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Enhancing Teacher-Child Interactions: A Pilot Study Using Focal Child Data

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Recommended Citation

To the Graduate Council:

I am submitting herewith a dissertation written by Kaitlin Noel Bargreen entitled "Enhancing Teacher-Child Interactions: A Pilot Study Using Focal Child Data." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Child and Family Studies.

<div align="right">Rena A. Hallam, Major Professor</div>

We have read this dissertation and recommend its acceptance:

Mary Jane Moran, Hillary N. Fouts, John G. Orme

<div align="right">Accepted for the Council:
Carolyn R. Hodges</div>

<div align="right">Vice Provost and Dean of the Graduate School</div>

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A Pilot Study Using Focal Child Data

A Dissertation Presented for
the Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Kaitlin Noel Bargreen
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ABSTRACT

Research suggests that teacher-child interactions in early childhood classrooms are an essential element to high quality programs and child outcomes. With the increase in state funded pre-kindergarten classrooms across the nation and the growing concentration on academic content for young children, careful attention is needed to children's social-emotional development. Research suggests that it is a strong social emotional foundation that contributes to children's successful transition into their elementary school years. Therefore, the purpose of this mixed method study was to pilot the use of focal child data as a professional development tool for pre-kindergarten teachers to examine teacher-child interactions. Studying eight teachers across two pre-kindergarten sites, the development of participant's knowledge of teacher-child interactions was captured using focal-child classroom observations, face-to-face exchanges, teacher reflections, and researcher field notes. Data analysis involved descriptive statistics from quantitative sources, combined with emerging themes through iterative cycles of coding qualitative data. Situated in a conceptual framework that places individual development in context, this study exemplifies the value of using uniquely tailored focal child data as a professional development tool for pre-kindergarten teachers. Findings from this mixed method study reveal how focal child data provided participating teachers with a new lens for examining teacher-child interactions, which led to a heightened awareness of and intentionality in their interactions with children. Additionally, a collaborative community of practice model for professional development contributed to teacher understanding and transformation over the course of this study. Capturing the direct social ecology of a child's pre-kindergarten experience aided in understanding the relationship between specific children's experiences and the context

in which those experiences take place. Findings from this study enhance participant

understanding of the complex nature of teacher-child interactions.

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Chapter I: Introduction

Public school pre-kindergarten classrooms are significantly changing the landscape of early care and education in the United States. Across the U.S., states are implementing state-funded pre-kindergarten programs in order to improve school readiness for young children. During the 2008-2009 school year, more than one million 4-year-old children attended state-funded preschool, 30% of the national population of 4-year-olds (NIEER, 2009). These programs typically target 4-year-old children at risk for school success based on family income and a variety of other risk factors. However, in order for early childhood programs to support at-risk children's physical, cognitive, and social development, the children's experiences in these programs need to be of high quality (NICHD, 2002; Cost, Quality & Child Outcomes, 1995). Due to the increased attention to and participation in state-funded pre-kindergarten programs, the field of early care and education is engaged in a focused debate on what constitutes appropriate early education practices that enhance school readiness.

While preschool and kindergarten teachers have always had the responsibility to create supportive environments to foster cognitive, physical, and social emotional development, these classrooms are increasingly facing new pressures of school readiness and academic accountability. Changes in national policy have challenged the previous models of child-centered practices (Hatch, 2005). For example, current accountability efforts such as the *Elementary and Secondary Education Act of* 1965, reauthorized in 2001 as the No *Child Left Behind Act*, and the *Good Start, Grow Smart* early childhood initiative (GSGS, 2002) have impacted policy makers', administrators', and educators' perspectives of school readiness. As a result of these national policies early education professionals have been challenged to rethink what practices support young children's school readiness. These national policies have led some pre-kindergarten

programs to emphasize an academic focus. In contrast, many states, including Tennessee, have developed early learning standards that address cognitive, social-emotional, and physical development (TN-ELDS, 2009). Nevertheless, the academic focus of the pre-kindergarten curriculum suggests that teachers emphasize these academic skills, and as a result guide teachers to concentrate less on social-emotional development (NIEER, 2007). Consequently with a shift toward accountability in the early years, many early childhood educators are pushing aside a focus on children's social emotional development and instead strictly concentrating on cognitive development through the acquisition of academic knowledge, even with developmentally appropriate state standards in place (Pianta, Cox, & Snow, 2007).

Purpose and Rationale

Throughout the early childhood years, children's social emotional and cognitive development are tightly intertwined. Children's feelings toward and interactions with their caregivers go hand in hand with their ability to acquire cognitive skills (Burchinal et al., 2000; O'Connor & McCartney, 2007; Howes et al., 2008; Pianta et al., 2005; Pianta & Stuhlman, 2004). Research suggests that it is a strong social-emotional foundation that contributes to children's successful transition into their elementary school years (Pianta et al., 2007; Pianta, Steinberg, & Rollins, 1995; Bowman, Donovan, & Burns, 2001; Palermo, Hanish, Martin, Fabes, & Reiser, 2007; Garner & Waajid, 2008; Peisner-Feinberg et al., 2001). This strong social emotional foundation lays the groundwork for children to be able to acquire the academic skills that will help them be successful in school. However, current practices in pre-kindergarten emphasize more academic skills, such as early literacy and math, rather than the social emotional experiences of children in pre-kindergarten classrooms (NIEER, 2007). In an attempt to gain a deeper understanding of this potential discrepancy between classroom practice and research

driven recommended practices, this study used focal children's perspectives of their lived classroom experiences to examine one aspect of classroom quality, that of teacher-child interactions.

As recommended, educational research should concentrate on informing practice, through maintaining close involvement in and concern for actual educational practices (Richardson, 2001). Further in studying actual educational practices, research should capture individual children's experiences within the context of their classroom (Walsh & Gardner, 2005; Montie, Xiang, & Schweinhart, 2006; Katz, 1994). Currently the dominant form of assessment in early childhood education is through group approaches using global measures to examine classroom practice (e.g., ECERS-R; Harms, Cliford, & Cryer, 1998). However, focal child observational approaches, such as the Observational Rating of the Caregiving Environment (ORCE; NICHD, 1996), can contribute to acquiring and understanding children's individual experiences in their classroom contexts. To contribute to bridging this gap between research and practice, the purpose of this research study was threefold: (1) to attain an understanding of preschool children's actual experiences interacting with the teachers in their pre-kindergarten classroom; (2) to explore teacher-child interactions with the pre-kindergarten teachers themselves as a tool for teacher inquiry; and (3) to support pre-kindergarten teachers in enhancing their interactions with preschool children in their everyday teaching practice. Specifically, the following research questions were posed:

1. What is the frequency and nature of teacher-child interactions in the target pre-kindergarten classrooms?

2. What are the ways in which focal child data can be translated into meaningful meditational tools for teachers to reflect on and use to improve their interaction practices?

3. How can focal child data be used to enhance teacher-child interactions in state-funded

pre-kindergarten settings?

Teacher-Child Interactions

Teacher-child interactions are a crucial part of the early childhood classroom. La Paro,

Pianta, and Stuhlman (2004) suggest that the interactions between children and teachers are the

primary way through which classroom experiences influence development. Pianta (2006)

suggests that teacher-child interactions serve as the primary vehicle to support learning, as the

teacher is given the opportunity to create learning experiences that bring the child just beyond his

or her current skill level. These interactions have the potential to impact children's learning

outcomes (Palermo et al., 2007; Walsh & Gardner, 2005), influence secure teacher-child

relationships (Baldwin, DaRos-Voseles, & Swick, 2003), and assist children in understanding the

world that surrounds them (Havu-Nuutinen, 2005). As teachers and children engage in

responsive interactions, whether in small groups or one-on-one, children can learn important

skills of self-regulation, empathy, and problem solving (Goulet & Schroeder, 1998). Further,

these responsive interactions also form the foundation from which children can learn challenging

academic skills.

Teacher-child relationships develop from sensitive teacher-child interactions (Kontos &

Wilcox-Herzog, 1997). When teachers use responsive language and provide reassurance and

encouragement to children, children have been found to have higher self-esteem (Kostelnik,

Stein, & Whiren, 1988). Further, teachers who engage in more sensitive interactions tend to

create a stronger positive climate in their classroom and are more familiar with children's

individual needs (Helmke & Schrader, 1988). In studying these interactions, significant

correlations have been found between specific teacher behaviors, such as warmth and feedback, and children's development and classroom performance (NICHD, 1996).

All children are in need of opportunities for teacher-child interaction. However, for pre-k teachers meeting this need becomes a complex task when serving approximately 20 young children considered at risk for school success. Children who live in poverty are more likely to live in more chaotic households, be disproportionately exposed to more adverse environmental conditions, and accumulate higher absences (Evans, 2004; NICHD, 2002). Further, these children are more likely to enter preschool with fewer academic skills than their middle class peers (NICHD, 2002; Zigler & Styfco, 2004), making the current educational agenda of school readiness an increasingly challenging task for pre-kindergarten teachers. This calls for an intervention emphasizing high quality teacher-child interactions in an effort to support a strong social emotional foundation from which the children will be able to acquire the cognitive skills needed to be successful in school.

Theoretical Perspective

This study was situated in a conceptual framework that places individual development in context, with bi-directional influences between the individual and the environment in which they interact. Specifically, ecological systems theory (Bronfenbrenner, 1979; 1995) and socio-cultural theory (Vygotsky, 1981) provided the theoretical frame for answering the proposed research questions.

In order to fully understand how children's and teachers' development is influenced through their experiences a holistic view is necessary. Bronfenbrenner's (1979; 1995; Bronfenbrenner & Morris, 2006) ecological systems theory of human development places the individual as an active agent in and on her environment. This bidirectional interaction occurs on

multiple levels and across time, as individuals are impacted by the many contexts in which they exist. The ecological systems perspective provides the rationale for why it is important to study an individual's direct daily interactions. Examining an individual's microsystem (the child's immediate environment which includes family, school, peer group, neighborhood, and childcare environment) can capture an individual's direct experiences interacting with his or her everyday contexts. At the microsystem level, an individual is not a passive recipient of experiences in these settings, but instead helps construct the settings through his or her interactions. Development at this immediate, face-to-face level is propelled through interactions with three features of an individual's immediate environment: persons, objects, and symbols (Bronfenbrenner, 1995). For the purposes of this study, focal child observations were used to capture children's direct interactions with persons, specifically the teachers in their classrooms. Studying children's experiences from the microsystem level allows for analysis of these direct teacher-child interactions, which impact children's immediate experiences and future development. Additionally, working with teachers using this microperspective of children's experiences, places the teachers as active agents in constructing the children's teacher-child interaction experiences as well. Further, experiences in the microsystem are influenced by broader sources (Bronfenbrenner & Morris, 2006) and thus impact daily classroom interactions. In this study, classroom observations using qualitative notes, discourse between teachers during community of practice meetings, and teacher reflections provided opportunities to capture systems outside the classroom that were impacting teacher-child interaction within the classroom.

Once children's experiences were captured, this study was designed to use this data to inform teacher practice. Therefore, this study used Vygotsky's (1981) socio-cultural theory as

the theoretical base for bringing groups of teachers together in order to support teacher reflection and change in similar subsequent experiences with regard to teacher-child interactions. Specifically, socio-cultural theory suggests that when an individual and society join together a dialectical relationship is formed (Vygotsky, 1981). Here the interaction between these two spheres allowed for the creation of something more, where new ideas and understandings were created through the relationship. Using this perspective an emphasis was placed on action, as participation in socio-cultural practices creates learning and changes development (Rogoff, 1995). Further, individual development is a continual process, where contextual experiences constantly influence interpretations and understandings of prior experiences. This framework contributes to the importance of context in individual development as it adds the need for reciprocal action. Thus, this study brought together a community of practice (CoP, Lave & Wenger, 1991) focused on the action of the teacher in supporting meaningful teacher-child interactions.

Together these theories emphasize the need for researchers to study teacher-child interactions within the natural context in which they exist on a daily basis. These theoretical perspectives served as a navigational map for this study, providing rationale for the research questions, data collection, and data analysis. Understanding the relationship between specific experiences and the context in which those experiences take place, helped early education researchers and teachers better understand the complex nature of teacher-child interactions.

Significance of the Study

This study was designed to illustrate children's interaction experiences with their teachers in pre-kindergarten classrooms and to support teachers in focusing on and enhancing these interactions. Several decades ago it was common for early childhood educators to primarily

focus on the importance of social emotional development as their main goal for young children. However, today with the requirements for teacher accountability, pressures of standardized testing, and the "academic shove down" of curriculum content, early childhood classrooms are losing sight of the significance of young children's social emotional development (Miller & Almon, 2009; Pianta et al., 2007; Goldstein, 2007; Hatch, 2005). Today, little attention is given to the importance of positive teacher-child relationships and interactions, which ultimately are the building blocks for strong cognitive skills (Howes & Smith, 1995; Peisner-Feinberg et al., 2001; Pianta & Stuhlman, 2004). The purpose of this study was to revisit the essential aspect of children's social emotional development in the early years. Through studying children's experiences in their pre-kindergarten classrooms, this study provided teachers with snapshots of children's social experiences over the course of the pre-kindergarten day. Bringing teachers' attention back to the critical importance of social development and teacher-child interactions, this study attempted to counter the strictly content focused professional development that early childhood educators are currently receiving and remind educators of the integral nature between children's social emotional and cognitive development.

Organization of Dissertation

Following this introduction, a review of the literature (Chapter II) is presented to examine salient research that informed this study. Next, the methodology (Chapter III) sets the stage for this study by describing the participants, settings, methods, and the framework developed to investigate teacher-child interactions. The study's results (Chapter IV) are presented in three sections, one for each research question, in order to clearly illustrate the findings for each research question. A discussion (Chapter V) concludes this paper, with a focus on how the

participating teachers' and children's interaction experiences facilitate and challenge everyday

classroom practices and professional development.

Chapter II: Review of the Literature

This chapter summarizes the relevant literature on the rationale for and approach to pre-kindergarten programs, teachers' interactions, and professional development of early childhood educators. The first section defines pre-kindergarten and the current atmosphere impacting this transitional year of school. Further this section describes both the national and local landscape of pre-kindergarten programs. The second section synthesizes the research in early care and education that has implications for quality pre-kindergarten programs. The third section addresses the literature on teacher-child relationships and interactions and identifies empirically supported key features of these interactions that link to children's development of intellectual and social skills. Finally, the fourth section in this chapter provides a review of teacher professional development literature and the current priorities from which professional development is being tailored. This section describes a community of practice model that was used to frame pre-kindergarten teachers' professional development connecting this literature to the everyday teacher-child interactions in pre-k classrooms.

Theoretical Perspective

This study was designed to capture the social ecology of children's experiences in state-funded pre-kindergarten programs. The social ecology in a pre-kindergarten classroom consists of a child's interactions with classroom teachers, peers and the environment. Two theoretical perspectives provide the framework guiding this study. An ecological systems theory (Bronfenbrenner, 1979; 1995) addresses the guiding conceptual idea that individuals, both children and adults, develop within a context, where the individual and the environment interact and influence each other. This theoretical perspective provides the rationale for the importance of capturing focal children's experiences within one of their primary contexts throughout the day,

the pre-kindergarten classroom. Additionally, socio-cultural theory (Vygotsky, 1981) provided the theoretical frame for the model of professional development used with pre-kindergarten teachers. Stressing the importance of a didactic relationship between an individual and society, this theoretical perspective supported the collaborative community of practice model (CoP, Lave & Wenger, 1991) for teacher inquiry. Both the ecological systems theory (Bronfenbrenner, 1979; 1995) and socio-cultural theory (Vygotsky, 1981) provided the theoretical frames for situating this study within pre-kindergarten classrooms with a focus on the bi-directional interactions between teachers, children, and their environment for development and learning.

Ecological systems theory.

Ecological systems theory (Bronfenbrenner 1979; 1995; Bronfenbrenner & Morris, 2006) emphasizes the process of mutual accommodation that exists between a developing child and the environment, thus viewing human development in context. Situating children's experiences within a holistic view of child development, this theoretical perspective places the individual as an active agent in and on his environment. Bronfenbrenner (1979; 1995) identifies five levels on which this bidirectional interaction occurs: (1) microsystem, the immediate environment surrounding the child (e.g., family, peer group, childcare environment); (2) mesosystem, a system comprising connections between immediate environments (e.g., connection between a child's home and her school); (3) exosystem, external environmental settings which only indirectly affect development (e.g., parent's place of employment); (4) macrosystem, the larger cultural context (e.g. national economy, political culture); and (5) chronosystem, patterns of environmental events and transitions over the course of life (e.g., transition effects from divorce). This theory illuminates how individuals are impacted by the multiple contexts in which they

exist each day. However, not only are individuals developing due to the constant influences of their environment, they are also influencing and may even be creating the context in which they exist (Aber, Gephart, Brooks-Gunn, Connell, & Spencer, 1997). Therefore, this theory reveals how development can be conceptualized "as the phenomenon of continuity and change in the biopsychological characteristics of human beings, both as individuals and groups" extending across time and impacting the individual's past and future development (Bronfrenbrenner & Morris, 2006, p. 793).

Situating this study in a child's school environment, at the microsystem, provides the opportunity to study some of the most *proximal processes*, "that operate over time and are posited as the primary mechanisms producing human development" (Bronfenbrenner & Morris, 2006, p. 795). At this level, a child is not a passive recipient of experiences, but instead helps construct the settings through her interactions. Therefore, capturing the social ecology of the child, through interactions with teachers, peers, and the environment over time, has strong implications for gaining a clearer understanding of children's experiences in pre-kindergarten and how it impacts their learning and development. Additionally, working with the teachers at the microsystem level places the teachers as active agents of their interactions with young children in their classrooms. Specifically, this study focused on the role of the teacher, as Bronfenbrenner (1995) classifies a child's teacher as a "significant other" in the child's life. Conducting focal-child observations at the microsystem level allowed for direct teacher-child interactions to be captured and used to study children's and teachers' immediate experiences. Additionally, qualitative field notes during classroom observations, teacher conversations during community of practice meetings, and teacher reflections revealed how broader systems outside

of the microsystem influenced daily teacher-child interactions, as interactions are embedded in a broader context influenced by policies, administrative practices, and school climate.

Socio-cultural theory.

Situating this study within a socio-cultural perspective provides a critical lens through which learning within the current cultural contexts can be explained. Using a socio-cultural perspective allows the opportunity to "integrate approaches that emphasize development towards a standard of competence, development of a personal orientation towards teaching, and reflective inquiry" for teacher education (Van Huizen, Van Oers, & Wubbels, 2005, p. 285). Socio-cultural theory joins together an individual and society, where when united a dialectical relationship is formed (Van Huizen et al., 2005). Originating from the work of Lev Vygotsky (1981), socio-cultural theory describes how individual development can only be understood when taking into account one's environment, as from this perspective the individual and the society mutually require each other to create themselves. Action is a fundamental concept in this theory, where individual functioning and development are to be studied in relation to participation in socio-cultural practice (Vygotsky, 1981), as higher mental functioning cannot be developed without interaction with others (Wertsch, 1991).

Socio-cultural theory interprets the relationship between mental functioning and situations in which this functioning occurs. The two most influential themes from socio-cultural theory are action and mediation (Wertsch, del Pio, & Alvarez, 1995). Action is defined by internal or external human action taken by an individual or a group of people. And mediation is defined by the active process of using cultural tools to link human action to higher mental functioning, "by being included in the process of behavior, the psychological tool alters the entire flow and structure of mental functions" (Vygotsky, 1981, p. 137). Through shared

activities, this transactional process empowers individuals by opening up new avenues of action. Teacher education is one practice where this theory can be applied (Wertsch, 1985; Wenger, 1998; Moran, 2002).

Teacher inquiry and critical thinking are rooted in socio-cultural theory, as this process requires teachers to constantly synchronize their actions with meaning. In a time of emerging pressure to perform on both the teachers and students in public schools inquiry is a critical skill to develop, as teachers need to continuously assess the learning that is occurring in their classrooms. Tools are a significant part of this work, as tools extend human abilities by enabling actions that people could not do without these tools (Bodrova & Leong, 2007). When an individual uses tools, she is no longer responding solely to the environment, but the tools also mediate her behavior (Crain, 2005). Teacher inquiry can be supported through the tools of language, physical tools, and shared activity.

Specifically, Vygotsky's theory emphasizes language as a key cultural tool for higher mental functioning (Alfred, 2002). Vygotsky (1930) states "speech serves many functions, but most fundamentally it frees our thought and attention from the immediate situation" (cited from Crain, 2005, p. 222). Speech allows one to reflect on the past and make plans for the future, as it can symbolize events that go beyond the present. Language, both in the spoken and written forms, played a key role in teacher growth over the course of this study.

Another set of tools humans have are meditational tools, which serve to assist with mental processes (perception, attention, memory) and social behaviors (Brodrova & Leong, 2007). These tools are used to prompt a response. For teacher inquiry meditational tools are essential. These tools can include actual tools (writing utensils, audio recorder, computer, camera), records (field notes, photographs, children's work samples, transcripts of conversations)

and discourse with collaborative peers. Through using these tools teachers are able to carefully consider their practices, think critically, and make decisions (Moran & Tegano, 2005). These are critical aspects of teacher inquiry as they provide the material for teacher examination in order to support teacher reflection and develop new understandings.

Drawing on socio-cultural perspectives of teacher learning and theories of tools as mediators of action, this study investigated teacher-child interactions. Using a community of practice model to support professional learning experiences, teachers had opportunities to engage in conversations about their interaction practices, use individualized classroom data and discourse as a meditational tools, and actively engage in reflective activities in order to support and individualize their professional learning. Therefore, a socio-cultural perspective framed this pre-k teacher professional development as relational, dynamic, and responsive (Baildon & Damico, 2008).

Defining Pre-Kindergarten

Over the last several decades, programs for young children have been designed to support children and families in a variety of different ways. Pianta and colleagues (2007) classify early childhood programs into four categories: *child care*, programs for birth through school aged children, regardless of income, who need custodial care during the day and are designed to protect children's health and safety; *early education*, programs for 3, 4, and 5-year-old children that focus primarily on academic skills and are often provided by schools (e.g., state-funded pre-kindergarten); *comprehensive service programs*, work to meet both the social service and educational needs of young children, usually targeting children who are at risk due to low family income (e.g., Head Start); and *nursery schools*, programs that meet several days a week for a few hours each day in order to provide socialization opportunities for young children. Over the last

decade, early childhood professionals have been working to integrate these different types of programs; however, historically each program has operated independently with little coordination between them (Pianta, et al., 2007). While all of these different types of programs provide an important context for children's development, the focus of this study will be on *early education* programs and even more specifically 4-year-old state-funded pre-kindergarten programs. Pre-kindergarten refers to "school or center-based programs that serve 4-year-olds, have an explicit goal of improving school readiness, and are funded fully or partially by the state" (Early, et al., 2006, p. 178). The National Institute for Early Education Research (NIEER) defines state-funded preschool initiatives by the following criteria: initiative is funded, controlled, and directed by the state; the initiative serves children of preschool age; the initiative offers group programming for children at least two days a week; initiatives must be distinct from the state's system for subsidized child care; and the initiative is not designed specifically to serve children with disabilities (NIEER, 2009). This study featured classrooms that met the NIEER criteria for state-funded preschool initiatives.

National landscape of pre-kindergarten.

Across the United States most pre-kindergarten programs are designed for children who have risk factors that are indicative of not "being ready" for school, and therefore at-risk for school failure. The majority of states define high-risk children, as children from low-income families. Generally, low-income is defined by children's eligibility for the National School Lunch Program, which is based on family size and income. Through this program, children are eligible for free public school lunch if their family income is under 130 percent of the federal poverty level and children are eligible for reduced-priced lunch if their family income is under 185 percent of the federal poverty level (USDA, 2009). For the 2009-2010 school year for a

family of four, 130 percent of the poverty level was $28,665 and 185 percent was $40,793

(USDA, 2009). It should be noted that the U.S. Census Bureau defines poverty each year. A

family of four with an annual income under $22,050 would meet the 2009 poverty guidelines

(U.S. Dept. of Health & Human Services, 2009). In 2009 in the United States, 21 percent of

children under the age of five lived in families with incomes below the federal poverty level;

however, there was great variation by state from 11 percent in New Hampshire to 33 percent in

Mississippi (Kids Count, 2009). Tennessee fell near the top with 27 percent of children under the

age of five living in poverty (KidsCount, 2009).

During the 2008-2009 school year, more than one million 4-year-old children attended

state-funded preschool, 30% of the national population of 4-year-olds (NIEER, 2009). This

school year showed an increase of 81,593 children being served in state-funded preschool

programs across the country. In 2009, about 75% of states (38 states) had state-funded pre-

kindergarten programs (NIEER, 2009). Oklahoma was the only state with universal access to

public pre-kindergarten; however, nine states had more than half of their 4-year-olds attending a

public preschool program. On the other hand, 12 states did not fund preschool programs for four-

year-old children. Per child spending for public preschool education was also variable across the

United States. Funding ranged from zero (in the 12 states that did not have programs) to more

than $10,000 per child. In fourteen states, the local spending exceeded $5,000 per child, while in

five states it fell below $2,500 per child (NIEER, 2009). Tennessee spent approximately $4,500

per child during the 2008-2009 school year, standing 15th overall in the United States (NIEER,

2009). In Tennessee in 2009, 22 percent of 4-year-olds were enrolled in pre-k, while 12 percent

were enrolled in Head Start, 1 percent were in special education programs outside of pre-k or

Head Start, and the remaining 65 percent were enrolled in other types of community care or no care at all (NIEER, 2009).

Four-year-old programs are only valuable to children, families, and the country if the quality of these programs is high enough to generate important gains in learning and development (NIEER, 2009; Pianta et al., 2007). NIEER has established ten quality benchmarks, in order to evaluate the progress states are making with respect to quality in publicly funded pre-kindergarten. These ten benchmarks outline ten critical areas research has found to be related to preschool program quality: establishment of comprehensive early learning standards, lead teacher certification of at least a bachelor's degree, lead teacher training specialized in pre-kindergarten, assistant teacher certification of at least a Child Development Associate's or an equivalent, teacher in-service training of at least 15 hours a year, classroom size not exceeding 20 children, teacher-child ratio of 1:10 or better, at least one meal served to the children during the school day, site visits are conducted, and vision, hearing, health and one support service are offered to the children enrolled in the program. Four of the ten items involve teacher credentials and training, "teacher qualifications receive this emphasis in our checklist because research shows this area to be crucial in determining program quality. Better education and training for teachers can improve the interaction between children and teachers, which in turn affects children's learning" (NIEER, 2008, p. 24). During the 2008-2009 school year, states generally continued to improve on meeting more quality benchmarks, however three states moved backward. The majority of the benchmarks for program quality standards were met by most states, however seven states met less than half. This is notable, as three of the four states with the largest populations and numbers of children in pre-kindergarten fell within this group—California, Texas, and Florida (NIEER, 2009).

Local landscape of pre-kindergarten.

Tennessee leaders have been working for the past twelve years to provide early education experiences for the state's four-year-old children. Starting in 1998, Tennessee's Early Childhood Education Pilot Program offered competitive grants to public schools, Head Start agencies, private child care agencies, and higher education institutions (NIEER, 2009). During the 1998 school year, this program served 600 at-risk children in the state (Wilson, 2009). The Voluntary Pre-Kindergarten program emerged from this pilot program. Tennessee began this new program during the 2005-2006 school year, through competitive awards the state grants to the school systems for pre-k classrooms. Through this program, enrollment priority is given to four-year-old children who are eligible for free or reduced-price lunch, 185 percent of the federal poverty level. Other eligibility factors include children who: are in state custody, are English Language Learners, have a history of abuse or neglect, have an individualized education plan (IEP), and/or have a parent on active military duty. Steady growth has occurred in the number of children being served in Tennessee. For the 2009-2010 school year, Tennessee had 934 state-funded pre-kindergarten classrooms serving approximately 18,000 children (Tennessee Department of Education, 2009). These classrooms were housed in 94 of Tennessee's 95 counties and 133 of 135 eligible school systems (Tennessee Department of Education, 2009), with 86 percent of the children meeting the income requirement (NIEER, 2009). Tennessee Voluntary Pre-K operates throughout the academic year for five and a half hours a day, five days a week. Tennessee meets 9 of the 10 quality benchmarks outlined by NIEER, not meeting the requirement mandating that the assistant teacher in each classroom have a Child Development Associate's (CDA) or equivalent. In Tennessee an assistant teacher with a CDA or equivalent is required to be hired if

available, however, if no applicant with a CDA is available an applicant with a high school

diploma and relevant experience in early childhood education may be hired.

Current landscape of pre-kindergarten.

Many early childhood researchers and policy makers believe that the United States is on

its way to a universal, voluntary preschool system, as a result of both parent demand and the

countless number of private, state and federal initiatives throughout the country that are

continuing to extend early education (Bowman et al., 2001). In fact according to the *State of*

Preschool Yearbook for 2009, published each year by the NIEER, we are almost a third of the

way there with 30 percent of the nation's four-year-olds in state-funded pre-k (NIEER, 2009).

Early learning and educational experiences for young children are becoming a common

conversation on many political platforms. "In nearly every governor's race, big-city mayoral

campaign, and federal education initiative, providing early learning and educational experiences

that contribute to children's achievement and success in school is presented as a political as well

as an economic and social good" (Pianta et al., 2007, p. xix). Even the current federal

administration is investing in early childhood education, as it is one of three education priorities

for the current federal agenda for education reform (White House, 2009).

The current demand for pre-kindergarten education coupled with the current emphasis on

educational accountability has resulted in high expectations for pre-kindergarten programs to

result in academic and social gains for young at-risk students. Pre-kindergarten programs must

meet this growing demand while maintaining high-quality program status, as pre-k serves as an

influential developmental context for a significant number of children in the United States each

year. Over the last several decades, significance has been placed on the early years of life and its

impact on the trajectory of later development (NICHD, 2002; Zigler & Styfco, 2004). In order to

promote the success of all children in the United States a push focused on more and more educational experiences starting at birth has taken place (Clifford & Crawford, 2009). This push stems from research demonstrating that high-quality early educational experiences can begin to close the achievement gap between children from different racial and socio-economic backgrounds, which has generated much attention and funding for early childhood education from state- and national-level policy makers (Clifford & Crawford, 2009).

Over the last 15 years a prominent public discussion has been taking place revolving around our society's concern with quality and effectiveness of schooling, this conversation has naturally spread down to include young children (Bowman et al., 2001). From this discussion it is agreed that out-of-home care for young children needs to focus on school readiness, while also providing an environment for secure emotional development and sound teacher-child relationships (Bowman et al., 2001). Situated in this national context, early childhood education in the preschool years has been targeted as a time where children can "be prepared for school." The preschool years have been a focus of school readiness for a variety of reasons: early childhood professionals and parents believe that young children should be provided with educational experiences; research findings indicate that young children are highly capable learners; and studies indicate that strong preschool experiences can have a positive impact on children's future schooling (Bowman et al., 2001).

Today, United States' social and educational policy has an overarching goal of providing early learning and educational experiences that are intended to contribute to children's academic, social, and task-oriented skills development (Barnett, 2003; Committee of Economic Development, 2002). Politicians at the local, state and federal levels view providing early learning experiences as a political, economic, and social good (Pianta et al., 2007). Pre-

kindergarten has now become a leverage point for "addressing concerns about K-12 achievement, particularly those related to income and ethnicity or race" (Pianta et al., 2007, p. 5). The idea of "school" for young children is prevalent in our society, from the local child care advertisements to the new state-funded pre-kindergarten classrooms, children's early education and care experiences are being thought of as "school." Thus the major thrust behind the current pre-kindergarten movement is academic readiness for future school success.

As an accountability movement sweeps across the American education system, this movement has the potential to enhance the quality of children's educational experiences and ensure their performance at a higher level. However, for the most part this has not been the result of this movement, and instead this accountability movement has brought in a multitude of new testing and assessment requirements for children of all ages that are not consistent with quality educational practices for young children (Pianta et al., 2007).

Early education and care is becoming standardized as research suggests a need to focus on quality measures, including teacher certification, leadership, curriculum, and learning standards, all of which traditionally have been associated with K-12 education (Pianta et al., 2007). While in and of themselves, these ideas are not negative for early education, working to only increase teacher qualification requirements, curricular effectiveness, and/or incorporate rigorous standards will not ensure children's academic outcomes or high quality classroom experiences, as they lack a social emotional component. While this approach does not guarantee high quality teacher-child interactions, it does provide a structure that begins an attempt to increase the possibility that teaching will be effective (Pianta et al., 2007).

Early Childhood Education and Child Outcomes for High-Risk Children

Early childhood educators and researchers have designed and studied preschool programs for high-risk children for many decades. Through this research, several foundational studies have significantly contributed to the creation of early education programs and aided in current conceptions and understandings of school readiness. In order to more clearly understand the empirical literature leading to the landscape of pre-kindergarten today, one must examine the historical preschool intervention studies that focused on child outcomes for the children who attended these intensive programs. Further, one must examine the more recent national studies which explored overall preschool experiences in a variety of programs children attend. These well-known longitudinal studies captured children's early educational experiences and demonstrated the benefits of preschool education, contributing to the current knowledge-base for pre-kindergarten today.

Longitudinal effects of intervention early education programs on high-risk children.

Historically, studies of preschool education consisted of the development of intensive, high-quality preschool programs as intervention for high-risk children in order to evaluate child outcomes. Three of these seminal intensive preschool projects were the Perry Preschool Program, the Abecedarian Project, and the Chicago-Parent Child centers. The longitudinal research that stemmed from these three preschool programs provides a foundational understanding of the positive effects of high quality, intensive preschool programs. Each of these programs were designed based on different conceptual models and therefore served children in varying capacities. As a result of this design variation, differences were found in child outcomes. However, due to the nature of all three programs serving high-risk children through intensive high quality preschool programs, many similarities between the programs were found pertaining

to child outcomes. This section will explain each of these three preschool models and study designs and conclude with discussion of significant child outcomes that contribute to the rationale for pre-kindergarten programs today.

The Perry Preschool program was in effect from 1962 to 1967, in Ypsilanti, Michigan. During this time, 123 low-income African-American three-and four-year-old children were randomly divided into one of three program groups (58 children) who attended this high-quality preschool and a control group (68 children) who did not attended this program. The three program groups differed on the classroom curriculum used: High Scope, Distar, and nursery school. Children attended the program five days a week for two and a half hours each day, for two years. Further, teachers visited each child's family at home for an hour and a half each week and parents participated in monthly small group meetings with other parents. All groups were matched according to age, socioeconomic status, IQ, and gender. Researchers followed these children annually from ages 4 to 11, and at the ages of 14, 15, 19, 27 and 40 on variables representing characteristics, abilities, attitudes, and types of performance (Barnett, 1996; Schweinhart et al., 2005).

A second intensive early childhood intervention study was conducted with infants born between 1972 and 1977 by the Frank Porter Graham Child Development Center at the University of North Carolina, Chapel Hill, known as the Abecedarian Project. This project studied 111 children (four cohorts) of primarily low-income, African-American children and randomly assigned these children as infants to either the early educational intervention group (57 children) or the control group (54 children). Children in the intervention group received full-time, year-round, high-quality care experiences from infancy through age five, five days a week for approximately six to eight hours a day. This high-quality program provided each participating

child with individualized educational activities that were incorporated into the child's day, focusing on social, emotional, and cognitive areas of development with a particular emphasis on language. For this study, all participants were provided with healthcare, and the control group also received nutritional supplements, disposable diapers and social services. Children's progress was monitored from infancy to age five, and follow-up data was collected at ages 12, 15, and 21 (Ramey & Campbell, 1984, 1991; Campbell and Ramey, 1994, 1995).

A third program studied was the Chicago-Parent Child Center program, developed in 1967 using Title 1 funds for public schools serving low-income children. The program provided half-day preschool for children ages 3-4, half-or full-day kindergarten for children ages 4-6, and supplementary services to primary school children and their families. This program served children in high poverty neighborhoods and provided comprehensive educational and family support services for pre-school through early elementary aged children. Health services including health screening, referrals, speech therapy, nursing services, as well as free breakfast and lunch were available to the programs' children and families. For children to participate in this program, parents had to agree to work with the program for a half day per week. A longitudinal study of this program followed 989 children who attended these centers in the mid-1980s, and compared them with a representative sample of 550 children who attended alternative early childhood programs and then full-day government funded kindergarten (Temple & Reynolds, 2007, Reynolds & Temple,1998; Reynolds, 1993). The vast majority of the children in this study were low-income African-American children living in Chicago's highest poverty neighborhoods.

