SL.PK.1 SL.PK.4

	sunglasses, eye charts, etc. Library props	Madison	
Exploration Station	Collection of photos from a recent field trip to the zoo, with friends' names and animal names labeled Figures of animals that we saw on the trip Information cards for animals seen at the zoo Photos of zoos outside our city Photos of aquariums Figures of sea animals	Sterling, Gabrielle, Madison Sterling, Gabrielle, Madison Sterling, Gabrielle, Madison Gabrielle Gabrielle Sterling, Gabrielle, Madison	RF.PK.1.b RF.PK.1.d RF.PK.3.a RF.PK.3.c SL.PK.1 SL.PK.4
Games and Puzzles Center	Fish counters with sorting trays and counting cards Fish puzzles with fishing rods Memory game	Gabrielle Gabrielle Gabrielle	RF.PK.1b RF.PK.2 RF.PK.3.c RF.PK.4

Incorporating Funds of Knowledge into Curriculum Units

- Unit 1: Connecting with School and Friends – although family pictures and pictures of the student in class have typically been collected and displayed, pictures of student's homes were added, as were photos of Madison's father and grandfather on their school buses.
- Unit 2: Our Environment – since all three of the children are familiar with the zoo from visits with their families, they had prior knowledge to share before our field trip to the zoo, and helped their groups navigate through

the zoo to complete a scavenger hunt activity. Since Gabrielle has had many experiences visiting aquariums, we will add virtual tours of aquariums she has visited to our class study of the coral reef. The class generated a list of the animals observed in the coral reef, which was displayed with the animal's name and a photo of the animal. We also created several sea creatures for our class coral reef display. Mini illustrated word walls will be added to the classroom display.

- Unit 3: How Structures are Built – will incorporate photos of children's homes in class books and construction zone
- Unit 4: Exploring Museums – since Gabrielle has had many experiences visiting museums, we will add virtual tours of museums she has visited to our class study. I will contact her mother to see if she has photos of the museums to share.
- Unit 5: Growing Our Garden – all three participants have an interest in nature and living creatures found in nature. Books, photographs, and figures/models of local plants/animals will be added to the exploration station. The class will engage in watching the process of caterpillars turning into butterflies by having caterpillars in the classroom. A window bird feeder with accompanying literature identifying birds native to the area will be added.

Student Engagement

Student engagement with the curriculum, materials, and activities was primarily captured through anecdotal notes and observations. While documentation of engagement was an identified challenge in this research, I was able to capture observational data not only of the study participants, but also of other students in the classroom.

Unit 1: Connecting with School and Friends – Dramatic Play Center

Based on information gathered from the interview with SM's mother, I set up a "Visit to the Eye Doctor" dramatic play center. Photos of the Optometry shop where SM's mother works were added to the center. Additional props were added: sunglasses, eyeglasses, eye examination forms, eye charts. Theme-based books were added.

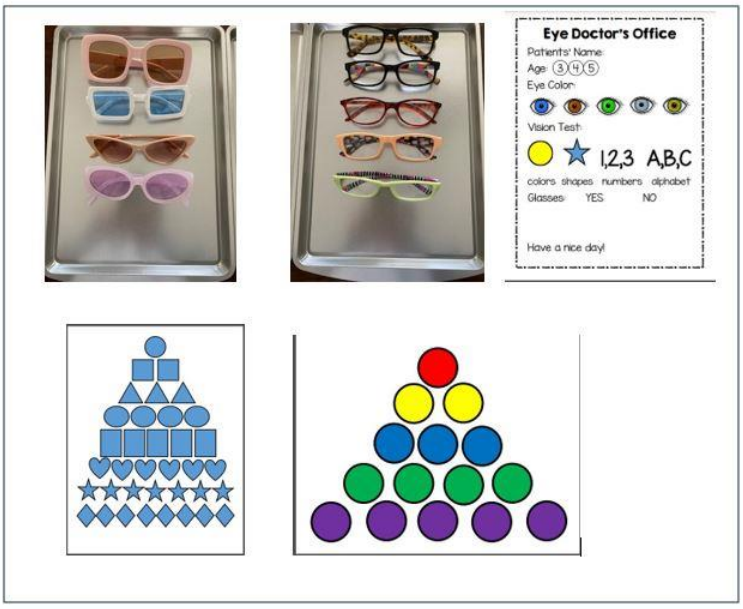

Figure 4.1

Dramatic Play Props

Figure 4.2

Dramatic Play Books

Students were introduced to the center by first watching a video "What Happens at the Eye Doctor?" https://www.youtube.com/watch?v=vLmLWgkj6bk. We discussed who had been to the eye doctor, and whether it was the same or different from what they saw in the video. They were then shown the books and props that were in the center. We discussed safety rules for the center (not touching each other's eyes or pretending to use eye drops). Students took turns playing in the center and "examining" each other's eyes.

