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Opportunities for Play-Based Experiences in Post "No Child Left Behind" Kindergarten Classrooms: The Role of Training, Resources, and Accountability Pressures in Meeting Best Practices

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OPPORTUNITIES FOR PLAY-BASED EXPERIENCES IN POST "NO CHILD LEFT

BEHIND" KINDERGARTEN CLASSROOMS: THE ROLE OF TRAINING, RESOURCES

AND ACCOUNTABILITY PRESSURES IN MEETING BEST PRACTICE

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A dissertation submitted to the Graduate Faculty in Psychology in partial fulfillment of the
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Abstract

OPPORTUNITIES FOR PLAY-BASED EXPERIENCES IN POST "NO CHILD LEFT

BEHIND" KINDERGARTEN CLASSROOMS: THE ROLE OF TRAINING, RESOURCES,

AND ACCOUNTABILITY PRESSURES IN MEETING BEST PRACTICE

by

Cristina Medellin

Adviser: Professor Joseph Glick

In response to No Child Left Behind (NCLB), opportunities for play-based experiences in classrooms have been challenged over the past decade. Despite research demonstrating the educational benefits of child driven play, teachers and schools have been pressured to focus on improving children's success on standardized assessments which may not relate to the developmental achievements expected from activity based experiences. To explore teachers' response to the tension between assessment driven mandates and best early childhood practices, this study investigated which factors influence teacher practices and values. Specifically, how do teacher training and classroom resources influence teachers' values about the appropriateness of using child driven learning materials as well as creating opportunities in the classroom schedule for play-based experiences? Additionally, how do teachers' perceived accountability pressures to their classroom practice influence their values and opportunities for play-based experiences? Regression analyses were performed to explore 142 NYC kindergarten teachers' responses on the Early Childhood Time Use Scale-Profile. Results suggest that when teachers are trained in developmental theory and adequate resources, play-based experiences in the classroom remain a priority in the classroom. In addition, teacher's value of child driven materials remains intact when training and resources are available. By contrast, when accountability pressures influence

classroom instructional time teachers' endorsement of child driven materials to promote play-based experiences suffer. These findings speak to implications for professional development of teachers in a post-NCLB context that supports the importance of grounding an early childhood workforce in developmental theory so that play-based experiences can remain a priority.

DEDICATION

I want to dedicate this work to my children, Adriana and Alejandro Paz-Medellin. The birth of my dissertation was inspired by my children's curiosities, experiences within their early childhood classrooms, and my hope that all children will have the opportunity to explore and discover through playful experiences as they have. I am so proud to be your mother and hope that your future will be filled with endless possibilities and that you both will go into the world as critical and playful citizens.

ACKNOWLEDGMENTS

Table of Contents

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

OVERVIEW

Early childhood teacher practices have evolved over time as a result of both research in

human development and political/administrative trends in education. As the needs of our society

change, the theories that inform teacher practice also should change. As teachers and schools

face new policies for educating young children, early childhood educators are challenged to

adapt their practice to accommodate new mandates that call for a more rigorous, standards-based

curriculum focused on literacy and numeracy (Graue, 2010). Even though children are not

formally tested until the third grade, pre-kindergarten and kindergarten teachers are under

pressure to get their children ready for these standardized tests as well and to adopt teaching

strategies that align with state standards also known as "accountability shovedown" (Astuto,

2006; Goldstein, 2007; Hatch, 2002). Additionally many states have adopted some form of

assessment to administer to kindergarten children to ensure that teachers are teaching to test

benchmarks and children are mastering content and testing strategies (No Child Left Behind,

2002; Pyle & DeLuca, 2013; Race to the Top, 2009). As teachers modify their teaching practice

to adjust to the new era of schooling, kindergarten children are now being introduced to different

information and learning environments than previous generations. Teachers are moving toward

the use of a test-driven form of instructional practice to accommodate changes in curriculum

standards. What are there unintended consequences that develop as a result of these changes?