These foundational intervention preschool programs found impressive longitudinal data on child outcomes for high-quality, intensive preschool experiences for children considered high risk. All three programs were found to have significant impacts on participating children's

educational attainment and social behaviors. Longitudinal follow-up data on children who attended the intervention programs experienced noteworthy gains in their educational achievement throughout primary and secondary school, as well as after high school graduation. Specifically, when compared to children who did not attend these programs, participating children during their K-12 educational years experienced: higher grade point averages, higher IQ scores and higher standardized and achievement test scores (Barnett, 1996; Schweinhart et al., 2005); spent more time on homework and demonstrated more positive attitudes and commitment toward school (Schweinhart, Barnes, & Weikhart, 1993; Weikart, Bond, & McNeil, 1978); encountered fewer instances of placement in special education for mental impairment (Barnett, 1996; Schweinhart et al., 2005; Reynolds, 2000); experienced lower rates of K-12 grade retention (Reynolds, 2000); and had higher school attendance rates (Reynolds, 2000). Further, children who attended these programs experienced educational benefits beyond high school. Overall, participating children experienced higher rates of high school graduation (Reynolds, 2000; Reynolds, Temple, Robertson, & Mann, 2001; Barnett, 1996; Schweinhart et al., 2005), higher literacy and math scores as young adults (Campbell, Ramey, Pungello, Sparling & Miller-Johnson, 2002; Barnett, 1996; Schweinhart et al., 2005), and were more likely to attend a four-year college, be in school through age 21, and graduate from college (Campbell et al., 2002). It was found that the longer children participated in a program the stronger the cognitive effects became (Reynolds, 2000).

All three of the discussed intervention programs yielded social benefits and revealed significant social outcomes for the children who attended these programs, in the areas of social dispositions, social knowledge and understanding, and emotional well-being. Children who attended these intervention programs showed a strengthened commitment to and attitude toward

school and were able to start on a path of economic stability and independence (Schulman, 2005). On the economic front, young adults who attended the intervention programs as children showed higher employment rates in more skilled jobs (Ramey & Campbell, 1984, 1991; Campbell and Ramey, 1994, 1995), greater economic success (Weikart et al., 1978; Schweinhart et al., 1993), and were more likely to be self-supporting and less likely to be on welfare assistance (Schweinhart et al., 1993). Overall, children who participated in these intensive intervention programs were found to have considerable advances in their financial lives, which directly impacted the communities in which they worked and lived. Further, children who attended these programs demonstrated a higher understanding of social knowledge, knowledge of social norms and customs (Epstein, 2009), and had better relationships with friends and neighbors (Weikart et al., 1978; Schweinhart et al., 1993). Lower delinquency and discipline rates were reported for those enrolled in the intervention groups versus control (Temple & Reynolds, 2007, Reynolds & Temple, 1998; Reynolds, 1993; Schwinhart et al, 1993; Reynolds et al., 2001). Emotional well-being was also improved as a result of these high-quality programs. Children participating in the Abecedarian project had significantly higher mental test scores from their toddler years all the way through age 21 (Campbell et al., 2002). Further, intervention preschool program participants took better care of their personal health, as they were less likely to be a regular smoker (Schulman, 2005; Campbell et al, 2002) and female participants were more likely to be older when their first child was born (Campbell et al, 2002) and have fewer births out of wedlock (Barnett, 1996; Schweinhart et al., 2005). Children who participated in these intensive intervention studies experienced social outcomes that positively impacted all aspects of their lives, however, it should be noted that there were variations in child outcomes connected to individual studies.

Finally, parents of the children enrolled in these programs also revealed impressive outcomes. Programs supported parents in enhancing their parenting skills and earning better job skills and jobs (Schulman, 2005). Specifically, mothers of children who participated in the Abecedarian program achieved higher educational and employment status than mothers of children in the control group, with particularly strong findings for teen mothers (Campbell et al., 2002). Further, results from the Perry Preschool Program revealed that more parents had positive attitudes regarding their children's educational experiences and were more optimistic about their children obtaining college degrees than parents of children who did not attend this program (Schweinhart et al., 1993). Historically, these high-quality, intensive, intervention preschool programs for high-risk children revealed significant gains in children's cognitive and social outcomes, as well as family well-being, and provide a foundational rationale for the need for quality pre-kindergarten experiences for four-year old children.

Longitudinal effects of early education on high-risk children.

Since the early 1990s, early education scholars have examined the diverse landscape of children's care experiences and the out-of-home programs in which they attend to study variations in child care in relation to children's development. Two early childhood research centers have paved the way for understanding the national portrait of preschool programs in the United States, using non-intervention research study designs. The National Institute of Child Health and Human Development (NICHD) designed a national longitudinal study to examine associations between children's child care experiences and their developmental outcomes. This NICHD Study of Early Child Care and Youth Development began in 1991 with approximately 1,300 children at birth and followed children's experiences into their school-aged years. Phase II of this study focused specifically on children's care experiences from 54 months through first

grade, following 1,095 of the original cohort of child participants. In this study researchers

assessed the child, the parent(s), and the social and physical characteristics of the home and child

care or school environments. The study revealed that children who experienced higher quality

care or who attended care consistently showed stronger cognitive and language outcomes and

predicted greater school readiness, as found in standardized test scores of literacy and math skills

(NICHD, 2002). These cognitive child outcomes were associated with the language used by the

caregiver, as well as the higher levels of stimulation (asking questions, responding to

vocalizations, and other forms of talking) (NICHD, 2000). This connection highlights the

importance of teacher-child interactions as one hallmark of program quality.

The National Center for Early Development and Learning (NCEDL) is a second early

childhood research center that has specifically designed two studies aimed at understanding

children's experiences in state-funded preschool programs, the five-state State-Wide Early

Education Programs (SWEEP) study and the six-state Multi-State Study of Preschool (MS). Both

of these studies were designed to gain a better understanding of the variation in children's

experiences in preschool classrooms across many states and how these variations related to

cognitive and social development, while also examining how state-level policy decisions impact

classroom practice, quality and child outcomes (Early et al., 2005).

Cognitive outcomes can be found for children who attend high-quality preschool

programs. Due to the intersecting nature of children's social emotional and cognitive

development, opportunities for children to develop cognitive skills occur when children are

exposed to instructional activities in the context of supportive teacher-child relationships (Hamre

& Pianta, 2007). As a result, instructional quality in the preschool classroom includes both

content instruction and teacher-child interactions. Therefore, the entire preschool day can be

considered an instructional opportunity, as children have opportunities to engage in meaningful learning experiences through interactions in all classroom contexts (e.g. large group, free play, mealtimes, transitions). However, as revealed from the NCEDL MS and SWEEP studies, the average preschool child spent 42% of their preschool day not engaged in instructional activities, as teachers did not take advantage of transitioning or meal times (Early et al., 2005). For preschool children, instructional time is split about equally between whole group and center time, with little time dedicated to small group or individual instruction (Hamre & Pianta, 2006). Findings from both the SWEEP and MS preschool studies, reveal that generally instructional quality, in terms of helping children learn new concepts and providing helpful feedback, is limited and weak (Early et al., 2005). These findings indicate low levels of meaningful teacher-child interactions occurring in the classroom, as children had limited opportunities for meaningful interactions with teachers.

Initially some studies suggested that early child care was a negative experience for children's social emotional development, as children who began child care as infants were found to have more aggression when they entered school (Lally, Mangione, & Honig, 1988; Seitz, Rosenbaum, & Apfel, 1985; NICHD, 2005), however this aggression was not found to persist (Barnett, 1995). In fact these same studies found that over time children who had attended care had better classroom behavior upon entering school (Lally et al., 1988; Seitz et al., 1985). While early childhood experiences have a lasting impact on children's social developmental outcomes, positive outcomes result from positive experiences. Preschoolers' social outcomes are connected to their relationships with their teachers, as these relationships support children's abilities to take advantage of educational opportunities in school. The Cost, Quality, and Outcomes Study (1995) found that children who had closer relationships with their child care teachers had overall better

classroom behavior and stronger social skills, including greater thinking/attention skills and sociability, fewer behavior problems, and better peer relations, through elementary school. Additionally, in describing the overall emotional support of public preschool classrooms, Early and colleagues (2005) found classrooms to have a pleasant, warm atmosphere with teachers reporting that children improve their social skills during the pre-kindergarten year. However, unfortunately, when combining study findings from the SWEEP and MS studies, in general classroom atmosphere quality was found to be of low quality and highly variable across programs (Early et al., 2005). When children do attend classrooms with higher quality of care, positive social outcomes can be found. Children who attended higher quality of care were found to be somewhat more cooperative and compliant and slightly less aggressive and disobedient than children who attended centers with lower quality scores (NICHD, 1998). Further, higher quality of care predicted more positive interactions with other children (NICHD, 2005).

Overall, it should be noted that a child's economic background seems to play a part in child outcomes from out-of-home care. For example, Caughy, DiPietro, and Strobino (1994) found that children from low-income homes who entered out-of-home child care earlier and/or had more years in this care had greater gains in reading scores than children with fewer years. On the other hand, these effects were reversed for children from the highest-income families. Here the difference might be due to the quality of the home environment, rather than strictly the income; where children who came from homes that were highly supportive of cognitive and social development actually had lower scores if they had been in care outside of the home, and children who did not come from this type of supportive environment had greater gains from care outside the home (Barnett, 1995). While this study focused on children's experiences in early educational environments, it is important to acknowledge that a child's family characteristics are

stronger predictors for child outcomes than program characteristics (NICHD, 2005; Zigler & Styfco, 2004; Lareau, 2003).

These foundational studies of early education, combined with many follow-up studies, have provided a solid base connecting high-quality, early educational experiences with children's cognitive and social emotional outcomes, as well as societal and family benefits. Specifically, findings from all three of the intervention programs report notable life changing outcomes with impressive results linked to social outcomes. However, all of these programs were intensive interventions, which included support for both the child and the family. None of these early childhood interventions used a solely center-based half-day model, which is common in today's organization of children's preschool experiences. Therefore, beyond these three influential intervention preschool programs, the extent to which long term benefits are produced as a result of early childhood educational programs in children's cognitive development, socialization, and school success has been a matter of some controversy. In reviewing 36 studies of early childhood model development programs and large-scale public programs' long-term effects on children from low-income families, Barnett (1995) revealed that early education programs could lead to significant short-term gains on school achievement, grade retention, placement in special education, and social adjustment. However not all programs produce these benefits, as quality of care provided to children is an essential factor in determining the impact of care experiences on children's outcomes (Clarke-Stewart, 1987; Cost, Quality, and Child Outcomes, 1995; NICHD, 2002; Phillips & Howes, 1987; Winsler et al., 2008).

Defining quality in early childhood education.

Several national large scale studies reveal the clear associations between higher quality care and children's cognitive and language outcomes: the National Study of Child Care for Low-

Income Families (Administration for Children and Families, 2007), the Cost, Quality, and

Child Outcomes Study (Cost, Quality, and Child Outcomes, 1995), and the NICHD Study of

Early Child Care (NICHD Early Child Care Research Network, 2005). As the essential nature of

the quality of care has been recognized, state systems, researchers, and individual programs have

designed ways to measure and enhance child care quality. Using proximal and distal features,

researchers have created a variety of observational measures to evaluate classroom quality. A

few measures examine individual children's experiences in care, however, the majority evaluate

the experiences of the classroom group as a whole. Due to this variation in measurement, how

one defines and assesses quality has led to conflicting research results in the early childhood

field.

Researchers have used distal and proximal classroom features as means to examine

classroom quality. Distal features are the structural variables, such as environmental organization

and materials available, that are typically regulated for licensing purposes and assessed using

global environmental rating scales. Additional structural variables include: group size, teacher-

child ratio, and caregiver characteristics. Distal features have played an important role in

identifying quality early care environments. Research suggests these structural factors of quality

lead to stronger cognitive development (Lamb & Ahnert, 2006). In a study of 89 African

American children, ranging in age from 6 to 36 months, Burchinal and colleagues (2000) found

that higher quality of care, measured using structural variables, was related to higher measures of

cognitive and language development and communication skills. Specifically, children in

classrooms with lower teacher-child ratios tended to have better language skills, while female

children in classrooms that met teacher education recommendations tended to have better

cognitive and receptive language skills. Teacher education and adult ratios influence cognitive

competence due to their impact on quality of care (NICHD, 2002). However, researchers have recently found that these structural features do not always impact quality. Findings from the National Center for Early Development and Learning's (NCEDL) Multi-State Study of 238 pre-kindergarten classrooms indicated that teacher-child ratio, length of the school day, and location of the program had no relation to the quality of the program (Early et al., 2005). Further, using the same data from pre-k classrooms Early and colleagues (2006) found that teacher education level linked to pre-k children's advancement of mathematical skills, though teacher education was not linked to literacy gains or overall classroom quality. This study indicated that the structural characteristic of teacher education was not consistently connected to academic gains for children. As the previous discussion revealed, the connections between classroom structural factors and child outcomes have mixed findings. Further, while a classroom may meet structural regulatory requirements, this says little about the actual experiences of the children in the classroom (Pianta, 2006).

Playing a central role in defining classroom quality, proximal features provide another lens for evaluating child care program quality. Proximal features are the process variables that describe the actual experiences of the children in care, including children's relationships and interactions with their caregivers, in an attempt to quantify and evaluate the actual care received by the children (Lamb & Arnett, 2006). Research indicates that teacher-child relationships are fundamental in nurturing various aspects of children's development (Kontos & Wilcox-Herzog, 1997) and that the quality of these relationships impact children's school adjustment (Birch & Ladd, 1997, 1998; Hamre & Pianta, 2001). Multi-state research studies of early care for pre-kindergarten children revealed that quality social and emotional teacher-child interactions in a classroom led to improved scores on standardized tests (Pianta et al., 2005) and children's

engagement in the classroom (NICHD, 2005). In a longitudinal study of 490 children from pre-school through first-grade, Pianta and Stuhlman (2004) found that early teacher-child relationships contribute to predicting children's future social and teacher-rated academic skills in first grade. Further, in a study of nearly 3,000 preschool children, higher quality instruction and closer teacher-child relationships yielded larger gains in academic outcomes, while these gains were not related to the structural characteristics of the child or the program (Howes et al., 2008). These studies suggest that the effects from early educational settings derive from quality interactions between children and teachers.

Several studies have suggested that the combination of both distal and proximal features promote optimal development and learning. In a four state study of 228 infant/toddler classrooms and 521 preschool classrooms, researchers found that lower teacher-child ratios and smaller class size led to higher teacher sensitivity (Phillipsen, Burchinal, Howes, & Cryer, 1997). The National Child Care Staffing Study on child care quality of 227 licensed child care centers in five metropolitan areas discovered that teachers with more education and training were more sensitive to the children in their care and have classrooms with higher global quality (Whitebook, Howes, & Phillips, 1989). These findings suggest that structural features may actually set the scene for higher quality processes to take place.

A wide range of both distal and proximal classroom features impact the quality of care experienced by children. Issues ranging from the health and safety of the environment to the depth of relationships between the teachers and the children in their care, all serve a vital role in determining children's early care experiences and long-term outcomes. While there are many avenues to pursue in developing a more accurate understanding of how program quality impacts child outcomes, this study specifically focused on process features of quality programs. Research

studies indicate a significant connection between children's cognitive outcomes and teacher-child relationships and interactions (La Paro et al., 2004; Goulet & Schroeder, 1998; NICHD, 1996). This link suggests the foundational nature of teacher-child relationships in young children's attainment of cognitive skills.

Current state of publically funded pre-kindergarten quality.

The early childhood years are critical for physical, intellectual, emotional, and social skills development (National Scientific Council on the Developing Child, 2007), and the quality of the child's environment plays an important factor in determining the impact of the out-of-home care experience on a child's development (Lamb & Sternberg, 1990; Zaslow, 1991; Helburn & Culkin, 1995; Phillips, McCartney, & Scarr, 1987). The pre-kindergarten classroom is one context that can significantly influence a young child's development and learning, and thus it is imperative that researchers study children's experiences in the pre-k classroom in order to gain a deeper understanding of classroom quality.

The national studies reviewed thus far do not paint a promising picture for the state of our pre-kindergarten classrooms. Specifically, data from the NCEDL MS and SWEEP studies revealed that when analyzing classroom quality profiles, the highest and the lowest quality profiles did not differ from each other on regulated features such as teacher education or certification, number of children in the class, teacher/child ratio, or location in public school. However, the high quality profile classrooms did tend to contain teachers with more experience. The most frequent profile (almost a third of the classrooms) was a classroom with a positive emotional climate, but mediocre instructional quality (designed to include both instructional content and teacher-child interactions). While 15 percent of the classrooms were shown to be high quality and produce academic gains in pre-k and first grade, 19 percent were at the bottom

end for both emotional and instructional support. At the lower end, children were exposed to minimal practices associated with social, emotional, or academic gains. Further, these also were the classrooms with the highest proportion of children living in poverty, non-Caucasian children, and mothers with lower levels of education (all three of which are established factors for school difficulties) (LoCasale-Crouch et al., 2007). With twenty percent of public preschool classrooms demonstrating extremely low profiles of quality, children are currently experiencing classrooms with possibly detrimental effects on their development.

Pianta proposes that it is not the structural aspects (e.g., class size, teacher/child ratio, teachers educational degrees, curriculum) of classroom environments, but teacher-child interactions that are the critical factors when evaluating classroom quality (Pianta, 2006). Pianta (2006) suggests that it is during these teacher-child interactions where the child's greatest opportunity for learning occurs, as the teacher is given the opportunity to create learning experiences that bring the child just beyond his or her current skill level. Thus it is critically important for children to engage in meaningful teacher-child interactions during this pre-kindergarten year, as proximal processes of classroom quality have momentous impact on children's development and learning (Alcock, 2007; Frank, Stolarski, & Scher, 2006; Pianta, 2006).

Social Emotional Development and Teacher-Child Interactions

 Social emotional development.

Preschool classrooms serve as an essential context for development, as research continues to show the importance of children's experiences and the extent of learning that occurs in children prior to the age of six (Bushouse, 2009; Shonkoff & Phillips, 2000). During these early childhood years, children's social emotional and cognitive development are tightly intertwined,

as children's feelings and interactions go simultaneously with their ability to acquire cognitive skills (Burchinal et al., 2000; O'Connor & McCartney, 2007; Howes et al., 2008; Pianta et al., 2005; Pianta & Stuhlman, 2004). Due to this vital connection, this study focused on the developmental domain of social emotional development, as "…adequate education for young children occurs only in the context of good physical care and of warm affective relationships" (Bowman et al., 2001, p. 2).

Social emotional development brings together emotional development, the knowledge and skills needed to recognize and self-regulate feelings, with social development, the principles and strategies needed for interacting successfully with others (Epstein, 2009). Four components make up social emotional development: (1) emotional self-regulation and self-awareness, the ability to respond to experiences with an appropriate range of immediate or delayed emotions; (2) social knowledge and understanding, knowledge of social norms and customs; (3) social skills, the range of skills needed for interacting with others; and (4) social dispositions, a child's enduring character traits (Epstein, 2009). Research suggests that children need to develop a minimal level of social competence by kindergarten, or they are likely to be at risk for many social difficulties for the rest of their lives (Parker & Asher, 1987; Epstein, 2009). Further, early social relationships predict academic achievement as well as school completion and dropout rates (Ladd, Herald, & Andrews, 2006) and are the foundation for more sophisticated cognitive abilities (Epstein, 2009). When combined together emotional well-being and social competence are the "bricks and mortar" that comprise the foundation of human development (National Scientific Council, 2007).

When strong social emotional skills are in place, children have an easier transition into school. "When children enter school, they must have achieved the emotional and behavioral self-

regulation that will allow them to approach the world with confidence, curiosity, and intentionality," (CSEFEL, 2008, p. 4) Additionally, children need the capacity to communicate and cooperate with others in order to be successful in school (National Research Council and Institute of Medicine, 2000). Several of these key social emotional skills are: confidence; capacity to develop good relationships with both peers and adults; concentration and persistence on challenging tasks; ability to effectively communicate emotions; ability to listen to instructions and be attentive; and ability to solve social problems (CSEFEL, 2009). These are skills that must be taught to young children, as when children do not have these skills they often exhibit challenging behaviors. These essential skills are gained through supportive relationships and meaningful teacher-child interactions as they have long-term influences on children's healthy development and contribute to the optimal growth in young children's cognitive and social emotional skills (Zeanah & Zeanah, 2001).

Importance of teacher-child interactions.

A teacher has a major influence on the learning and growth that takes place in an early childhood classroom, as teacher-child interactions serve as the primary way through which classroom experiences influence development (La Paro et al., 2004). Responsive, consistent, warm, sensitive teacher-child interactions are crucial as they provide the foundation for secure relationships (Baldwin et al., 2003; Kontos & Wilcox-Herzog, 1997), teach important skills of self-regulation, empathy and problem solving (Goulet & Schroeder, 1998), provide reassurance and encouragement to children leading to higher self-esteem (Kostelnik et al., 1988), and lay a supportive foundation for children's learning and development (Epstein, 2009). It is through interactions and communication with teachers, and peers, that children create and revise their understandings of the world that surrounds them (Havu-Nuutinen, 2005).

In order for teacher-child interactions to lead to healthy social emotional development, the teacher behaviors during these interactions must be understood. The National Research Council and Institute of Medicine (2000) identified specific caregiver behaviors that characterized supportive and nurturing relationships: responsive care that contributes to the child's developing self-confidence; affection and nurturing that build the child's developing self-esteem; protection from harm and threats of which they may be unaware; opportunities to experience and resolve human conflict cooperatively; support to explore and develop new skills and capabilities; exchanges through which children learn the give-and-take of satisfying relationships with others; and experiences of being respected and of respecting others. Teachers who engage in these types of interactions tend to create a more positive climate in their classroom and be more aware of the individual needs of the children in their class (Helmke & Schrader, 1988). Research reveals significant correlations between specific teacher behaviors, such as warmth and feedback, and children's development and classroom performance (NICHD, 1996). When children build positive relationships with their teachers and peers several important child outcomes result: children feel more accepted by the classroom group; children are assisted in developing communication and friendship skills; children develop feelings of empathy and mutual respect; and children have opportunities to practice and develop appropriate and acceptable behaviors (CSEFEL, 2009). These child outcomes are essential for school readiness and future life success, as relationships that are supportive to a child's individual needs shapes that child's self-image (Epstein, 2009). A child needs a "strong, positive internal image" in order to have the resilience needed to face life's challenges (CSEFEL, 2009).

While research supports meaningful teacher-child interactions, it is understood that not all interactions occurring in the classroom are of this nature. Using teacher-reports Pianta and

colleagues (1995) found that teachers distinguish between three types of teacher-child relationships. First, teachers identify some children to have positive and close teacher-child relationships, allowing a child to use this supportive relationship to explore the classroom setting and develop peer relationships. The second classification teachers report is a conflictual teacher-child relationship, which leads to a child having trouble with learning, academic achievement, and forming peer relations. An overly dependent teacher-child relationship is the third classification that teachers report, which hinders the child from being able to investigate the school environment and develop peer relationships. In a study of 199 public school kindergarten children and their 17 teachers, who were followed through their transition to first grade, Birch and Ladd (1998) found these classifications show that a teacher's perception of a child's behavior is likely to affect the formation of the teacher-child relationship. Research suggests that elementary school teachers seem to favor children who display cooperative, social and responsible behaviors, while disliking disruptive, aggressive, or asocial behaviors (Brophy & Good, 1974; Kedar-Voivodas, 1983; Spencer-Hall, 1981; Wentzel, 1991).

Children who have problem behaviors are at risk for developing less close relationships with their teachers. This is undesirable as Birch and Ladd (1997) found that teacher-child relationships are relatively stable from one teacher to the next when examining the transition of children from kindergarten to first grade. Harme and Pianta (2001) found similar results when following children from kindergarten through eighth-grade. Specifically, finding that teacher-child relationships marked by conflict and dependency, were related to academic and behavioral outcomes through eighth-grade. This suggests that the teacher-child relationship is an important factor in children's school performance. In fact, the National Longitudinal Study of Adolescent Health indicated that relationships with teachers are one of the single most common resources for

children and may operate as a protective factor against risk for a range of problem outcomes (Resnick et al., 1998). Unfortunately children with poor behavior in the classroom are at risk for developing more conflictual relationships with their teachers, which then leads to a cycle of continued problem behavior in the classroom (Buyse, Verschueren, Doumen, Damme, & Maes, 2008).

Using data from two kindergarten studies, totaling approximately 4,000 children, Buyse and colleagues (2008) identified aspects of the classroom climate that can moderate the risk for teacher-child relationship difficulties. Findings indicated that teachers who are emotionally supportive diminish the risk of conflictual relationships for children with internalizing or externalizing behaviors. By focusing on the classroom features that embrace the association between a child's problem behavior and the quality of the teacher-child relationship, school psychologists and teachers can reduce the gap in teacher-child relationship quality.

Empirical evidence supporting positive teacher-child interactions.

Teacher-child interactions are a crucial feature in early childhood classrooms and serve an essential role in children's social emotional development. As children are directly impacted by their relationships and interactions with their teachers, it is imperative to find a way to capture these experiences from the child's perspective. Several measures have been designed to capture teacher-child interactions: the Classroom Assessment Scoring System (CLASS; LaParo & Pianta, 2003); the Caregiver Interaction Scale (CIS; Arnett, 1989); the Early Childhood Classroom Observation Measure (ECCOM; Stipek, 1996); the Observational Record of the Caregiving Environment (ORCE; NICHD, 1996); and the Emergent Academic Snapshot (Snapshot; Ritchie, Howes, Kraft-Sayre, & Weiser, 2002). With the exception of the ORCE and the Snapshot, all these measures are based on global classroom ratings that generally describe

teacher-child interactions and behaviors and result in a composite score. Both the ORCE and the Snapshot capture individual children's experiences in care settings and allow for analysis from a focal child perspective, however, these measures are designed to evaluate overall quality through focal child data. Additionally, these measures evaluate children's experiences from a teacher or group perspective using caregiver behaviors in relation to a focal child. This study focused on a measurement of teacher-child interaction that captured the direct social ecology of a child's pre-kindergarten experience, capturing the valuable proximal processes directly experienced by the individual child.

Many studies reveal that quality teacher-child interactions are important, however structural teacher characteristics that lead to better interactions have not clearly been identified. For example, many studies have compared teachers' education level and teacher-child interactions finding mixed results on whether education level or specialization makes a difference in the quality of these interactions (Cassidy & Buell, 1996; Kontos, Howes, Shinn, & Galinsky, 1995; NICHD, 1996; Whitebook et al., 1989). With such contradiction in these findings more specific research is needed to clarify existing studies. Hallam, Fouts, Bargreen, and Caudle (2009) compared a global quality rating to the social ecology of individual toddler's experiences in one toddler classroom. This study found that using focal child observational data exemplifies how the child experiences the child care environment and that these experiences are obscured when using a composite environmental rating scale score.

Research supports the importance of teacher-child interactions on children's development; however, findings from Pianta and colleagues (2005) suggest that the bulk of teacher interactions encourage children to be passive in the classroom. Moreover, these studies highlight that high quality teacher-child interactions are rare. One important aspect of a good

quality early childhood program is the frequency of teacher-child interactions (Howes, 1999).

Kontos and Keyes (1999) found that in preschool classrooms during unstructured free play

teachers spend about 40% of their time directly interacting with children. Researchers have also

found that about 40% of teacher-child interactions are focused specifically on teaching (Bronson,

Tiynan, & Seppanen, 1995), while many interactions also focus on teacher conversations about

children's activity choices (Killen & Smetana, 1999). Preschool children on the other hand were

engaged in interactions with the teacher about 11% of their time in free play (Vliestra, 1981).

However, Howes, Matheson, and Hamilton (1994), note that there is wide variation in the

specific amount of time children spend interacting with teachers. Pianta and colleagues (1995)

suggest that this variation may be due to children's individual characteristics, as teachers might

be expected to spend a greater amount of time interacting with either shy-anxious or aggressive-

defiant children. Coplan and Prakash (2003) speculate that teachers spend more time with

children who either elicit or evoke interactions from the teacher. While research has been

conducted on the frequency of interactions in early childhood classrooms, relatively little is

known about the quantity and quality of specific pre-kindergarten children's interaction

experiences with their teachers.

Due to the crucial nature of meaningful teacher-child interactions, a shift in how we

examine classroom quality that includes children's actual experiences is critical. In order to do

so, researchers must move beyond aspects of global quality and focus on the nuances of

particular child experiences. This study captured individual children's actual experiences in pre-

kindergarten classrooms and specifically examined teacher-child interactions. Data from these

focal child observations provided teachers with a context specific tool for teacher professional

development.

Professional Development of Early Childhood Educators

The rapid expansion of pre-kindergarten programs has led to more emphasis on the

professional development needs of pre-k teachers (Bennett, 2007). Research suggests that

teacher education and specialized training is one of the strongest predictors of child care quality

(Cost, Quality, & Child Outcomes, 1995; Kontos et al., 1995). Teacher educational background

and quality of education lead to better achievement outcomes for young children (Barnett, 2003,

2004; Bowman et al., 2001; Darling-Hammond, 2000). Specifically, research from just over a

decade ago indicated that when a teacher holds a bachelor's degree, the quality of early

childhood classrooms and children's outcomes were improved (Cost, Quality, and Child

Outcomes, 1995). This connection led to policy reports calling for every pre-kindergarten teacher

to hold a bachelor's degree (NIEER, 2009; Graves, 2006). In Tennessee lead pre-kindergarten

teachers in state-funded programs are required to have a bachelor's degree and a Tennessee state

teaching license. While overall lead teachers working in publically funded pre-k programs are

more likely to hold a bachelor's degree (Clifford et al., 2005), recent research suggests that

variations in outcomes from teacher education does exist. Early and colleagues (2006) found that

teacher education level linked to pre-k children's advancement of mathematical skills, though

teacher education was not linked to literacy gains or overall classroom quality. While this teacher

education connection was not found for a four-year teaching degree in pre-kindergarten, this

study did report that the pre-k children's gains in basic skills did correlate with a teacher holding

a Child Development Associate degree. This study indicated that the structural characteristic of

teacher education is not consistently connected to academic gains for children. Therefore, simply

having a four year college degree may not be adequate for helping all children learn and develop

to their highest potential, as having a college degree does not in and of itself guarantee high-quality teaching (Winton, McCollum, & Catlett, 2008).

Early childhood teachers are currently being required to increase their knowledge of early childhood education, child development, developmentally appropriate practice, and quality teaching strategies for young children (Saracho & Spodek, 2006). This increased call for a "highly qualified" teaching profession, has resulted in the need for on-going professional development to keep up with the constantly expanding early childhood knowledge base. Therefore, it is important to examine the quality of professional development in order to ensure that teachers are benefiting from these experiences, as quality professional development has the potential to impact teacher growth, improve instructional techniques, and impact student learning (Joyce & Showers, 2002). While much research has focused on professional development through teacher training and pre-service education, less attention has been given to the professional development of teachers in the workforce (Martin & Dowson, 2009). However, professional development of teachers currently in the workforce has the potential for assisting teachers in operating more effectively in their classroom, as well as enhancing the educational outcomes of students (Rowe & Rowe, 1999).

Defining high-quality professional development.

With a renewed research interest in effective models for high-quality professional development, it has been determined that the field of early childhood education has used the term professional development in inconsistent ways which has led to no concrete definition of professional development (Buysse, Winton, & Rous, 2009). Therefore, the term professional development captures the wide range of activities from attending formalized and structured large group workshops to informal conversations among peers, where teachers gain knowledge of new

teaching strategies. Various opportunities for professional development are available to teachers in the workforce and program administrators typically determine attendance. Most common are short workshops outside of the school day, used to provide teachers with intensive and focused learning experiences (Glazer & Hannafin, 2006). However, one-day workshops have been proven ineffective in building teacher skills and impacting teacher practice (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005; Winton et al., 2008). In a review of the literature, Guskey (1986) identified that all major studies of professional development for the preceding 30 years emphasized a lack of effectiveness using one-day workshop models, however these workshops are still a very common approach to teacher training today (Winton et al., 2008). Further, Farkas, Johnson, and Duffett (2003) found that approximately fifty percent of teachers reported that their professional development makes little difference to them as teachers. A meta-analysis of the research on K-12 teacher training supports this finding by indicating that using workshops alone did not change classroom practice (Joyce & Showers, 2002). One problem with these single-shot workshops is that they provide discrete experiences that do not give ongoing support or continual feedback to attain long-term improvement (Mouza, 2002).

In order to shift away from an unsuccessful workshop approach to professional development, major components of what constitutes effective professional development have been identified. Teacher collaboration and interaction are essential elements to high quality professional development (Winton et al., 2008). Teachers report favoring time to collaborate with other teachers in their professional development (Sunderman, Tracey, Kim, & Orfield, 2004). Supporting this teacher desire, models of professional development involving coaching, consultation, mentoring, communities of practice, and other forms of peer study groups have been demonstrated as promising strategies for professional development (Winton, 2006).

Further, high quality professional development must be customized to focus on individual

needs of teachers, while also allowing for active participation and sharing among colleagues

(Buenaflor, 2009). Specialized training cannot be a one-size-fits-all model; teachers need

individualized professional development plans (Albrecht & Engel, 2007). Professional

development needs to provide teachers with opportunities to identify measureable goals and

build concrete action plans from which they can take action to improve their practice

(McLaughlin & Zarrow, 2001) within the context of their individual classrooms (Buysse et al.,

2009; Wilson & Berne, 1999). Further, according to a research syntheses on adult learning

strategies and teacher development, effective professional development should be designed with

the following criteria in mind: rigorous, ongoing, active learning experiences; grounded in

specific practice; multiple opportunities for learner self-assessment using a set of standards,

criteria or expert feedback; and aligned with instructional goals, standards and curriculum

materials (NPDCI, 2008; Trivette, 2005; Trivette, Dunst, Hamby, & O'Herin, 2009; Darling-

Hammond, Wei, Andree, Richardson, & Orphanos, 2009).

Professional growth is magnified when professional opportunities for collaborative work

are given (Lave & Wenger, 1991; Gallagher & Ford, 2002) and when the learning is experienced

in the context in which it will be needed (Brown, Collins, & Duguid, 1989). While the meta-

analysis of professional development in K-12 education discussed earlier revealed that

workshops did not change classroom practice, it did find that when workshops were combined

with classroom coaching, teachers were found to be using their new skills (Joyce & Showers,

2002). Several national projects, such as MyTeaching Partner (Pianta, 2006) and the Pyramid

Model (TACSEI, 2009), are currently using workshops combined with coaching to improve

teacher practice. While multiple forums for providing teachers with feedback from a coach have

been used, in person individualized coaching seems to be most effective (Snyder, Hemmeter, Sandall, & McLean, 2009). This supports the need for on-site, intensive professional development with teachers in their individual contexts. Specifically, effective, high quality professional development needs to be grounded in classroom practices and focus directly on specific skills that teachers can acquire which can be linked to improvements in their classrooms (Haskins & Loeb, 2007; Hill, 2007; Pianta, 2005).

Factors impacting effective teacher change.

In order to provide effective professional development to teachers, researchers must first understand how adults learn. According to Malcolm Knowles' (1990) model of human learning there are several key dimensions for working with adult learners. Adult learners are: self-directed, wanting to take responsibility for and make choices about their learning; knowledgeable, bringing a wealth of life experiences to learning situations that can support and enhance any learning situation; and motivated through seeing an immediate, real-world use for their learning. Further, they learn best when they understand that gaining new knowledge and skills will help them function more efficiently. Overall, many adults learn best by doing— observing, planning, implementing, evaluating, and trying again (Koralek, 2007). Specifically, "teachers are learning and growing professionally when they: think out loud about their ideas and hypotheses, examine what works and what does not work, explore and articulate what they would like to try in their classroom and why, and identify and construct strategies that will work for them" (Albrecht & Engel, 2007, p. 22). Teachers learn just like children, by studying, doing, and reflecting; where new learning is impacted by previous experience, prior knowledge and current beliefs (Darling-Hammond, 2006). In working to change behavior individuals learn 5 percent from what they hear in a lecture, 50 percent from what they learn in group discussions,

75 percent of what they learn if they practice it, and 90 percent if they teach someone else what they learned (NTL Institute for Applied Behavioral Science, 2006). While on the surface level it is understood that the more active an individual is in learning new material the more likely she is to remember and implement this knowledge, most professional development is not designed to support this active type of learning. These statistics serve as the base for an "experiential approach" to professional development where participants learn and engage in the practices they will use in their own teaching (Kolb, 1984).

In order for teachers to truly change their practices they must have precise understandings, attitudes, and actions (Hashweh, 2003). Specifically, teachers change when they "are internally motivated to learn, become aware of their specific practices and ideas and take time to critically examine them, resolve discrepancies between prior ideas and practices and new ones; participate in genuine decision making; and do all of this in a social climate characterized by collaboration, trust, reflection, and deliberation" (Hashweh, 2003, p. 421). The teacher herself controls this internal process, which is strengthened through her participation in a collaborative setting. Understanding how teachers can change their behaviors is important as teacher behavior has a major impact on children's development (Shonkoff & Phillips, 2000).