Sterling, Madison, and another student were playing in the center. Sterling took a turn being the doctor and examining Madison's eyes.

Sterling: Let me see you eyes. They are black.

Madison: No, they're brown. My eyes are brown. Look in the mirror!

Sterling: They're brown like me. Can you see this (pointing to the eye chart with the colors). Is it red? Do you see the red? All the colors, do you see the rainbow?

Madison: I can see it. Red and yellow and blue and green and purple.

Sterling: Cover you eyes. Can you see it?

Madison: No! Not when I cover my eyes.

Sterling: Cover one. Can you see it?

Madison: Yeah. I need glasses now.

Sterling writes on the paper and says "You need glasses. It says YOU NEED GLASSES (pointing to what he had written, which was scribbled lines. He did not differentiate between words). Like me! Try them on."

Sterling and Madison join the third student, who has been trying on glasses the whole time. Later in the day, Madison drew the following picture and dictated the sentence:

Figure 4.3

Madison's drawing

"It says that's me and Sterling and (the other student). We all have glasses."

Adding the "Visit to the Eye Doctor" dramatic play theme provided Sterling with a connection to both his experience of going to the eye doctor and being fitted with eyeglasses and to his mother, who works at the optomitrist that he sees, tapping in to both

his and his family's funds of knowledge. It also offered him to opportunity to connect with his classmates as the leader of the play sequence and theme. The theme fit well into Connect4Learning Unit 1, Connecting With School and Friends through learning about each other (eye color, wearing or not wearing glasses) and learning about our senses (vision). All of the students had the opportunity to learn new vocabulary (optomitrist, vision, pupils, examination, etc.) and to connect with the experience of going to the eye doctor, even if they have not experienced it themselves. Although none of the children selected to read the books added to the center during this play period, they provided additional pictures, vocabulary, and information about the experience.

Unit 1: Connecting with School and Friends – Games and Puzzles Center

Based on information I gathered from the interview with Gabrielle's mother, I added the game Pete the Cat Meow Match to our games and puzzles center, following our class read aloud of *Pete the Cat: I Love My White Shoes* by James Dean. Gabrielle's mother shared that Gabrielle plays the game Memory at home, and this game follows the same rules as Memory. During small group time, Gabrielle and three other students were invited to play the game with me.

Figure 4.4

Pete the Cat Memory Game and Pete the Cat: I Love My White Shoes

Ms. Hamel: We're going to play a memory game. Gabrielle, you have played a memory game before, right?

Gabrielle: I play Memory at home, but not that one.

Ms. Hamel: This is a Pete the Cat memory game, like the story we read this week? Do you all remember that story?

Two students start singing the refrain from the story, "I love my white shoes, I love my white shoes."

Ms. Hamel: That's the one, you do remember it! This game has pictures of Pete the Cat, all different ones (I show them the pictures). Gabrielle, since you played Memory before, can you tell your friends, can you explain how to play?" (I turn over all the cards so the pictures are not visible.)

Gabrielle: OK. You get to turn over two cards each time and you see what the picture is. You see it. If the picture is the same one, you get to keep it in the matches. It has to be the same one. If it's no, you put them back. And then it's the next one.

Ms. Hamel: Then it's the next person's turn. But if it doesn't match, you try to remember where the picture is so you can turn it over when you find the other picture that's like it.

Introducing the Pete the Cat memory game provided Gabrielle a with a connection to a game with rules that she was familiar with from playing a similar game with her family, tapping into both her funds of knowledge of games with rules, and an activity that she connects with her home and family. She was able to use her familiarity with both the game and the rules to explain the rules for play to the other students, who weren't familiar with the rules of the game. All the students were able to extend their knowledge of the character Pete the Cat from a read aloud experience earlier in the week and were able to recall the repetitive refrain from the story. The game was added to the games and puzzles learning center for additional independent play, and the book was returned to the book nook center.

Unit 2: Our Environment – Construction Zone

Based on the information gained through participant interviews, I added blocks to the construction zone that had photos of local familiar locations (ex. McDonalds, Target,

our school, Chuck E Cheese) mounted on them. Sterling and two friends were playing in the center and began to build with unit blocks and these photo blocks.

Student 1: “Look, look guys! It’s Chuck E Cheese!”

Sterling: “I know there. I went there. To Chuck E Cheese.”