The purpose of this study is to explore the role of teacher's training and classroom

resources and how teachers utilize and value specific classroom materials for kindergarten

children's development. Previous studies examined the relationship between teacher's beliefs

and overall classroom practice through the use of observational classroom quality measures or through teacher interviews. This research explores how the Early Childhood Time-Use in Schools Profile (ECTUS-P; Astuto, Calahan, & Allen, 2015) measures an aspect of kindergarten teachers' practice and examines the possibility and usefulness of this tool for examining the relationship between teachers' values to their classroom practice.

CHAPTER II

LITERATURE REVIEW

Landscape of Kindergarten in the U.S. Context

The kindergarten classroom today is not the same as yesterday's Frobelian coined "children's garden." Over the past century kindergarten in the United States has gone through different iterations in terms of its purpose and mission. As more children across the U.S. are being enrolled in federally funded preschool programs or other forms of center-based care, kindergarten is no longer a child's first step into a formal classroom setting (Gullo & Hughes, 2001). For example, in a recent Common Core Issue Brief (2012) by the National Association for the Education of Young Children (NAEYC), highlights that 63.8% of children born in 2001 spent time in some form of center-based care prior to kindergarten entry (Flanagan & McPhee, 2009; Snow, 2012). According to the National Center for Educational Statistics (NCES, 2008) more than 95% of eligible children are enrolled in kindergarten, thus as Gullo and Hughes (2011) suggest the "bar has been raised" and the purpose of kindergarten has shifted. Because of this, some suggest kindergarten is officially the first year of school for children in this country (Tomlison, 2009). In 1990, a federal policy "moved" kindergarten into the K-12 educational system, rather than remaining under the auspices of the 0-5 framework where curricular goals and expectations for children are tied to secondary education and unified set of standards despite the developmental needs of young children (Dombkowski, 2001; Goldstein, 2007; National Education Goals Panel, 1990; Snow, 2014). This critical decision led to a trickle-down effect of governance by the upper grades. A downward extension of the pressures from the testing grades for teachers and a "dumbing –down" of the pre-kindergarten curriculum so that kindergarten children "look" better on their assessments are examples of practices which emerged from the

field (Astuto, 2006). The only difference across grade level standards is that each goal is based on the age-appropriateness as it relates to academic skills, so, for kindergarten, standards are created based on skill-level abilities of five-year olds. This isn't enough when the standards-based practice creates enormous pressure for teachers to meet expectations and shifts the focus on what children learn and how children spend their time in early childhood classrooms (Astuto, 2006; Bassok & Rorem, 2014).

In the U.S. context, historically the foundation of kindergarten has been shaped by a commitment to core values rooted in child development that promote learning and development of the "whole-child" (e.g. social, emotional, physical, and cognitive domains; Graue, 2001; Goldstein, 2007). Instructional practice that places the child at the center of learning goals is synonymous with child-centered practices and was the primary mechanism for educating children. With the increase focus on assessment of young children's development, identifying guidelines for why, what, and how assessments can be integrated into the early childhood classroom are necessary. Federal and State initiatives have influenced how schools promote standards of learning and monitor children's progress in meeting those standards. Additionally, school systems are being held accountable for setting goals, tracking progress with an emphasis on negative consequences for unmet goals. (National Research Council, 2008). Many early childhood advocacy groups have responded to initiatives such as No Child Left Behind (NCLB, 2002) by creating position statements to help guide the field in making informed decisions as we enter a new era of schooling. In an effort to define and caution against the use of standards for young children (0-8 years) and remind teachers and policy makers of pillar principles that have guided early childhood classroom practices, NAEYC adopted a position statement in 2002 providing a framework for creating developmentally and culturally appropriate early learning

standards. The development of early standards must: (1) emphasize significant, developmentally appropriate content and outcomes; (2) are developed and reviewed through informed, inclusive processes; (3) use implementation and assessment strategies that are ethical and appropriate for young children; and (4) are accompanied by strong supports for early childhood programs, professionals, and families. In their position statement, NAEYC also cautions the field that without proper guidance and implementation, standards can result in unethical and negative consequences for young children, specifically vulnerable children and populations (NAEYC, 2002). Additionally, playful learning and child-centered approaches to educating young children have always had a place in the early childhood classroom. NAEYC consistently makes reference to play throughout their guidelines for best practice, position statements, assessment and evaluation, and professional development guides (NAEYC, 2012).