Community of practice model.

These essential elements (collaborative, interactive, context specific experiences) that lead to teacher change, also lay the foundation for meaningful professional development and can be mobilized using a community of practice model for professional training. Communities of practice (CoP) are "groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis (Wenger, McDermott & Snyder, 2002, p. 4). For a group to be a CoP the group must have

three characteristics: a community, a domain or interest, and a focus on practice (Wenger et al., 2002). For the purposes of this study the CoP will be formed between school pre-k teaching teams and university researchers, all sharing the common interest of improving teacher-child relationships and interactions within the context of the pre-k classroom.

Communities of practice can serve as a powerful tool for improving quality and performance in educational settings, with an enormous potential to support and sustain quality care and education within a community and, in fact, are doing so (Helm, 2007). This section describes the key elements of a CoP model, including: collaborative relationships, opportunities for teacher inquiry, continuity of experience, and outside resources for support, that must be in place in order to create high quality professional development experiences for teachers using this CoP model.

Importance of collaborative relationships.

In a CoP, members develop relationships and learn from one another through sharing knowledge and engaging in joint activities and discussions (Helm, 2007). Through these relationships, the focal "interest transcends job title, level of education or formal training" (Helm, 2007, p. 13). Within these relationships CoP members share their practices, resources, experiences, tools, problem solving strategies and stories (Helm, 2007). Through these shared experiences, "particular kinds of knowledge and expertise become part of individuals' identities and places in the community" (Eckert, Goldman, & Wenger, 1993, p. 3).

Rogoff (1995) states that when individuals participate together, both an individual's development occurs and community practices transform. Therefore, learning occurs through participation in an activity and is mediated by the various perspectives of the co-participants. This results in the learning occurring by the community, and those participating in the

community (Tsui, Edwards, & Lopez-Real, 2009). Using this perspective, participation in a community is at the core of learning. Therefore a CoP, where an individual learns through engaging in and contributing to the practice of a community (Lave & Wenger, 1991), is a cornerstone for teacher inquiry and professional development. When teachers come together they can share their experiences and insights allowing for new understandings to be formed. From this teachers move forward with new knowledge and processes for learning in similar subsequent experiences, therefore CoP participants leave a little bit changed for the next time they step into their classroom.

Further, when individuals come together "local knowledge" is constructed. The term "local knowledge" is used by Cockran-Smith and Lytle (1993) "to signal both a way of knowing about teaching and what teachers and communities come to know when they build knowledge collaboratively" (p. 45). This concept focuses in on the process of constructing knowledge as expressed and integrated in the local contexts (Cockran-Smith & Lytle, 2001). Through developing "local knowledge" teachers link their inquiry to their immediate context. In fact many classrooms in early childhood have two co-teachers, where teachers can develop this knowledge together, "a paring of this sort brings into play interdependence and reciprocity of thought and actions; and the choices made, which result from agreements, disagreements, and negotiations, become public acts" (Project Zero, 2001, p. 56).

Opportunities for teacher inquiry.

In a community of practice teachers engage in teacher inquiry. Teacher inquiry involves teachers who "pose problems, identify discrepancies between theories and practices, challenge common routines, draw on the work of others for generative frameworks, and attempt to make visible much of that which is taken for granted about teaching and learning" (Cochran-Smith &

Lytle, 2001, p. 53). Teacher inquiry develops very differently across settings; it may take on

the role of a long term, multiple method action research project or be a simple gathering of

teachers to discuss how they might change their practices to enhance children's experiences and

outcomes (Trachtman, 2007). The importance is in the idea that teachers use tools, that are

created to enhance their knowledge and understandings, and their context to make teaching and

learning visible through a cycle of critical thinking, decision making, and taking action.

Through engaging in teacher inquiry and critical thinking, teachers are not only

impacting their children's development and learning, but also developing themselves. Rogoff

(1995) views human development as an individual's transformation through participation in

cultural activities, rather than a process of acquisition. To define this transformation Rogoff

(1995) uses the term "participatory appropriation," defined as a "process by which individuals

transform their understanding of and responsibility for activities through their own participation"

(p. 150). Through this transformative process of participation in an activity, individuals are more

equipped to engage in comparable activities in the future (Rogoff, 1995).

Teacher inquiry relies on the use of tools to help make teaching and learning visible

(Moran & Tegano, 2005). When an individual uses tools, she is no longer responding solely to

the environment, but her behavior is also mediated by her own tools (Crain, 2005). Tools extend

human abilities by enabling actions that people could not do without these tools (Bodrova &

Leong, 2007). Teacher inquiry can be supported through the tools of language, physical tools,

and shared activity within a collective zone of proximal development. Through the construction

of "local knowledge" (Cochran-Smith & Lytle, 1993) and participation in CoP teachers' inquiry

experiences and critical thinking skills are enhanced, as through participation teachers are

enabled and learn the process of how one comes to know. Through using these tools teachers are

able to carefully consider their practices, think critically, and make decisions (Moran & Tegano, 2005). Combined with continuity over time, these are critical aspects of professional development as they provide the material for teacher examination in order to support teacher reflection and develop new understandings.

Continuity of experience.

In order for professional development to be effective and of high quality it must happen over time (Fixsen et al., 2005; Winton et al., 2008). Learning is not a time-bound activity, but rather a process of ongoing practice (Wenger, 1998). In order for one to learn from experience there must be an element of continuity (Cuffaro, 1995). Dewey (1963) suggested that different situations need one another as knowledge and skill gained in one experience have implications for dealing effectively with situations that follow. This concept can be connected to Rogoff's (1995) term "participatory appropriation," as there is the same link between interaction and continuity. When teachers can commit to working together over time, trust and support build in the CoP, allowing for deep self-revelation, discussion of sensitive issues, and opportunities to work through complicated issues over time (Cockran-Smith & Lytle, 2001).

Outside resources for support.

Teachers must be supported everyday in their pursuit of personal success, just as students are supported in their pursuit of academic success (Buenaflor, 2009). Therefore, another important aspect of professional development is the role of the facilitator, whom is crucial in successful professional development programs. Specifically the facilitator must be able to facilitate a community of learners, value inquiry, and incorporate active learning all while working toward outcomes to enhance teaching practice (Buenaflor, 2009). Teachers need specific outside support to meet their individual teaching needs, assist them in putting into

practice new teaching strategies, and build effective learning communities. Communities of practice that bring together colleagues who share the same ideas and support by non-judgmental feedback deepen the learning process for each other.

Research reveals that facilitating professional development through the use of coaching, one way in which support is conceptualized, has been effective. For example, Head Start teachers who received weekly coaching visits on implementing behavior management strategies from mental health consultants, had an overall higher positive classroom climate, teacher sensitivity, and behavior management (Raver et al., 2008). These classrooms also had an improved overall emotional climate, where teachers were more enthusiastic, more responsive, and less emotionally negative to the children after participating in a six-month intervention, when compared to the control group (Raver et al., 2008). Coaching models of professional development have also returned impressive results in helping teachers learn specific skills and teaching strategies for academic content. Using a six-week coaching model including a brief meeting to introduce a skill, classroom observations, and follow-up discussion using data collected during observation, preschool teachers improved their use of literacy teaching strategies (Hsieh, Hemmeter, McCollum, & Ostrosky, 2009). These studies support teacher change through professional development that incorporates collaboration, a CoP facilitator, and a shared commitment to improved classroom and child outcomes.

This study responded to the call by Saracho and Spodek (2006) suggesting that future studies need to consider factors that scaffold teachers' knowledge and enable them to engage in effective teaching practices with young children. In order for professional development to be a powerful tool that enables teachers to grow in their practice, it must be tailored to individual teacher need, involve active participation, supported by colleagues and administration, and

ongoing (Buenaflor, 2009). Teachers need skills beyond college to meet diverse population needs, therefore professional development must build on current teacher knowledge and experience and offer teachers choices about what they will learn in professional development (Darling-Hammond, 2006; Buenaflor, 2009). It is easy to go to a professional development workshop and leave with strong intentions of implementing the new strategies learned, however unless teachers form collaborative relationships, plan how to use these new skills, and reflect with colleagues on the skills and knowledge gained, the professional development will be lost (Bransford, Brown, & Cocking, 1999).

This study focused on professional development for pre-kindergarten teachers working with disadvantaged students, specifically in the area of improving teacher-child relationships and interaction, as research has suggested that this is a major need (Becker & Luthar, 2002). Using a CoP model this university-school partnership used context specific classroom data and research to work alongside pre-k teachers to produce long-term change (Helm, 2007).

Present Study

As described in the discussion above, pre-kindergarten is an important context for preparing children for their transition into formal school. Of particular importance during this transitional year is the development of children's social emotional skills through meaningful teacher-child interactions, as the quality, quantity, type, and context of caregiver-child interactions have been found to substantially influence children's development and learning (Alcock, 2007; Frank, Stolarski, & Scher, 2006). However, little is known about the quantity and quality of teacher-child interactions that individual children experience on a daily basis in pre-kindergarten. Following Pianta's (2006) lead in calling for an organized way to explore teacher-child dynamics, this study used a unique methodological framework to study children's actual

experiences in the pre-k classroom. Using a focal child observation technique this methodology provides a more in-depth description of individual children's experiences, providing insight into how children interact with their teacher, environment, and the interactions between them. After capturing focal child experiences interacting in the pre-kindergarten classroom, this study transformed classroom data to individualized professional development for teachers. Using a community of practice model, this study catered to the unique requests of personalized, meaningful professional learning opportunities for teachers in order to positively influence their interaction practices with the children in their classroom. Therefore, the purpose of this study was two-fold: (1) to conduct a focal child observational assessment in order to provide a framework for studying teacher-child interaction; and (2) use actual classroom data as a meaningful tool for professional learning situated in a collaborative CoP model.

Chapter III: Research Design

A child's first year of school is critical to later school adjustment, as successful entry into school is essential for promoting early school success (NICHD, 2002; Cost, Quality & Child Outcomes, 1995). For many children pre-kindergarten is the first year of formal schooling, and thus, a significant year for positive experiences. The intent of this study was to examine and enhance teacher-child interactions in early childhood classrooms during this vital pre-kindergarten year. Specifically, this pilot study investigated the following research questions: 1) What is the frequency and nature of teacher-child interactions in the target pre-kindergarten classrooms?; 2) What are the ways in which focal child data can be translated into meaningful meditational tools for teachers to reflect on and use to improve their interaction practices?; and 3) How can focal child data be used to enhance teacher-child interactions in state-funded pre-kindergarten settings?

Using a mixed methods research approach this study brought together the following sources for data collection and analysis: context-specific classroom observational data, transcripts from collaborative meetings, teacher reflections, and observational field notes. Guided by this research design, this pilot study explored using focal child data as a tool for teachers to analyze and reflect on their interactions, in order to enhance their daily interactions with the children in their classrooms. This framework shifted away from the more common large group workshop level approaches to professional development and applied an individualized approach to supporting teachers in their daily classroom environment. It was anticipated that knowledge of focal children's interaction experiences would lend insight into the complex dynamics that take place in a state-funded pre-kindergarten classroom between the classroom teachers and approximately 20 children.

This chapter describes the methodological framework and research procedures for this study, which includes: a rationale for the specific research approach, detailed descriptions of the specific methods for data collection and analysis, and a discussion of the ways in which research results were verified to uphold high research standards.

Rationale for a Mixed Methods Framework

In order to examine the complex nature of teacher-child interactions this study used a mixed method design, which involved the collection, analysis, and integration of quantitative and qualitative data in a single study (Hanson, Creswell, Plano Clark, Petska, & Creswell, 2005). Increasingly researchers are using mixed method techniques to expand and deepen the scope of their studies (Sandelowski, 2000). Mixed method research design is used to draw on the strengths and minimize the weaknesses of both quantitative and qualitative research methods in a single study (Johnson & Onwuegbuzie, 2004). A complex human phenomena, such as teacher-child interactions, requires a multipart research design that goes beyond a single method approach (Sandelowski, 2000).

This study unfolded through a combination of data collection and analysis techniques. When studying multifaceted topics, research studies should combine multiple data collection strategies and approaches to allow for corresponding strengths and different weaknesses (Johnson & Onwuegbuzie, 2004). The combination of research techniques also accommodates the increasingly interdisciplinary, complex, and dynamic world of today's research (Johnson & Onwuegbuzie, 2004), specifically in education mixed method design has a strong potential to promote a shared responsibility in the search for attaining accountability for educational quality (Johnson & Onwuegbuzie, 2004).

This study applied a mixed methods design to develop a model for using focal child observational data as a tool for pre-kindergarten teacher professional development. Specifically, a mixed methods approach for the design purpose of expansion (Gaber, 1993) was utilized. Expansion extends the "breadth and range of inquiry" by combining different methods which are individually strong in analyzing specific situations (Graber, 1993). Using both quantitative and qualitative data collection and analysis techniques to address the specified research questions data was collected sequentially and integrated over the second stage of this study.

By using both types of data the study was enriched, as one form of data was complimentary to the other, contributing to the results in ways that the other form did not allow (Brewer & Hunter, 1989; Tashakkori & Teddlie, 1998). Specifically for this study the qualitative data was used to provide context to the quantitative data. Further, the qualitative data provided unique examples and documented the process of teacher growth, while the quantitative data systematically portrayed a representation of children's specific experiences interacting with their classroom teachers. For example, quantitative focal child observations provided a sampling of specific children's experiences at precise intervals during the pre-k day, while qualitative field notes provided specific, rich, descriptive details of on-going teacher-child interaction experiences. Blumer (1977) states that empirical data are viewed as multi-faceted pieces of information "that have to be dug out and established through observation, study, and analysis" (p. 21). When only using a single method, some unique variance may be neglected, especially when working to understand complex human interactions (Lim, 1991; Jick, 1983). Therefore, combining both quantitative and qualitative methods maximizes the ability to bring strengths from both approaches to a single study at the same time (Greene Caracelli, & Graham, 1989; Jick, 1983).

A mixed method design provided several advantages in gaining a better understanding of teacher-child interaction and supporting teachers' professional development, due to the complexity of the many different factors that influence interactions. The first advantage of a multiple method approach for this study was to be able to provide teachers with specific children's experiences using both systematic, descriptive and rich quantitative and qualitative data from observations to enhance teachers' understandings of children's experiences. Additionally, the second benefit was the ability to qualitatively examine teacher-child interaction behaviors over time after using quantitative data to discuss areas for improvement to gain a deeper understanding of these interactions. A third advantage of using mixed methods was that it provided the opportunity to use qualitative teacher process data (e.g. transcripts from CoP meetings, teacher reflections) to inform the direction of analyses of the focal child data to ensure that it was meaningful to the specific teachers and contexts in which it was being studied, while also enhancing the focal child observational tool. By combining the findings from the quantitative and qualitative analyses, the goal of this study was to develop a model for supporting teachers' professional development within the context of their own classrooms.

Data Collection

This study was a small, mixed-methods pilot study to examine the use of focal-child data with practicing pre-kindergarten teachers. Using an adapted version of a naturalistic focal-child observational measure this study developed innovative tools to assist teachers in their interaction practices with pre-kindergarten children. This section describes the process for recruiting participants, followed by a description of the participants and contexts at both West Willows and Lockerly Lane Elementary schools.

Process for participant selection.

Before recruitment began with teachers and children, this study was discussed with the pre-K supervisors in order to gain district support for this research. The two districts' pre-K supervisors formally endorsed this study by writing a letter of support. This letter along with this study's proposal was then reviewed and approved by the Institutional Review Board (IRB) at the University of Tennessee, Knoxville. An additional letter from each of the school principals allowing access to their school facility was obtained prior to beginning this study.

After supervisor and principal permission was granted, voluntary pre-kindergarten teachers and children from two school districts were invited to participate in this study. Classroom teaching teams, which consisted of the lead classroom teacher, assistant teacher, and all other teachers assigned to the participating classroom, made up the teacher participants. In order for a classroom teaching team to participate in this study, the pre-kindergarten classroom had to meet the following criteria: 1) the classroom could not currently be participating in other research projects; 2) at least two pre-kindergarten classrooms had to be available in the school; and 3) permission had to be granted by the school system and school principals for the pre-k teachers to be involved in this study. The districts' pre-k supervisors used these criteria to designate which classroom teaching teams were eligible to participate. From these lists two schools -- each housing two pre-kindergarten classrooms -- were randomly selected. The teachers from the selected classrooms were then invited to participate in the study. The lead researcher met individually with classroom teaching teams (including lead classroom teacher, assistant teacher, and any other teachers assigned to the classroom) to explain the study, answer any questions, and gain informed consent. Using this process three classroom teaching teams consented to participate in this study. If a teaching team that was randomly selected declined the

invitation to participate in the study, the next classroom teaching team on the randomly

selected list was offered an invitation.

Once a teaching team agreed to participate child participants were selected. All children

enrolled in the participating classrooms were invited to participate in this study. Parents were

first notified of the study through a flyer sent home in their child's nightly folder that described

the project. This flyer introduced the study and stated a specific date on which a recruitment

packet for participation in the study would be sent home. Each recruitment packet contained a

brief introduction letter; two copies of the child consent forms, one to keep at home and one to

return to the child's teacher; and a contact phone number for any questions. Interested parents

returned the informed consent forms granting permission for their child to participate in the

study. The return rate for parental consent was 50% in both Ms. Emma's and Ms. Amanda's

classrooms and 42 % in Ms. Lilia's room. Of the children with informed consent, four children

(two males and two females) from each classroom were randomly selected for focal child

observations and those selected became the child participants included in this study. It should be

noted that children with Individual Education Plans (IEPs) were excluded from selection for

focal child observations, however no participants were excluded based upon racial or ethnic

background or religious beliefs.

Participating classrooms, teachers and parents received an incentive for their participation in

this study. Each classroom that participated in the study received $50 in educational classroom

materials and each participating teacher received a $50 gift card to Target. Based on the

participation of the teachers for the duration of the follow-up data collection stage (weekly

meetings, semi-structured field note observations, and reflections), each teacher received a $50

Target gift card in appreciation for their time. Additionally, teachers were given a $5 gift card to

Target for completing the teacher demographic questionnaire (see Appendix A). All participating families received a ten-dollar Wal-Mart gift card as an incentive for the focal child observation and answering a simple five question child demographic questionnaire (see Appendix B). The incentives were provided in two phases. Each classroom was granted the $50 in educational materials for participating in the initial data collection stage of five classroom observations (4 focal child observations and the semi-structured field notes observation). Additionally, at the conclusion of this study each teacher was presented with a $50 gift card and parents with a $10 gift card for their participation.

Participants and setting.

This study took place across two school districts in the southeastern region of the United States and included three pre-kindergarten classrooms. The three participating pre-kindergarten classrooms were located in two different elementary schools (West Willows Elementary and Lockerly Lane Elementary). Between these two sites a total of eight teachers and twelve children participated in this study. All participant children were between 55-65 months of age and all 12 children qualified for the pre-k program based on income. All participating schools, teachers and children are referred to by pseudonyms to ensure confidentiality.

West Willows Elementary school.

Two pre-kindergarten classrooms at West Willows Elementary School participated in this study. Located in a rural area, West Willows Elementary is one of fifty elementary schools in its district. During the 2009-2010 academic year West Willows Elementary served 524 pre-kindergarten through fifth grade children, and specifically served 40 of the enrolled 1,476 pre-kindergarten children in the district. The school's student body's ethnic composition was 89% White, 7.2% African American, 3.4 % Hispanic, and less than one percent of the children were

Asian/Pacific Islander or Native American/Alaskan. Two-thirds, 66.8%, of the enrolled

children at West Willows Elementary were considered economically disadvantaged, in a district

where the total percentage of students considered economically disadvantaged was 42.8% for the

2009-2010 school year. Additionally, the 2009 State Report Card reported that 50.8% of the

student population was female, while 49.2% were male.

West Willows Elementary School had two state-funded pre-kindergarten classrooms

operating daily from 7:45 am until 1:15 pm at the time of this study. All children in both of these

classrooms qualified for the pre-k program based on income. From each of these two classrooms

the lead teacher, assistant teacher and four children (two boys and two girls) participated in the

study. Additionally, a special education teacher who split her time between these two classrooms

participated. Each of the two pre-k classrooms at West Willows had a lead teacher and an

assistant teacher, and shared one special education teacher and two special education teaching

assistants between the two classrooms. This resulted in three teachers always being in the

classroom at a time and an additional fourth teacher joined the teaching team for half of the

week. Each classroom had 20 children enrolled and two children in each classroom had

Individual Education Plans for identified disabilities beyond speech and language. The teacher-

child ratio was approximately 1:7 or 1:5 depending on the day of the week.

Five of the seven member teaching team in the two pre-k classrooms at West Willows

Elementary School participated in this project. The two special education teaching assistants had

additional after school obligations that prevented them from taking part in this study. The

participating teaching teams consisted of Ms. Emma, the lead teacher, and Ms. Marcie, the

assistant teacher in classroom A, and Ms. Amanda, lead teacher, and Ms. Jayna, assistant

teacher, in classroom B. An additional participant was Ms. Allyson, a special education teacher,

who rotated between the two classrooms. Four of the participating teachers held teaching licenses at the time of this study, while one teacher, Ms. Marcie, was in the process of working towards her Master's degree in Elementary Education and gaining her kindergarten through 6th grade teacher certification. Table C1 outlines each teacher's demographic characteristics and Table C2 outlines focal children's demographic characteristics. It should be noted that all participating children were typically developing and at the time of observation did not have an Individualized Education Plan (IEP).

Lockerly Lane Elementary school.

Lockerly Lane Elementary School was the second location for this study. As one of eight schools in a district serving 4,387 students, Lockerly Lane Elementary is unique as it served only three- and four-year-old children. The ethnic make-up of the students enrolled in this system during the academic year of this study was: 75.2% White, 15.3% African American, 5.7% Hispanic, 3.6% Asian/Pacific Islander, and less than 1% Native American/Alaskan. Overall, 41.7% of the student population was considered economically disadvantages, 24.8 % were students with disabilities, and 3.2% of the students had limited English proficiency, according to the 2009 State Report Card.

Lockerly Lane Elementary School had a more diverse student population than the district at the time of this study: 62.9% White, 19.1% African American, 16.9% Hispanic, and 1.1% Asian/ Pacific Islander. The student body was made up of 43.8% female students and 56.2% male students who all qualified for the program based on identified risk factors for school success. One pre-kindergarten classroom from Lockerly Lane Elementary participated in this study. This classroom's participants included a three member teaching team and four children (two boys and two girls). Demographic information for the teacher participants is provided in

Table C1 and the child participants in Table C2. At the time of the observations all four of the

participating children were typically developing and did not have an Individualized Education

Plan (IEP).

Lockerly Lane Elementary served 225 three- and four-year-old preschool children across

13 classrooms during the 2009-2010 school year. Through funding by Head Start, Title I, IDEA-

B (Special Education) and state-funded preschool programming Lockerly Lane provided

comprehensive and full inclusion care for children with risk factors that may impact their success

in school. Each of the pre-k classrooms at Lockerly Lane had approximately 18 children

enrolled, a lead teacher, an assistant teacher, and a shared teaching assistant who was paid part-

time and was shared between two classrooms. This resulted in two teachers always being in the

classroom during the day with an additional third teacher for half of the week. Here the pre-

kindergarten day operated from 8:15 am until 2:00 pm and provided transportation for the

enrolled children to and from school. The observed classroom had 18 children on the role,

typically giving them a 1:9 teacher-child ratio or 1:6 teacher-child ratio with the additional

teacher support. All three members of the participating classrooms' teaching team participated in

this study. The teaching team in this classroom consisted of Ms. Lilia, Ms. McKenzie, and Ms.

Lyn. It should be noted that Ms. Lyn was not present in the classroom during the classroom

observations, however she participated in the CoP meetings.

Procedures.

Classroom data was collected from the perspective of the teachers, focal children, and the

lead researcher in order to capture teacher-child interactions. Data collection occurred in two

stages: (1) an initial data collection stage where five observations (four focal-child observations

and one classroom observation using semi-structured field notes) were conducted in each of the

participating classrooms, and (2) a follow-up data collection stage where teachers participated in weekly community of practice meetings (CoP), completed weekly reflections, filled out a demographic teacher questionnaire, and the lead researcher conducted weekly observations using semi-structured field notes. Stage one of data collection lasted approximately three weeks, while stage two lasted five weeks. The sequence of data collection and the types of data presented at each CoP meeting are displayed in Table C3. Specific methods for each type of data collection are presented below.

Observations.

Focal child observational checklist.

Naturalistic focal-child observations were conducted with participating children. Focal children were observed during the children's typical pre-kindergarten day. During the initial data collection stage, one data collector observed each focal child while he or she engaged in the daily classroom routine. The observer did not interact with the child and stood away from the child while the observation was taking place, attempting not to distract the child from his or her normal behavior. These observations were taken using a focal child sampling technique, which involved observing the social ecology of a focal child in his or her pre-kindergarten environment. Specifically, this focal child technique observed and recorded the focal child's behaviors, teachers' behaviors, and peer behaviors directed toward the child onto a checklist.

Four focal child observations (two randomly selected girls and two randomly selected boys) were conducted in each of the participating classrooms, for a total of twelve focal child observations. During the focal child observations the teachers were blind to the identity of the focal children being observed, in order to ensure that a child's participation in the study did not affect his or her treatment-positive or negative-during the course of this study. Each focal child

was observed over the span of one full pre-kindergarten day and all focal child time in the classroom was coded.

A few specific times were omitted from the observations, including: times when the child used the bathroom space, when the class went outdoors to play, meal times in the cafeteria, or anytime the teacher informed the observer that she did not want a specific situation recorded. Each observation was customized to the daily routine of the classroom, with observers planning the observation and rest periods based on the classroom's daily schedule. Observer rest periods occurred during classroom outdoor play, breakfast and lunch times in the cafeteria, or any time the class went to an activity outside of their classroom that was not lead by a member of the classroom teaching team (e.g., physical education, music). Using an "on-the-mark" time sampling technique, behaviors were noted on a checklist at 30-second intervals, with a 20-second observation period and a 10-second record period. Target behaviors were recorded precisely at the 20-second mark of each 30-second time segment. Data collectors used pocket-sized digital players with ear buds that announced observe and record segments. At the moment that the digital player announced 'record,' the observer captured focal child behavior and behaviors directed toward the focal child at that moment and these behaviors were recorded onto the behavior checklist, for the duration of the paper this moment is referred to as an observation point.

The checklist captured the social ecology of a child by collecting data on: child states, child activity and engagement, caregiving and social behavior directed toward the child, and contextual codes for these behaviors (see Code Definitions, Appendix D and Observational Checklist, Figure D1). These behavioral codes were originally adapted from Belsky, Gilstrap, and Rovine (1984) and have been used in many different social and ethnic contexts around the

world (e.g., Ahnert, Ricket, & Lamb, 2000; Fouts, Hewlett, & Lamb, 2005; Fouts,

Roopnarine, & Lamb, 2007; Leyendecker, Lamb, Schölmerich, & Fricke, 1997). Further, this

method has been used with toddlers in child care to better understand teacher-child interactions

(Hallam et al., 2009). It is from this study that the current adaptations of the focal child

observational checklist were made to adjust for the unique nature of preschoolers and the pre-k

classroom context. For this study caregiver interaction behaviors were adapted from existing

codes with an emphasis on instructional teacher behaviors. These adaptations were based on the

work of Powell and colleagues (2008), Ritchie and colleagues (2002), Kontos and Keyes (1999),

and Stuhlman and Pianta (2002). For the duration of this paper the term codes will be used to

refer to the specific behaviors coded onto the checklist.

The lead researcher and one other University of Tennessee Child and Family Studies

graduate student conducted all observations. All observers had previously been trained to

reliability on a similar coding system through their work on the Daily Experiences of Infants and

Toddlers project. For this study using live observations in a state funded pre-kindergarten

classroom for training, each observer obtained 90% inter-observer reliability on each code in the

behavioral checklist before conducting observations. In each classroom, four focal child

observations took place over the course of two weeks. The lead researcher conducted eight of the

focal child observations, while a Child and Family Studies graduate student collected the

remaining four. The focal child observations in the two classrooms at West Willows took place

concurrently, as data collection occurred by both the lead researcher and additional graduate

student over the same two week period. Due to the short time span between training on the

coding system and actual data collection and the limited time in the filed collecting data, inter-

observer reliability was not conducted in the field.

Semi-structured field notes.

Semi-structured field notes were used to record observation notes in both stages of this study. For both stages observations were taken through qualitative notes, which were guided by the semi-structured field note format (see Semi-Structured Field Notes, Appendix E). This format focused the observer's attention on both focal children's and focal teachers' experiences and interactions in the classroom, as well as the general interactions taking place between the teachers and children.

The length of observation and the individuals observed was based on the stage of data collection. Once in each classroom during the first stage of data collection, an observation using semi-structured field notes was conducted. The lead researcher conducted this observation during a typical pre-kindergarten day. Like focal child observations, this observation spanned one pre-kindergarten day, omitting times when the child used the bathroom space, when the class went outdoors to play or to meals in the cafeteria, or anytime the teacher informed the observer that she did not want a specific situation recorded. Using the routines outlined in the classroom's daily schedule, the observer rotated between each member of the teaching team, making sure to capture each of these members' interactions during each routine of the day (e.g., group time, free play, small group, transitions). After each participating teacher was observed in each routine of the day, general teacher-child interactions were recorded.

During the second data collection stage, approximately five-weeks, weekly observations were conducted in each of the participating classrooms by the lead researcher to observe teacher-child interactions. This observation lasted between one and two hours, and was conducted at a time designated by the classroom teaching team. During this observation the lead researcher used the semi-structured field note format to capture her observations of teacher-child interactions.

Particular attention was paid to the types of interaction that the teaching team was currently

working to improve. Specifically, the field notes captured general teacher interactions, as well as

the four focal children's interactions and experiences. The teachers were blind to the children

being observed for all focal child observations in order to minimize the impact of data collection

on teacher-child interactions.

Community of practice meetings.

During the second stage of this study, the lead researcher met weekly with classroom

teaching teams, bringing together the two teams from West Willows Elementary School and

meeting individually with the teaching team from Lockerly Lane Elementary. These community

of practice (CoP) meetings used data gathered from the focal child observations, semi-structured

field notes, and personal reflections to better understand the teacher-child interactions taking

place in each classroom. Using these data the lead researcher created interaction descriptions and

graphs that were used to facilitate the focus of these CoP meetings. It is important to note that the

data presented in these meetings could not be traced back to an individual child, as only

identification numbers were used in the meetings to refer to the children. Additionally, each

member of the CoP signed a pledge of confidentiality stating that the information shared in these

meetings was confidential.

A necessary part of teaching is having an opportunity to discuss your teaching practices and

classroom experiences. Therefore, the intent of the CoP meetings was to provide teachers with

formal opportunities for: inquiry (where teachers use critical thinking skills and seek answers to

learn), reflection, and sharing, each of which is an essential strategy for basing professional

development programs (Linn, 2006). The expectation was that through these CoP meetings,

teachers in this collaborative environment would use data from their classrooms to raise

questions about their teaching practice and develop new understandings from the various perspectives and expertise of their peers. During each CoP meeting new data was presented to the teachers for review and discussion stimulation. As discussing classroom experiences is an essential element of teaching, these CoP meetings created a formal and intentional environment for these conversations to take place that also protected the confidentiality of the members involved. There were four weekly meetings with teacher participants. Each meeting occurred at the schools in which the classrooms were located at the end of the preschool school day and lasted approximately one hour.

The CoP outline and teacher materials were designed to scaffold the CoP members' thinking, reflection, and the creation of teacher goals with regard to teacher-child interactions. Teaching teams and/or individual teachers developed specific goals using the presented quantitative data from classroom observations. Data from four focal child observations were used to create teacher-child interaction variables for each of the participating classrooms. These variables served as the initial tool for making teacher practice goals for each of the participating teaching teams. Once a goal was developed, team or individual teachers acted on their goals within their individual classroom contexts. The lead researcher used these goals to guide her weekly classroom observations.

Reflection entries.

Reflection is an important element of conducting research, as it serves a critical role of "potentially facilitating understanding of both the phenomenon under study and the research process itself" (Watt, 2007, p. 82). Reflective notes can "convert thought into a form that allows examination and further manipulation" (Maxwell, 1996, p.11). During the second data collection stage of this study, teachers were asked to reflect on their interaction experiences. These

reflections took place in two formats. The first format included a weekly reflection question posed to all participating teachers, based on the lead researcher's overall observations of teacher-child interactions in each of the classrooms. Each week the lead researcher emailed teachers a reflection question and teachers had the week to respond to the question. To ensure that reflection data could be discussed at CoP meetings, each posed question had a deadline of the day before each scheduled CoP meeting. These more formal reflections allowed for the research team to compare experiences and emerging themes across all participants. The second format was for the teachers to write their ongoing reflections about their interaction experiences with children in their class. Teachers were provided with a small spiral-bound notebook to use for these reflections. Teachers were asked to reflect anytime they had interactions that were particularly interesting, challenging, and/or caused them to reflect or ask questions about their practice. The plan was for the lead researcher to collect these reflection entries on a weekly basis, making copies of the notebook pages, however teachers preferred to email all of their reflective thoughts with the posed weekly reflection questions. The reflective entries were used to gain a deeper understanding of what teachers knew about teacher-child interactions, how they thought they came to know it, and how this knowledge impacted their classroom practices (Watt, 2007).

The lead researcher also wrote journal entries throughout this study. As suggested by Lincoln and Guba (1985) three different types of entries were made to capture various aspects of the study. The first type of entry captured the *daily schedule and logistics* of the study and entries were recorded for each day of data collection. A second type of entry, a personal diary, was written to capture the lead researcher's experiences over the course of the study, providing the lead researcher with the opportunity for "reflection upon what is happening in terms of one's own values and interests, and for speculation about growing insights" (Lincoln & Guba, 1985, p.

327). Finally, a *methodological log* made up the third type of journal entries, where methodological decisions and accompanying rationales were recorded on an as needed basis. Data from these journal entries were used to support the lead researcher's role as a facilitator of the CoP and served as one record for how the study progressed.

Data Analysis Overview

Due to the multiple types of data that were collected over the duration of this pilot study, data analysis took place in several different forms. This section on data analysis processes will be discussed in terms of quantitative and qualitative data.

Quantitative analysis.

All of the data collected from the focal-child observational checklist was in the form of quantitative data. This data was analyzed for children's experiences and teacher-child interactions and used as a tool to stimulate teacher reflection and practice changes.

Data reduction.

The focal child behavioral checklist for this study included behaviors on: child states, child engagement and activity, caregiving and social behavior directed toward the child, juvenile behavior directed toward the child, and contextual codes for these behaviors. For this paper only the caregiver and peer interaction behaviors and context codes were analyzed. These behaviors included: teacher behaviors- vocalize, scaffold, engage, didactic, give direction, modify, scold, affection, soothe, assist, and respond; peer behaviors- vocalize, conflict, smile/laugh, and response; and context codes- free choice, group time, transition, work time, meal/snack, solitary, small group, large group, and whole group. Operational definitions of these codes and the combined interaction variables are provided in Appendix D.

Focal child data for this study included data collected over the duration of the pre-kindergarten day, excluding times when the child used the bathroom space, when the class went outdoors to play, meal times in the cafeteria, or anytime the teacher informed the observer that she did not want a specific situation recorded. Due to classroom differences in daily schedules, individual children had variations in the total time observed. To account for these differences, prior to analysis all behavioral codes were prorated to the total amount of observation points for which each child was observed. Across the three classrooms observational data ranged from 2 hours and 38 minutes to 3 hours and 33 minutes, or 317 to 427 observation points per child.

Measuring interaction.

From this observational data, using the statistical software program SPSS, interaction variables were created in order to measure teacher interaction with focal children. Ten teacher behaviors, in both the physical and non-physical form, were used to create variables to enhance teacher understanding of interactions taking place in their classrooms: teacher-scaffold, engage, didactic, give direction, modify, scold, assist, respond, affection and soothe. Additionally, teacher vocalizations (to a focal child and to a group the focal child was participating in) and teacher response to focal child were included in this composite interaction variable. At times these behaviors were summed across individual teachers, combined into an overall composite, or reported individually in response to teacher questions and needs. Therefore, for each child each of these behaviors with specific teachers were summed across each observation point of the observation time, which provided a compilation of the number of 30-second units in which each behavior occurred; as well as an overall compilation of these behaviors with all teachers and with each individual teacher. In computing the composite variable, for each observation point the individual interaction behaviors were not always mutually exclusive and may have occurred

simultaneously. For example, one interaction involved a teacher sitting next to a child reading a story, while also patting the child's shoulder. This moment of interaction would be coded as teacher vocalize, teacher engage non-physical, and teacher affection physical. However, when creating the composite interaction variable, if multiple codes occurred during the same observation point, these behaviors were combined to only count once toward the teacher-child interaction variable. This process prevented overrepresentation of the actual frequency of teacher-child interaction.