Ms. Hamel: “What is it like there?”

Sterling: “Because you can play games. They have games.”

Student 1: “I went there. My birthday was there.”

Ms. Hamel: “That sounds like a fun birthday! What did you do there?”

Sterling: “Because MeMe [Sterling’s paternal grandmother] went there.”

Ms. Hamel: “Oh, you went there with MeMe?”

Sterling: “Yup.”

Ms. Hamel: “So how do you know that says Chuck E Cheese [pointing to the sign in the picture]?”

Student 2: “That’s him [pointing to the mouse].”

Sterling: “I went there. They have pizza.”

Ms. Hamel: “Do you know any letters on that picture? The letters make the words Chuck E Cheese [pointing to the words in the sign].”

Sterling: “That’s my name [pointing to the letter “s”]

Ms. Hamel: “That letter is in your name. Do you know what that letter is?”

Sterling: “S!”

Student 2: “S for Sterling!”

The addition of materials containing familiar locations combined with environmental print engaged this group of students playing in the construction zone. The three students were actively engaged with the materials as they continued play by naming the locations on the other blocks with pictures on them, and the materials provided an opportunity for the me to engage in spoken conversation loops, ask open-ended questions, and to reinforce alphabet letter recognition while connecting letters to print.

Unit 2: Our Environment – Book Nook

Based on information gathered from the interview with Madison’s mother, I added the book *Every Little Thing* by Bob and Cedella Marley to the book nook center. Madison’s mother had shared that the book and the song were both favorites of Madison.

Madison was excited to see the book when she went to the book nook, saying “I have this at home!” I asked her if she wanted to read the book together and she did, so we sat down together with the book. I read the book to her and pointed out that the words of the refrain looked different from the other words in the story. We were able to talk about upper- and lower-case letters (the refrain was in all upper-case letters). When we were finished, I turned back to the second page of the story and read the words to her, “Three

little birds pitch by my doorstep. Singing sweet songs of melodies pure and true. Saying this is my message to you…"

Ms. Hamel: What do you think it means "Three little birds pitch by my doorstep?"

Madison: (shrugs her shoulders) They're right there (points to the birds in the picture).

Ms. Hamel: I've never heard that word "pitch" used like that. What do you think it means?

Madison: They're there?

Ms. Hamel: What does it look like they're doing in the picture?

Madison: It looks like they're singing a song. With those things (points to musical notes).

Ms. Hamel: That's what it looks like to me too. That must be what "pitch" means in this book.

After we read the story, I showed Madison pages of the story from another copy of the book that I had taken apart. I told her that they weren't in order and asked her to put them in the order that they happened in the story. After she organized them in the sequence from the story, I asked her to tell me the story from the pictures.

Figure 4.5

Sequencing Pages of Every Little Thing by Bob and Cedella Marley

Madison put the pictures in sequential order and told the following story:

Madison: (points to picture 1) He's getting up. He's happy in the morning.

(points to picture 2) He's going to school now. (points to picture 3) He's at recess.

(points to picture 4) Oh no. He made a mess. See it. All over.

Ms. Hamel: Uh oh. Is he going to get in trouble.

Madison: No. See the mom and dad aren't mad. It's ok. (points to picture 5).

(points to picture 6) Now it's bedtime.

Adding the book *Every Little Thing* to the book nook provided Madison the opportunity to connect with a familiar book that she knows well and has at home, tapping into her funds of knowledge of a story from home and the practice of reading frequently that her mother shared was part of their daily routine. Her familiarity with the story and

events allowed me to show her how to use illustrations to understand unfamiliar vocabulary (pitch) and to assess her ability to sequence and retell a familiar story.

Our class uses a daily Google Slide presentation that provides slides as visual illustrations of classroom routines and as a platform to include videos related to instruction and songs with video that we use during transitions. As a follow up to this activity with Madison, I incorporated a video of the book and song into our Google slide presentation as a transition activity. This version of the story and song can be found at the link https://youtu.be/3GjZS4qgM5U.

Discussion

After conducting the parent interviews at the beginning of the study, I was able to capture funds of knowledge that each of the students brought with them to our classroom. This helped me to identify materials and activities that supplemented the units of study contained in our curriculum and the learning centers that support the implementation of our curriculum. This enhanced our classroom by connecting curriculum objectives with the lived experiences of the students in our classroom, and individualizing instruction based on their experiential funds of knowledge.

CHAPTER 5

DISCUSSION AND RECOMMENDATIONS

Overview of the Study

I conducted this research to explore the funds of knowledge theory and its application and implications in a Title I Pre-K classroom.