These pillars of best practice that have guided how teachers instruct young children for decades are being challenged with a new era of accountability. More specifically, how schools address differences in outcomes for children in the K-12 system became the focus of new education reform to help ensure all children meet grade-level standards. Dating back to Lyndon B. Johnson's War on Poverty campaign, the Elementary and Secondary Education Act (ESEA) of 1965, aimed to reduce inequality in education for low-income children by providing federal funding to schools. Since then, ESEA has been reauthorized numerous times and has shifted its focus and purpose. O'Conner, Hill, and Robinson (2009) present a historical analysis that suggest that Black and Latino (minority) children were identified as "targets "for who is at risk for school failure. This became exacerbated in the publication of the *Nation at Risk* (National Commission on Excellence in Education, 1983). The suggestion of "risk" was quickly equated to the inadequacies of the U.S. educational system and our performance within the global

context. As the focus narrowed between Black -White on measurable outcomes (e.g. reading

and mathematics) many efforts were made to help close this gap. Two decades later the

reauthorization of ESEA in January 2002 became known as NCLB was introduced as the new

goal for addressing these gaps with the focus on testing and a system-level accountability as the

means for achieving these goals.

Since NCLB[1] was introduced as federal educational policy, the priorities teachers'

wrestle with is being called into question. A central goal of NCLB was to ensure that all

children would be proficient in reading and mathematics by the 2013-2014 school year (NCLB

summary, 2010).   As a result, a key approach to meeting this goal was through testing,

accountability, and school improvement. Accountability was defined under NCLB as holding

schools and districts accountable for their students' progress on state academic content standards

by means of standardized state tests (Taylor, Stecher, O'Day, Naftel, & Le Floch, 2010). Thus,

one consequence of NCLB is that standards-based accountability provisions are now influencing

teachers and school administrators' day-to-day practices within their classrooms (Hamilton,

Stecher, Marsh, McCombs, & Robyn, 2007; Miller & Almon, 2009).   One way, of meeting the

expectations that schools were being held accountable, was for each state to set its own learning

standards and tests to measure outcomes of mastery along reading and mathematics. This led to

a narrowed focus and introduction of the alignment of curriculum to standardized testing as a

model for instructing young children.

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[1] No Child Left Behind Act of 2002 was built on key principles to help level the playing field for
disadvantaged children: (1) academic progress – goal to bring all students up to the "proficient" level on
state tests by the 2013-2014 school year, (2) annual report cards; (3) teacher qualifications- teachers
needed to be "highly qualified" in each subject area; (4) reading first grants were added to help states
better prepare 3-to5-year-olds in disadvantaged areas to read; and (5) funding changes to increase Title I
monies and resources to school districts with high concentrations of poor children (Editorial Projects in
Education Research Center, 2011).

While the hope of "leveling the playing field" for all children under NCLB, failure to make measureable gains on test scores spurred state-led efforts to develop a common set of national standards (FairTest, 2013). As Race to the Top--Early Learning Challenge (RTT-ELC) grant competition was introduced in 2010, the focus was on improving early learning and development programs for young children by supporting States' efforts in the following ways: (1) increase the number and percentage of low-income and disadvantaged children in each age group; (2) design ad implement an integrated system of high-quality early learning programs and services; and (3) ensure that any use of assessments conforms with the recommendations of the National Research Council's reports on early childhood. Simultaneously, State's developed the Common Core State Standard's Initiative (CCSS) which established a clear set of guidelines and expectations for what every student needs to know and be able to master in English Language Arts and Mathematics from kindergarten through 12th grade.   The goal of these standards was to provide a framework for teachers to measure student progress and ensure that all children master the foundational skills needed to attain a college degree (Preparing America's students for success, n.d.).