The frequencies of individual and combined teacher behaviors and teacher-child interaction were examined as a proportion of the focal child's pre-k day in the classroom. Frequencies were used to provide a description of the teacher behaviors that made up teacher-child interactions. When examining frequency of behaviors, a percentage represents the amount of observation points a behavior occurred during the entire observation when the child was available. For example, Brice encountered 37 intervals of teacher engagement over the course of his 317 observed intervals, therefore the frequency of teacher engagement with Brice would be 11.67% of his observed time.

Beyond individual descriptions of specific teacher behaviors or combined composite interactions, profiles were also analyzed to include the context for which the interactions were taking place. For example, data was organized across classroom context (e.g., free choice, group time, work time, snack/meal and transitions) and social configuration (e.g., large group, small group, one-on-one, and whole group) in order to analyze specific interaction patterns and behaviors. The interaction data were then computed into bar charts, pie charts, and tables to stimulate conversation in community of practice meetings and to discuss the types of interactions taking place in each classroom. Using these interaction variables, teacher behaviors, and the

conversations that stemmed from this data, teachers reflected on and set goals for their interactions with children. These goals were created for overall teacher-child interaction improvement with regard to the entire classroom and did not identify any specific children.

Qualitative analysis.

Qualitative observation notes, from the semi-structured field notes, as well as transcribed data from teacher and lead researcher reflections and CoP meetings were used in this study to provide in-depth contextual data on teacher-child interactions taking place in the classrooms. Further, this data allowed the research team to study teacher growth across time, as well as when a teacher was teaching, meeting, or reflecting on her interaction experiences.

Semi-structured observational notes.

Initially, semi-structured observational notes were aligned with the quantitative interaction data in order to provide verbal and social content to describe the nature of teacher-child interactions. While the interactions were not directly identified in the quantitative data, a general sense of the types of interactions was evident from the qualitative notes. The data collected through semi-structured field notes was analyzed for teacher-child interaction patterns, adding depth and content to the quantitative time sampling interaction data. Scenarios from these observations were brought back to the classroom teachers in community of practice meetings as a tool for learning and reflection. No identifying child information was presented that would allow for this data to be connected to a specific child. The qualitative data also served as a record of each classroom's rhythm of the day, classroom context and climate, and changes in teacher-child interactions over the course of the study, which informed the decisions of the lead researcher as she worked with specific classroom teachers.

Reflections and CoP meetings.

All teacher and lead researcher journal entries and audio-recorded CoP meeting transcriptions were typed verbatim into a word processing program. The teacher reflections allowed the research team to compare experiences and emerging themes across all participants, while the meeting transcriptions captured the discussions, interactions, and professional development process of the teachers and lead researcher. This data also provided a record of the teachers' professional development process and future directions for growth. The lead researcher used this data to raise questions to enhance the level of conversation in the CoP meetings.

Data reduction.

To analyze the qualitative data codes focused on teacher-child interactions were created to label and assign meaning to the data collected over the course of the study. *Chunks*, words, phrases, sentences, or paragraphs of data, were coded for meaning as each chunk related to important elements of this study (Miles & Huberman, 1994). Data was coded starting with the transcribed CoP meetings, followed by classroom observations, teacher reflections, and researcher journals. To begin, a "provisional start list" (Miles & Huberman, 1994) of potential codes was created which focused on teacher-child interactions and the specific research questions for this study. As suggested by Strauss (1987) the initial CoP meeting from each of the two sites was read prior to creating the provisional codes in order to be sensitized to the differences between the two groups. This list of codes was used to begin coding the CoP meetings, however codes were added and revised as needed throughout the coding process to accommodate for "local factors" (Miles & Huberman, 1994). The qualitative data was revisited several times for "filling in" and code "extension" (Lincoln & Guba, 1985) as needed to accurately capture incidents of teacher-child interaction and teachers' use of children's

experiences for professional growth. This approach is slightly less inductive then the common grounded-theory method of analysis developed by Glaser and Strauss (1967), as grounded theory allows all of the codes to emerge solely from the data. However, this process does allow for "emic" level codes to emerge as participants' experiences constantly clarified and expanded the list of codes. After initial review and coding of all the qualitative data, the codes and definitions were finalized. All data was then revisited and recoded to accommodate for the finalized coding list.

Fundamental Considerations

Procedures to protect human subjects.

Measures were taken to protect participants against any risks due to their participation in this research project. This study used naturalistic observation to observe the children participant's typical activity in his or her classroom. Therefore, this study did not pose additional risk to the children than what they would typically experience in their daily classroom setting. The intervention of this study was group meetings between classroom teachers and the lead researcher. These meetings included the co-construction of plans to assist the teachers in thinking about their everyday interactions with the children in their classrooms. Teacher conversations around interactions with children are common in school environments. However, the proposed study created formal opportunities for these conversations and documentation of the teachers' experiences over the course of the project.

The lead researcher took precautions to ensure the confidentiality of participants. All participants and schools were assigned pseudonyms for identification and discussion purposes. Additionally, children without parental consent were only referred to as a juvenile in the classroom. The names of observed focal children were kept confidential and their identities were

not confirmed or denied if a teacher attempted to guess the children who were observed over the course of the study. Any identifying information in teacher reflections or meeting transcripts was removed at the time of data processing. All research team members were required to complete the NIH human participants ethics training through the NIH website and were required to pledge confidentiality. Further, each member participating in the community of practice signed a pledge of confidentiality to increase the likelihood that information presented in these meetings would be kept confidential. This research project followed the standards set by the University of Tennessee IRB.

Standards of verification.

Steps were taken to uphold research rigor and trustworthiness of the data over the course of this study. Initially, this was done through the collection of multiple forms of data, triangulation, as multiple sources of data need to be collected in order to provide an understanding of the specific context being studied (Creswell, 2007). Triangulation is the use of multiple methods, with counteracting biases and limitations, in a study of the same phenomenon in order to strengthen the validity of inquiry results (Greene et al., 1989). Anfara, Brown, and Mangione (2002) state that triangulation is "a strategy employed to improve the credibility, dependability, and 'comfirmability' of the research" (p. 30). Triangulation was used in this study to both help eliminate researcher bias (Brantlinger, Jimenez, Klingner, Pugach, & Richardson, 2005) and confirm evidence from different sources about a particular theme or perspective (Creswell, 2007). Specifically, "between-method triangulation" was utilized as several different methods were combined to gain a deeper understanding of teacher-child interactions (Gaber, 1993). Additionally, the lead researcher's journal entries served as one way to track the

progression of the study, as an important part of qualitative research is how the researchers

account for their own influence (Anfara et al., 2002).

To aid in the confirmability and trustworthiness of this data, member checking (Lincoln

& Guba, 1985) was utilized. Considered to be "the most critical technique for establishing

credibility" (Lincoln & Guba, 1985, p. 314) member checking was utilized during the CoP

meetings as teachers reviewed and evaluated focal child data. Teachers were continuously asked

if this data seemed to be an accurate description of what was taking place in their classroom.

Additionally, teachers were always informed that at any point in our CoP meetings data could be

off the record. Meaning that if a teacher wanted to discuss something that she did not want

recorded the audio recorded was powered off for that portion of the conversation and then

restarted. Additionally, in an effort to uphold research rigor and trustworthiness of the data

prolonged engagement was built into the design of this study. Prolonged engagement is "the

investment of sufficient time to achieve certain purposes: learning the 'culture,' testing for

misinformation introduced by distortions either of the self or of the respondents, and building

trust" (Lincoln & Guba, 1985, p. 301). Through full and part day classroom observations, weekly

meetings with teachers, and informal conversations with teachers over the course of this study

trusting relationships developed, the complex dynamics of each school culture emerged, and the

multifaceted elements influencing teacher-child interactions surfaced. Prolonged engagement

allowed for the detection of any "distortions that might otherwise creep into the data" (Lincoln &

Guba, 1985, p. 302).

Overall, the goal of the analysis was to make sure that the findings were grounded in the

data, that the inferences made were logical, and that any methodological shifts and inquiry

decisions were made appropriately in order to accurately represent, verify and evaluate the teacher-child interactions taking place in pre-kindergarten classrooms.

Chapter Summary

This chapter described (a) the rationale for using a mixed methods approach, (b) the data collection and analysis procedures, and (c) techniques used for verification of data collected to uphold high research standards. The goal of this study was to examine the use of focal-child interaction data as a means of improving teacher-child interactions in state-funded pre-kindergarten programs. This study focused on context-specific teacher-child interactions, in order to provide teachers with data that was uniquely tailored to their classroom interactions. Through the procedures outlined in this chapter adequate data was collected to answer the three proposed research questions while also supporting teacher inquiry focused on teacher-child interaction. The following chapter reveals the findings from this study.

Chapter IV: Results

This chapter reveals study findings through children's experiences (focal child observations), teacher's dialogue (CoP meetings), written reflections (weekly reflections), and classroom practices (my classroom observations). Organized according to the three research questions this chapter combines multiple sources of data across the duration of this study. The initial research question, *what is the frequency and nature of teacher-child interactions in the target pre-kindergarten classrooms*, is answered first using observational focal child data that captured children's experiences during stage one of this study (see Table C3). In order to understand children's interactions with teachers within their classroom context, these findings are organized by schools, initially reporting the findings from West Willows Elementary followed by Lockerly Lane Elementary. The second section of this chapter answers research question two, *what are the ways in which focal child data can be translated into meaningful meditational tools for teachers to reflect on and use to improve their interaction practices*? This section combines data from stage one and two (see Table C3) to reveal how quantitative focal child data can be studied with teachers. Finally the third section of this chapter addresses research question three, *how can focal child data be used to enhance teacher-child interactions in state-funded pre-kindergarten settings*? Using qualitative data from stage two (see TableC3) findings reveal how teachers' thinking and practice changed over the course of their involvement in this study. This chapter concludes with a final summary of the findings.

Research Question One: What is the frequency and nature of teacher-child interactions in the target pre-kindergarten classrooms?

Analyzing focal child observations captured the social ecology of pre-kindergarten children. Dividing the pre-k day into the primary classroom contexts of free play, transition,

group time, work time, meal/snack, and not available, allowed for analysis of focal children's

school experiences. To study children's interactions with teachers, a series of variables were

selected for inclusion in the analysis: specific positive/neutral teacher interaction behaviors

(scaffold, engage, didactic, modify, assist, affection, and give direction); and the creation of two

composite variables that allowed for a broader description of interactions. Using a general

interaction composite variable, which combined all teachers and teacher interaction behaviors,

provided a general sense of overall interaction experienced by each focal child. The second

composite variable created combined all teachers to study how children experienced specific

interaction behaviors. Additionally, child behaviors illuminated children's contributions to

teacher-child interactions. Children's experiences interacting with teachers represented through

focal child data are presented below beginning with West Willows Elementary followed by

Lockerly Lane.

West Willows Elementary.

Focal children's experiences in pre-k classroom contexts.

Observed across four different classroom contexts, children in the two participating pre-

kindergarten classrooms at West Willows experienced free play, group time, work time, and

transitions during their time in the classroom; while non-observed (not available) time outside of

the classroom included time on the playground, in the cafeteria for breakfast and lunch, and in

the gym for rainy day recess. Overall, in both classrooms at West Willows children had similar

experiences spending nearly half of their pre-k day outside of the classroom, ranging from

45.00% (Hunter) to 47.58% (Jackson). While in the classroom all observed children experienced

four classroom contexts (free play, transition, work time, and group time). With the exception of

two children (Haleigh and Maverick), all focal children in these two classrooms spent the

majority of their classroom time in free play. The greater part of Haleigh's day while in the classroom was group time (21.06%), while Maverick spent the majority of his time in work time (17.42%). Within Ms. Emma's classroom, the children's (Chloe, Ellissa, Jackson, and Hunter) daily experiences by context reveal very similar patterns. In this classroom the greatest variation was found in group time ranging from 10.15% (Ellissa) to 16.97% (Hunter) of children's pre-k day. However, greater individual differences were revealed in Ms. Amanda's classroom in the contexts of free play (13.64% for Maverick to 26.06% for Dalia), work time (10.15% for Haleigh to 17.42% for Maverick), and group time (7.27% for Dalia to 21.06% for Haleigh). Figure F1 reports classroom context findings for the eight children in the two West Willows Elementary classrooms.

Overall interaction experienced by classroom context and teacher behaviors.

Creating an overall teacher-child interaction variable, as defined by a composite variable of all teachers who interacted with the focal child and their teacher behaviors, contributed to understanding the amount of total teacher-child interaction each child was receiving. In Ms. Emma's classroom the average overall amount of teacher-child interaction was 21.81% (SD = 3.22) of the observed classroom time, with Hunter experiencing the most interaction (25.90%) and Chloe experiencing the least (19.10%) (see Figure F2). Overall Ms. Amanda's classroom had a higher average of teacher child interaction (M = 26.48%, SD = 5.58), however a notable difference was revealed as Dalia was interacted with less frequently than the other three children (see Appendix C Figure F2). When looking across the eight focal children at West Willows Elementary, a consistent pattern in the amount of overall teacher-child interaction emerged.

Analyzing this composite interaction variable by classroom context depicted patterns of children's interaction experiences with teachers in the pre-kindergarten classroom. The majority

of teacher-child interactions occurred during group time for five of the eight focal children across the two classrooms at West Willows, however patterns of teacher-child interaction varied by individual classroom. In Ms. Emma's classroom, Jackson and Hunter experienced the classroom very similarly with the majority of their interactions during group time (60%), followed by free play (Jackson 18%; Hunter 15%), work time (Jackson 13%; Hunter 14%), and finally transitions (Jackson 9%; Hunter 11%). However, the girls in this classroom experienced differences in the contexts where they interacted with teachers. Ellissa experienced most of her interactions in free play (36%) while Chloe experienced the fewest of her interactions in this context (10%). On the other hand, both girls encountered a similar percentage of their interactions in work time (Ellissa 24%, Chloe 21%) and experienced more overall interactions in work time when compared to either of the boys. Appendix F Figure 3 provides a bar chart displaying these findings, where the complete bar is 100% of each focal child's total experienced teacher-child interaction.

Ms. Amanda's classroom at West Willows revealed a considerable range in children's interaction experiences with teachers. All four children did experience interactions across all four contexts, and consistently each encountered the lowest amounts of interaction during free play time (Dalia 11%; Haleigh 12%; Maverick 7%; Trenton 10%). Two of the children experienced most of their interactions during group time (Haleigh 61%; Maverick 51%); while Dalia experienced the majority of her teacher interactions during work time (41%) and Trenton experienced equal amounts of interaction in both group time (38%) and work time (38%). Interactions during classroom transition times differed across the four focal children (Dalia 25%; Haleigh 11%; Maverick 21%; Trenton 14%). Figure F3 displays these findings.

In addition, individual children's interaction experiences were analyzed using frequencies of teacher behaviors combined for all teachers. Overwhelmingly all children experienced most interactions through verbal group vocalizations, as compared to individualized vocalizations from a teacher or non-verbal interactions, see Figure F4. Additionally, most children had limited physical interactions with teachers, however at West Willows physical interactions ranged from none (Jackson and Hunter) to 6.74% of interactions (Maverick) (see Figure F4). In Ms. Emma's classroom, focal children most commonly experienced didactic, engaging, and giving direction interactions from teachers, revealing a dominant theme in children's classroom interaction experiences with teachers. Figure F5 reports the frequencies of teacher behaviors in teacher-child interactions across the four children in Ms. Emma's classroom.

The four focal children in Ms. Amanda's classroom experienced many teacher behaviors in their interactions over the course of their pre-kindergarten day. Across the four children the dominant teacher interaction behavior was engage (Dalia 56.25%; Haleigh 50.48%; Trenton 42.34%; Maverick 41.41%), followed by a combination of the teacher behaviors of give direction, modify non-physical, and didactic. Outside of these four primary interaction behaviors children experienced a mixture of behaviors including: assisting (physical and non-physical), affection (physical and non-physical), responding, and scaffolding, for a small percentage of their interactions, see Figure F6.

Individual teacher behaviors experienced in interaction by focal children.

Appendix F Tables 1 and 2 report overall frequencies of individual teacher behavior by each behavioral code as well as by the combined interaction variable. These tables only report behaviors that occurred during individual children's observations, and eliminate behaviors that

never occurred during observed time with any of the focal children. These eliminated behaviors included: scaffold physical, engage physical, scold physical, scold non-physical, soothe physical, and soothe non-physical.

Appendix F Table 1 reports overall teacher interaction and specific teacher behaviors by focal child and individual teachers for Ms. Emma's West Willows classroom. In this classroom, children experienced the majority of their interactions with Ms. Emma, with children spending from 53.19% (Hunter) to 82.09% (Jackson) of their observed interactions with her ($M = 69.13$, $SD = 12.86$). From Ms. Emma didactic ($M = 24.85$, $SD = 8.24$) and engaging ($M = 19.37$, $SD = 1.48$) interactions through group vocalizing ($M = 49.35$, $SD = 10.16$) were the most common teacher interaction behaviors, while physical modification and physical and non-physical forms of affection did not occur during interactions between focal children and Ms. Emma. Children spent a smaller percentage of their interactions with Ms. Marci, ranging from Chloe's 11.76% to Hunter's 20.21% of their interactions ($M = 14.44$, $SD = 3.91$). Similar to Ms. Emma, didactic ($M = 6.82$, $SD = 5.72$) vocalizations to the group ($M = 6.76$, $SD = 6.39$) comprised the majority of Ms. Marci's interactions with focal children. Present for two of the focal child observations in this classroom (Elissa and Hunter), Ms. Allyson had little interaction with Ellissa only interacting with her for 1.23% of Ellissa's total interaction. Through leading a group time activity during Hunter's observed time, Ms. Allyson included scaffolding, engaging, didactic, giving direction, modification non-physical, and vocalizing to the group in her interactions that Hunter experienced for 17.02% of his interactions.

Appendix F Table 2 reports the findings from Ms. Amanda's classroom. In this classroom, Ms. Amanda's interaction with all four focal children ranged from 34.94% of Dalia's overall interaction to 89.52% of Haleigh's overall interactions ($M = 55.26$, $SD = 23.78$).

Generally Ms. Amanda interacted through the behaviors of engaging ($M = 28.16$, $SD = 14.51$), giving directions ($M = 9.79$, $SD = 3.65$), and modifying non-physically ($M = 6.69$, $SD = 1.93$). Less frequently Ms. Amanda used the behaviors of modifying physically or affection both physical and non-physical. It should be noted that Haleigh experienced one observation point of non-physical scolding and Maverick experienced one observation point of physical engagement in their interactions with Ms. Amanda, however these are the only two cases for either of these behaviors and therefore are not reported in the displayed table. Additionally all focal children, except Trenton, experienced more group vocalizing interactions ($M = 33.01$, $SD = 22.23$) than individual vocalizations ($M = 15.69$, $SD = 7.78$) from Ms. Amanda. Ms. Jayna's interactions revealed substantial variation across focal children's experiences ($M = 14.29$, $SD = 14.59$) with Haleigh interacting with her for 5.71% of Haleigh's total interactions to Dalia interacting with her for 35.94% of Dalia's interactions. Ms. Jayna's interactions mostly included the behaviors of engage ($M = 3.77$, $SD = 6.88$), give direction ($M = 3.44$, $SD = 2.02$), modifying non-physical ($M = 2.62$, $SD = 1.60$), and didactic ($M = 1.95$, $SD = 3.91$). Present for three of the focal children's observations, Ms. Allyson interacted with both Maverick and Trenton for large percentage of their interactions (Maverick 38.38%; Trenton 37.84), while having relatively little interaction with Dalia (4.69%). Engaging ($M = 14.90$, $SD = 8.85$) and didactic ($M = 6.90$, $SD = 6.39$) interactions through group vocalizations ($M = 22.74$, $SD = 15.83$) represented the majority of Ms. Allyson's behaviors in this classroom.

Focal child contributions to teacher-child interactions.

In studying teacher-child interactions one must not only be aware of the teacher behaviors toward the focal child, but also the child's contributions to the interaction. Analyzing child behaviors, as a percentage of observed time, aided in understanding children's

contributions to their own interactions with their teachers within the classroom. Tables F4 and F5 outline focal child behaviors in the two classrooms at West Willows Elementary. In Ms. Emma's classroom, children's displayed similar behaviors toward teachers. Over the course of the observation each child vocalized to classroom teachers (Chloe 1.97%; Ellissa 3.95%, Jackson 1.73%; Hunter 3.86%), directed smiles and laughs toward teachers (Chloe 1.12%; Ellissa 3.67%; Jackson 2.02%; Hunter 1.10%), and responded to teachers (Chloe 5.90%; Ellissa 9.89%; Jackson 10.40%; Hunter 1.38%). While children responded to teacher requests, the focal children in this classroom did not seek teacher assistance very often. Focal children vocalized to other juveniles in the class much more frequently than vocalizing to themselves, teachers, or the entire classroom group (Chloe 4.78; Ellissa 4.24; Jackson 5.20; Hunter 4.68). With the exception of Jackson, children in this classroom experienced low levels of conflict with their peers (Chloe 0.00%; Ellissa 0.56%; Hunter 0.28%; Jackson 2.89%). Jackson's classroom experience also revealed that he was off-task (Jackson 3.18%; Ellissa 1.98%; Chloe and Hunter 0.28%) and in-guidance (Jackson 4.62%, Ellissa, Chloe and Hunter 0.00%) more often during his observed classroom time than the other focal children in this classroom.

Child behaviors in Ms. Amanda's classroom also displayed notable similarities across focal children. All four children spent a portion of their day vocalizing to classroom teachers (Dalia 2.29%; Haleigh 1.39%; Maverick 1.97%; Trenton 4.96%); however time vocalizing to other classroom juveniles was greater (Dalia 9.71%; Haleigh 7.80%; Maverick 9.27%; Trenton 5.23%). Additionally all focal children responded to classroom teachers, though wide variation can be found across children's experiences (Dalia 12.57%; Haleigh 20.61%; Maverick 10.96%; Trenton 8.82%). With the exception of Dalia, focal children experienced minimal classroom conflict (Dalia 2.00%; Haleigh 0.28%; Maverick 0.56%; Trenton 0.28%). In this classroom

gender differences are evident between the four focal children and observed time spent in guidance (Dalia 0.00%; Haleigh 0.56%; Maverick 7.58%; Trenton 6.34%). Table F5 presents these results.

Lockerly Lane Elementary.

Focal children's experiences in pre-k classroom contexts.

Patterns emerged in the overall classroom contexts experienced by the focal children observed in the pre-kindergarten classroom at Lockerly Lane Elementary. All children encountered all five classroom contexts (group time, work time, transition, free play, and snack/meal) with the exception of Julian who did not experience work time. Further, the children had large differences in the amount of time they were available for observations, as children's not available time ranged from 38.12% (Lexie) to 54.06% (Brice) depending on time of arrival, outdoor play time, and scheduled creative movement programs in the gym. Of time experienced in the classroom all children spent the majority of their classroom time in free play (Lexie 27.10%; Julianne 26.09%; Julian 25.22% Brice 14.35%), typically followed by group time, snack/meal, transition, and finally work time. Appendix F Figure 1 reports how children in the classroom at Lockerly Lane Elementary experienced their pre-kindergarten day by classroom context.

Overall interaction experienced by classroom context and teacher behaviors.

A composite teacher-child interaction variable, defined by a combination of all teacher interaction behaviors across all teachers with the specific focal children, illustrated context patterns of children's interaction experiences with teachers in the pre-k classroom. Overall, on average children interacted with teachers for 23.00% (SD = 1.39) of their observed classroom time, with minimal differences by focal child (Lexie 25.06%; Julianne 21.99%; Julian 22.56%;

Brice 22.40%). Appendix F Figure 2 displays these findings. Analyzing children's overall interactions with teachers by classroom contexts revealed how similar context patterns of teacher interaction emerged across children. For all four focal children group time provided the majority of teacher-child interaction (Lexie 56%; Julianne 55%; Julian 41%; Brice 61%), while children experienced the fewest interactions during work time (Lexie 2%; Julianne 3%; Julian 0%; Brice 3%). Additionally children experienced comparable amounts of teacher interactions during transition. While overall patterns reveal similarities in context patterns for interaction, a couple of notable individual differences are displayed; Brice experienced substantially fewer interactions during free play (8.45%) when compared to Julian (29.55%), additionally group time interactions ranged by 20% (Julian 40.91% to Brice 60.56%). These findings are displayed in Figure F3.

Examining frequencies of teacher behaviors combined for all teachers depicted individual children's interaction experiences based on teacher behaviors. Mirroring results from West Willows, Lockerly Lane teachers interacted with children predominately through group vocalizations (Lexie 65%, Julianne 70%, Julian 56%, Brice 74%), as compared to vocalizations to individual focal children, any physical interactions, or a mixture of physical and non-physical interactions, as reported in Figure F4. Children in the classroom at Lockerly Lane experienced similar teacher interaction behaviors, with approximately half of each child's interactions with teachers being teacher engagement, ranging from 48.60% for Lexie to 52.65% for Julianne. Furthermore, all four children encountered the teacher behaviors of scaffold, assist, modify, give direction, and affection (with the exception of Julian for affection) in their interactions with teachers. Beyond the notable commonality of behaviors across all four children's experiences,

variation existed in expressed teacher behaviors in their remaining interactions. Figure F7

presents these findings.

Individual teacher behaviors experienced in interaction by focal children.

Appendix F Table 3 reports frequencies of individual teacher behaviors and the overall

interaction composite variable by teacher for each focal child. Only presenting behaviors that

occurred during individual children's observations, Table F3 omits behaviors that did not occur

with a focal child. The following codes were never identified during an observation: scaffold

physical, engage physical, scold physical, scold non-physical, soothe physical, and soothe non-

physical, and therefore, are not included in Table F3 or in the created interaction composite

The findings from Lockerly Lane indicate differences in teacher behaviors experienced

across the two classroom teachers and four observed children. While children experienced more

overall interactions with Ms. Lilia these interactions included predominately engaging (M =

44.41, SD = 4.66) vocalizations to the group (M = 59.59, SD = 8.16). On the other hand Ms.

McKenzie had fewer overall interactions with the children, however her interactions tended to be

engaging (M = 8.07, SD = 5.35) vocalizations to individual children (M = 14.52, SD = 9.35). The

least frequent behaviors for both teachers included the physical forms of affection and modify.

Across individual children overall experiences interacting with teachers differed, Julianne spent

88.37% of her interactions with Ms. Lilia while Julian spent 62.50% of his interactions with this

teacher. Overall with Ms. Lilia, Lexie experienced each reported teacher behavior with the

highest levels of teacher response and individual vocalizations from Ms. Lilia than any of the

four observed children. On the other hand, Julian received the most interaction form Ms.

McKenzie interacting with her for 37.50% of his interaction, with the majority of those

interactions being engaging and modifying individual vocalizations to him. Overall, Brice and

Julian experienced the least percentage of their interactions with Ms. Lilia when looking across all four children, however encountered higher percentages of interactions with Ms. McKenzie across the four children. The least frequent interaction behaviors experienced across the four focal children from Ms. Lilia included both the physical and non-physical forms of affection, teacher assistance and physical modification. Similarly during the observed time these four children did not experience physical affection from Ms. McKenzie, however did encounter physical assistance and modification.

Focal child contributions to teacher-child interactions.

Analyzing individual child behaviors contributed to describing the focal child's contribution to his or her classroom interactions. Table F6 reports child behaviors as a percentage of observed time for the children in the classroom at Lockerly Lane Elementary. With no aggressive behaviors observed with any of the four focal children and limited conflict with other children in the classroom (Lexie 0.47%; Brice 0.32%; Julian and Julian 0.00%), data revealed little negative interactions between focal children and their peers. On the other hand children spent a sizable piece of their observed time vocalizing to other children (Lexie 15.46%; Julianne 5.63%; Julian 8.46%; Brice 6.62%) and being vocalized to by other children in the classroom (Lexie 4.68%; Julianne 1.02%; Julian 3.33%; Brice 4.10%). Additionally, all four children spent observed time vocalizing (Lexie 4.22%; Julianne 4.35%; Julian 1.28%; Brice 3.15%) and responding (Lexie 4.22%; Julianne 6.14%; Julian 2.31%; Brice 6.62%) to classroom teachers. While at times these focal children were off-task (Lexie 2.11%; Julianne 2.05%; Julian 2.82%; Brice 0.32%), no child in this classroom was placed in guidance.

In summary across the two sites in all three classrooms, each focal child experienced interactions with teachers during their pre-kindergarten day. In pre-k classrooms, the focal

children primarily interacted with their teachers in large group through teacher vocalizations to the group. Focal children spent half of their school day in the classroom. Of this classroom time, children spent the majority of time in free play. Teacher-child interactions during free play were infrequent. During teacher-child interactions teachers typically interacted through engaging (e.g., Do you want to get the whiteboards out?) and didactic (e.g., Today is Tuesday.) vocalizations. Furthermore, focal children experienced different interaction behaviors and amounts of interaction from the various classroom teachers.

Research Question Two: What are the ways in which focal child data can be translated into meaningful meditational tools for teachers to reflect on and use to improve their interaction practices?

The focus of this research question was to gain an understanding of how focal child data could be used as a provocation for teacher reflection on practice. To answer this research question four findings emerged from the data: 1) focal child data provided teachers with a new lens from which to view their practice, 2) a c*ontinuum of teacher perspective to interpret focal child data* emerged for how teachers viewed and applied this data, 3) the community of practice model was a critical tool in using focal child data in professional development, and 4) the larger school and pre-k contexts influenced the effectiveness of changes in teacher practice. Each of these findings are discussed in the section below and supported through teachers' voices and classroom observations.

Focal child data provides teachers with a new lens to view their practice.

Using focal child data with pre-kindergarten teachers provided teachers with a new lens for viewing their interactions with young children. This data allowed teachers to view teacher-child interactions from the child's perspective and as a result teachers began to acknowledge and

use this new perspective in their interactions with the children in their classrooms. This ability to think about interactions from the perspective of the child shifted over the course of this study; initially starting as a challenging task to being something teachers were aware of and acknowledged in their everyday interactions. This section describes how the data assisted teachers in developing this lens; along with supporting evidence of teachers acknowledging and putting into practice this new perspective.

Understanding that observational focal child interaction data may be a novel way to reflect on classroom practice required careful consideration in how focal child data would be presented to teachers. Therefore, teachers first had to learn how to view the data before being able to apply it to their teaching practices. Guiding the presentation of focal child data assisted teachers in thinking from a child's point of view. Using a funneled approach, teachers were first presented with context data (How did the children spend their day?), followed by frequencies of overall teacher-child interaction (What is the total percent of time a child is interacted with in the pre-k classroom?) and overall teacher behaviors (How often is a child scaffolded in her interactions with the classroom teachers?), and finishing with specific teacher behaviors by individual teachers (What interaction behaviors comprise Ms. Emma's interactions with Chloe?). Using this initial approach during the second week's CoP meeting, I asked teachers to estimate how much time a child spent in the contexts of group time, free play, work time, and transitions during the day. Evidence of attempting to think from a focal child perspective emerged as teachers began to think through their estimates, "Okay like logically I am trying to figure this out in my head," explains Ms. Marci. "Keep looking at it from the perspective of that one child. Think about one child's day. Because I know that work time is kinda, but like how much does one of my children spend in it?" questioned Ms. Lilia. And while during this second meeting the

most concrete data possible was presented, taking a focal child perspective challenged many

teachers' typical ways of thinking, as Ms. Marci explained, "Well we just think about it different.

We never think about it this way," and Ms. Jayna revealed, "I really don't know, I don't really

know how to think about what they do. I do my thing at the table and they are busy everywhere."

As teachers viewed graphs displaying focal child data (similar to figures in Appendix F)

and engaged in conversations with members of the CoP important elements of focal child

observations surfaced. For example when thinking through a question I posed during the second

CoP meeting, "Think about a child's time in the classroom during one pre-kindergarten day,

what percentage of that time do you think children have interaction with a teacher, any type of

interaction with any teacher?," evidence of thinking about individual children's interactions

emerged:

> Ms. Emma: I just think that in the back of my mind that at times a child could be overlooked.
>
> Ms. Amanda: Honestly especially for a child who always behaves and always does what they're suppose to, you know?
>
> Ms. Emma: Yeah, yeah. I guess they kind of get put on the back burner.
>
> Kaitlin: So do you think you are going to see differences by child?
>
> Ms. Marci: Probably
>
> Ms. Jayna: Yeah
>
> Kaitlin: How big do you think, if you think about total interaction with all teachers?
>
> Ms. Emma: I would say like a 20 percent gap maybe. Depending, but really depending on the child I would say it could look very, very, very different. Depending on their need. What their need is. What is their need?

While this conversation emerged prior to viewing the overall interaction data, it provided

connection to the actual data once presented to the teachers and evidenced teachers thinking

about individual children. This example supports how teachers naturally began to raise key elements of taking a focal child perspective, variation by child and individual interactions styles, as they thought through children's experiences.

As teachers developed the ability to think from a focal child perspective they became more aware of the nuances of teacher-child interactions and connecting to individual children's experiences. In reflecting on how to achieve her goal of "incorporating more scaffolding behaviors and less didactic and direction giving behaviors" in her interactions, Ms. Lyn writes in her second reflection: "To be successful, I think I will need to be more aware of what level the individual child is at and make sure I bring myself down to that level. I need to show them and guide them instead of telling them." This example illustrates how Ms. Lyn is acknowledging her need to be more aware of individual children in her interactions. Similarly during the third week, Ms. Lilia experienced this same shift in thinking as she reflected on how she would obtain her weekly goal:

> My goal for my interactions this week is to do more scaffolding and use the time I have left with the children to think about how to maximize the different times of the day for learning next year. I want to specifically think about individualizing during the various contexts of the day and how to record this.

Here teachers reflected about how they needed a new perspective in order to gain their desired interaction behaviors with children.

Furthermore, evidence emerged showing teachers beginning to put into practice the child's perspective in their interactions. In writing about her interactions with a group of children during the fourth week of this study, Ms. Amanda demonstrated her experience using a focal child lens:

Today, the day after field day the kids were crazy nuts. They were still excited from

the day before, so it was hard for them to sit still let alone listen to anything I was saying.

In blocks, my same boys were over there and they have been there all year and all year

they have argued and whined about other students not sharing. I guess I just never really

thought of it in this manner, but most of the time (this is awful) I would either go over

there and say just go somewhere else or find get something else to play with, or even just

sit down. But today when the boys started that I thought about the different interactions I

have been wanting to do. So I went over to blocks and I had all the boys sit around me

and using the toys they were fighting over we talked about and I showed each of them

some different ways they could share and ask one other what they could use. The boys

were very attentive to what I was talking about, because they were still surrounded by

their friends and the toys they wanted. Plus, I wasn't getting onto them it was just a

simple talk. I really enjoyed how well they responded to what I was telling them.

Here Ms. Amanda demonstrates how her teaching practice shifted in this interaction from just

modifying the children to scaffolding their understanding of sharing the materials. While this

example provides evidence of a shift in teacher interaction behaviors, it also supports Ms.

Amanda's growing understanding of how to create meaningful interactions for children by taking

their perspective and getting down on their level for the interaction. This suggests that teachers

were combining this growing awareness of individual children's experiences with their

developing focal child lens in order to think about their role in teacher-child interactions.

Providing teachers with the opportunity to use focal child data allowed teachers to

develop, acknowledge, and practice a growing focal child perspective in their interactions. As

this study guided teachers in viewing more general to specific focal child experiences, teachers

learned how to study focal child data, shared how they were thinking in new ways directed toward individualization, and became more intentional in their interactions, which ultimately led to connections between their new insights and teacher-child interaction practices. Specifically finding three reveals how teachers reacted to and used focal child data and their developing focal child lens.

A continuum of teacher perspective to interpret focal child data emerged.

This study identified a range of viewpoints taken when studying teacher-child interaction data. Over the course of this study a *continuum of teacher perspective to interpret focal child data* emerged. This continuum ranged from taking a teacher-centered perspective, where a specific child's dispositions accounted for her interactions, to taking a child-centered perspective, where teachers took responsibility for the occurrence or absence of teacher-child interactions. This study found that teacher perspectives varied on this continuum and depending on where teachers fell resulted in variation of how a teacher studied the data, questions the teachers asked, and how the teachers interacted with the data across sites. In this study, teacher perspectives were site specific as findings revealed the teachers from West Willows interpreted the data from a teacher-centered view, while a child-centered lens was evident from Lockerly Lane teachers. How these perspectives influenced teacher experiences and understandings are described below by site.