In the state of Maryland, more than half of the children entering kindergarten are identified at entry as not demonstrating the literacy skills that are considered necessary to be successful in kindergarten (MSDE, 2020). In my school district only 37% of the kindergarteners demonstrated readiness for kindergarten, as identified by the Kindergarten Readiness Assessment (KRA) used in the state (MDSE, 2023). Although my school district has provided resources to supplement the adopted grade level curriculum, Connect4Learning, scores on the Kindergarten Readiness Assessment have continued to decline (MSDE, 2023). This study represents my desire to explore alternative methods to connect students, their families, and the curriculum with the hope of enhancing the acquisition of kindergarten readiness skills.

The problem of practice in this study is how to effectively supplement the school district's approved curriculum by connecting the experiences and funds of knowledge that students and their families have acquired to the activities and instruction within the classroom.

Through this research, I attempted to answer the research question: How might incorporating student and family funds of knowledge affect student engagement in classroom activities?

This study used a participatory action research design, with the classroom teacher as the principal researcher. As the researcher I collected qualitative data and used a qualitative case study approach.

I selected the case study approach for its effectiveness in studying a particular phenomenon of focus (Efron & Ravid, 2020). I wanted to explore and implement the funds of knowledge approach in depth to study the impact of incorporating students' cultural and lived experiences into classroom materials and activities and to evaluate the impact on student engagement and learning.

Results Related to Existing Literature

The focus of many interventions in education is based on a deficit model, seeking to address what is wrong with underperforming schools and students. Introduced by Gonzalez, Moll, and Amanti (2005), the funds of knowledge approach identifies the strengths, cultural literacy practices, and experiential knowledge of families and students by conducting interviews with families and observing students within the context of their home environment. Teachers then use the information gained to connect these experiential resources to curriculum and instruction in the classroom. Cultural resources and experiential knowledge can be effectively used to encourage language and literacy

skills by making meaningful connections between a child's lived experiences and family culture with classroom instruction and activities (Compton-Lilly, 2006).

I designed this study to partially replicate the funds of knowledge work to make meaningful connections between my students and their families lived experiences and the curriculum, materials, and activities that I included in the classroom. The study was limited in scope, involving three students and families out of a class of 20 Pre-K students. Unlike the work of Gonzalez, Moll, and Amanti (2005), this study was conducted by a single practitioner-researcher. Rather than conducting home visit interviews, I was limited to offering in-person interviews at the school building or Zoom interviews. All participants selected to participate via Zoom interviews. Lastly, I did not have peers conducting similar research, so did not include a peer/team collaboration as part of the research process.

Beyond the theoretical framework that is related to this study, there are interesting and pertinent theories of home literacy behaviors related to socio-economic status and the focus of literacy activities in the home. The work of Phillips & Lonigan (2009) refers to home literacy activities as either inside-out or outside-in. The term inside-out refers to activities that focus on alphabet knowledge, phonemic awareness, and decoding skills, while outside-in refers to a focus on language, vocabulary, and comprehension skills. This work and other research suggests that there is a link between low socio-economic families and a focus on inside-out skills, and higher socio-economic families and a focus on outside-in skills. This can also be understood as a focus on literacy from a skill-based

perspective versus literacy from an entertainment or enjoyment perspective (Baker, et al.,1997).

Practice Recommendations

Practitioners can utilize this research study to inform their practice when enhancing and adapting their classroom curriculum. The study could be refined and replicated in other classrooms, preferably with an expanded target population.

When working with the Pre-K population, practitioners stand to gain much insight into the child by engaging in conversation with the parent. This study may serve to prompt practitioners to expand on the information they gather from families to help connect the student to school, the classroom, and the curriculum. The funds of knowledge approach can be particularly effective when working with diverse populations. By identifying the funds of knowledge of students and their families, practitioners can expand the experiences and opportunities of all the students in the class and can assist students in connecting new concepts and learning to skills, knowledge and experiences they are familiar with.

I also see the value in a home visiting component to the funds of knowledge approach to capture additional insight into the family culture, the student's interaction within the context of their family, and the family within the context of their community.

Reflections on Methodology

The research process provided me with more benefits than anticipated. While initially disappointed in the small sample size of families willing to participate in the study, the process of interviewing participants provided me with a "practice round" that will serve to enhance my future practice and methods of both communicating with families and incorporating student and family experiences into the curriculum and daily practices of the classroom.

I learned through the interview process that some questions provided a wealth of information, while others were not as helpful. Prior to conducting future research or incorporating portions of this research into practice, I will review the interview questions and the answers they prompted to refine an interview protocol that is more streamlined and efficient in collecting information.