Through various iterations of different federal and state-level policies in education, a dichotomy developed between developmentally appropriate practice (DAP) and standards-based accountability instruction. The policies that were developed with good intentions were top down from college-level rather than a "pushing-up" approach, which would take into account the developmental needs of young children. As a result of the ever-changing education policies, popular newspaper headlines and advocacy groups caution the impact of such policies on classroom practice and long-term developmental outcomes for children (Miller & Almon, 2009; Ornstein, 2009; Polakow-Suransky & Nager, 2014). The early years and classroom experiences

for young children are crucial for later success (Burchinal et al., 2000; Chien, et al., 2010). The challenges teachers confront reflect a "too little too late" sentiment. For example, if the system "hurries" a child too soon or misses out on the "window of opportunity" where brain plasticity is ripe for introducing new concepts are common tensions teachers face. Theoretical positions and empirical evidence supports the notion that standards-based kindergarten classroom practices and curriculum may lead to unintended, negative consequences for children and teachers alike (Darling-Hammond, 2011). Unfortunately, when pressures exist, teachers more often than not, tend to default to didactic instruction (Pyle & DeLuca, 2013; Stipek & Byler, 2004). This form of instruction tends to be associated with the faster-is-better model of high-stakes education. Another risk of this approach is that children tend to carry the burden of responsibility of being "ready" or not for the standards-based classroom (Astuto, 2006; NAEYC, 2002). As a result, researchers are documenting the dilemmas teachers face as they are trying to find a balance between their pedagogical stances, developmental theory and new accountability stakes that are driving their practice (Brookhart, 2004; Goldstein, 2007; Pyle & DeLuca, 2013).

Standards-based reform isn't the new one-size fits all approach. In fact, early learning standards such as, the CCSS can provide a common language and smooth transition from center-based care into the K-12 educational system (Snow, 2012). When carefully planned and implemented, standards help ensure that all children receive high-quality experiences to optimize each child's potential. "Accountability" or "standards-based reform" is not mutually exclusive. Accountability language became the umbrella that governed how schools and districts demonstrated improvements through measureable indices such as standardized testing in 3rd grade and Annual Yearly Progress (AYP). As a result, standards-based education reform followed by focusing on getting schools ready rather than using assessments to inform child-

level instruction.   This gave leverage to many publishing companies such as McGraw Hill and

Pearson to help package curricula that prescribed lessons for teachers to help children pass tests.

Schools responded by adopting curricula aligned with their state standards. Teachers responded

by focusing their instruction on test-prep skills and spending more time preparing for tests by

getting kids ready to read and do math as early as the kindergarten years (Ravich, 2015).

Accountability and state standards should not be labeled as a "dirty word" but rather examined as

an integrative approach to learning to facilitate the development and success of young children

and early childhood programs.

In an effort to integrate federal initiatives into new into existing systems of education, the

field of early childhood must reflect on their core values and ask themselves who is being

accountable for the development of young children? More recently early childhood advocacy

groups and research centers such as NAEYC and the Foundation for Child Development's PreK-

3rd-grade Education initiative are pushing for a PreK-3rd-grade integrated system of education.

This approach focuses on building an integrated system between learning experiences and goals

in the early years and as children transition into the primary grades (Pre-K-3rd Education, 2015).

Although there may be an emphasis on a more integrated early childhood system, given the

educational climate of high-stakes testing under NCLB and alignment of curricular standards and

ensuring college readiness under RTT, this leaves little flexibility for allowing children to learn

through play-based experiences. Where does play fit into the educational system and revisions

to policies that impact the lives of young children?