As the study evolved at West Willows Elementary it became evident that these teachers were viewing the focal child data from a teacher-centered perspective. From this perspective, teachers tended to attribute interaction patterns to child characteristics. Ms. Emma revealed this viewpoint as she noted in the second CoP meeting why a child may not get interaction in group time, "…when they are meeting in small group they might be in la la land." Here the child is at

fault for not receiving interaction during a small group time. On the other hand, children's

dispositions are also to blame for why a child may have received more interaction than other

children, as noted in an exchange between Ms. Marci and Ms. Amanda in the second CoP

meeting:

> Ms. Marci: Look at when they're in free play we don't really get down and interact with them.

> Ms. Amanda: Except with the you know whos.

While the teachers do not know who the children are, their insights into variation by child is

influenced by their ideas of children's individual personalities. This exchange, during week

two's CoP meeting, between Ms. Emma and Ms. Marci demonstrates one case where teachers

were attempting to understand the focal child data:

> Ms. Emma: That is so like, child 3, where was child 3 during group time seriously?

> Ms. Marci: Child 3 was probably *** (child's name).

> Ms. Emma: I know she gets on my nerves….And look at that like she does when she sits down and does work she's there a long time.

> Ms. Marci: I'm not saying its *** (child's name) …

> Ms. Emma: I know but if it is…

> Ms. Marci: She has a smaller attention span so the others would pay attention that much.

> Ms. Emma: I know cause look those are like the same pretty much the same. But that one is like hello.

> Ms. Marci: I wonder if that's right…

Additionally, teachers acknowledged that the amount of interaction children received was not

only due to child personality, but also teacher personality:

> Ms. Jayna: This one spent 49% of time in free play.

Ms. Amanda: I know we must not have done shit that day.

Ms. Jayna: And group time.

Ms. Amanda: That must have been some kid that we didn't like that we just didn't want to work with.

This teacher-centered perspective was exposed as teacher's used children's personality characteristics to explain why or why not interactions were occurring in the classroom.

Using a child-centered perspective to view teacher-child interactions placed the responsibility on the teacher for the occurrence of classroom interactions. When thinking about interactions using this lens, teachers often would critique the daily schedule, classroom environment, or teacher demands to make sense of the amount of teacher-child interactions. Teachers from Lockerly Lane displayed a strong child-centered perspective when thinking about teacher-child interactions in the classroom. An example of this perspective comes from Ms. Lilia as she reviews her personal interactions with focal children during the third CoP meeting:

Ms. Lilia: I like the fact that there's a lot of engagement. To me you know that's very important in a preschool classroom that they're engaged so the high percentage of that all over I think that's good.

Kaitlin: Mmhmm across both teachers and all four children people are paying attention and focusing the children's attention on things and engaging them in a positive way.

Ms. Lilia: Yeah cause if that was flipped with say either didactic or even worse giving directions or modifying if those [were the] big chunks I would be very concerned. But seeing the engagement level that makes me happy that's good…across the board it's pretty high. And then for me personally you know I'm a teacher therefore I would like to increase scaffolding and maybe try to use that didactic time or that giving direction time [for scaffolding]…

From this example, Ms. Lilia acknowledged that children were having engaging interactions, but constantly worked to figure out how she could continue to improve children's interaction experiences.

Additionally, teachers viewing the data from a child-centered perspective were able to acknowledge individual children's needs through analyzing their role in the classroom. After Ms. Lilia noticed how consistent her interactions were across children, Ms. McKenzie noted, "Mine's all over the board." To which Ms. Lilia responded during the fourth CoP meeting:

> Yeah, but something may be going on with the child where I'm doing my role and you're able to kind of you know really focus in on a specific child. Like even at the breakfast morning table, you're giving them a lot of one on one cause you're able to spend some time with [the children] and I'm not usually doing that. I'm over doing something else. I don't know, interesting.

Here the teachers reveal an understanding of individual children's needs and the variation in interaction experiences, without faulting the child.

Understanding the perspective through which teachers viewed the focal child data proved valuable in moving the teacher's forward in understanding how to use the data to inform their practice. While it is likely that the teachers at each site varied in exactly where each individual fell on the *continuum of teacher perspective to interpret focal child data*, an overall perspective by site developed and impacted the community's discussions and ability to view and use focal child data.

Community of practice model essential in using focal child data.

An essential element for this study in providing professional development was the community of practice model (CoP, Lave & Wenger, 1991). Coming together as a group focused on developing a better understanding of teacher-child interactions in the pre-kindergarten classroom and creating change in classroom practices proved to be an important aspect of this study. The fundamental aspects of CoPs, including: collaborative relationships, teacher inquiry,

building local knowledge, participating in shared activities over time, and seeking outside

support, were the catalysts for making the data come alive in everyday classroom practices.

Teachers developed new insights and understanding from collaborative relationships.

Professional development opportunities are magnified with opportunities for collaboration, thus

building relational, dynamic, and responsive collaborative relationships proved essential for this

study to provide effective learning opportunities for the community. Building relationships

between the participating teachers and research team nourished a positive collaboration. The

following example from the second CoP meeting illustrates how each meeting began with a

general check-in encouraging teachers to share openly:

> Kaitlin: To start out I just wanted to ask you about how the week has gone.
>
> Ms. Lilia: It's just gotten so busy, you have to really like concentrate on interacting with the kids, cause I feel like I'm like y'all play and let me get my work done. You know and it's hard not [to]. I got to say okay stop with that all the paperwork put it down and sit down and interact with them. Work a puzzle, play in blocks with them, draw, write whatever it is, I'm struggling with that right now. (laughs)
>
> Kaitlin: So maybe it's not that there's more to do during the school day with the children, it's more of the outside things to get everything ready for the end of the year.
>
> Ms. Lilia: You could spend all day doing that…
>
> Ms. McKenzie: Oh yeah
>
> Ms. Lilia: …and then the assessment I've been interacting with them one on one doing that. I enjoy doing that it's just, it's hard because I know the rest of life is going on in here and I'm over there in my little corner. But it's good to see what they can do.

This example illustrates the importance of check-in times to build positive rapport with the

participating teachers. Further, due to the complexity of the data, being responsive to teachers'

questions and needs assisted in their growing understandings and maintaining positive

relationships. Generally teachers asked questions pertaining to the observation design (day of the

week, time of the observations, logistics of how time sampling worked), however

occasionally I brought back questions teachers asked in their reflections to the CoP meetings.

The following example demonstrates bringing a question asked in a reflection entry to the CoP

meeting:

> Kaitlin: Ms. Lilia in your reflection you did ask one question. You had asked me if I had sometimes double coded behaviors and how I, as hard as it is, make decisions. So we'll go through what I coded today, but um I do make decisions when coding. So I listen to whatever your words are really saying, even if it's in the nicest tone, if you are really giving a child a direction or if you're really trying to help get them to do something else, then I code what you are trying to get them to do. But then there is also this idea of physical interactions. Right, so there's physical and non-physical which is verbal, basically. So if you are there rubbing their back or giving them affection while giving them a direction it would be coded as physical affection but verbal direction.

> Ms. Lilia: Okay, so it would be two?

> Kaitlin: It would be two

> Ms. Lilia: Yeah that's what I was wondering

> Kaitlin: But the vocalizations can only be one behavior

> Ms. Lilia: Okay

> Kaitlin: So I wouldn't code something as vocally affectionate and giving a direction.

> Ms. Lilia: Yeah

> Kaitlin: I would have to decide between is this mostly saying great job or you're beautiful or is it mostly saying I really need you to change your behavior.

> Ms. Lilia: Yeah

This conversation demonstrates the importance of teachers clearly understanding the data in

order to be able to study and apply it to their classroom practices.

Teacher inquiry, a second foundational element of an effective CoP, served as a critical

component for teacher growth in this study. Teacher inquiry provides opportunities for teachers

to pose problems, identify discrepancies between theories and practice, and challenge

common routines (Cochran-Smith & Lytle, 2001). In an attempt to make visible teacher-child

interactions, which often may be taken for granted in the classroom, tools, such as focal child

data and conversations, assisted teachers in a cycle of critical thinking, decision making and

taking action. An example from the second CoP meeting at West Willows illustrates how

teachers expressed, critiqued, and revised their understandings of how to interact with children

during free play:

> Kaitlin: What's one take away message from all of this information? Something that you could think about this week that would improve your interactions with children?

> Ms. Emma: See where we're interacting with children the least and maybe make an active decision to do a little bit more interaction during that time and then document those interactions even as we're doing them so we can see what the children need, where they need us, who needs us that most and kind of do more.

> Ms. Emma: I would [from] looking at this want to have more interactions during free play time. Because I might get caught up in you know working with a group of kids.

> Ms. Marci: I mean I think that's pretty consistent for all of us cause that's where [we're] the lowest.

> Ms. Jayna: mmhmm

> Ms. Amanda: Yeah

> Kaitlin: So we're all going with that goal of thinking about more interactions during free play or?

> Ms. Emma: mmhmm

> Ms. Amanda: Yeah

> Ms. Jayna: It works for me.

> Ms. Marci: Well that's not really gonna be, I mean cause we're still going to be doing activities during their free play time, so that's realistically not I guess the best thing to work towards. …

Ms. Emma: So we can write free play slash work time…

Ms. Marci: Well it's hard I guess cause those two are kind of combined for both rooms. Cause we don't all sit down and work at one time, so having the free play time I mean you're pretty much always going to be working with a small group so… that's hard to increase

Kaitlin: But work time is a small group where you've assigned the task and free play small group would be you're joining them in their play.

Ms. Marci: Oh, okay.

Ms. Emma: mmhmm

Ms. Marci: Well, sorry I am just trying to make sense in my head. What I'm saying is… these two times I feel like happen…at the same time. Like their free time is a time that we also pull kids to work. So I'm saying you can't really increase the interactions when they're in free play time because we are not in free play cause we're working with work groups.

Ms. Jayna: Were doing work groups, yeah.

Kaitlin: So what can you do?

Ms. Marci: Figure that out. (Group laughs)

Ms. Emma: I mean take time in between groups to make sure we have you know an interaction with other children. So, let's say I'm working with one group they get finished with their task, but you know let's say for the next five minutes or so, I'll go around and okay let's see what the kids in blocks are doing, and spend that five minutes in blocks. Okay go back get another group to work, you know and so.

This example reveals how teachers used the community to create new understandings, as through conversations teachers came to think differently about how to create meaningful goals in their classrooms to improve teacher-child interactions.

Teachers created "local knowledge" as they participated in the CoP which influenced their interactions in the classroom. By coming together as a community teachers collaboratively constructed a way to think about teacher-child interactions that was unique to the members participating in the group. Through creating "local knowledge" teachers constructed new

understandings of teacher-child interactions and then integrated them directly into their

classroom contexts. As teachers developed this knowledge together as teaching teams they

negotiated their new understandings as public acts in their classroom. Ms. Lyn demonstrated this

realization in her comments during the third CoP meeting, sharing her experience working

outside the participating classroom context into another classroom:

> Ms. Lyn: Well I guess my, my main goal was obviously to incorporate more scaffolding into my behaviors but one thing I really wanted to be aware of was like the modifying, just to make sure that the modifying was positive modifying and not um make sure it was productive, I guess I should say. Because modifying I mean you kind of think about it and you think well it's a negative thing you're trying to change their behavior. But you know what it could be a good, a good modification response, so that was my main goal. And, yes I did get to [think about it] I mean I had that in the back of my head and a couple other of my goals in the back of my head and I tried to incorporate those into my interactions as much as I could. But I have to say, um, Ms. Rosie's (another teacher in the school) class is completely different than this class.
>
> Ms. Lilia: Really?
>
> Ms. Lyn: It's more, they have a lot more free play and I think it's the make-up of the class cause there's so many three year olds in the class.
>
> Ms. Lilia: Age differences, yeah.
>
> Ms. Lyn: Yeah, so it's more hectic you know. But it works for that class so I'm not saying it's a bad thing but it was just a little harder for me to incorporate some of those behaviors that I wanted to concentrate on and stuff, but you know for the most part I had a couple good interactions.

Using Ms. Lyn's experience attempting to think about her interaction goals outside of the context

of the local classroom for this study emphasized the unique knowledge that this community was

gaining and applying to their everyday practices interacting with young children.

As teachers participated in the community, learning took place and new understandings

emerged. Using a CoP approach, participants learned through active participation, as this study

focused on teachers being actively involved in gaining new understanding of their interaction

experiences with young children. Through shared activities over the course of their

participation, teachers came to understand the role they played in providing meaningful and

engaging interaction experiences for young children. The following example from the fourth

CoP meeting illustrates how Ms. Lilia gained new understandings of children's interaction

experiences and became more equipped to pay attention to specific children's interaction

behaviors and needs in the future:

> Ms. Lilia: I think this has shown me that even though there are discrepancies in some [interactions with children] for the most part I would want to believe that if you were able to do this on all 18 of them that it wouldn't be broken down a whole lot differently. Like the one we just looked at. No this one. I guess it's this one. That they would be getting a variety [of teacher behaviors]. But that like the more, not necessarily negative, but like the directives and the modifying that it would be pretty evenly spread out through everybody. And to keep in mind and be aware of the children that do spend a lot of time like in the solitary and just try to you know modify our behaviors to make sure that their needs are being met. That maybe they're just shy or maybe their personality is, I have one in here that specifically his personality all year has been to be very solitary and I'm seeing that in his skills in his assessment.

> Kaitlin: mmmm

> Ms. Lilia: So I probably should have tried to pursue him a little bit more in some one on one time to try to scaffold him some more. Does that make sense?

> Kaitlin: mmhmm. So scaffolding not just skills but scaffold in a way to get him into peer groups?

> Ms. Lilia: Yes

> Kaitlin: Yeah, I saw one child today scaffolding the other children cause she was putting out the letters and saying "what does this say" and "no it starts with this sound." And so I think that when they're with peers the peers are going to scaffold them as well, but they don't get that if they are spending most of their time in individual activity.

> Ms. Lilia: And we didn't really talk about this a whole lot but I know that there are children who spend their time in specific centers. And you know as the year goes on and they get very comfortable in the environment I may need to get them out of their box a little bit more. And that one child that I'm talking about he does that a lot, spends his time in specific areas and then when he comes to large group he just tunes us out pretty much. I'll look over and I know he hasn't heard anything that's going on. He's looking at his

shoestrings or whatever. But seeing this helps me see it from their perspective a little more and maybe what I can do to help him get into different situations to have more interactions that will bring his skills up.

By participating in this community Ms. Lilia demonstrated how she would be able to apply this new knowledge in similar subsequent experiences. She equipped herself with new understandings and is prepared to apply this knowledge to comparable activities in the future. Additionally, it should be noted that the continuity of experience overtime allowed Ms. Lilia to develop this new knowledge and skill set. Through her active participation in the community and her ability to discuss focal child data in the meetings and then reflect on similar experiences that occurred in the classroom over time her transformation took place. Therefore, the length of the professional development in this study benefited the participants.

Finally, through combining two local school systems with the university provided opportunities for outside resources to support the community. Primarily this can be seen through the ability for the university to provide context specific professional development unique to the participating classrooms' needs and interests. The following example from the first CoP meeting at West Willows illustrates how teachers desired outside support in thinking about teacher-child interactions:

> Kaitlin- Would you say that generally you're pretty aware of the interactions you're having with children?
>
> Ms. Amanda- I'd say I'm pretty aware. Sometimes I wonder you know…
>
> Ms. Emma- How other people perceive it.
>
> Ms. Amanda- Yeah and too like…I'm pretty aware but then I'm like oh did I have an interaction with that kid today? You know it's like sometimes your day is so busy or sometimes you're so focused on one kid because they're acting a fool. That you have to focus on that one kid that you're like oh I didn't really get to talk to them today.

Ms. Emma- But no but somebody did because they can interact through their small groups and their planning time.

Ms. Amanda- But you know, you feel like as the head teacher I feel like I should have to…

Ms. Amanda- But you can't you can't I mean you can't do it every day. You know interact with each and every child it's hard that would be really hard.

Kaitlin- So you're saying you kind of have a desire to want to interact with every child. But you're saying that really with twenty children in the classroom, it's really hard for teacher to interact with every child.

Ms. Emma- I mean, you can try but I mean like it's a really high expectation, to be able to do that every day.

Ms. Amanda- Right. I mean I don't I definitely don't think I do. I know I don't.

Ms. Emma- Like you want to.

Ms. Amanda- Yeah

Ms. Emma- Yeah. So it's okay to have a high expectation. That's okay.

Additionally, these teachers acknowledged that it was difficult for them to try to remember to interact with all the children in their classroom:

Kaitlin- I just want to follow up about one thing. Ms. Emma did you say that if you had a really negative interaction with somebody you want to try to balance that out? Is that what you were saying?

Ms. Emma- Yes, yes

Kaitlin- So you're kind of aware of…

Ms. Emma- I'm aware of when I need to be a disciplinarian with a child when I really have to discipline them or be stern or however you might want to put it. You know I want to make sure I find a good thing to point out the next day or later on that day. And say you know I really like the way you are doing this and this and this.

Kaitlin- And do you think it is easy to remember that?

Ms. Jayna- nuhuh

Ms. Emma- No

Ms. Amanda- Not especially with that child who's having a rough day.

Ms. Emma- But if I can go home and reflect on it. The next morning I try to do it as soon as I'm thinking of it.

These examples illustrate how teacher-child interactions are important to teachers, however it is challenging for them to maintain quality interactions with all of the children in their classrooms each day.

Establishing a collaborative community to explore data in partnership with participating teachers, created a constructive space for teachers to study their interaction practices. Data from this study revealed using the essential elements of a CoP, collaborative relationships, teacher inquiry, building local knowledge, participating in shared activities over time, and seeking outside support, provided an effective framework for structuring meaningful professional development.

Larger school and pre-k contexts influence data effectiveness.

The broader contexts of the local schools and the national landscape of pre-kindergarten influenced Teacher perceptions of focal child data. Over the course of this study it became clear that state-funded pre-kindergarten classrooms existed in unique contexts which impacted both teachers' and children's experiences. West Willows, a pre-k through fifth grade rural elementary school, and Lockerly Lane, a school serving solely three- and four-year-old children, existed in very different larger school contexts. The differences between these two sites were made evident through sporadic interconnections of teacher's experiences, which directly influenced teacher-child interaction experiences over the course of this study. Understanding the embedded school

contexts of these pre-k classrooms, combined with the unique challenges of the pre-k school year proved critical in the ability to impact teacher-child interactions.

This unique nature of pre-kindergarten requires outside support in order to facilitate meaningful experiences for young children. This study found evidence acknowledging how the school administration played an important role in influencing teacher-child interactions in the classroom. The administration at Lockerly Lane provided substantial support to the pre-k classrooms through the addition of a part-time teaching assistant. Ms. Lilia noted the benefit of an additional teacher:

> You don't see that very often either and that's a huge benefit to these children. Because I mean we can feel it when you're not in here and when it goes back to being me and her the next day we're like wow cause you've got three extra children ratio wise that NEED you. You can feel the difference. So that's just one thing.

When asked to speak about how this additional teacher impacted children's experiences, Ms. Lilia replied, "They have more conversations. I think they get more attention, more feedback, more development. [With more] teachers they have more modeling going on around them, they have more of their needs met I feel like." Ms. Lilia continues by acknowledging her principal for this improvement in their classrooms:

> That's something I think (principal's name) has done to try to bring this program up. You know cause it's all about the children, [to] give them a better experience. She knows that the more adults you have in the classroom the more they're going to get…And she was very clear about that when she brought in part-time people as part of what she said 'They are not to be used for classroom prep and stuff like that' which I think it happens occasionally as things come up, but in your planning you are suppose to plan for

everyone to be interacting with the children in smaller groups and a different variety

of environments or settings.

This leadership from the administration sent a clear message to teachers about the importance of

teacher-child interaction and providing children with meaningful experiences in the classroom.

On the other hand at West Willows a decision by the administration also impacted

teacher-child interactions in the classroom. During my third classroom observation I noticed the

teachers repeatedly going over the rules with the children each time the daily schedule changed.

This was a new addition to the daily schedule that did not occur during the focal child

observations, nor during my prior two classroom observations. Across both classrooms teachers

reminded the children how to sit during group time, the tone of voices they would use during free

play, and the ways in which they would raise their hands and wait for their turn. Unsure of why

the teachers reviewed these messages so strongly at the end of the school year, I made a note to

ask the teachers about this change at the weekly meeting. However, before I even brought up my

question the teachers spoke about how their interactions in the classroom changed due to a

request from the administration. Ms. Allison explained, "We were told to preach the law of the

school for the remainder of the year that was the biggest thing that changed from last week. Like

preach the rules over and over and over again." This conversation made clear that a school

requirement initiated this change in interactions regardless of the weekly work taking place as

part of this project.

Teachers in this study expressed multiple challenges of the pre-kindergarten year: "I

think you start feeling pressure to jump into the academics," explained Ms. Lilia; "It's hard to get

to know the children at the beginning of the year…the end of September before you really know

the children," acknowledged Ms. Amanda; "there's a wide range of developmental skills," noted

Ms. Lyn. While all of these complexities are not solely unique to the pre-kindergarten year, these ideas are magnified during this time as for many children this is their first year of school and all children are required to qualify for the program based on factors that impact school readiness. These factors combine to provide a unique context for studying teacher-child interactions.

This finding illustrates the importance of contextualizing professional development opportunities for teachers. While this study focused in on the specific context of each classroom and the direct interactions between teachers and children in this space, it recognized that each classroom also exists within the context of the school and the broader landscape of pre-kindergarten in general. Even though this study provided teachers with tools to view teacher-child interactions from a micro-perspective, it demonstrated how Bronfenbrenner's (1979; 1995; Bronfenbrenner & Morris, 2006) ecological systems theory reveals how the microsystem is impacted by multiple outside layers. Thus, collaboration between systems must be intact in order to provide professional development without competing demands and ideas of best practices.

Overall focal child data provided meaningful information for teacher growth in their knowledge of teacher-child interactions. By providing a new point-of-view, focal child data allowed teachers to begin to understand experiences from the child's eye. Additionally, in studying focal child data with teachers a continuum emerged for how teachers made sense of and applied the data, ranging from a teacher-centered perspective to a more child-centered perspective. And while perspectives ranged, all teachers became more insightful of teacher-child interactions in the context of their pre-kindergarten classrooms. Furthermore, using a community of practice model to discuss the focal child data strengthened this study, as collaboration and participation in the community intensified the acquisition of teacher knowledge. Finally, this

study demonstrated how broader contexts outside of the classroom influenced daily classroom interactions and must be involved in the discussion for lasting change.

Research Question Three: How can focal child data be used to enhance teacher-child interactions in state-funded pre-kindergarten settings?

To answer this research question teacher conversations, reflections, and observations of their practices interconnected to uncover teacher development over the length of this study. As participating teachers progressed through this study they heightened their awareness of teacher-child interactions and progressed towards intentional interactions. These results were evolutionary in nature, as intentionality emerged through increasing awareness.

Through the course of this study teachers moved from verbally sharing big ideas about interactions to intentionally putting concrete practices in place to stimulate teacher-child interactions. Teachers understood the essential role teacher-child interactions held in providing quality preschool environments and experiences to children. From the beginning when asked to describe quality practices in a pre-kindergarten classroom, both sites explained essential elements of teacher child interactions. Initially teachers from West Willows elementary described quality practices as: being on the child's level, opportunities for social interaction, the need to make accommodations for children, language based interactions, providing opportunities that interest the children through hands on activities, and providing a safe environment for all children. These quality practices were echoed at Lockerly Lane by the participating teachers: "obviously a lot of interaction down on their level," good child-teacher ratios, developmentally appropriate exposure to content, opportunities for concrete experiences, consistent routines and procedures, lots of repetition, and individualization. From these discussions of quality practices teachers revealed their desire for children to experience interactions with teachers and children in

the pre-kindergarten classroom. Teachers at West Willows expressed their desire for children

to have opportunities for social interaction so that they could develop the abilities to: "make their

wants and needs known," "realize that there are expectations other people have of [them] and

consequences," and "finding [themselves], cause a lot of them don't really know [what they're]

personally capable of and what they can and can't do and what their interests are." Additionally,

Lockerly Lane teachers aspired for social interactions to provide children with opportunities to:

develop confidence, "pride in their accomplishments and encouragement to try new things and to

persevere if something's hard," and to learn how to "operate in a community." Teachers also

acknowledged interactions with children as part of the teacher's role in the classroom and they

desired positive interactions with children. "I think any teacher should always be trying that,

trying to make every, every interaction positive and a learning experience for the child," stated

Ms. Lilia. Initially from the participating teachers' perspectives it was clear that teacher-child

interactions were an essential element to a quality pre-kindergarten classroom and that these pre-

k teachers longed for positive interactions with the children in their classrooms.

Participating teachers began this study with a basic understanding and implementation of

interactions with children. Initially teachers spoke of the fundamentals for how interactions are

displayed in a high quality environment: "down on the children's level," "focused on children's

interests," "not humiliating but a learning experience for the child," and "obviously a lot of

interaction and conversation between teachers and the students". Teacher's also acknowledged

that time was needed in the daily schedule for interactions to occur and outlined opportunities in

their schedules for interactions: small group activities, free choice time, meal times, arrival time,

and helpers during large group time. Additionally Ms. Marci noted that possible opportunities for

interactions occur "anytime throughout the day really." While teachers had a basic idea of how

they wanted their interactions to look and created opportunities for interactions in their daily schedule, during the initial week of stage two they shared a limited ability to discuss the nuances of their interactions with children. All of the participating teachers desired positive interactions. At West Willows when referring to teacher-child interactions I repeatedly heard, " I want it to be positive. I want it to be, I WANT it to be positive" from Ms. Emma. Others echoed this, as Ms. Amanda desired, "I would hope [my interactions] would be positive" and Ms. Jayna declared, "They need that positive interaction." Similarly the teachers at Lockerly Lane expressed the same desires as Ms. Lilia commented, "When I think of a quality program and interactions together the interactions would be as positive as you can make them. You know phrasing things in the more positive way versus a more negative way…" Additionally Ms. Lyn suggested that quality pre-k practices involve "interactions or phrases that are more positive." However, at one point in the first CoP meeting at West Willows Ms. Marci commented, "Well the opposite of that sometimes is it is not always positive cause you have to discipline. Cause I mean sometimes you have to be negative. I mean you try not to be but…," which foreshadowed the idea that teacher's may encounter challenges when trying to make all interactions "positive." It was clear from these combined conversations that teachers desired meaningful interactions that led to "positive" experiences for the children, however teachers did not use a lot of terminology to describe their desired interactions with children. Instead teachers utilized all or nothing language, classifying interactions as either good or bad, or in their words "positive" or "negative." This finding reveals how teachers transformed from acknowledging the importance of teacher-child interactions to becoming change agents in their interaction practices over the course of this study, marked by three pivotal changes: 1) increasing awareness of the nature of interaction with children in the

classroom; 2) creating intentional goals for classroom interactions; and 3) making changes in teacher-interaction practices.

Increasing awareness of the nature of interactions with children in the classroom.

Presenting teachers with classroom specific data of children's experiences increased their awareness of children's interactions. Teachers encountered their first opportunity to view focal child data during the second CoP meeting. This data focused on how children spend their pre-kindergarten day. Across both sites when teachers first studied data on children's classroom experiences, they wanted to know two things: 1) the day of the observations, Ms. Lilia asked, "You wouldn't happen to know, I mean I'm sure I have it written down, but do you remember what days of the week [the observations] were?," and 2) the desire to know who the children were, Ms. Jayna remarks, "And I get not telling, but in the end it would be nice to know to see…just to know which child you're working with…" It appeared that initially these teachers tried to ground the data in something concrete and tangible, a specific day of the week or child, in order to fully grasp how children spent their time in the classroom.

After these initial questions during the second CoP meeting as teachers studied data on the percentage of time that children spent in the contexts of: free play, group time, work time, transitioning and not in the classroom three similarities emerged. First, teachers were surprised and concerned by the amount of time spent in transitions. "Transition is definitely more…like way more than you would think. Like you think it's a lot, but it's even more," explained Ms. Amanda**.** At Lockerly Lane. Ms. Lilia made a similar comment, "transition is longer than I thought. Well I know though it takes forever to get out of the classroom…The amount of transition time concerns me, but we've got 18 of them in here…" The second similarity revealed when viewing this data was the teacher's feeling of not doing enough in the day. "It doesn't

make me feel very good about what we are doing. I guess I feel like we are doing way more than we really are," stated Ms. Marci. Ms. Lilia paralleled this idea in her comments about work time, "the work time is the main one for me. That it's so low, we need more work time." A final theme across the sites was a desire for consistent interactions between children. Ms. Marci acknowledged this in stating, "I mean also you would want for it to be pretty even across the board." Comparably Ms. Lyn noted, "Yeah, I mean it looks like the children are getting the same amount of interaction. It's not like oh my gosh all these kids…it's evenly distributed." Overall, from the initial screening of data teachers attempted to make children's daily experiences concrete in their minds. They needed to form a foundation from which to understand teacher-child interactions, starting with a focus on daily scheduling and moving towards thinking about individual children's experiences within contexts of the day.

To enhance this growing awareness of teacher-child interactions during week three teachers explored data focusing on specific teacher interaction behaviors. Using data that outlined teacher behaviors in interactions with children provided the opportunity to study and recognize how children experienced these teacher interaction behaviors. While all teachers continued to hold the desire for positive interactions with children, site differences emerged for how teachers made sense of and utilized teacher behavior interaction data.

In the pre-k classrooms at West Willows prior to viewing data containing teacher behaviors teachers anticipated negative interactions with children. "I'm hoping like scolding is like 2," comments Ms. Marci. Ms. Amanda replied, "I'm going to go ahead and give that a ten." Teachers felt like they were often scolding children in their interactions throughout the day. The following exchange displays how surprised the teachers were when they actually viewed their overall teacher behaviors in their interactions with children.

Ms. Amanda: How did I not get anything for scolding?

(Teachers look over the data)

Ms. Amanda: That's surprising. I mean that's really surprising.

Ms. Marci: I thought there would be more physical assist than what there is and modify is a lot smaller than I thought.

Ms. Amanda: A lot less than I thought it would be, definitely

Ms. Marci: …and engaging is definitely higher than I thought it was.

This surprise continued as teachers evaluated their individual interaction behaviors across the four children. Ms. Emma states,

I guess it makes me feel better that on all of them I'm engaging with them, so to me that's positive. So I'm just glad there's some positive. I mean that's in my mind cause I was just thinking like a night ago like okay be prepared for the worst.

These teachers were not only being informed about possible interaction behaviors, but also provided with the opportunity to recognize that their interactions were not completely negative. Through conversation in the CoP connections were made across the teachers and four focal children:

Ms. Jayna: A lot of it is not physical it's just talking. There's some assisting.

Ms. Allyson: Isn't that good?

Ms. Amanda: I mean the thing is they're four so to be able to talk with them…

Ms. Allyson: Right

Ms. Amanda: …I mean that's kind of what you have to do. I mean I hate to say that but….

Ms. Emma: But it's not the worst thing either. At least we are talking to them. Even if it's one sided. Which it can be.

This exchange provided teachers a way to begin to think about interactions and the behaviors that make up those interactions. While they expressed their challenge in talking with children they moved beyond the discussion of solely positive and negative exchanges. Additionally, teachers began to think about interactions as a set of behaviors that they could improve. Ms. Allyson noted this in her review of her data, "I don't know cause I only have like a few [behaviors] on each. So I don't know if I just need to broaden my behaviors. I guess that would be the thing I need to do."

The teachers at Lockerly Lane adopted a more holistic view of the data when discussing teacher behaviors across children. When presented with the composite of combined teacher behaviors in interactions across the four focal children, the low percentage of physical interactions initially surprised the teachers. Ms. Lyn commented, "Of course that kind of shocks me a little bit." However, this group of teacher's rationalized this finding by referencing the logistics of their day, as Ms. Lilia explained:

> But with 18 of them… how much can, I mean really if you broke it down that would be me touching six kids a day, you six, you six, and I've learned from a long time ago when I was working with two year olds if you start too much of a physical thing they will end up on top of you…

In this classroom teachers continuously talked through the findings in order to develop awareness of how these interaction experiences existed in their classroom context. Further, this site continued with a desire for consistent interaction experiences across all children. Ms. Lilia noticed in the second CoP meeting, "But they're pretty sss [similar], from the four there's not a substantial discrepancy I don't think. I mean you know I'm pretty happy with that." Additionally teachers did not want to see "negative" behaviors in their interactions, as Ms. Lyn articulated in

the third CoP meeting, "Well I think that that's good that there's none of the scolding that's good. And didactic is very very low." Further, teachers started placing value on various interaction behaviors and the contexts of the day where each behavior belonged. Teachers revealed this as they became concerned with the low amount of scaffolding found during work time:

> Ms. Lilia: Mmmm and there's zero
>
> Ms. McKenzie: Oh my gosh
>
> Ms. Lilia: Yeah I don't like that one let's go on to the next one.
>
> Ms. Lyn: I'm surprised to see so much modify on here…but I suppose if they are doing something wrong, or not wrong, if they are doing something that they could do better…but then that would be scaffolding. That would be teaching them.
>
> Ms. Lilia: That's why I was hoping to see a lot of scaffolding on here.

This exchange during the CoP meeting in week three demonstrated how the teachers grew in their awareness of interactions and their desire for specific types of interaction behaviors to be present during certain times of the day. Across the two sites viewing teacher specific interaction behaviors offered a vocabulary to discuss interaction behaviors that occurred in the classroom and served as a tool for teachers to begin to internalize how these interaction behaviors impacted their teacher-child interactions.

Teachers creating intentional goals for classroom interactions.

As teachers became more aware of behaviors that made up different types of teacher-child interactions, teachers shifted from increasing awareness of teacher-child interaction toward a desire to be intentional in their interactions. Using this growing knowledge, teachers started to identify ways they could make specific improvements and initiate goals to improve their interactions with children in the classroom. Additionally, teachers identified that interactions in

the classroom varied based on teacher role and therefore assigned teacher tasks impacted

children's experiences with specific teachers. This growing awareness created the desire for

teachers to rethink classroom roles, as they potentially could limit teacher behaviors and the

children in which they interacted. Thus, teachers generally created initial goals with the desire to

broaden teacher behaviors exhibited in interactions, to increase the number of children each

teacher interacted with, and to rethink interactions in certain contexts of the day. However,

teachers personalized their goals to reflect their behaviors and understandings of teacher-child

interactions.

Teachers at West Willows began by setting interaction goals related to classroom

contexts of the day. Specifically, this group of teachers wanted to increase their interactions with

children during free play. The teachers were set to leave the second CoP meeting with this goal

until Ms. Marci determined that this might not be a feasible goal for the teachers during the free

play context:

> Ms. Marci: Well that's not really gonna be, I mean cause we're still going to be doing
> activities during their free play time, so that's realistically not I guess the best thing to
> work towards.
>
> Ms. Emma: So we can write free play slash work time …
>
> Ms. Marci: Well it's hard I guess cause those two are kind of combined for both rooms.
> Cause we don't all sit down and work at one time, so having the free play time I mean
> you're pretty much always going to be working with a small group so…that's hard to
> increase…So I'm saying you can't really increase the interactions when they're in free
> play time because we are not in free play cause we're working with work groups.

In this exchange Ms. Marci noted the practical application of the likeliness of being able to

successfully act on this goal. Therefore, she created the need to rethink how teachers could

increase their free play interactions in a sustainable way in each of their classrooms. Based on

classroom observations Ms. Marci raised a critical point here, as during each classroom

observation I watched each teacher pull small groups of children during free play time. This resulted in the teachers engaging in work time with several children, while the rest of the children were in free play experiencing little teacher interaction. However, after Ms. Marci brought forth this dilemma Ms. Emma offered a solution,

> I mean take time in between groups to make sure we have you know an interaction with other children. So I, let's say I'm working with one group they get finished with their task, but you know let's say for the next five minutes or so, I'll go around and okay let's see what the kids in blocks are doing, and spend that five minutes in blocks. Okay go back get another group to work, you know and so.

It was clear through this exchange that the teachers were transforming from just acquiring knowledge about children's interactions experiences to problem solving about how to create practical ways for increasing the number of interactions in the classroom. As a result of Ms. Marci personalizing how the goal was going to be feasible in her classroom context, she forced the rest of the community to do this as well. From this point forward teachers started to internalize their desires to increase and improve their interactions with children.

This transformation in thinking carried over as teachers became more attentive to specific children's experiences and their interaction behaviors together. In one of the classrooms during the third CoP meeting, Ms. Emma and Ms. Marci discussed goals to spread out their interactions across more children:

> Ms. Emma: Also I'm kind of thinking even of kids that we have limited interaction with and trying to have more with them. More positive ones.
>
> Ms. Marci: That's really good.

Ms. Emma: I mean because either they're independent you know and sometimes we just leave them alone and let them be. But they do need, they do need that from us so…mmmm sit down and work with them and just be with them.