This study provided me with unanticipated connections with families. One participant's mother was candid in sharing the stress of parenting, working outside the home, and going to school, allowing us to bond over similar experiences. For each of the participants, this was their first child in school. The interview process seemed to make them more comfortable in asking a variety of questions about school and about whether their child was progressing as they should be.

As a result, I will be applying the methodology of this study to future practice. Once the interview questions have been refined, I will use the questions to guide the initial parent conference prior to the start of school. Gathering more information about

the student and family funds of knowledge will help me cultivate an environment that incorporates aspects of each student and family to help connect home and school.

Limitations and Suggestions

Although this research proved to be beneficial to me as a practitioner, throughout the process I identified several limitations in this research study.

The first limitation identified is study participation. I chose to exclude two valuable categories of students from participating in the study. The study did not include students with identified special needs, defined as students with an Individualized Education Plan (IEP) in place. While these students and their families are valued members of the classroom community, the students receive a variety of additional services provided by other teachers and/or therapists, both within and outside of the classroom. I was concerned that these students would not have the same experiences that the other participants would during the data collection period. The other students that were not included in the study were English Language Learning (ELL) students. While these students and their families would have enhanced the study greatly and would provide a more similar replication of other funds of knowledge research, I was concerned that due to limited access to translation services, their inclusion would have hindered the interview and data collection process. In addition, ELL students have varying levels of English proficiency, which would also hinder capturing engagement and progress in the classroom.

In addition, study participation was voluntary for this study. Families that chose to participate may or may not be representative of most students in class. I have concerns that their willingness to participate in the study may be indicative of fewer risk factors present than may be present in other families within our school population. The criteria for participation was simply agreement to share family information, and was not based on identification of a need or addressing an academic strength or deficit.

The sample size for this research was small. While valuable information was gathered, I think it is safe to assume that a larger sample size would have provided more information about the funds of knowledge of the variety of students in the classroom, particularly those that have lived elsewhere or that speak other languages. Our school population includes many first-generation Americans, and their funds of knowledge would provide an even richer classroom environment and would provide a stronger connection to their families.

I was unable to conduct home visit interviews as part of the study, due to school district limitations. The home visit component would provide additional information, specifically in the area of cultural funds of knowledge, that was not captured through the zoom interview process. As a result of both the absence of home visiting and the limited duration of the study, the focus of my research and intervention was primarily on the student's experiential funds of knowledge, rather than the rich cultural funds of knowledge that is captured in more in-depth studies.

An additional limitation was the ability to consistently capture qualitative data. Since this research was conducted by a practitioner-researcher, I did not have as many opportunities to exclusively observe and/or interact with the study participants individually. The nature of working with a Pre-K population, especially with children of high need, is inherently busy and some may say chaotic. While there is a full-time instructional assistant in the classroom, I was frequently interrupted during periods intended for data collection. These interruptions are a natural part of working with students this age and are often as important to learning as the data collection itself.

Initially, I was disappointed that I was not able to provide definitive evidence that my research and intervention resulted in significant improvements in child outcomes, specifically enhanced literacy skills. When analyzing the curricular data, the student improvement could not be linked to any one specific method of instruction, most importantly using the funds of knowledge approach. While student progress was identified through individual assessment, I was unable to prove causation. Would student growth have occurred simply by following the curriculum? Probably. Upon further reflection on the curricular data, however, I can provide evidence of the connection between my students' previous experiences, activities and materials added to the learning environment based on my knowledge of their funds of knowledge, and their engagement with literacy-based learning opportunities. These findings support the primary theories in my theoretical framework.

The students included in this research are young, between four and five years old, and for many this is their first experience in school. In addition to learning the concepts

of the curriculum, they are learning skills that are not captured in this research, such as participating in a group, walking in a line, interacting with many children their own age, developing self-help skills, adjusting to school routines, etc. This study was only able to capture a small portion of their progress in learning to "do school."

Answering the Research Question

The obvious goal of a research study is to answer the research question that is initially posed. In this study, I posed the question:

> How does incorporating student and family funds of knowledge affect student engagement in classroom activities?

The interview process was instrumental to my study and allowed me to both develop a more trusting relationship with the participant parents and to gain insight into their family cultural construct, funds of knowledge, and the lived experiences of my students. Using the information from these interviews, as well as interacting daily with the students in the classroom, allowed me opportunities to connect our curriculum and class activities to my student's lives and previous experiences. This in turn resulted in their active engagement and excitement about what was going on in school and their ability to connect with materials, activities, and their friends.