Efforts to better align expectations for pre-kindergarten and kindergarten children with

the upper grades through measures of accountability resulted in the development of early

learning content standards.   The acknowledgment by the US Department of Education for the

need to develop a specific branch for early childhood and early learning standards is a step in the positive direction, however the language of best practices and reference to play-based learning is missing from the rhetoric. Instead, the development of the standards narrowed on academic content areas such as reading and language arts, math, science, and social studies (Baldwin, Adams, & Kelly, 2009). A shift toward increased focus on literacy and mathematics skills resulted in teachers spending prolonged time doing seat-work on literacy and math practices, with the consequence of reducing instructional time for subjects such as history, science, and the arts (Dee, Jacob, Hoxby, & Ladd, 2010; Dillon, 2006). More profoundly, playful learning and child-centered approaches get pushed aside altogether (Genishi & Dyson, 2012). As NAEYC cautions in their Common Core Issue Brief (2012), the new CCSS present both an opportunity and responsibility for educators and researchers to work with their local States to discuss the importance of including core developmental theories and evidenced-based approaches that have been crucial to the education of young children and their optimal development. Although the language of "standards-based accountability" is now part of the early childhood education system; it is the responsibility of the early childhood community to explore how best practices can operate in concert with a common standards to make sure that all children have the opportunity to achieve their fullest potential (NAEYC, 2012).

In 2013, Bassok and Rorem presented an overview which synthesizes the shifts in expectations and practices that have taken place in the kindergarten classroom between 1998 – 2006 and raise the question "Is Kindergarten the New First Grade?" In their working paper, they reference a report published in 2009, by the Alliance for Childhood Education entitled, "Crisis in the Kindergarten: Why Children Need to Play in School" (Miller & Almon, 2009). Both reports present theoretical and empirical evidence that the kindergarten classroom has undergone a shift

in highlighted trends towards spending time in more academically focused content areas that

align with standardized testing domains (e.g. literacy, math, and the sciences). They present

arguments suggesting that core principles of practice that were rooted in best practice are being

uprooted to accommodate accountability pressures. Given the shifting sands within education,

the kindergarten classroom faces new challenges and possibilities for re-examining how best

reconcile tensions between developmentally based curriculum and instruction with the K-12

alignment of a standards-based focus. Can opportunities for play-based learning have a home in

the kindergarten classroom to promote fundamental learning experiences for five-year olds?

Beliefs and Approaches to Teaching Young Children

DAP in Early Childhood Classrooms. An influential position responsible for the

training of educators and shaping curricula has been guided by developmental theory and

influential think tanks, such as NAEYC, aimed at preserving developmentally appropriate

instructional practices for young children (Bredekamp & Coople, 2009). In this vein, child-

centered and teacher-directed perspectives emerged as being two dominant approaches to

educating young children that have been important in shaping classroom content and delivery of

information. (Dunn & Kontos, 1998; Tzuo, 2007). Embedded within each approach is a

theoretical position for how children learn and develop. The child-centered approach focuses on

educating the whole child through play-based activities and focuses on children birth through

eight years of age (Bredekamp & Coople, 2009). On the other hand, a teacher-directed approach

focuses on the teachers' role in providing structured activities that include rote practice and

memorization of material and content as a result of the academic pushdown. Finding the right

balance between child-centered and teacher-directed learning has become an important task for

early childhood centers, teacher training programs, and professional development.