Ms. Marci: I mean obviously that cause apparently I'm only chilling with one child. You know…I need to make myself more available to the other kids. Spread the love.

While in the second classroom at West Willows Ms. Amanda and Ms. Allyson discussed specific interaction behaviors.

Ms. Allyson: I don't know cause I only have like a few [behaviors] on each. So I don't know if I just need to broaden my behaviors. I guess that would be the thing I need to do.

Ms. Amanda: To try to get more scaffolding. Cause that's like the smallest one on mine…I mean I have a little bit of it but not much. It's the only [behavior] that's running low!

Ms. Allyson: Right, the scaffolding has been the one that's kind of standing out for me cause I only have it on one of my charts.

Exposing a growing awareness of interaction behaviors West Willows teachers outlined practical ways for acting upon this new knowledge in the classroom.

At the second site Lockerly Lane teachers took responsibility for how interaction data unfolded in their classroom and attempted to understand patterns in children's experiences. Teachers' comments reflect this constant desire to make sense of how children experienced interaction in their classroom and how to improve these interactions. Ms. Lilia exemplifies this as she comments in the third CoP meeting about group time interactions, "That's good they're engaged at least…They're engaged which is great. I would you know maybe for myself work on how I can incorporate more scaffolding, more of like we did today with the fish story…" She continued her thought process about group interactions: "Mmm quite a bit of didactic. I don't know, sometimes that's just giving clear instructions about what's happening next. Boring but…" Ms. Lilia constantly evaluated the data and applied it to her daily experiences in order to

critique and improve her practices. As the lead classroom teacher she took the responsibility to create goals and change classroom practices:

> I think I need to rethink how I spend the work time. Maybe looking at that and just trying to incorporate more scaffolding in different times of the day. For me you know…as the lead teacher how to do more scaffolding throughout the day I think.

Ms. Lyn followed this lead and desired to be more aware of her interaction behaviors:

> Well I guess my main goal was obviously to incorporate more scaffolding into my behaviors but one thing I really wanted to be aware of was like the modifying, just to make sure that the modifying was positive modifying and make sure it was productive, I guess I should say. Because modifying I mean you kind of think about it and you think well it's a negative thing you're trying to change their behavior. But you know what it could be a good, a good modification response, so that was that was my main goal.

This reflection outlines how Ms. Lyn not only worked to increase specific behaviors in her interactions, but also developed an awareness of the nuances of these behaviors. Throughout this stage teachers from both sites attempted to link their growing knowledge and classroom practices and experimented with ideas of how to bring these together in classroom life.

Making changes in teacher-child interaction practices.

In all three classrooms teachers demonstrated the desire and ability to move beyond solely talking about ideals for their interactions to making decisions to change their practices. Using the presented focal child data as a meditational tool teacher's became active change agents in their individual interactions with children.

Teachers in the West Willows classrooms ranged in their ability to implement intentional change in their classroom practices. Ms. Allyson worked to figure out a way to create opportunities to interact with children based on her unique role in the classroom:

> Ms. Allyson: Be more active during work time. I mean that would be my goal. But I mean it's still one of those things I still work in a small group so, I mean, I'd just have to broaden my horizons. You know even pull a few kids at a time not just the one, even though its better to try to get that concrete data.

> Ms. Emma: Maybe just rotating our groups more frequently being like okay I'm going to have these four for five minutes …

> Ms. Allyson: Yeah. It's just easier to do that one on one to get that concrete data.

While Ms. Allyson's change was not necessarily visible by the final week of this study in her practice, her ability to identify a concrete area for improvement and interpret how her role impacts her interactions was moving her in the direction of intentionality implementing these interactions with children. Similarly, Ms. Marci worked to balance her role in the classroom and her interactions with children. Ms. Marci often felt like she only interacted with one child for the entire day and desired to interact with more children in the classroom. In the final CoP meeting Ms. Marci explained, "I mean I tried to be more involved in what they're doing when they had choices. I tried to get more hands-on involved…Today it went great with the puzzles…and I didn't have to deal with…" Ms. Emma did acknowledged Ms. Marci making changes in her interactions, however Ms. Marci was still troubled by the demand of working with a single child for the majority of the day. While not immediately evident for Ms. Marci, my classroom observation field notes revealed Ms. Marci engaged in meaningful interactions with young children during the context of free play. For example, during my week four classroom observation Ms. Marcie worked for forty-five minutes in the group area with various children completing floor puzzles. "Ms. Marcie is surrounded by seven children with one in her lap

constructing a large floor puzzle. She comments to the children 'This one is kind of tricky a picture on both sides. So we need the right side up. We will do the fish side'" (observation notes April 29, 2010). This example reveals Ms. Marci working with multiple children and creating engaging opportunities for meaningful interactions.

In the same classroom, Ms. Emma also shared a few experiences where she implemented changes in her practice:

> I wanted to make sure I was playing with them more. And I did some play dough yesterday drew some pictures today it was good. It made me more conscious of what I was doing. Like whether it would be working with a small group of kids, just making me more conscious of my interaction like what kind I was having.

The following week, during the fourth CoP meeting, Ms. Emma reviewed a concrete interaction experience scaffolding a group of children:

> Today when I was working with the kids we didn't have a specific task in mind I was just joining them at the writing table. And we were just doing a little bit of coloring. I think they were noticing how I was coloring they were like 'Oh wow Ms. Emma your coloring looks darker.' I'm like 'yeah I press down on it harder so it looks darker.' You know and having that conversation with them, you know trying a little bit more to have meaningful conversation with the students while I'm with them. And have that kind of interactions….So our conversation isn't just a conversation we're doing scaffolding.

Ms. Jayna experienced a similar transformation as she worked to incorporate more interactions with children during work time. Ms. Jayna identified several concrete ways she attempted to increase her interactions:

For me like especially today you know when they're sitting here I get to know more about them and what they like and you know what mommy and daddy and everybody else did and what they like. So I guess just asking more questions and being more inquisitive.

The following week during the fourth CoP meeting, Ms. Jayna shared more relation building interactions with children during work time:

…today you know they wanted to stay [at her work table]. Well you know cause Ms. Amanda had announced what we're doing for Mother's day and they were so excited. They were like okay, I've put it in my back pack and I'm gonna hide it even if it's wet and you know they're very excited about it just to get to know what else they are doing for Mother's Day and just to get to know them a little better. Cause I know them but it is kinda on a classroom level. But you know just get to know them, what they think, what they like more in depth than just seeing.

Ms. Jayna's desire for more personal relationships with children and her growing awareness of only knowing children on a "classroom level" provided specific changes in her work time interactions with children. Additionally, I observed Ms. Jayna's attempt for more personal interactions in a classroom observation on May 17, 2010, "Ms. Jayna works closely with a child covering a balloon with paper mache, as she assists the child in holding the balloon and adding the paper they both smile and laugh as she declares, 'no you didn't forget my name!'" The proximity and intimate nature of this interaction revealed a transformation in Ms. Jayna's interactions.

From the West Willows site Ms. Amanda displayed the most observable change in her interaction practices with children. An exchange between Ms. Amanda and Ms. Jayna initially exposed this goal during the third CoP meeting:

> Ms. Amanda: Mine was to get up more during centers and look around.

> Ms. Jayna: I noticed it.

> Ms. Amanda: That I got up more?

> Ms. Jayna: Yeah that she got up more cause I'd be doing some kind of craft or whatever and I noticed that she did get up more and go to the different centers and see what they were doing and ask them how they're doing it.

> Kaitlin: So Ms. Amanda how do you think it went?

> Ms. Amanda: It was fine. I think they were better under control too, cause they were like oh shit she might be coming. Oh sorry. No, they really liked it you know, they would tell about their artwork more or what they were doing more. They seemed more engaged on their activity and more likely to accomplish what they wanted to on their plan. And the ones who are not you can like know what their plan was more so you can kind of follow them more like 'come on now' you know.

The following week, in the fourth and final CoP meeting, Ms. Amanda revealed how she was internalizing this change in her practice:

> I mean, I've noticed like when I said I was going to try to get up and go around more
>
> places during centers, I'm like 'okay I need to stop.' Like I catch myself being like 'oh
>
> I've been sitting here too long. Get up and walk around talk with them in their centers
>
> and then go back.' But they seem to be calmer during that time too. Like going around
>
> reassuring making sure they're doing everything correctly and…But I sit there and think
>
> about it more.

While Ms. Amanda continued to work on understanding the types of interactions she was having with the children as she visited the classroom centers, she noticed positive changes in the children's free play experiences when she increased her interactions:

> ...if they see me up and around they want to come show me the stuff that they've done. So it's kind of both like talking about what they're doing and modifying, like you know if you see somebody that needs to be doing something else you know you do that…but I can see what they've been workin' on and what they're proud of and they want to tell you about it and stuff.

Additionally, a classroom observation on May 17, 2010 captured Ms. Amanda's shift in her free play interactions.

> Ms. Amanda gets up from the language table and begins to walk around the classroom. As she walks she checks in with children. Ms. Amanda kneels down in the block area and begins a conversation with the children. Her comments include, 'I like the way you're stacking those blocks,' 'Let's see how can you make it taller?,' 'What did you decide, the big ones have to be on the bottom to stack it?' Ms. Amanda gets up from engaging with the children in the block area and recognizes a child on the computer that needs assistance and says, 'I'm sorry I didn't see your hand' as she went over to help him. After leaving the computer center Ms. Amanda said to a child 'Okay, come on babe' as she travels back to the worktable with a child by her side.

This observed interaction style appeared very different than previously observed interactions during free play, as it was typical for Ms. Amanda to stay seated at the worktable throughout the duration of free play solely modifying children from a distance as she worked with small groups of children. For example in a classroom observation on March 11, 2010 Ms. Amanda was

observed saying "blocks quiet down," "walk Maverick," and "two minutes until clean-up,"

as her interactions with children outside of the children engaged in her small group language

activity.

By the end of this study each teacher at West Willows was in the process of making

intentional changes in their interaction practices with young children. Many of these teachers

even worked to create opportunities for more meaningful and in-depth interactions with children,

which ultimately would lead to strengthened teacher-child relationships.

Lockerly Lane teachers moved from talking about the need to change classroom

experiences for children to initiating visible changes in their classroom practices. The most

noticeable practice change came from Ms. McKenzie as a result of her attention to how much

time children spent in transitions and the types of interactions that occurred in this context. She

explains her practice change in the final CoP meeting:

> Ms. McKenzie: Well mine was at transition time, instead of just the, I don't know direct
> directives or just trying to modify, I thought we'll try to make it a little more interesting,
> maybe we could keep 'em a little more calm and maybe hurry the other kids up a bit. So I
> just thought of little things to try to keep the ones on their name engaged a little bit. And I
> think it did for the most part it worked. I mean they probably thought I was crazy, I don't
> know but I would try to whisper to see if I could get their attention and then most of them
> I could and then by the end I'd say, ninety percent maybe…were engaged or trying to do
> what we we're doing. So I thought I've got to do something else. Cause I feel like I'm
> just go here, go here, do this, clean up that, so…

> Ms. Lilia: I was really excited, she did really good. I give her a gold star. I was like she's
> doing it and so good!

Here Ms. Lilia also acknowledged this change and supported its influence on the classroom's

transition practices. Similarly, I observed one of these classroom transitions during an

observation on June 2, 2010, as I wrote,

> Using the first letter of children's names Ms. Lilia dismissed children from large group, 'If your name starts with a T go potty and line up.' As children began the transition Ms. McKenzie stood next to the door where the children were lining up. Ms. McKenzie began to sing 'If your Happy and You Know it' while the children waited in line. The children participated with her and offered suggestions for the next verse. The group continued to sing as the rest of the children finished up in the bathroom. All the children in line were participating and focusing their attention on Ms. McKenzie, this is definitely a change as the children are engaged while waiting. Remember to tell Ms. McKenzie nice work!

Ms. McKenzie not only created a strategy to change her behavior during times of transition, but also created a positive interaction opportunity for the children who completed their transition tasks and possibly even a tool to use to shorten the overall time spent by children and teachers in transition each day.

I observed all three teachers increasing their amount of scaffolding in their interactions with children. While it is hard to measure if teachers met their goal of increased scaffolding by replacing interactions that were didactic and giving directions, it was clear that teachers were attempting to provide more child focused interactions. During one classroom observation each teacher was observed in multiple scaffolding interactions. Ms. Lilia's scaffolding interactions ranged from scaffolding a child who was working to spell house on her drawing, to immediately turning around and talking with two children about "put-down" words and how they make one feel, to helping a child figure out when it would be his turn on the computer saying, "Oh you will have to wait four more minutes. (Looking at the timer) Does it say four? (Holding up four fingers)?" Ms. McKenzie was observed working with small groups of children in an activity

where the children were putting together a puzzle and then playing an "I Spy" game from it. During this long period of interactions Ms. McKenzie scaffold children as needed often working to provide clues for where a puzzle piece may go, which child's had the next turn, and helping children form questions to ask as they played "I Spy." I heard Ms. McKenzie scaffolding a child who wanted to change activities on the carpet, "Oh you want to do that puzzle. Then let's put away this other puzzle so we don't get all the pieces mixed up. We have to separate the pieces to make sure the right ones go in each puzzle box." Ms. McKenzie proceeded to help the child separate the puzzle pieces and get the needed pieces out for the puzzle the child wanted to work. Across the room Ms. Lyn also scaffold a small group of children as she introduced them to the game "Go Fish." Her interactions ranged from helping children understand how to ask questions to create matches to how to hold the cards in their fingers so they could see each fish. While scaffolding interactions were plentiful around the classroom, Ms. Lilia noted that it was a challenge for her to figure out how to document the amount of scaffolding interactions with children, "That's one area that I'm not very good at I don't feel like. I feel like there needs get met but I would like to be more intentional about it." Ms. Lilia was constantly critiquing her practices and attempting to find ways to improve children's experiences.

Throughout the duration of this study these teachers continued to intentionally study the focal child data, connect it to their awareness of teacher-child interactions in the classroom, and form new understandings of how they could be intentional in improving their practices to strengthen their interactions. A notable example of this was displayed through the teachers' realization of children's unique needs in the classroom. While previously holding a strong desire for consistent experiences across all children, these teachers started to understand the need for variety in children's experiences. As Ms. Lilia explained when discussing teacher-child

interactions, "You don't want to be like robots where they are all getting the same cause they are all different but they are getting a variety." This continued into a discussion on how interactions need to be individualized based on need. In the final CoP meeting, Ms. Lilia commented:

> And too this we didn't really talk about a whole lot but I know that there are children who spend their time in specific centers. And you know as the year goes on and they get very comfortable in the environment I may need to get them out of their box a little bit more… but seeing this helps me see it from their perspective a little more and maybe what I can do to help him get into different situations to have more interactions that will bring up his skills…Maybe you know make a conscious effort those that we see that are spending a lot of time alone or mostly alone doing their own thing, kind of try to pull them into a small group more often. Either at, well it'd be more like a teacher led small group at first…and then maybe they would be more confident to join groups.

As a result of being more intentional and reflective on their interactions with children, these teachers grew in their ability to understand children's unique needs and their requirement for deliberately adapting their interactions based on individual children.

Overall, this finding reveals teacher development in their ability to recognize, discuss, increase, and make intentional their interactions with the young children in their classrooms. This finding outlined how teachers moved from having the desire for positive interactions to being able to intentionally plan for specific types of interactions with children. This teacher's transformation evolved over the course of the study, and while it was not clearly bounded for each teacher by the specific week of the study it appeared that teachers' thinking and practices shifted and advanced multiple times over the course of this project. Additionally, teachers

noticed in themselves the professional development from this study impacting their daily practices. "Due to the whole process, I honestly see and think more about the interactions with the kids than I did before. I don't want to be the teacher who does not practice what she preaches," commented Ms. Allyson in her final reflection. Similarly Ms. Jayna wrote in her last reflection:

> I thought that the Child/Teacher Interaction study was a great way to take a step back and see how you were teaching and what interactions that you were having with those students daily. As a teacher, you have had many years of learning about how to teach and what interactions should occur in the classroom. This study helped me to realize how I was spending most of my time in the classroom and how I could change it. This data, along with weekly discussions showed me how I could work on things, such as being more engaging and scaffolding. The child/teacher interaction study is something that I will take with me, when I have a classroom of my own. This information will help me use different interactions to maintain appropriate behavior with students. It has shown me how to take a step back and look at what interactions I use with each student.

These reflections illustrate how the children in participating classrooms and potentially future pre-kindergarten children of these teachers will experience an increase in responsive and supportive interactions from their teachers, which will help the children build strong social emotional bases for future relationships and learning.

My Role as Lead Researcher

As an integral participant in planning this study, collecting classroom data, and participating in the communities of practice I played a major role in the evolution of this study and the impact of the professional development initiative on the participating pre-kindergarten

teachers. Throughout this study I shifted roles between participant observer and facilitator of the community of practice, finding myself moving between roles as a result of the stage of the study and the needs of the participants. This section describes each of the roles I assumed over the course of the study, how each role contributed to the professional development provided to the teachers, as well as my personal subjectivities as the lead researcher on this project.

Participant observer.

Initially, during the recruitment stage of this study my role was to build rapport with the teachers. It was important that the teachers felt comfortable with me coming into the classroom and observing their classroom practices. This role shifted to silent observer, as I conducted the five classroom observations (stage 1) and weekly follow-up observations (stage 2) from the classroom sidelines strictly recording what was occurring related to classroom interactions and children's experiences. This was noted by one child's remarks to me during an observation as the child questioned, "Aren't you ever gonna talk?" (March 22, 2010).

As a participant observer I became very comfortable in each of the participating classrooms and with each of the teachers. Often before and after my classroom observations I would have short conversations with the teachers to check in about the day, answer and ask any questions pertaining to the observation or study, and make future plans for observations or meetings. The teachers and children became familiar with my routine of coming into the classroom and often continued with their daily routine without being affected. While at times my observations appeared similar to that of an outside observer, my growing relationship with the teachers and role in the community transformed my role into that of a participant.

Facilitator of the community of practice.

During stage two of the study my role shifted to a more active member of the group. Throughout the CoP meetings I served the role of a facilitator, one who facilitated conversation within the community, valued and supported teacher inquiry, and incorporated active learning opportunities, while working to enhance teaching practice (Buenaflor, 2009). As a facilitator I provided outside support and resources needed to meet individual teaching needs and put into practice new teaching strategies. Specifically, as facilitator I used classroom observation data, teacher and researcher reflections, and transcriptions of previous CoP meetings to provide an outline for CoP conversations and teacher tools to support a focused attention on teacher-child interactions. Additionally, during the CoP meetings I served as a teacher at times, describing and introducing new ways to study teacher practice through the use of focal child data. As facilitator I often found myself summarizing teacher comments, probing teachers to expand on their thoughts through questioning, organizing the data to be discussed based on teacher requests, and opening the floor for discussion.

Additionally, as facilitator of the community it was essential that I pay close attention to teacher reactions over the course of using focal child data with classroom teachers. Throughout this process, teachers were tackling new understandings and being asked to engage in new activities. At times this was very difficult for the teachers, as Ms. Marci explains, "I'll be honest I don't know what you want us to write in that journal. I mean like that's what we're kind of like, it's really hard for us." As the teachers were told that they could write openly about anything pertaining to interactions Ms. Emma questioned, "So I could say that I was a lot nicer to this child today? I was okay today. I did good. I was a good Ms. Emma?" Being aware of this challenge to be reflective on their practice I made it a point to comment on their reflections during our weekly meetings. During week two I noted that the teachers all shared a reflection

that was initially challenging but that led to a positive outcome for both the teacher and child in the end. Ms. Emma responded, "We try, we try. We always want you know in that situation for the outcome to be positive. We want it to be."

Being responsive to teachers' questions and direction for future growth proved critical to my role as facilitator. Initially, teachers asked many clarifying questions as they sought to understand how to read and use the presented data, "So were there marks you made just about where they were?" questioned Ms. Marci; Ms. Allison asked, "What do you classify group time as?" It was important for teachers to clearly understand the observational process and the data, in order for them to feel connected to and internalize it for future change.

In addition to teacher questions, I also participated by asking questions to help teachers think more in depth about the data they were viewing. If I felt like the teachers could gain a little more from the data I pushed them a little further. For example when meeting with teachers at Lockerly Lane I asked, "What makes up the other 50% of group time that doesn't have interaction?" And the teachers responded by suggesting:

Ms. Lyn: They're not focused.

Ms. Lilia: It's a …not focused it could be, maybe I'm explaining something that's not really that engaging, like you were saying the didactic…Oh the didactic would still be, oh that was a type of interaction…ummm…if if there's a child like doing a job up there where they all they don't they're not focusing but that child's getting.

Ms. McKenzie: Ohhh

Ms. Dawn: Oh

Ms. Lilia: Share time. That could be a big, not a huge but a pretty big portion of share time. Okay, yeah. I feel better.

Here posing a question to the teachers forced them to think through children's experiences during group to strengthen their understanding of teacher-child interactions and how children experience large group meetings.

Furthermore, over the course of this study data was tailored to individual teacher needs and desires. After paying close attention to teacher reactions to the data and their questions along the way, at the conclusion of each meeting the next data to be presented was discussed. A strong example of this comes from a difference across sites of interest in looking at child-child interactions. At Lockerly Lane Ms. Lilia expressed this desire, "I was interested in the part that you said about the child to child interactions. So whatever you have on that I think would be interesting to see their interactions. I'd say it's pretty high…it's pretty high in here. Yeah, I think that'd really be interesting." This same sediment toward child-child interaction was not displayed at West Willows, as Ms. Marci notes, "Their behaviors I don't really. I mean personally I don't care what they were doing without us." Therefore, child-child interactions were only discussed with Lockerly Lane teachers.

In describing my role it also should be noted that as a researcher I have a lot of passion for the quality of early educational experiences for young children. I have spent many years in early childhood classrooms environments in a variety of roles, including: classroom teacher, graduate assistant, teaching intern, student teacher, and classroom volunteer. As a former classroom teacher, I understand the complexity that goes into making decisions in the classroom with respect to overall child wellbeing, teacher-child interactions, and curriculum instruction. It is due to my experience in the early childhood education field that brought me to this research topic. While I have a great deal of experience working with children, I believe that I still have much to learn from other professionals in the field and children's experiences. Particularly, I

believe I can learn from classroom teachers who have to make daily decisions about children's experiences and teacher-child interactions. I acknowledge that my position as a professional in the early childhood field impacted this research project. Therefore, it was critical that I was reflective upon my research practices, the relationships I developed, the decisions and choices that I made, and how my own values were impacting my personal lens through which I see this study, as I was one "instrument" through which part of the data was collected (Paul, 2005). Based on the stage of the study and needs of the participants I shifted between the roles of participant observer and community facilitator.

Chapter Summary

This chapter described the results of this study and the role taken by the lead researcher. The purpose of this study was to investigate context specific professional development, using focal child interaction data, as a means of enhancing teacher-child interactions in pre-k classrooms. Findings revealed (a) the majority of teacher-child interactions are engaging group level vocalizations, however variation existed by focal child and pre-k classroom; (b) through the use of focal child data and a community of practice model teachers developed a new perspective for thinking about teacher-child interactions; and (c) teachers became more aware of and intentional in their interactions with classroom children over the course of this study. Through the findings outlined in this chapter adequate data is presented to support the three research questions. Additionally, my role as lead researcher facilitated the progression of this study and the community of practice, as I was deeply involved in all aspects of this project. The following chapter presents a discussion of the contributions and limitations of this study.

Chapter V: Discussion

Designed to examine teacher-child interactions, this pilot study utilized focal child data as a professional development tool for pre-kindergarten teachers. Through studying focal child data it was anticipated that pre-kindergarten teachers would (a) enhance their knowledge of children's interaction experiences and (b) improve their interactions with the children in their classrooms. The following research questions guided this study:

1) What is the frequency and nature of teacher-child interactions in the target pre-kindergarten classrooms?

2) What are the ways in which focal child data can be translated into meaningful meditational tools for teachers to reflect on and use to improve their interaction practices?

3) How can focal child data be used to enhance teacher-child interactions in state-funded pre-kindergarten settings?

The findings described in the previous chapter exemplify the value of using focal child data to examine children's experiences and as a professional development tool for pre-kindergarten teachers. Situated in a conceptual framework that places individual development in context, guided by ecological systems theory and socio-cultural theory, this study provides a lens through which classroom dynamics can be evaluated from a *bottom-up* (Katz, 1994) perspective. Capturing the children's actual experiences in pre-kindergarten classrooms allowed for assessment of teacher-child interactions from a child's point of view.

Further, using the model for a collaborative community of practice (Lave & Wenger, 1991) provided a supportive community for teachers to study context specific professional development tools tailored to meet their unique needs for new growth and understandings. Thus this project moved away from the ineffective single-day workshop model for professional

development (Fixen, et al., 2005; Winton et al., 2008; Farkas, et al., 2003; Joyce & Showers, 2002; Mouza, 2002), and provided the essential elements of effective professional development including: teacher collaboration (Winton et al., 2008; Sunderman, et al., 2004), outside support (Winton, 2006), customizing for individual needs (Buenaflor, 2009; Albrecht & Engel, 2007), providing opportunities for active participation (Buenaflor, 2009), and assisting teachers in developing goals for taking action to improve their classroom practices within the context of their individual classrooms (McLaughlin & Zarrow, 2001; Buysee et al., 2009; Wilson & Berne, 1999). Therefore, the use of focal child data in this study provided a novel approach to examine the experiences of children in classrooms and consider how these experiences inform the practice of participant teachers.

Frequency and Nature of Teacher-Child Interactions

Through examining teacher-child interactions, findings from this study provide a portrait of individual children's daily experiences and illustrate that patterns exist when considering these experiences in pre-kindergarten classrooms. While no standards exist for how much teacher-child interaction should occur throughout the pre-kindergarten day when using focal child observations, data from this sample illuminates similarities within and between pre-kindergarten teachers and classrooms in overall percentages of interaction (Ms. Emma's room 21.81% (SD = 3.22), Ms. Amanda's room 26.48% (SD = 5.58), Ms. Lilia's room 23.00% (SD = 1.39). Moreover, consistently across classrooms approximately three-quarters of all teacher-child interactions occurred at the group level, documenting low levels of individual child interaction from teachers. Revealing this low level of individual teacher-child interactions is concerning as research suggests higher quality environments yield more responsive interactions (Goulet & Schroeder, 1998). Further, Early and colleagues (2005) exposed weak instructional quality in

preschool classrooms, in terms of helping children learn new concepts and providing helpful feedback. When examining findings from this study, similar conclusions can be drawn as children experienced predominately didactic (Ms. Emma's classroom) to mostly engaging (Ms. Amanda's and Ms. Lilia's classrooms) teacher-child interactions. On average interactions containing teacher behaviors of scaffolding (M = 2.76%, SD = 1.44) and responding (M = 7.00%, SD = 4.05) were limited, while engaging interactions were more frequent (M = 41.79%, SD = 14.51). Research suggests that higher levels of stimulation (asking questions, responding to vocalizations, and other forms of talking) are associated with enhanced cognitive child outcomes (NICHD, 2000). While this study reveals high levels of vocalizations, all children do not receive vocalizations that are responsive and scaffold their learning. Therefore, future research is needed to dissect specific teacher behaviors that contribute to positive child outcomes.

Similar to Hallam and colleagues (2009) and NICHD EERN (2005), this study evokes the importance of using individual child data to understand the quality of children's experiences in care settings. Research acknowledges the need for supportive and responsive (Baldwin, DaRos-Voseles, & Swick, 2003; Kontos & Wilcox-Herzog, 1997) interactions that provide feedback (Kostelnik et al., 1988) to support cognitive development, self-confidence and increased classroom performance for children. This study illustrated limited individualized interactions containing these specific types of teacher behaviors, specifically substantial between child variation existed in responsive interactions (M = 7.00%, SD = 4.05). Additionally, differences in children's interaction experiences emerged when analyzing interactions by overall teacher behaviors and individual classroom teachers. This divergence in children's experiences is consistent with research conducted by Howes, Matheson, and Hamilton (1994), as well as Pianta and colleagues (1995). Discovering this within classroom variation contributes to current

concerns regarding the validity of global classroom observations (Hallam et al., 2009; Lamb & Ahnert, 2006; Meluish, 2001).

The use of a focal child approach in this study makes an important contribution to the early childhood field. Specifically, this methodology reveals the importance of observing multiple caregivers' interactions with children. As displayed from these results children experience different types of interactions from various teachers in the classroom. This suggests that classroom observations need to take into account the variety of caregivers available to the children, and not place complete emphasis on the interactions from only the lead classroom teacher. By focusing on the focal child and any caregivers' interactions with the focal child, this methodology lends itself to describing the complete social context experiences of individual children in the classroom. Additionally, this approach supports both the ecological systems and socio-cultural theories that emphasize the need for researchers to study children within the multiple contexts that influence them on a daily basis (e.g., home, school, childcare, communities), as well as across the multiple caregivers that exist among these contexts.

Classroom Data as Professional Development Tool

Translating focal child data into professional development tools supported practicing pre-kindergarten teachers in their study of teacher-child interactions. Situated in a community of practice, graphic forms of quantitative data provided a representation of children's experiences in pre-k classrooms. This pilot study uncovered four findings that contributed to successfully using focal child data as a way for teachers to reflect on and improve their interactions practices: 1) focal child data provided teachers with a new lens from which to view their practice; 2) *a continuum of teacher perspective to interpret focal child data* emerged; 3) a community of practice model enhanced the use of focal child data; and 4) larger school and pre-k contexts

influenced data effectiveness. Guided by the data, teachers reacted through intentional changes in their interactions, as they acknowledged the potential learning opportunities that could occur in teacher-child interactions (Pianta, 2006; La Paro et al., 2004). These findings corroborate other research in the teacher professional development literature, revealing that professional growth is magnified through: professional opportunities for collaborative work (Lave & Wenger, 1991; Gallagher & Ford, 2002), learning experienced in the context in which it will be needed (Brown et al., 1989), and focusing directly on specific skills that teachers can acquire linked to improvements in classrooms practices (Haskins & Loeb, 2007; Hill, 2007; Pianta, 2005).

Finding from this study also revealed a change in teacher knowledge and practice for the participating pre-kindergarten teachers. Becker and Luther (2002) suggest the need for professional development focused on teacher-child relationships; additionally, teacher education and training are one of the strongest predictors of child care quality (Cost, 1995; Kontos et al., 1995). Therefore, the purpose of this study was to understand how professional development in the context of specific classrooms could enhance teacher-child interactions. Findings reveal how participating in this pilot study proved beneficial as teachers grew in their awareness of and intentionality in their interactions with young children in their classrooms. Examples in the previous chapter illuminate how teachers enhanced their understanding of quality teacher-child interactions, heightened their awareness of interactions in their classroom, and became more deliberate in their interactions with young children. While participant teachers varied in their practices, all teachers seemed to increase their level of understanding and level of intentionality regarding interactions with the children in their classroom. Intentionality in teacher-child interactions is critical for early childhood educators, as supportive and responsive interactions

build a strong social-emotional foundation, which contributes to children's strong transition

into school and lays the foundation for children to acquire the academic skills needed to be

successful in school (Pianta et al., 2007; Pianta, et al., 1995; Bowman, et al., 2001; Palermo et

al., 2007; Garner & Waajid, 2008; Peisner-Feinberg et al., 2001). Thus, teacher change to

strengthen teacher-child interactions is an essential component to professional development for

early childhood educators.

Limitations of the Data Collection and Analysis Process

While this study extended the conversation on how to use focal child data as a tool for

professional development of pre-kindergarten teachers, several limitations emerged. First of all,

due to the small nature of this pilot study and the intensity of data collection, generalizability, the

ability to apply findings of the study to other sites, is limited (Lincoln & Guba, 1985). This study

does not allow for transferring or applying children's interaction experiences or teacher changes

in interaction patterns out of the contexts in which they were created. However, while the

specific experiences cannot transfer across pre-kindergarten classrooms, it is anticipated that this

pilot study will inform the development of future studies focused on teacher-child interactions

within context, which will support teachers' professional development. Additionally, inter-

observer reliability should be conducted in the field across the multiple data collectors in order to

limit the amount of variation in data collection. Although data collectors in this study were

trained to a high rate of reliability with a gold standard, inter-observer reliability was not

conducted in the field because of the short duration of the data collection period. Future, larger

studies should integrate inter-observer reliability procedures into their methodology.

Another limitation stems from the sole participation of only one classroom at Lockerly

Lane Elementary. While utilizing the same process to study focal child data to enhance teacher-

child interactions across both sites, the lack of an additional teaching team may have impacted the new knowledge developed by Ms. Lilia, Ms. McKenzie, and Ms. Lyn. Findings reveal that these teachers made intentional changes in their interaction practices with the young children in their classroom despite the smaller community, however ideally participation from a second classroom and teaching team would be included. This challenge to recruit more pre-kindergarten classrooms and teachers could be a result of the intimate nature of this study.

Additionally, as a result of recruiting challenges this study took place close to the end of the school year. Therefore due to this short time frame, I would anticipate changes in teacher interaction practices to continue if this study was extended several more weeks. Further, teacher reflections may be strengthened if teacher were not so crunched for time due to multiple end-of-the-school-year demands.

Implications for Future Research and Practice

These findings have important implications for professional development, as there is a need to provide long-term collaborative professional development opportunities (Fixsen, et al., 2005; Winton et al., 2008) and consider context specific data when working with practicing teachers (Winton, 2006; Buenaflor, 2009; Buysse et al., 2009). Using a methodology that examines individual children's experiences, this study illustrates that teachers can gain valuable insight when studying their own practices, such as specific ways to increase their positive interactions with children. Although, having more education may lead to better achievement outcomes for young children (Barnett, 2003, 2004; Bowman et al., 2001; Darling-Hammond, 2000), Winton and colleagues (2008) found that one is not entirely dependent on the other. Therefore, focal child observations can provide data that highlight how children experience classroom environments, moving away from the more commonly used top-down measures of

quality (Katz, 1994). However, due to the complex nature of this particular focal child

observation methodology future studies are needed to compare focal child observations with

other observational methods. Specifically studies need to compare focal teacher observational

tools with this focal child measure to examine the strengths and limitations of each type of

observational method. Additionally, further studies are needed to determine the efficiency of the

behavioral codes collected using this observational checklist. The current coding system was

based on the work of Hallam and colleagues (2009), with adaptations based on the work of

Powell and colleagues (2008), Ritchie and colleagues (2002), Kontos and Keyes (1999), and

Stuhlman and Pianta (2002). It may be that similar information could be collected using more

efficient methods, for example shorter observational periods or fewer codes.

Future studies of larger and more diverse samples should consider whether it is the

frequency or duration of interactions that are more important for preschoolers' experiences and

outcomes. This study utilized frequencies to analyze overall teacher-child interactions as well as

behaviors in interactions. While frequencies are important to analyze in order to gain a

descriptive understanding of what behaviors are taking place between the teacher and the child,

frequencies may misrepresent the data. A frequency count only represents the occurrence of a

behavior at a specific point in time, therefore when analyzing teacher-child interactions it may be

more important to examine the duration of behaviors across time. Therefore, a future study could

build on this study by providing more analysis into the duration of interactions both within and

between pre-kindergarten classrooms.

As La Paro and colleagues (2004) proposed, interactions between teachers and children

are the primary way through which classroom experiences influence development, it would be

important to analyze what teacher behaviors in interactions contribute to quality programs and

child outcomes. This pilot study suggests that the majority of interactions contained teachers

vocalizing to groups of children through primarily engaging interactions. There were also many

didactic vocalizing interactions with children in one classroom at West Willows Elementary.

Further, for all of the children individual teacher-child interaction, both in the physical and non-

physical form, was extremely limited and in many cases physical interactions were non-existent.

This is consistent with past research, as past findings reveal that teacher interactions encourage

children to be passive in the classroom (Pianta, et al., 2005), focus specifically on teaching

(Bronson, et al., 1995), and focus on teacher conversations about children's activity choices

(Killen & Smetana, 1999). However as other studies indicate, warm and responsive interactions

contribute to secure relationships and development of self-regulation, empathy, and problem

solving skills (Baldwin et al., 2003; Goulet & Schroeder, 1998). Thus, further studies should

continue to use this methodology to examine various teacher behaviors that are illustrative of

teacher-child interaction in various contexts. In a larger study this type of analysis may support a

stronger understanding of the relationship between classroom quality, teacher-child interactions,

and child outcomes.

Additionally, this study revealed that systems outside of the classroom level microsystem

impacted teacher-child interactions. Over the course of this study teachers experienced

administrative decisions that influenced teacher-child interactions in the classroom. For Lockerly

Lane this broader context provided a support to the interactions taking place in the classroom

through the addition of a third teacher to increase the number of interactions children were

experiencing with adults. However, for the two classrooms at West Willows this outside system

negatively influenced interactions through the addition of an end of the school year procedure to

enforce and reiterate during each transition the school rules. This finding made concrete the need

to incorporate multiple levels of systems from ecological systems theory in designing future studies. Future studies need to take into account and involve players from each of the systems outlined in ecological systems theory in order to provide consistency in policies that support meaningful teacher-child interactions.