I was excited to discover opportunities for these students to serve as "subject matter experts" on games and experiences within the classroom and to see their pride in these roles. There were also many instances in which I could scaffold literacy skills into their play, such as recognizing letters and words in the environment, outlining a sequence

of steps, and sequencing the events of a story. My students were able to experience literacy as a natural offshoot of pretend play and the enjoyment of story reading.

While the benefits of this study may not be captured by standardized assessments at kindergarten entry, or may not be causality related to an increase in the number of letters or sounds that these students gained over the course of the data collection, I would argue that meaningful experiences with story structure and the importance of words and reading in the context of play and daily life have helped these students to develop experiential knowledge of the uses and functions of literacy. By relating these skills to the student's experiential funds of knowledge, they are learning literacy skills in the context of their lives and relationships.

Recommendations for Future Research

I found the process of funds of knowledge research provided connections to students and their families that enhanced both the classroom environment and curriculum, as well as the relationship between families and school. When school districts select a curriculum for a grade level, they make their decisions based on many factors; the foundation of best practices found in the curriculum, the correlation between the curriculum and the learning standards of the district, perhaps the feedback from pilot testing. While any curriculum may or may not meet the goals and objectives of a school or school district, no curriculum captures the individual needs of each student, nor the extensive knowledge, skills, and experiences of the student and their families in the context of their culture. Applying the funds of knowledge approach can be beneficial to

teachers in creating a bridge between the curriculum and their students and families and can enhance the classroom experience for both students and teachers.

Summary

This study provided me the opportunity to explore the concepts of funds of knowledge theory and to put them into practice in a way that was extremely beneficial both professionally and personally. As a practitioner this research served as a "trial run" for implementing a methodology of identifying and tapping into the funds of knowledge that students and their families' possess to enhance the curriculum with materials, activities, and experiences that connect classroom learning experiences to concepts familiar to the student. On a personal level, I was able to connect on a deeper level to the students and their families to better understand the similarities and differences in our cultures, and to form a closer relationship of caring and respect. The results of the study reinforced in me that effective learning takes place in the context of relationships.

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APPENDIX A

LETTER OF INTRODUCTION

Dear Pre-K 4 Parents,.

My name is Molly Hamel. In addition to being a Pre-K 4 teacher here at Beaver Run, I am a doctoral candidate in the Education Department at the University of South Carolina. I am conducting a research study as part of the requirements of my degree in Educational Practice and Innovation, and I would like to invite you to participate! This study has been approved by the Wicomico County Board of Education.

I am studying the impact of incorporating your child and family's lived experiences and knowledge into our classroom materials and activities, in order to help your child learn. If you decide to participate, you will be asked to meet with me for two interviews about your family history and experiences, and about your child and their interests and experiences.

Specifically, we will discuss places that you have lived, how you celebrate your family's culture and traditions, places in the community that you visit regularly, experiences and knowledge that you have gained through places you have visited and work that you have done. You do not have to answer any questions that you do not wish to answer. I would ask that one interview take place at your home or a mutually agreed upon location in the community, and one interview take place here at school. Each interview should last about 45 minutes to 1 hour. The interviews will be audio taped so that I can accurately transcribe what is discussed. The tapes will only be reviewed by members of the research team and destroyed upon completion of the study. You will be provided with the opportunity to review and approve the interview transcriptions.

Participation is confidential. Study information will be kept in a secure location, and only members of the research team will have access to the information. The results of the study may be published or presented at professional meetings, but your identity and that of your child will not be revealed.

You will not receive compensation for participation in the study. Participation, non-participation, or withdrawal from the study will not affect your child's grades in any way. If you begin the study and later decide to withdraw, you will not be penalized in any way.

I will be happy to answer any questions you have about the study. You may contact me at mwilson@wcboe.org or my faculty advisor, Dr. Todd Lilly at LILLYT98@mailbox.sc.edu.

Thank you for your consideration. If you would like to participate, please fill out and sign the attached consent to participate form for you and your child.

Thank you!

Molly Hamel

APPENDIX B

INFORMED CONSENT FORM

Informed Consent Form

I, _____, the parent/guardian of _____,

a student enrolled in Ms. Hamel's Pre-K classroom, agree to participate in a research study as part of Ms. Wilson's doctoral program at the University of South Carolina. I understand that my participation in the study:

- will consist of participating in two interviews in which I will share information about my family history and experiences, and about my child and their interests and experiences.
- will allow me to choose not to answer any questions that I do not wish to answer.
- will allow me the opportunity to review and approve the interview transcriptions.
- will be confidential.
- will not be compensated.