DAP is a philosophy that incorporates developmental theory and is then applied as an approach to teaching young children. DAP has been influential in shaping teacher education programs, accreditation procedures, and helping teachers make appropriate decisions to guide each child's development within their classroom (NAEYC, 2009). The NAEYC is the flagship membership association for those working with and on behalf of children from birth to age 8. They have also written several position statements outlining their perspective on issues pertaining to early childhood development. In 1987, the NAEYC released their first position statement on DAP providing principles for best practice that could be used by early childhood programs seeking accreditation (Breedkamp, 1987). In their most recent update to their position statement on DAP, inclusions for more diverse populations and recommendations for educators in light of new research and educational policies were made [2]. They suggest that DAP are those that acknowledge what is known about child development and learning through research and practice, child-centered learning – adapting to each child's learning needs, and incorporating what is known about the social and cultural context in which children are living (NAYEC, 2009).

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[2] Principles of DAP according to NAEYC: (1) All the domains of development and learning – physical, social and emotional, and cognitive- are important, and they are closely interrelated. Children's development and learning in one domain influence and are influenced by what takes place in other domains. (2) Many aspects of children's learning and development follow well-documented sequences, with later abilities, skills, and knowledge building on those already acquired. (3) Development and learning proceed at varying rates from child to child, as well as at uneven rates across different areas of a child's individual functioning. (4) Development and learning result from a dynamic and continuous interaction of biological maturation and experience. (5) Early experiences have profound effects, both cumulative and delayed, on a child's development and learning; and optimal periods exist for certain types of development and learning to occur. (6) Development proceeds toward greater complexity, self-regulation, and symbolic or representational capacities. (7) Children develop best when they have secure, consistent relationships with responsive adults and opportunities for positive relationships with peers. (8) Development and learning occur in and are influenced by multiple social and cultural contexts. (9) Always mentally active in seeking to understand the world around them, children learn in a variety of ways; a wide range of teaching strategies and interactions are effective in supporting all these kinds of learning. (10) Play is an important vehicle for developing self-regulation as well as for promoting language, cognition, and social competence. (11) Development and learning advance when children are challenged to achieve at a level just beyond their current mastery, and also when they have many opportunities to practice newly acquired skills. (12) Children's experiences shape their motivation and approaches to learning, such as persistence, initiative, and flexibility; in turn, these dispositions and behaviors affect their learning and development (NAEYC, DAP Position, Copple & Bredekamp, 2009, pp. 11-15).

Appropriate practice also provides a learning environment for children to construct knowledge through their actions and experiences within the classroom environment (Charlesworth et al., 1993). At the core of DAP is the idea that all children deserve and should be afforded an early childhood (pre-k to 3rd continuum) experience that is rooted in best practices that will enable each child to develop to their full potential by acting on or with their environment and via guidance from their peers and teachers. DAP does not privilege one form of teaching practice over another, but rather best practice should include both child-centered and teacher-guided experiences to maximize opportunities for learning. Most importantly, one mechanism that can improve teaching and learning is when teachers are intentional in their practice and develop a solid tool kit with creative strategies for navigating their classrooms.

Early childhood advocates try and preserve the core ingredients of DAP within school contexts. In reaction to the educational reforms that have filtered the way teachers instruct young children, divergent approaches to instruction may emerge. Graue (2010) argues the best classroom practice is one where the teacher knows her classroom and is mindful of the needs of each child. Classroom instruction that focuses solely on standards and accountability actually takes away from rich opportunities for learning. When classroom practice deviates from core values embedded within best practice, new forms of instruction emerge and a widespread shift in experiences for young children occur. What Graue calls attention to as divergent classroom instruction, she refers to a path that is focused on rigid standards and expectations for the child in non-developmental ways. Some have called such experiences as educating young children using developmentally inappropriate practices (DIP) or more "academic" forms of instruction and these types of practices have been shown to compromise the quality of the learning environment and later outcomes for children (Parker, Neuharth-Pritchett; 2006). DIP has been referred to in

other studies as instruction that is not geared to the child's developmental level comprised mainly of teacher-directed instruction including time spent doing rote activities (e.g. paper and pencil workbook or worksheets, being lectured, and other abstract experiences) and memorization tasks without factoring in cultural and contextual influences on the child's development (Charlesworth et al., 1993).   In previous studies, the use of DIP tends to be highlighted more so with low-income minority children as a means for addressing the readiness gap.   Although the research suggests that these forms of instruction may only help with short-term gains, this also comes with a cost-- compromising opportunities for young poor minority children. This logic sets up a false dichotomy between DAP and best practices for White middle-class children and DIP for poor minority children, thus reproducing racial and class divides in opportunities for young children.