Conclusion

This dissertation study contributes new knowledge to the field of early childhood education as it provides another lens to examine teacher-child interactions and links professional development to teachers' own classroom contexts. Research typically examines the quality of pre-kindergarten classrooms from a "top-down" perspective, often finding mixed results when comparing child outcomes to program quality (Early et al., 2005). On the other hand, using a "bottom-up" perspective demonstrates that positive teacher-child relationships play an important role and link positively to long-term school outcomes (Birch & Ladd, 1997, 1998; Hamre & Pianta, 2001; Pianta, et al., 2007). However, professional development opportunities usually focus on curriculum content and not on supporting teachers in developing positive relationships with the children in their classrooms. Thus, this study demonstrated how taking a micro-perspective situated within context specific data could assist teachers in enhancing their interactions with the children of their classrooms. Further, it provided the field with another approach for collecting classroom quality data and potentially could inform a large-scale study both within and outside the pre-k context.

Additionally, participating pre-kindergarten teachers benefited from their participation in this study. Teachers received direct opportunities for professional development tailored to their unique needs and classroom contexts. Responding to a call by Saracho and Spodek (2006), this study considered factors that scaffold teachers' knowledge and enabled them to engage in

effective teaching practices with young children. Further, by sharing a common focus for professional growth teachers found support within the community of practice as they worked to improve their interactions with pre-kindergarten children. In addition, findings indicate teachers left this study with strong intentions for implementing new strategies learned, the ability to view their practice differently, and opportunities to reflect with colleagues on the skills and knowledge gained, and suggest that professional development was in place for the potential of lasting change (Bransford, Brown, & Cocking, 1999).

This methodological framework lends itself to further research in early childhood contexts. Research studies need to continue to disentangle elements of teacher education, children's actual experiences, and child outcomes. By providing a tool for illuminating children's experiences as a means of professional development, researchers can support teachers and administrators in using data from the child's point of view to impact their practice and enhance children's experiences. Data from future studies, that provide collaborative professional development opportunities using a micro-perspective, could help teachers make decisions about their classroom curriculum and enhance their interactions with the children in their care. Encouraging researchers and providers to think about the child's perspective will broaden our understanding of teacher-child interactions and allow us to develop new ways to conceptualize the complex dynamics that take place in state-funded pre-kindergarten classrooms.

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APPENDICES

Appendix A: Teacher Demographic Questionnaire

Classroom Characteristics

1. How many children are currently enrolled in your classroom? _____ Children

2. How many children in your class belong to each of the following racial groups?

　　　_____ African American
　　　_____ Asian American
　　　_____ Hispanic
　　　_____ Native American/Native Hawaiian
　　　_____ White (non-Hispanic)
　　　_____ Other, please describe _____

3. How many boys and girls are in your class? _____ Boys _____ Girls

4. How many children in your class have identified disabilities (receive early childhood special education)? _____ Children

5. Do you use a curriculum in your classroom?
　　　No
　　　Yes　　If YES, specify _____

6. Do you use any type of child assessment with the children in your classroom?
　　　No
　　　Yes　　If YES, specify _____

Teacher Characteristics

7. How long have you worked as a lead teacher in a pre-k classroom? _____ years _____ months

8. How long have you worked in the field of early childhood education?_____ years _____ months

9. What is the highest level of education you have completed?
　　　Grade School
　　　Some High School
　　　High School Graduate
　　　Some College/Trade School, Technical School
　　　College Graduate
　　　Post Graduate Degree
　　　GED
　　　Other　Please specify: _____

10. Do you have a degree in early childhood or child development?

        No

        Yes   If YES, specify _____

11. What is your gender?

        Female

        Male

12. Which best describes your ethnic/racial group?

        African American

        Asian American

        Hispanic

        Native American/Native Hawaiian

        White (non-Hispanic)

        Other, please describe _____

Appendix B: Child Demographic Questionnaire

1. What is your child's birth date?

      _____ _____ _____
       month   day   year

2. How old was your child when he/she started regularly attending child care (cared for by someone besides immediate family members)?

      _____ _____
       years   months

3. Has your child been attending his/her pre-k classroom since the beginning of the school year?

       Yes
       No, please specify start date: _____

4. What is your child's gender?

       Female
       Male

5. Which best describes your child's racial/ethnic group?

       African American
       Asian American
       Hispanic
       Native American/Native Hawaiian
       White (non-Hispanic)
       Other, please describe _____

Appendix C: Participant Demographics and Study Progression

Table C1

Pre-Kindergarten Teacher Participant Demographics

Participant	Role in Classroom	Sex	Race/ Ethnicity	Level of Education	Years of ECE Exp	Degree in Early Childhood or Child Dev.	Start date in this position
West Willows Elementary School							
Ms. Emma	Lead Teacher	Female	White (non-Hispanic)	College Graduate	2 years 10 months	Early Childhood Education (Pre-K – 3)	Aug 2007
Ms. Marcie	Assistant Teacher	Female	White (non-Hispanic)	College Graduate (current enrollment in MS-Elementary Ed)	10 months	No (K-6 in process)	Aug 2010
Ms. Amanda	Lead Teacher	Female	White (non-Hispanic)	College Graduate	1 year 10 months	Early Childhood Education (Pre-K – 3)	Aug 2008
Ms. Jayna	Assistant Teacher	Female	White (non-Hispanic)	College Graduate	1 year 6 months	Early Childhood Education (Pre-K – 4)	Aug 2009
Ms. Allyson	Special Education Lead Teacher	Female	White (non-Hispanic)	Post Graduate Degree	15 years	Modified/Comp Special Education (K-12)	Aug 1998
Lockerly Lane Elementary							
Ms. Lilia	Lead Teacher	Female	White (non-Hispanic)	Post Graduate Degree	Approx. 20	MS in Early Childhood Education	Aug 2001
Ms. McKenzie	Assistant Teacher	Female	White (non-Hispanic)	Some College/Trade School	5 years	No	July 2009
Ms. Lyn	Part Time Assistant Teacher	Female	White (non-Hispanic)	College Graduate	4 months	No	Feb 2010

Table C2

Focal Child Participant Demographics

Participant	Sex	Age in Months	Race/ Ethnicity	Observed Time in Classroom	Classroom
Chloe	Female	56 mo	White (non-Hispanic)	356 intervals/ 2 hours 58 minutes	West Willows Ms. Emma
Ellissa	Female	60 mo	White (non-Hispanic)	354 intervals/ 2 hours 57 minutes	West Willows Ms. Emma
Jackson	Male	57 mo	White (non-Hispanic)	346 intervals/ 2 hours 53 minutes	West Willows Ms. Emma
Hunter	Male	63 mo	White (non-Hispanic)	363 intervals/ 3 hours 1 minute	West Willows Ms. Emma
Dalia	Female	56 mo	White (non-Hispanic)	350 intervals/ 2 hours 55 minutes	West Willows Ms. Amanda
Haleigh	Female	55 mo	White (non-Hispanic)	359 intervals/ 2 hours 59 minutes	West Willows Ms. Amanda
Maverick	Male	56 mo	White (non-Hispanic)	356 intervals/ 2 hours 58 minutes	West Willows Ms. Amanda
Trenton	Male	61 mo	African American and White (non-Hispanic)	363 intervals/ 3 hours 1 minute	West Willows Ms. Amanda
Lexie	Female	65 mo	White (non-Hispanic)	427 intervals/ 3 hours 33 minutes	Lockerly Lane Ms. Lilia
Julianne	Female	56 mo	White (non-Hispanic)	391 intervals/ 3 hours 15 minutes	Lockerly Lane Ms. Lilia
Julian	Male	62 mo	Hispanic	390 intervals 3 hours 15 minutes	Lockerly Lane Ms. Lilia
Brice	Male	63 mo	Hispanic	317 intervals 2 hours 38 minutes	Lockerly Lane Ms. Lilia

Table C3

Data Collection Timeline and Types of Data Presented

	Stage One Initial Data Collection		Stage Two Professional Development with Teachers		
		Week One	Week Two	Week Three	Week Four
Data Collected	• 4 Focal Child Observations • Field Note Observation	• CoP 1 Audio Record	• CoP 2 Audio Record • Teacher Reflection • Field Note Observation	• CoP 3 Audio Record • Teacher Reflection • Field Note Observation	• CoP 4 Audio Record • Teacher Reflection • Field Note Observation
Data Presented	• None	• None	• Context Data • Overall Interaction	• Composite Behaviors in Interaction	• Ind. Teacher Behaviors • Child Contributions

Appendix D: Definitions of Observational Categories

During coding periods a check mark will indicate that a child's behavior is present but not directed at another individual. When a child's behavior is directed towards another individual the coder must record who the behavior is directed to using the codes included in "individuals present." In this case, "A" refers to lead teacher (T1), assistant teacher (T2), any other teacher (T…). When another person's behavior is directed towards the focal child only lead teacher (T1), assistant teacher (T2), other teacher (T…), or for some codes a juvenile (J) can be coded. "I" refers to the focal child.

I. Individuals Present
At the beginning of each observation, the coder will fill in details related to who is present in the classroom. In this section, list all individuals present in the same room as the focal child and assign each teacher a unique letter abbreviation, such as T1 (lead/primary teacher), T2 (assistant teacher), T… (any adult caregiver, 18 and older, except lead/assistant teacher), and J (peers).

Behavioral Code	Definition
II. STATE OF THE CHILD	
I DROWSY/SLEEPING	The child yawns and/or manifests other signs of drowsiness, of imminent sleep, or is actually asleep. This code includes indicators like an apparent lack of focus, looking without blinking, falling eyelids. Record a (D) if the child is drowsy and an (S) is sleeping. Sleep is coded when the child's eyes are closed and the body is still. When children are in the process of falling asleep and it's impossible to see their face (e.g., they are facing a wall or head is covered by a blanket), then code sleep after 1 to 2 minutes of deep breathing and lack of motion.
I FUSS/CRY/TANTRUM	'F' should be used to indicate fussing, 'C' for crying, and 'T' for tantrum according to the following definitions. Fussing is indicated when the child is awake and manifests signs of agitation and/or is upset. The child is bothered and emits moans, whines, and whimpers, but does not cry. If the child is fussing for an individual, indicate who the person is. Crying is indicated when the behavior of the child leaves no doubt that he/she is crying (tears). If the child is crying for an individual, indicate who the person is. Tantrum is indicated when fussing and crying has escalated in intensity and involves physical frustration such as intense stomping, flaying arms, throwing or hitting objects, throwing their body to the ground, and kicking. Physical frustration is also paired with yelling, shouting, screaming or crying. Fussing, crying, and tantrum should be considered as different levels of irritation with the lowest level being fussing, crying being the medium level, and tantrum being the most intense level.
I CONFLICT A/J	The focal child has a conflict with another individual. This is expressed through physical or verbal a contest over an object or an individual. This includes the focal child taking away an object from a

	child (object was not willingly given), blocking another child's path of travel or access to an object or individual. Conflict may also have been initiated by someone other than the focal child, for example another child takes away an object from the focal child, or blocks their path of travel or access to an object or individual. This may be coded in cases of escalated conflict involving aggression, in those cases also "I Aggressive A" should be coded. Continue to code conflict as the focal child continues their response to the episode.
I REFUSES A	The focal child refuses a request, stimulation, or social or physical cue from an individual. This includes a refusal to respond (ignoring), a verbal refusal (negation such as "No") or a physical refusal (moving away, turning away). This could be coded simultaneously with "I Aggressive P" if a child physically pushes, hits, kicks, or screams (or equivalent) at an individual away in response.

I AGGRESSIVITY A (P/NP)	I AGGRESSIVE NON-PHYSICAL (NP)
	
	    The child is attempting psychological harm to another person through yelling and screaming, In order to code "I Aggressive-NP," the child's face must be expressing anger or frustration.
	
	I AGGRESSIVE PHYSICAL (P)
	
	    The child is attempting physical harm to another person (or object) through hitting, kicking, biting, scratching, pushing, etc. In order to code "I Aggressive-P", the child's face must be expressing anger or frustration. Indicate which individual the child is attempting to harm.

III. I SOCIAL

I SMILES/LAUGHS */A/J	The child smiles, laughs, or giggles. Use a check mark to indicate smiling, laughing, or giggling. This is not to be coded while the child sleeps.
I VOCALIZES */A/J/G	The child makes sounds, vocalizes, or talks, but nothing which indicates irritability should be coded, nor should hiccups, coughs, or sneezes. Identify who the child is vocalizing towards. In addition, use a check mark to indicate vocalizing that is not directed toward an individual (e.g., singing, talking to themselves).
I RESPONDS A/J	The child shows positive response to an individual's vocalization, affection or stimulation, including smiles, laughter, visual focusing, arm/leg movements, and vocalizations. Indicate who the child is responding to.

IV. CHILD ATTACHMENT BEHAVIORS

I SEEKS ASSISTANCE A	The focal child seeks assistance through gestures or vocalizations. Assistance may be sought for aid with a task, manipulation of an object, access to a person or object, or need/desire for physical care such as wiping nose, cleaning their hands, changing of clothes, etc.

V. **CHILD ACTIVITY**	
OFF TASK	Child is overtly engaged in an activity that is not congruent with teacher instructions or is not related to the designated activity. Child must display clear cues indicating he/she is "off task"
I IN GUIDANCE	Child is receiving some form of discipline such as time out (e.g. child is left to clean while other children are engaged in another activity).

VI. **CAREGIVER BEHAVIORS**	
These behaviors can be coded for any teacher.	
A MODIFY I (NP/P)	A MODIFY I – NON-PHYSICAL (NP) A caregiver verbally modifies the focal child in response to child's behavior and that teacher wants to change the child's behavior to align with the caregiver's expectations (i.e., to comply with norms, rules, or to clearly promote a more desirable behavior). The caregiver modifies the child's behavior with positive or neutral affect using verbal means such as distracting the child with verbal cues (suggestion to engage in a different behavior). This should not be coded if the child has in some way requested assistance (A respond I and/or A assist I). This code should not be used if the individual vocalizes to the focal child during didactic, assisting, scolding, engaging, scaffolding, affectionate, soothing, or giving directions. A MODIFY I – PHYSICAL (P) A caregiver physically modifies the focal child in response to child's behavior and that teacher wants to change the child's behavior to align with the caregiver's expectations (i.e., to comply with norms, rules, or to clearly promote a more desirable behavior). The caregiver modifies the child's behavior using physical means such as distracting the child by physically moving the child away from someone or something, or taking an object way from the child. This code should not be coded with physical interaction of: scaffold, engage, scold, assist, affection, or soothe.
A SOOTHE I (NP/P)	A SOOTHE I – NON PHYSICAL (NP) Through verbal expressions, an individual tries to calm or quiet the irritable or crying child, indicate which individual. This can include vocalizations or verbal expressions intended to distract the child. If the child calms for a complete 20-second period while the adult continues the same behavior, then it will be coded as "A Affect I -NP". This code should not be used if the individual vocalizes to the focal child during didactic, assisting, scolding, modifying, scaffolding, affectionate, engaging, or giving directions. A SOOTHE I - PHYSICAL (P) An individual tries to physically quiet or calm the irritable or crying child; indicate which individual. This can include: rocking, patting, and swaying. Not to be coded simultaneously as affection.

	The variable "A Soothe P" is only coded while the child is irritable or crying. If the child calms for a complete 20-second period while the adult continues the same behavior, then it will be coded as "A Affect I- P." This code should not be coded with physical interaction of: scaffold, modify, scold, assist, affection, or engage.
A SCOLD I (NP/P)	A SCOLD I – NON-PHYSICAL (NP) A caregiver modifies the focal child's behavior in response to an irritable state (fuss, cry, tantrum), conflict or in prevention of conflict, or an accident or prevention of an accident. The caregiver modifies the child's behavior with negative affect using verbal means such as talking sternly to the child, yelling or shouting at the child. The child may be visibly upset or not, but it should be clear that the caregiver is attempting to discourage the child from an undesired behavior. This may be coded simultaneously with "A Scold I P." This code should not be used if the individual vocalizes to the focal child during didactic, assisting, engaging, modifying, scaffolding, affectionate, soothing, or giving directions. A SCOLD I – PHYSICAL (P) A caregiver modifies the focal child's behavior in response to an irritable state (fuss, cry, tantrum), conflict or in prevention of conflict, or an accident or prevention of an accident. The caregiver modifies the child's behavior using punitive physical means such as swatting the child, spanking, roughly moving the child away, or placing the child in time-out (or equivalent scolding area). The child may be visibly upset or not, but it should be clear that the caregiver is attempting to discourage the child from an undesired behavior. This may be coded simultaneously "A Scold I NP". This code should not be coded with physical interaction of: scaffold, modify, scold, assist, affection, or soothe.
A RESPOND I	A caregiver responds to a child's positive social cue or request for assistance.
A ASSISTS I (NP/P)	A ASSISTS I- NON-PHYSICAL (NP) An individual gives solicited or unsolicited help using vocalization to a task the focal child is already engaged in. Help may include verbally aiding with a task, game or toy, climbing into a lap or chair or on an object, preventing a physical accident (cup tipping over, child falling down), or manipulation of an object (holding utensil). In order to distinguish between solicited and unsolicited help, solicited help should be coded simultaneously with "A respond I" to indicate that the assistance was solicited by the child. When not coded with "A respond I," it is assumed that the assistance was not solicited by the child. A ASSISTS I-PHYSICAL (P) An individual gives solicited or unsolicited physical help to a

	task the focal child is already engaged in. Help may include physically aiding with a task, game or toy, climbing into a lap or chair or on an object, preventing a physical accident (cup tipping over, child falling down), or manipulation of an object (holding utensil). In order to distinguish between solicited and unsolicited help, solicited help should be coded simultaneously with "A respond I" to indicate that the assistance was solicited by the child. When not coded with "A respond I," it is assumed that the assistance was not solicited by the child. This code should not be coded with physical interaction of: scaffold, modify, scold, engage, affection, or soothe.
A DIDACTIC -I (NP)	An individual speaks to the child in an instructional way with no reciprocity from the child. This code should not be used if the individual vocalizes to the focal child during engaging, assisting, scolding, modifying, scaffolding, affectionate, soothing, or giving directions. Vocalizations such as giving the children "academic content" information should be coded here.
A/J VOCALIZES I (A/J VOC I)	An individual speaks to the child; identify the individual.
A/J VOCALIZES TO GROUP THAT CHILD IS A PART OF (A/J VOC G)	An individual talks to a group of children (or mixed group of children and adults) that the focal child is a part of. The identity of the individual should be recorded. This code should not be used if the individual speaks directly to the child (A Voc I). A group is defined as at least two individuals, including the focal child.
A ENGAGE I (NP/P)	A ENGAGE I – NON-PHYSICAL (NP) This variable includes a verbal action on the part of an individual which intends to focus the child's attention on a specific event. It indicates attempts to stimulate by shaking a toy, being verbally expressive, etc. Identify the individual. This code should not be used if the individual vocalizes to the focal child during didactic, assisting, scolding, modifying, scaffolding, affectionate, soothing, or giving directions. Engage should not be coded if the child is irritable. A ENGAGE I – PHYSICAL (P) This variable includes any physical action on the part of an individual which intends to focus the child's attention on a specific event. It indicates attempts to stimulate by poking, pulling on limbs, shaking, tickling, etc. Identify the individual. This code should not be coded with physical interaction of: scaffold, modify, scold, assist, affection, or soothe. Engage should not be coded if the child is irritable.
A AFFECTION (NP/P)	A AFFECTION NON-PHYSICAL (NP) An individual expresses positive affect to the child in a verbal form. Identify the individual. Affection should not be coded if the child is irritable. This code is coded when the teacher praised the child,

	showed verbal affection toward the child, or gave positive reinforcement to the child such as a compliment. This code should not be used if the individual vocalizes to the focal child during didactic, assisting, scolding, modifying, scaffolding, engaging, soothing, or giving directions. A AFFECTION PHYSICAL (P) An individual shows positive affect to the child; such as overt physical affection (ex. touching, nuzzling, kissing) or more subtle physical affection (e.g., high five, pat on the back). Identify the individual. Affectopm should not be coded is the child is irritable. This code should not be coded with physical interaction of: scaffold, modify, scold, assist, engage, or soothe.
A GIVE DIRECTION I (NP)	A GIVE DIRECTION I – NON-PHYSICAL (NP) An individual gives verbal direction to focal child for a specific behavior with no physical prompts. This code must contain a verbal description of the behavior (e.g. "go line up"). Also may include non-verbal and non-physical direction to the child for a specific behavior with no physical prompts. This code must contain a non-verbal and non-physical description of the behavior (e.g. "pointing out"). Include general directions that inform the child of what they need to be doing, including routines or the prevention of an accident. This code should not be used if the individual vocalizes to the focal child during didactic, assisting, scolding, modifying, scaffolding, affectionate, soothing, or engaging. A physical give direction is either a modify or an assist.
A SCAFFOLD I (P/NP)	A SCAFFOLD I- NON-PHYSICAL (NP) This variable includes a verbal action on the part of an individual which intends to focus the child's attention on a specific event and extend a child's learning. It indicates attempts to scaffold the focal child's learning by asking an open-ended question, being verbally expressive to challenge the child's thinking, etc. Identify the individual. Scaffold should not be coded if the child is irritable. This code should not be used if the individual vocalizes to the focal child during didactic, assisting, scolding, modifying, engaging, affectionate, soothing, or giving directions. A SCAFFOLD I- PHYSICAL (P) This variable includes any physical action on the part of an individual which intends to focus the child's attention on a specific event and extend a child's learning. It indicates attempts to scaffold the focal child's learning by assisting the focal child with materials to help the child be successful (does not include doing something for the child). Identify the individual. This code should not be coded with physical interaction of: engage, modify, scold, assist, affection, or soothe. Scaffold should not be coded if the child is irritable.

VII. CAREGIVER AND LOCATION OF CHILD	
A PHYSICAL CONTACT	A caregiver and the focal child are in physical contact. This includes sitting closely together, holding onto a limb, leaning on the individual, an individual leaning on them. This should also be coded with specific types of active positive (non-conflict) touching, including scaffold, engage, modify, scold, assist, affection and soothe. Should also be coded with proximal.
A PROXIMAL	A caregiver who is within an adult arm's distance of the child. May be coded with "Physical Contact" if applicable.
A PARTICIPATE	A caregiver participates in an activity in which a focal child is involved.
I ON TABLE/CHAIR	Child is using a table and/or chair. Code "C" if focal child is sitting on a chair, "T" if focal child is standing at a table, and " √ " if focal child is sitting on a chair at a table.
SOCIAL GROUP	SOLITARY: Child is involved alone in an activity. No peers or teacher are located within 2 child arm lengths. SMALL GROUP: Child is engaging with/or similar activity as one to four other children and a teacher(s) (total of two to five children, including focal child). LARGE GROUP: Child is with more than 5 other children and less than the whole group of children and a teacher(s) (minimum number is six children, including focal child) WHOLE GROUP: Child is with whole group of children in the classroom. This includes intended whole group activities even if one child is not in the group (e.g. a J is in the bathroom, a J is in guidance)
CLASSROOM CONTEXT	Describe the activity that the focal child is participating in. Identify any activity that the child is involved for more than a 20 second period. Snack/meal time: Child is eating a meal or snack. Transition time: Child is moving from one activity to another through teacher's direction. (e.g. standing in line, clean-up, waiting between activities, waiting for materials) Free choice/center: Child is freely playing in various classroom areas not directed by teacher. Child is able to select what and where they would like to play/work/learn. Activity is child selected. Work time: Child is involved in teacher-initiated activities devoted to teaching/learning skills. Child assigned to work with teacher and activity is teacher organized (meaning teacher decides what children

	are doing and who participates). Teacher does not have to participate as part of the group. Group time: Child is involved in teacher-initiated large or whole group activities. Teacher-initiated activity, child focus is on teacher, teacher is leading and present. Other: Any activity context that can not be classified in one of the above codes. Make a note of the specific context on the observation sheet.
I ACTIVITY	The activity the child is involved for more than 10 of the 20 seconds coded. Codes for activity include: Art (A), Dramatic play (DP), Manipulatives (M), Reading (R), Blocks (B), Sensory (S), Writing (W), Computer (C), Science/inquiry (SI), Undefined ($\sqrt{}$). Not applicable (NA) is used whenever the child cannot be observed and no codes are recorded, such as when toileting is occurring or other situations when it is not feasible to observe due to privacy. Observers should record NA for each interval in which this occurs and add a brief explanation on the data sheet.
Composite Teacher-Child Interaction	The combined score of caregiver vocalize, respond, scaffold NP/P, engage NP/P, modify NP/P, assist NP/P, affection NP/P, didactic NP, give direction NP. At times these behaviors were combined across all teachers to provide an overall total interaction variable. Behaviors were also summed by individual teacher to provide overall interaction with a specific teacher.
General classifications of overall interaction	Non-Physical Vocalizations to Group: Variable created from the co-occurrence of "A vocalize group" with any of the following codes: scaffold NP, engage NP, modify NP, assist NP, affection NP, didactic NP, and give direction NP. No physical behaviors can occur in this interaction variable Non-Physical Vocalizations to Focal Child: Variable created from the co-occurrence of "A vocalize I" with any of the following codes: scaffold NP, engage NP, modify NP, assist NP, affection NP, didactic NP, and give direction NP. No physical behaviors can occur in this interaction variable. Physical Focal Child: Variable created from the occurrence or co-occurrence of any of the following codes: scaffold P, engage P, modify P, assist P, affection P, and respond. No vocalizations can occur in this interaction variable.

	Mixed Non-Physical and Physical Interaction: Variable created from the co-occurrence of both physical and verbal interaction of any of the following behaviors: vocalize individual or group, respond, scaffold NP/P, engage NP/P, modify NP/P, assist NP/P, affection NP/P, didactic NP, give direction NP. Note: Each of these codes is mutually exclusive and sums to 100% of a focal child's total interaction.

Sub ID:		Classroom ID:					Coder:			Date:			Time:			Page:														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
I Sleep/drowsy																														
I Fuss/Cry/Tantrum																														
I Conflict A/J																														
I Refuses A																														
I Agg A-P																														
I Agg A-NP																														
I smile/laugh */A/J																														
I voc */A/J/G																														
I respond A																														
I seeks assist A																														
A scaffold I-NP																														
A engage I-NP																														
A didactic I-NP																														
A give dir. I-NP																														
A modify I-NP																														
A scold I-NP																														
A assist I-NP																														
A affection I-NP																														
A soothe I- NP																														
A/J voc I																														
A/J voc Group																														
A respond I																														
A scaffold I-P																														
A engage I-P																														
A modify I-P																														
A scold I-P																														
A assist I-P																														
A affection I-P																														
A soothe I- P																														
A Physical Contact																														
A Proximal																														
A participate																														
I off task																														
I in guidance																														
Solitary																														
Small group																														
Large group																														
Whole group																														
I on table/chair/*																														
Group time																														
Work time																														
Snack/Meal																														
Transition																														
Free choice																														
Other																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

Free Choice- Art (A), Dramatic play (D), Manipulative (M), Reading (R), Blocks (B), Sensory (S), Writing (W), Computer (C), Science/inquiry (SI), Undefined (√)

Observer Notes:

Figure D1. Focal Child Observation Checklist

Appendix E: Semi-Structured Field Notes

Classroom ID: _____   **Date:** _____

Observer: _____   **Time Period:** _____

<div align="center">

Observational Notes

</div>

Physical Setting:

    1) Individuals present (ex. number of adults/children, adult roles)

    2) Classroom space organization (ex. learning centers, access)

    3) Physical climate/aesthetics (ex. lighting, artwork, etc.)

    4) Materials (ex. variety, utilization, organization)

    5) Daily schedule (ex. type of activities, organization of the day)

    6) Routines (ex. meal/snack time, transitions)

    7) Learning time (ex. individual/group, instruction type)

<div align="center">

Page _____ of _____

</div>

Descriptions of teacher/child interactions: The focus of these notes is on social behaviors and the context of these interactions.

1) **Teacher Interactions** (include: conversation (what is being said, what is the context); teacher response to child's behavior (verbal and non-verbal language, facial expression, method); general teacher affect; general classroom management)

    a. Lead Teacher:

    b. Assistant Teacher:

    c. Any other Adult:

2) **Children's Interactions:** (include: general behavior/affect; conversation with
teacher (what is being said); antecedent to behavior modification; intentional physical
contact (positive or negative); focus of child's play; response to teacher; attempts to seek
interaction)

    a. Generally for the classroom:

    b. Focal Child # _____:

    c. Focal Child # _____:

    d. Focal Child # _____:

    e. Focal Child # _____:

Following the Observation Notes

Impressions/analytic: Impressions of the context and the teacher-child interactions (teacher engagement with children, anything the teachers seems to be focusing most of their energy on); contexts or events that may have affected teacher and/or child behavior; general impressions of the overall teacher and child behavior, emotional climate, and appropriateness of all aspects for this age group.

Methodological Notes: Note any issues related to methodology (e.g., reaction to observers difficulty observing, descriptions of why and when an observation stopped temporarily, documentation of any uncomfortable events or ethical dilemmas)