I also understand that participation, non-participation, or withdrawal from the study will not affect my child's grades in any way, and that if I begin the study and later decide to withdraw, I will not be penalized in any way.

Student Name_____

Parent Name _____

Parent Signature _____Date_____

Opt Out

As part of the Protection of Pupil Rights Amendment (PPRA), Wicomico County Public Schools (WCPS) offers the option of non-participation in surveys and research sponsored by internal or external parties (see Protection of Student Privacy Rights and Use of Student Surveys Procedure, BOE-GEN-PR-008). This Opt-Out does Not include surveys and polls for instructional purposes. Such instructional purposes may include student response exercises, classroom research activities, tests or quizzes.

This Opt-Out form, signed by the parent/guardian, will be required for the student if the parent does not want his/her student to participate in such surveys and research, or if the parent does not want their child videotaped as part of research data collection. You do not need to return this form if you give permission for your student to participate in such surveys, research and videotaping.

SURVEY & RESEARCH OPT-OUT AUTHORIZATION (Please initial in the space next to "NO' to confirm your decision, then sign at the bottom and return to the school by the end of the first week of the school year)

_____ NO: I do not give my student permission to participate in survey, research, or videotaping activities sponsored by internal or external parties. This does not include instructional student response exercises, classroom research activities, tests or quizzes which are used for enhancing my child's learning. This Opt-Out applies to any Wicomico County Public School facility where such activities may take place.

Student Name (Print)
_____

School Name _____ _____

Parent/Guardian Print Name
_____

Parent/Guardian Signature _____
_____

Date_____ Grade Level_____

APPENDIX C

MD PRE-K COMMON CORE STANDARDS-LITERACY

Pre-Kindergarten Common Core State Standards

READING

Reading Literature

Key Ideas and Details

RL.PK.1 With modeling and prompting, answer questions about details in a text.

RL.PK.2 With modeling and support, retell familiar stories/poems.

RL.PK.3 With modeling and support, identify characters, settings, and major events in a story.

Craft and Structure

RL.PK.4 With modeling and support, answer questions about unknown words in stories and poems.

RL.PK.5 Gain exposure to common types of literary texts (e.g., storybooks, poems).

RL.PK.6 With modeling and support, identify the role of author and illustrator.

Integration of Knowledge and Ideas

RL.PK.7 With modeling and support, tell how the illustrations support the story.

RL.PK.8 (Not applicable to literature.)

RL.PK.9 With modeling and support, compare adventures and experiences of characters in familiar stories.

Range of Reading/Level of Text Complexity

RL.PK.10 Actively engage in group reading activities with purpose and understanding.

Reading Informational Text

Key Ideas and Details

RI.PK.1 With modeling and support, answer questions about details in an informational text.

RI.PK.2 With modeling and support, recall one or more detail(s) related to the main topic from an informational text.

RI.PK.3 With modeling and support, connect individuals, events, and pieces of information in text to life experiences.

Craft and Structure

RI.PK.4 With modeling and support, answer questions about unknown words in a text.

RI.PK.5 With modeling and support, identify the front cover and back cover of a book.

RI.PK.6 With modeling and support, define the role of the author and illustrator/photographer in presenting the ideas or information in a text.

Integration of Knowledge and Ideas

RI.PK.7 With modeling and support, tell how the illustrations/ photographs support the text.

RI.PK.8 With modeling and support, identify the reasons an author gives to support points in a text.

RI.PK.9 With prompting and support, discuss similarities and differences between two texts on the same topic (e.g., in illustrations or descriptions).

Range of Reading/Level of Text Complexity

RI.PK.10 Actively engage in group reading activities with purpose and understanding.

Reading Foundational Skills

Print Concepts

RF.PK.1 Demonstrate understanding of basic features of print.

- **RF.PK.1.a** Demonstrate an awareness that words are read from left to right, top to bottom, and page by page.
- **RF.PK.1.b** Recognize that spoken words can be written and read.
- **RF.PK.1.c** Understand that words are separated by spaces in print.
- **RF.PK.1.d** Recognize and name some upper- and lowercase letters of the alphabet.

Phonological Awareness

RF.PK.2 Demonstrate understanding of spoken words and sounds (phonemes).

- **RF.PK.2.a** Recognize rhyming words in spoken language.
- **RF.PK.2.b** Identify and isolate individual words in a spoken sentence.
- **RF.PK.2.c** Count, pronounce, blend, and segment syllables in spoken words.
- **RF.PK.2.d** Blend and segment onsets and rimes of single-syllable spoken words.
- **RF.PK.2.e** Isolate and pronounce the initial sound in spoken words.
- **RF.PK.2.f** Orally blend and segment individual phonemes in two- to-three phoneme words.