The NAEYC updated their current position statement on DAP for children birth to eight which emphasizes play-based learning as an alternative mechanism to balance the push to reduce teaching time to focus on academic activities. Principles of best practice, which include both child-centered and teacher-guided approaches, will be used as a guiding theoretical lens that will set the foundation and situation the discussion of teacher values and classroom practice. These definitions of DAP and DIP will be expanded upon with empirical examples to understand how these definitions relate to the current sample of kindergarten teachers and their classroom practice.

Teachers' Beliefs and Values about Classroom Practice

The "teacher belief "literature suggests that teacher's perceptions, beliefs, and/or attitudes about child development are influenced by different factors. Teacher belief structures tend to be linked to internal ideological processes (Isenberg, 1990). When teachers are exposed to new

theories, demands or practices they may not be able to align their beliefs and their practices. Teacher training programs aim to guide teachers to learn how to implement appropriate practice in their classrooms. Through training programs, teachers are given the space to reflect on their own implicit ideologies of learning and either modify current schemas of teaching to embrace the new information or reject the information because it doesn't assimilate well with their experiences or what they know (Kowalski, Brown, & Pretti-Frontczak, 2005). Belief theorists suggest that it is difficult to change teacher's beliefs because these are beliefs that have been formed way before teaching and can even be unconsciously driven (Isenberg, 1990).

Teaching practices and the classroom environment are influenced by teachers' personal belief systems (Jones, Burts, Buchanan & Jambunathan, 2000). These belief systems develop in relationship to teachers' experiences both inside and outside of the classroom. For example, teachers may filter what they know through their own educational experiences and training. Spodek (1988) suggests that teacher's practical knowledge influences classroom practice more so than theories of child development (Lara-Cinisomo, Fuligini, Daugherty, Howes, & Karoly, 2008, 2009). School context and local state policies may also influence how teachers structure their learning environments and make decisions about children's access to certain materials, what expectations they should have for their class, and how students should behave (Astuto et al. 2015; Jones et al., 2000). Under NCLB, (2001) states are now being held accountable for closing the achievement gap through the use of high-stakes testing. With this push, the early childhood years, preschool and kindergarten, are now experiencing a shift in teachers' classroom practice. As the recent Race to the Top (2009) federal initiative to reform education was introduced, states could volunteer to participate in adopting new educational policies. As the stakes increasingly get higher for early childhood professionals with more demand for getting

children ready to pass state standardized exams by the third grade under the NCLB policy, teachers are left feeling trapped around how their classroom children should be spending their time throughout the day. As a result, there is the need to explore how these policies impact early childhood classrooms and their learning environment.

Researchers have surveyed teachers—mainly pre-kindergarten and kindergarten teachers—to examine the relationship between teachers' beliefs and classroom practice. Many studies have done this by using both teacher report and observational tools (Charlesworth, Hart, Burts, & Hernandez, 1991; Charlesworth, Hart, Burts, & Thomasson1993; Hatch & Freeman, 1988; Vartuli, 1999). Previous studies have found that teachers who understand the concepts of DAP are more likely to embrace the principles and at times try them out in their classroom practice (Dunn & Kontos, 1998; Jones et al., 2000; Pajares, 1992). Daniels and Shumow (2003) conducted a literature review and created a framework for explaining how teachers' perspectives and understanding of child development influences their classroom practice. Their exhaustive review suggest that teachers' world-view and views of the child (e.g. maturationist, behaviorist, constructivist, personality/stage, familial, and ecological) relate to the qualities in teacher practice- how they see their role- and their ability to execute learning activities in their classrooms (Daniels & Shumow, 2003).