Appendix F: Focal Child Descriptive Data
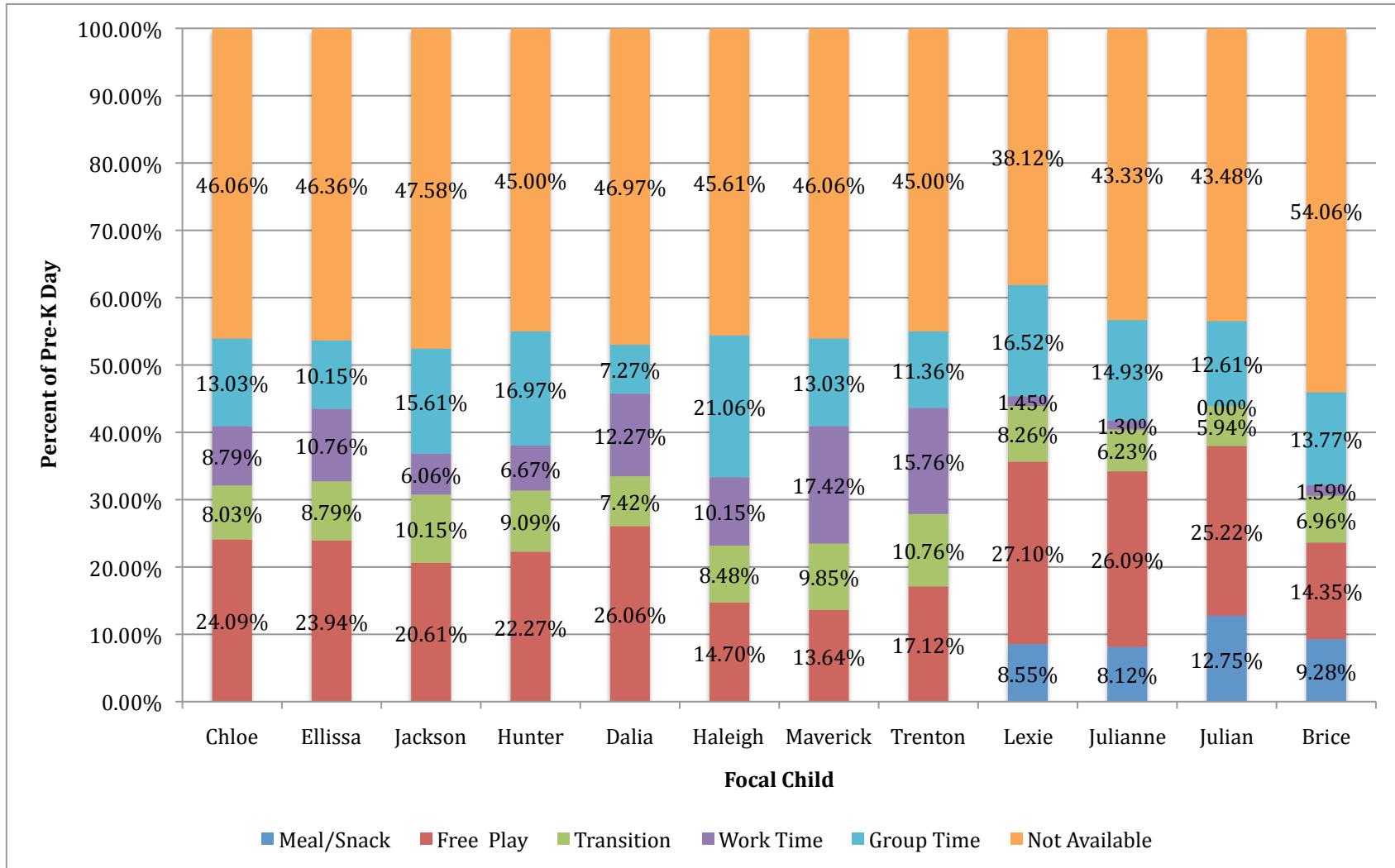
Figure F1. Child's Classroom Experience by Context
Note: Meal/Snack not observed for classrooms at West Willows Elementary.
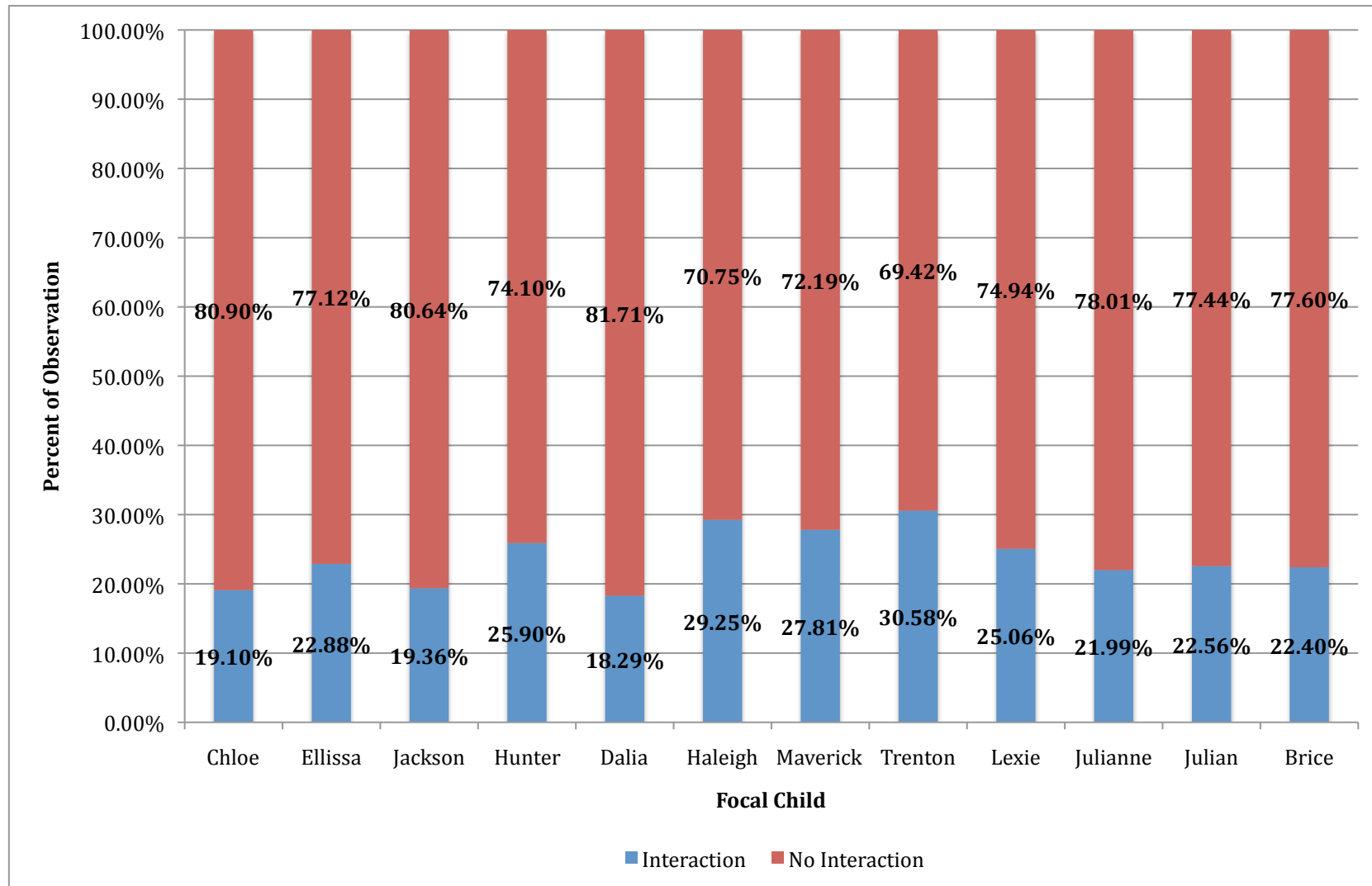
Figure F2. Overall Teacher Interactions with Focal Child During Observed Time
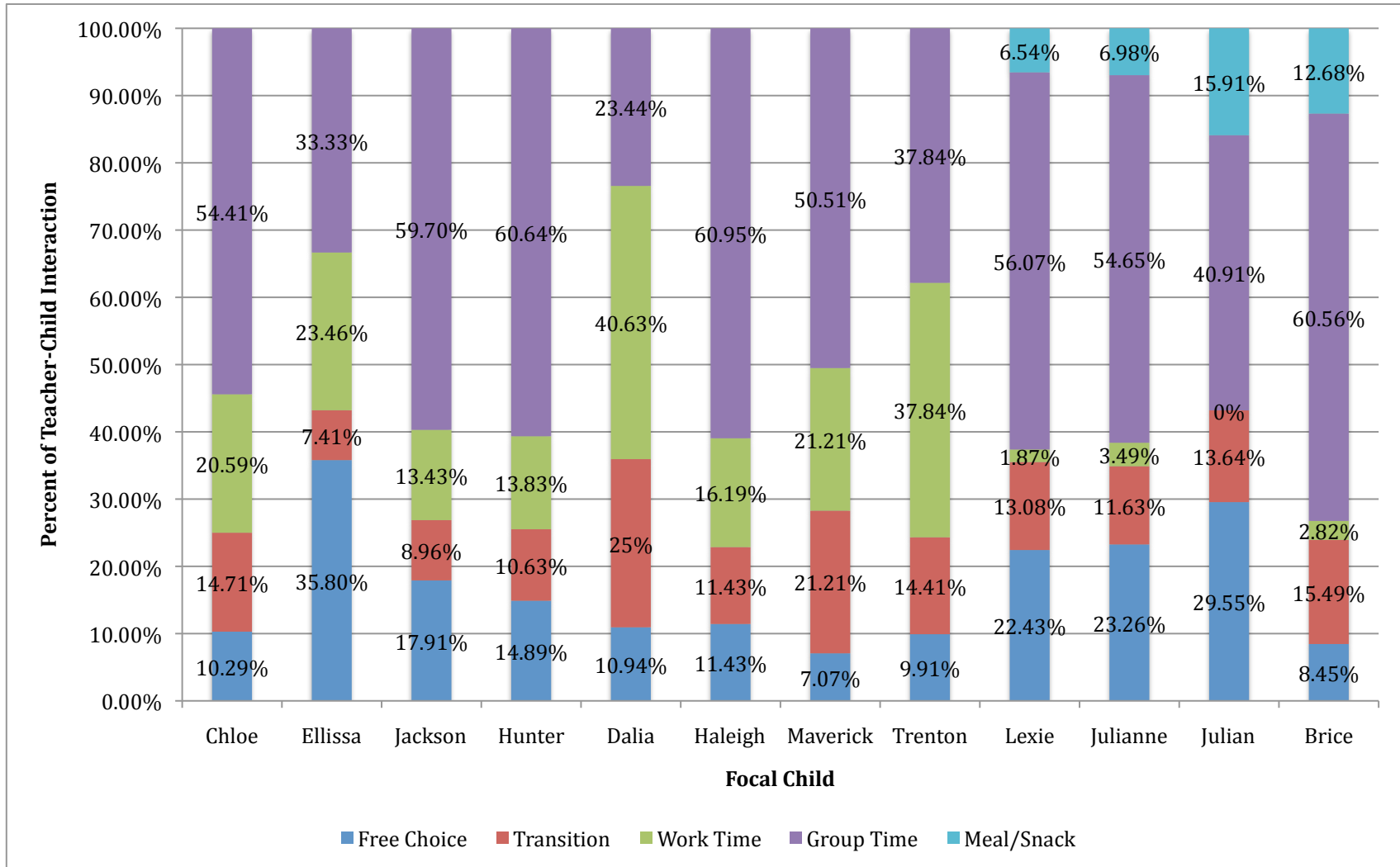
Figure F3. Teacher-Child Interactions by Classroom Contexts
Note: Meal/Snack not observed for classrooms at West Willows Elementary.
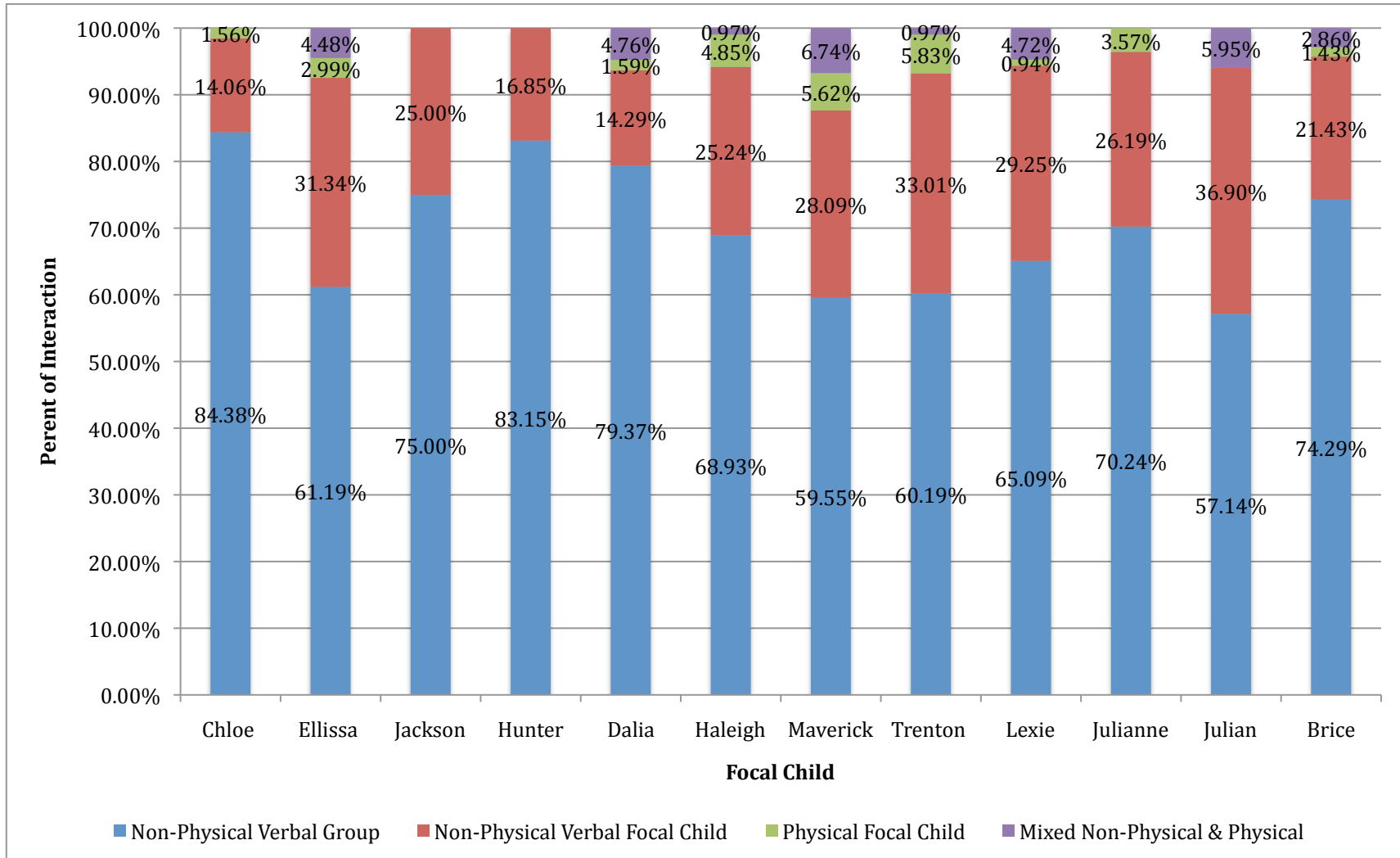
Figure F4: Nature of Teacher-Child Interaction
Note: Graphed variables are defined in Appendix D: Observational Code Definitions.
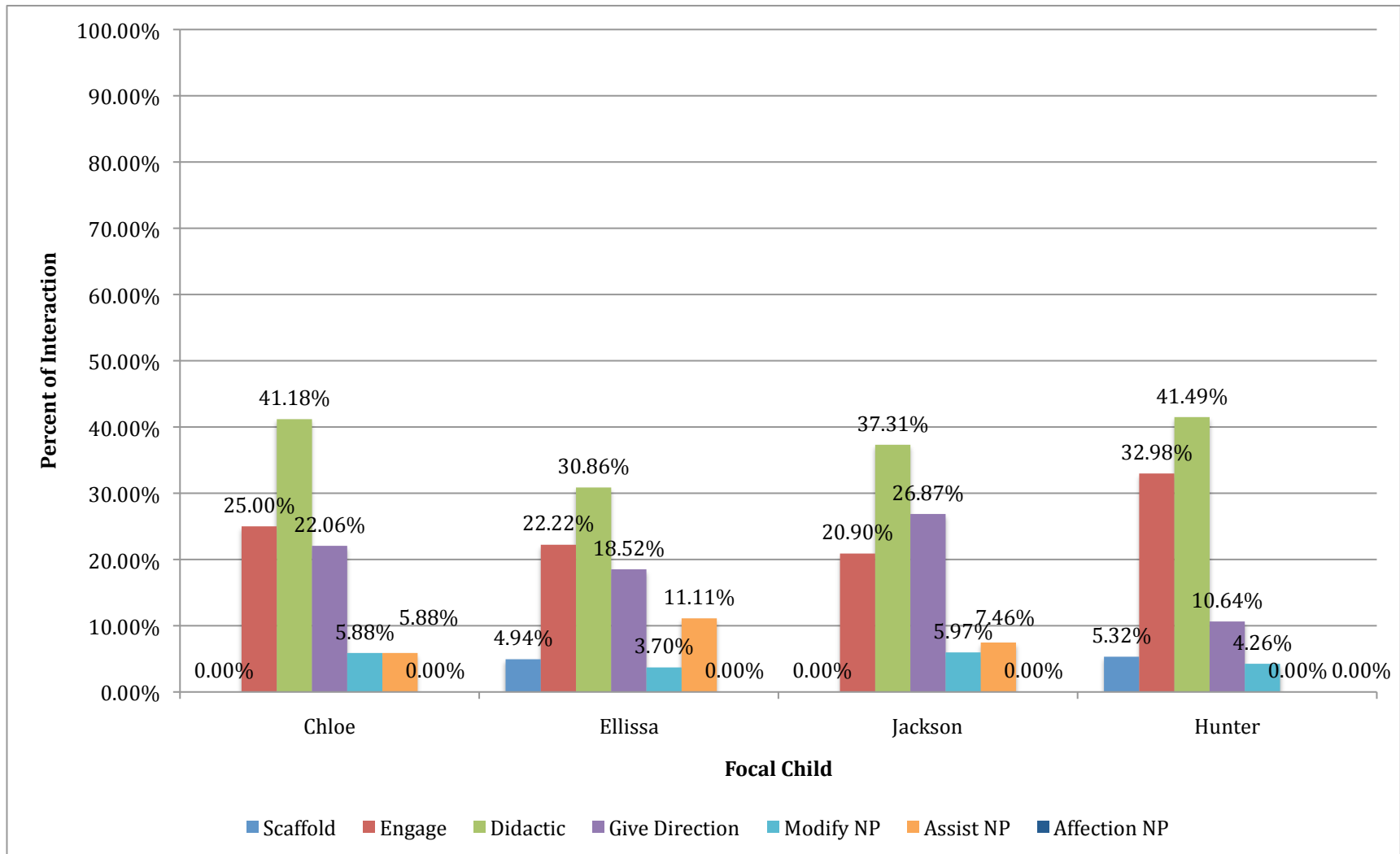
Figure F5. Ms. Emma's Classroom: Teacher Behaviors in Overall Interaction
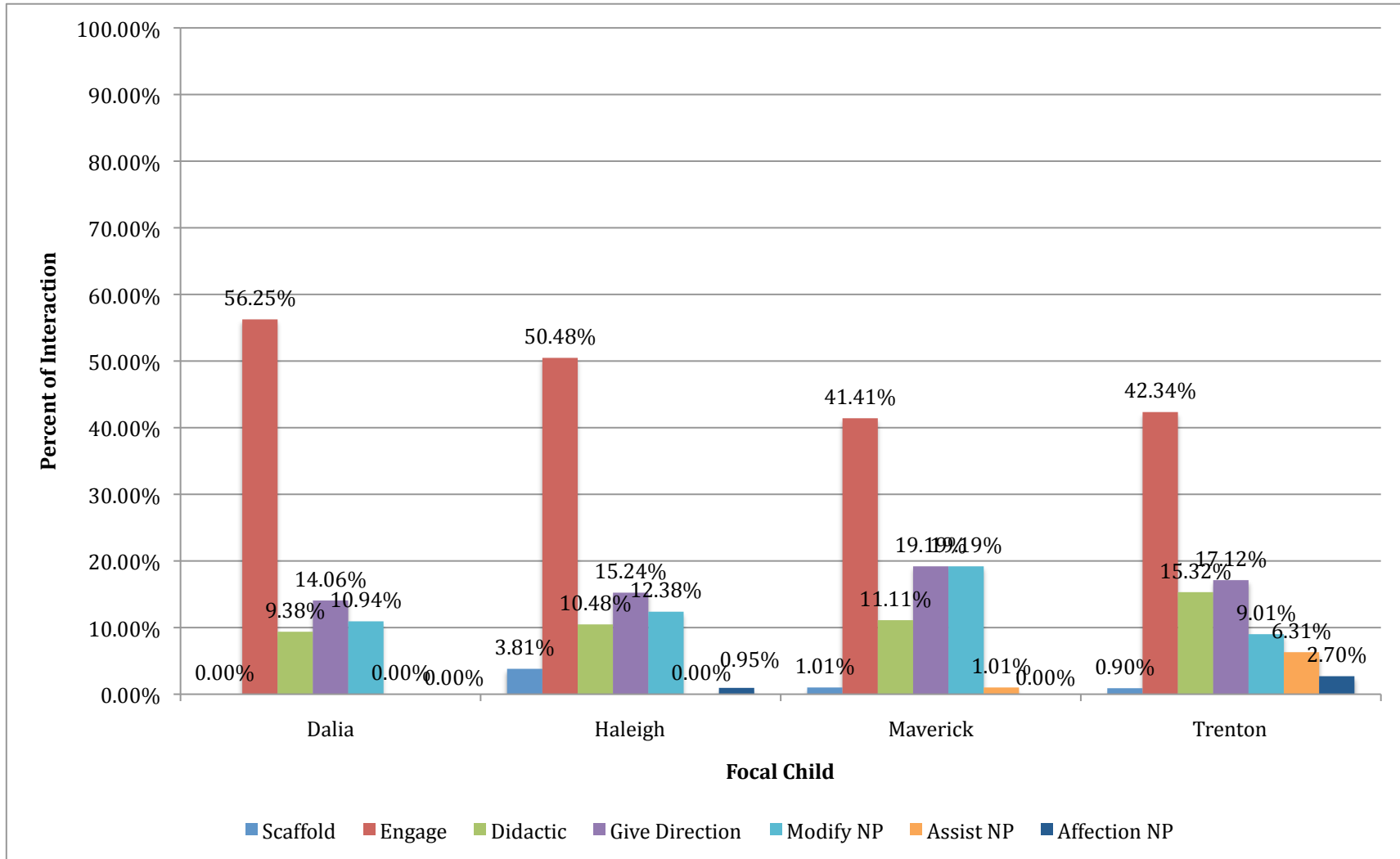
Figure F6. Ms. Amanda's Classroom: Teacher Behaviors in Overall Interaction
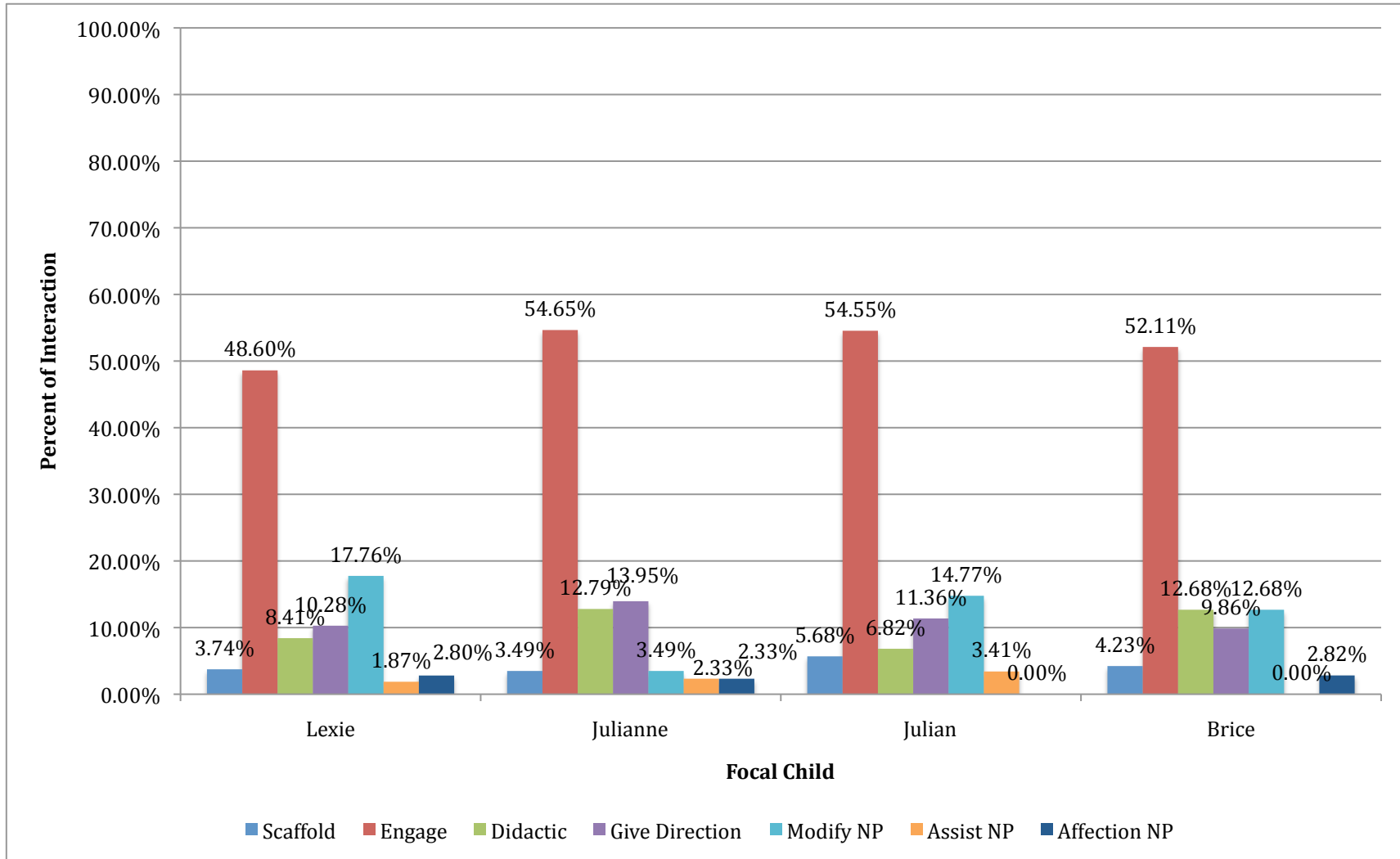
Figure F7. Ms. Lilia's Classroom: Teacher Behaviors in Overall Interaction

Table F1

Frequencies of Teacher Behaviors in Teacher-Child Interaction in Ms. Emma's Pre-K Classroom

Teacher Behaviors	Chloe n = 68	Ellissa n = 81	Jackson n = 67	Hunter n = 94	Mean	SD
Ms. Emma						
Scaffold	0.00	3.70	0.00	4.26	1.99	2.31
Engage	20.59	17.28	19.40	20.21	19.37	1.48
Didactic	32.35	19.75	31.34	15.96	24.85	8.24
Give Direction	10.29	16.05	25.37	8.51	15.06	7.59
Modify NP	1.47	1.23	2.99	0.00	1.42	1.23
Modify P	0.00	0.00	0.00	0.00	0.00	0.00
Assist NP	0.00	9.88	2.99	0.00	3.22	4.66
Assist P	0.00	4.94	0.00	0.00	1.23	2.47
Affection NP	0.00	0.00	0.00	0.00	0.00	0.00
Affection P	0.00	0.00	0.00	0.00	0.00	0.00
Respond	0.00	7.41	1.49	1.06	2.49	3.34
Vocalize Child	1.47	20.99	13.43	9.57	11.37	8.12
Vocalize Group	60.29	38.27	55.22	43.62	49.35	10.16
Overall Interaction	64.71	76.54	82.09	53.19	69.13	12.86
Ms. Marci						
Scaffold	0.00	0.00	0.00	0.00	0.00	0.00
Engage	1.47	2.47	1.49	3.19	2.16	0.83
Didactic	1.47	4.94	5.97	14.89	6.82	5.72
Give Direction	4.41	1.23	0.00	0.00	1.41	2.08
Modify NP	2.94	1.23	1.49	2.13	1.95	0.76
Modify P	0.00	0.00	0.00	0.00	0.00	0.00
Assist NP	1.47	1.23	4.48	0.00	1.80	1.90
Assist P	0.00	1.23	0.00	0.00	0.31	0.62
Affection NP	0.00	0.00	0.00	0.00	0.00	0.00
Affection P	0.00	0.00	0.00	0.00	0.00	0.00
Respond	0.00	1.23	1.49	0.00	0.68	0.79
Vocalize Child	4.41	4.94	4.48	1.06	3.72	1.79
Vocalize Group	5.88	3.70	1.49	15.96	6.76	6.39
Overall Interaction	11.76	12.35	13.43	20.21	14.44	3.91
Ms. Allyson						
Scaffold	-	0.00	-	1.06	0.53	0.75
Engage	-	0.00	-	5.32	2.66	3.76

	Chloe	Ellissa	Jackson	Hunter		
	n = 68	*n* = 81	*n* = 67	*n* = 94		
Teacher Behaviors					Mean	SD
Didactic	-	0.00	-	7.45	3.72	5.27
Give Direction	-	0.00	-	2.13	1.06	1.50
Modify NP	-	1.23	-	1.06	1.15	0.12
Modify P	-	0.00	-	0.00	0.00	0.00
Assist NP	-	0.00	-	0.00	0.00	0.00
Assist P	-	0.00	-	0.00	0.00	0.00
Affection NP	-	0.00	-	0.00	0.00	0.00
Affection P	-	0.00	-	0.00	0.00	0.00
Respond	-	0.00	-	0.00	0.00	0.00
Vocalize Child	-	0.00	-	1.06	0.53	0.75
Vocalize Group	-	1.23	-	17.02	9.13	11.16
Overall Interaction	-	1.23	-	17.02	9.13	11.16
Teacher Other						
Scaffold	0.00	1.23	0.00	0.00	0.31	0.62
Engage	2.94	2.47	0.00	4.26	2.42	1.78
Didactic	7.35	6.17	0.00	3.19	4.18	3.29
Give Direction	7.35	1.23	1.49	0.00	2.52	3.29
Modify NP	1.47	0.00	1.49	1.06	1.01	0.70
Modify P	0.00	0.00	0.00	0.00	0.00	0.00
Assist NP	4.41	0.00	0.00	0.00	1.10	2.21
Assist P	0.00	0.00	0.00	0.00	0.00	0.00
Affection NP	0.00	0.00	0.00	0.00	0.00	0.00
Affection P	1.47	0.00	0.00	0.00	0.37	0.74
Respond	0.00	0.00	1.49	1.06	0.64	0.76
Vocalize Child	7.35	3.70	1.49	4.26	4.20	2.42
Vocalize Group	13.24	7.41	1.49	5.32	6.86	4.90
Overall Interaction	23.53	11.11	4.48	11.70	12.71	7.92
Total Teacher Interaction	19.10	22.88	19.36	25.90	21.81	3.22

Table F2

Frequencies of Teacher Behaviors in Teacher-Child Interaction in Ms. Amanda's Pre-K Classroom

Teacher Behaviors	Dalia *n* = 64	Haleigh *n* = 105	Maverick *n* = 99	Trenton *n* = 111	Mean	SD
Ms. Amanda						
Scaffold	0.00	3.81	1.01	0.90	1.43	1.65
Engage	23.44	49.52	17.17	22.52	28.16	14.51
Didactic	1.56	10.48	2.02	2.70	4.19	4.22
Give Direction	4.69	11.43	13.13	9.91	9.79	3.65
Modify NP	4.69	8.57	8.08	5.41	6.69	1.93
Modify P	0.00	0.95	1.01	0.00	0.49	0.57
Assist NP	0.00	0.00	0.00	5.41	1.35	2.70
Assist P	0.00	1.90	0.00	2.70	1.15	1.37
Affection NP	0.00	0.95	0.00	1.80	0.69	0.87
Affection P	0.00	1.90	0.00	0.90	0.70	0.91
Respond	1.56	6.67	3.03	0.90	3.04	2.58
Vocalize Child	6.25	19.05	13.13	24.32	15.69	7.78
Vocalize Group	28.13	65.71	20.20	18.02	33.01	22.23
Overall Interaction	35.94	89.52	43.43	52.25	55.29	23.78
Ms. Jayna						
Scaffold	0.00	0.00	0.00	0.00	0.00	0.00
Engage	14.06	0.00	1.01	0.00	3.77	6.88
Didactic	7.81	0.00	0.00	0.00	1.95	3.91
Give Direction	6.25	1.90	2.02	3.60	3.44	2.02
Modify NP	4.69	2.86	2.02	0.90	2.62	1.60
Modify P	1.56	0.00	0.00	0.00	0.39	0.78
Assist NP	0.00	0.00	0.00	0.00	0.00	0.00
Assist P	0.00	0.00	4.04	0.90	1.24	1.92
Affection NP	0.00	0.00	0.00	0.00	0.00	0.00
Affection P	0.00	0.00	0.00	0.00	0.00	0.00
Respond	0.00	0.00	3.03	0.00	0.76	1.52
Vocalize Child	4.69	3.81	3.03	1.80	3.33	1.22
Vocalize Group	29.69	0.95	2.02	2.70	8.84	13.92
Overall Interaction	35.94	5.71	10.10	5.41	14.29	14.59
Ms. Allyson						
Scaffold	0.00	-	0.00	0.00	0.00	0.00
Engage	4.69	-	20.20	19.82	14.90	8.85
Didactic	0.00	-	8.08	12.61	6.90	6.39

	Dalia	Haleigh	Maverick	Trenton		
	n = 64	*n* = 105	*n* = 99	*n* = 111		
Teacher Behaviors					Mean	SD
Give Direction	0.00	-	3.03	2.70	1.91	1.66
Modify NP	0.00	-	7.07	0.90	2.66	3.85
Modify P	0.00	-	0.00	0.00	0.00	0.00
Assist NP	0.00	-	0.00	0.00	0.00	0.00
Assist P	0.00	-	0.00	0.00	0.00	0.00
Affection NP	0.00	-	0.00	0.90	0.30	0.52
Affection P	0.00	-	0.00	0.00	0.00	0.00
Respond	0.00	-	2.02	0.90	0.97	1.01
Vocalize Child	0.00	-	8.08	3.60	3.89	4.05
Vocalize Group	4.69	-	29.29	34.23	22.74	15.83
Overall Interaction	4.69	-	38.38	37.84	26.97	19.30
Teacher Other						
Scaffold	0.00	0.00	0.00	0.00	0.00	0.00
Engage	14.06	0.95	3.03	0.00	4.51	6.49
Didactic	0.00	0.00	1.01	0.00	0.25	0.51
Give Direction	3.13	1.90	1.01	0.90	1.74	1.03
Modify NP	1.56	0.95	2.02	1.80	1.58	0.46
Modify P	3.13	0.00	1.01	0.00	1.03	1.47
Assist NP	0.00	0.00	1.01	0.90	0.48	0.55
Assist P	0.00	0.95	4.04	1.80	1.70	1.73
Affection NP	0.00	0.00	0.00	0.00	0.00	0.00
Affection P	1.56	0.00	0.00	0.00	0.39	0.78
Respond	1.56	1.90	0.00	0.90	1.09	0.84
Vocalize Child	7.81	2.86	6.06	1.80	4.63	2.79
Vocalize Group	15.63	0.95	3.03	0.90	5.13	7.07
Overall Interaction	23.44	4.76	11.11	4.50	10.95	8.87
Total Teacher Interaction	18.29	29.25	27.81	30.58	26.48	5.58

Table F3

Frequencies of Teacher Behaviors in Teacher-Child Interaction in Ms. Lilia's Pre-K Classroom

Teacher Behaviors	Lexie $n = 107$	Julianne $n = 86$	Julian $n = 88$	Brice $n = 71$	Mean	SD
Ms. Lilia						
Scaffold	3.74	3.49	3.41	2.82	3.36	0.39
Engage	43.93	50.00	38.64	45.07	44.41	4.66
Didactic	8.41	12.79	5.68	11.27	9.54	3.15
Give Direction	9.35	12.79	9.09	5.63	9.22	2.92
Modify NP	11.21	2.33	4.55	9.86	6.99	4.24
Modify P	0.93	0.00	0.00	1.41	0.59	0.70
Assist NP	1.87	2.33	0.00	0.00	1.05	1.23
Assist P	2.80	2.33	0.00	0.00	1.28	1.49
Affection NP	2.80	0.00	0.00	0.00	0.70	1.40
Affection P	0.93	0.00	0.00	0.00	0.23	0.47
Respond	14.95	8.14	4.55	7.04	8.67	4.45
Vocalize Child	23.36	17.44	12.50	12.68	16.50	5.12
Vocalize Group	60.75	65.12	47.73	64.79	59.59	8.16
Overall Interaction	85.05	88.37	62.50	77.46	78.35	11.51
Ms. McKenzie						
Scaffold	0.00	0.00	2.27	1.41	0.92	1.12
Engage	4.67	4.65	15.91	7.04	8.07	5.35
Didactic	0.00	0.00	1.14	1.41	0.64	0.74
Give Direction	0.93	1.16	2.27	4.23	2.15	1.50
Modify NP	6.54	1.16	10.23	2.82	5.19	4.04
Modify P	0.00	0.00	2.27	1.41	0.92	1.12
Assist NP	0.00	0.00	3.41	0.00	0.85	1.70
Assist P	0.93	1.16	3.41	1.41	1.73	1.14
Affection NP	0.00	2.33	0.00	2.82	1.29	1.50
Affection P	0.00	0.00	0.00	0.00	0.00	0.00
Respond	2.80	1.16	3.41	4.23	2.90	1.30
Vocalize Child	10.28	8.14	28.41	11.27	14.52	9.35
Vocalize Group	3.74	3.49	6.82	8.45	5.62	2.42
Overall Interaction	14.95	13.95	37.50	22.54	22.24	10.87
Total Teacher Interaction	25.06	21.99	22.56	22.40	23.00	1.39

Table F4

Ms. Emma's Classroom- Child Behaviors Pro-Rated to Observation

	Chloe	Ellissa	Jackson	Hunter		
	n = 356	*n* = 354	*n* = 346	*n* = 363		
Child Behaviors					Mean	SD
Vocalize Self	2.81	0.56	1.73	1.10	1.55	0.96
Vocalize Teachers	1.97	3.95	1.73	3.86	2.88	1.19
Vocalize Juveniles	4.78	4.24	5.20	4.68	4.72	0.40
Vocalize Group	0.00	0.00	0.00	0.28	0.07	0.14
Juvenile Vocalize to						
Focal Child	3.37	2.82	5.20	3.31	3.68	1.05
Smile/Laugh Self	0.56	0.00	2.60	0.28	0.86	1.18
Smile/Laugh Teachers	1.12	3.67	2.02	1.10	1.98	1.21
Smile/Laugh Juveniles	2.25	2.54	4.91	2.20	2.98	1.30
Respond Teacher	5.90	9.89	10.40	1.38	6.89	4.19
Respond Juvenile	0.84	1.41	0.58	0.55	0.85	0.40
Conflict Juvenile	0.00	0.56	2.89	0.28	0.93	1.33
Seek Assist Teacher	0.56	0.28	0.00	0.00	0.21	0.27
Seek Assist Juvenile	0.00	0.00	0.00	0.00	0.00	0.00
Off-Task	0.28	1.98	3.18	0.28	1.43	1.42
In Guidance	0.00	0.00	4.62	0.00	1.16	2.31

Table F5

Ms. Amanda's Classroom- Child Behaviors Pro-Rated to Observation

	Dalia	Haleigh	Maverick	Trenton		
	n = 350	*n* = 359	*n* = 356	*n* = 363		
Child Behaviors					Mean	SD
Vocalize Self	2.00	1.67	7.30	0.83	2.95	2.94
Vocalize Teachers	2.29	1.39	1.97	4.96	2.65	1.58
Vocalize Juveniles	9.71	7.80	9.27	5.23	8.00	2.02
Vocalize Group	3.43	2.79	3.09	0.28	2.39	1.44
Juvenile Vocalize to Focal Child	6.86	4.18	4.49	3.03	4.64	1.61
Smile/Laugh Self	0.29	4.18	1.97	1.65	2.02	1.61
Smile/Laugh Teachers	0.29	0.28	0.28	0.28	0.28	0.00
Smile/Laugh Juveniles	1.14	2.51	0.84	0.55	1.26	0.87
Respond Teacher	12.57	20.61	10.96	8.82	13.24	5.15
Respond Juvenile	0.00	3.06	1.69	2.20	1.74	1.29
Conflict Juvenile	2.00	0.28	0.56	0.83	0.92	0.76
Seek Assist Teacher	0.00	0.00	0.00	0.00	0.00	0.00
Seek Assist Juvenile	0.00	0.00	0.28	0.28	0.14	0.16
Off-Task	0.57	1.67	1.69	1.10	1.26	0.53
In Guidance	0.00	0.56	7.58	6.34	3.62	3.90

Table F6

Ms. Lilia's Classroom- Child Behaviors Pro-Rated to Observation

	Lexie	Julianne	Julian	Brice		
	n = 427	*n* = 391	*n* = 390	*n* = 317		
Child Behaviors					Mean	SD
Vocalize Self	3.75	2.56	3.59	5.68	3.89	1.30
Vocalize Teachers	4.22	4.35	1.28	3.15	3.25	1.42
Vocalize Juveniles	15.46	5.63	8.46	6.62	9.04	4.43
Vocalize Group	2.58	1.79	0.26	0.32	1.23	1.14
Juvenile Vocalize to						
Focal Child	4.68	1.02	3.33	4.10	3.29	1.61
Smile/Laugh Self	0.47	1.02	2.31	1.58	1.34	0.79
Smile/Laugh Teachers	0.00	0.26	0.51	2.52	0.82	1.15
Smile/Laugh Juveniles	0.70	1.02	1.79	3.47	1.75	1.24
Respond Teacher	4.22	6.14	2.31	6.62	4.82	1.97
Respond Juvenile	5.39	2.56	1.03	3.15	3.03	1.81
Conflict Juvenile	0.47	0.00	0.00	0.32	0.20	0.23
Seek Assist Teacher	0.94	0.51	0.26	0.32	0.51	0.31
Seek Assist Juvenile	0.00	0.00	0.00	0.00	0.00	0.00
Off-Task	2.11	2.05	2.82	0.32	1.82	1.06
In Guidance	0.00	0.00	0.00	0.00	0.00	0.00

VITA

Kaitlin Noel Bargreen was born and raised in Lake Stevens, Washington, to the parents of John and Teresa Bargreen. After graduating from Lake Stevens High School, she headed across the country to attend college at the University of Tennessee, Knoxville. In 2005, Kaitlin completed her Bachelor's of Science in Child and Family Studies. The following year, after completing a full-time yearlong internship in conjunction with coursework in the Department of Child and Family Studies, Kaitlin received her Master's degree with certification to teach pre-kindergarten through fourth grade. In 2006, Kaitlin began the Ph.D. program in Child and Family Studies with a focus on Early Childhood Education. During her program, Kaitlin had the opportunity to take the lead on initiating a collaborative partnership between the University of Tennessee's Early Learning Center and South Doyle High School. This initiative created a three-year-old community-based Early Learning Center classroom on the campus of South Doyle High School. This classroom provided part-day instruction for three-year-old children, while also serving as a lab setting for the high school students enrolled in child development and early childhood education courses. Kaitlin served as the demonstration teacher for the preschool classroom during the 2007-2008 school year. During this year Kaitlin recognized her passion and research interest in the area of teacher-child interactions in the preschool context. Kaitlin completed her Ph.D. in the fall of 2010 graduating from the University of Tennessee's Department of Child and Family Studies.