Phonics and Word Recognition

RF.PK.3 Know and apply grade-level phonics and word analysis skills in decoding words.

- **RF.PK.3.a** Recognize that words are made up of letters and their sounds.
- **RF.PK.3.b** Demonstrate basic knowledge of one-to-one letter sound correspondences by producing the most frequent sound for some consonants.
- **RF.PK.3.c** Recognize name in print as well as some environmental print (symbols/words).

Fluency

RF.PK.4 Engage with a variety of texts (e.g., a variety of structures and/ or genres) with purpose and understanding.

WRITING

Text Types and Purposes

W.PK.1 With modeling and support, use a combination of drawing, dictating, and developmentally appropriate writing to share opinion about an experience or book.

W.PK.2 Use a combination of drawing, dictating, or developmentally appropriate writing to state information on a topic.

W.PK.3 With modeling and support, use a combination of drawing, dictating, or developmentally appropriate writing to communicate a personal story about a single event and tell about the event in a meaningful sequence.

Production and Distribution of Writing

W.PK.4 (Begins in Grade 3.)

W.PK.5 With modeling, guidance, and support from adults, review drawing, dictation, or developmentally appropriate writing.

W.PK.6 With prompting and support from adults, explore a variety of digital tools to express ideas.

Research to Build & Present Knowledge

W.PK.7 Participate in shared research and shared writing projects.

W.PK.8 With modeling and support from adults, recall information from experiences or information from provided sources to answer a question.

W.PK.9 (Begins in Grade 4.)

Range of Writing

W.PK.10 (Begins in Grade 3.)

SPEAKING & LISTENING

Comprehension and Collaboration

SL.PK.1 Participate in collaborative conversations with diverse partners about *pre-kindergarten topics and texts* with peers and adults in small and larger groups.

- **SL.PK.1.a** Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion).
- **SL.PK.1.b** During scaffolded conversations, continue a conversation through multiple exchanges.

SL.PK.2 Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details with modeling and support.

SL.PK.3 Ask and answer questions in order to seek help, get information, or clarify something that is not understood.

Presentation of Knowledge and Ideas

SL.PK.4 Describe familiar people, places, things, and events with modeling and support.

SL.PK.5 Add drawings or visual displays to descriptions as desired to provide additional detail.

SL.PK.6 With modeling and support, speak audibly and express thoughts, feelings, and ideas clearly.

LANGUAGE

Conventions of Standard English

L.PK.1 Demonstrate beginning understanding of the conventions of standard English grammar and usage when engaged in literacy activities.

- **L.PK.1.a** Print upper- and lowercase letters in first name.
- **L.PK.1.b** Use frequently occurring nouns and verbs.
- **L.PK.1.c** Develop understanding of singular and plural nouns (e.g., *dog* means one dog; *dogs* means more than one).
- **L.PK.1.d** Understand and begin to use question words (e.g., interrogatives *who, what, where, when, why, how*).
- **L.PK.1.e** Gain exposure to the most frequently occurring prepositions (e.g., *to, from, in, out, on, off, for, of, by, with*).
- **L.PK.1.f** Produce complete sentences in shared language activities.

L.PK.2 Gain exposure to conventions of standard English capitalization, punctuation, and spelling during shared reading and writing experiences.

- **L.PK.2.a** Recognize that their name begins with a capital letter.
- **L.PK.2.b** Demonstrate awareness of name and function of end punctuation (e.g., period, question mark, exclamation point).
- **L.PK.2.c** Use letter-like shapes, symbols, letters, and words to convey meaning.
- **L.PK.2.d** Develop fine motor skills necessary to control and sustain handwriting.

Knowledge of Language

L.PK.3 (Begins in Grade 2.)

Vocabulary Acquisition and Use

L.PK.4 Determine or clarify the meaning of unknown words and phrases based on *pre-kindergarten reading and content.*

L.PK.5 With modeling and support from adults, explore word relationships and nuances in word meanings.

- **L.PK.5.a** With modeling and support, sort common objects into categories (e.g., shapes, foods) to gain a sense of the concepts the categories represent.
- **L.PK.5.b** With modeling and support, demonstrate understanding of frequently occurring verbs and adjectives by relating them to their opposites (antonyms).
- **L.PK.5.c** Identify real-life connections between words and their use (e.g., note objects in the classroom that are *smelly*).

L.PK.6 Use words and phrases acquired through conversations, being read to, and responding to texts.