Jones et al. (2000) conducted an exploratory study examining beginning pre-kindergarten and kindergarten teacher beliefs and practices and sources of supports and barriers to their teaching. Nine early childhood teachers were asked to fill out surveys – the *Teacher Belief Scale* (TBS) and the *Instructional Activities Scale* (IAS) to assess teachers' beliefs and their self-reported classroom practices on DAP and DIP. Classroom observations were also conducted in their classroom to confirm their responses to the questionnaires using the *Checklist for Rating*

Developmentally Appropriate Practice in Kindergarten Classrooms (Charlsworth et al., 1991).

Overall, researchers found that teachers in their study reported a general belief in

developmentally appropriate practice that guided their teaching. Mean scores from the *TBS*

survey; suggest a low positive correlation was found between teachers' endorsement of

developmentally appropriate beliefs (DA-B) and their developmentally appropriate practice

(DA-P). Similarly, a positive correlation was found between teachers' reporting of **weak** beliefs

in DI-P, and the use of developmentally **in**appropriate activities in their classroom. Overall this

study provides evidence suggesting that there is a positive relationship between teacher beliefs

and DAP in their classroom.

Teacher beliefs and practices have also been examined across different grade levels.

Vartuli (1999) wanted to see if variations in reported beliefs and observed practices of Head

Start, kindergarten, first-, second-, and third-grade teachers relate to classroom practice. Vartuli

(1999) conducted a longitudinal study Fall 1992- Spring 1997, polling data from ten elementary

schools and one Head Start program housed within the same school district. Data collected in

Fall 1995 was used to address this question. One hundred and thirty seven educators, including

18 Head Start, 20, kindergarten, 33 second-grade, and 33 third-grade teachers participated in this

study and were asked to fill out a several teacher-report surveys- the *Early Childhood Survey of*

Beliefs and Practices (ECSBP) (Marcon, 1988) and the TBS (Charlesworth, et al., 1991, 1993).

In addition, each classroom was observed using the *Classroom Practices Inventory* (CPI)

(Hyson, Hirsch-Pasek, & Rescorla, 1990; Vartuli, 1992). Correlational analyses revealed that

the both the TBS and ECSBP are moderately correlated. Additionally, both teacher belief

measures are correlated with the CPI-which documents teachers' actual classroom practice.

Vartuli (1999) found more congruence between practices and beliefs with Head Start and

kindergarten teachers' as compared to the first and second-grade teachers. Overall this study found that beliefs were significantly more appropriate than teachers practice at every grade level. In addition, as grade level increased, teachers began reporting fewer developmentally appropriate practices. This study suggests that self-reported beliefs and practices may be more consistent for early childhood professionals; however as more rigorous demands are placed on teachers, their ability to engage in appropriate practices becomes more difficult.

Classroom Quality

The quality of the classroom environment has been an important predictor of academic success for young children (Pianta et. al, 2005). Teachers' psychological characteristics- beliefs, attitudes, and/or opinions- have been associated with the quality of the classroom environment including teacher-child interactions (Clarke-Stewart, Vandell, Burchinal, O'Brien, & McCartney, 2002; National Institute of Child Health and Human Development (NICHD) Early Child Care Research Network (ECCRN) 1999; Pianta et al., 2005). McCarty, Abott-Shim, and Lambert (2001) explored the relationship between Head Start teachers' self-reported beliefs and practices in classrooms with different levels of classroom quality. Teachers filled out the TBS (Burts, 1991) which consisted of four subscales: (1) *Appropriate Beliefs*; (2) *Appropriate Activities*; (3) *Inappropriate Beliefs*; and (4) *Inappropriate Activities*. No significant differences were found between high, medium and low quality classrooms and teachers' self-report on the Appropriate Beliefs or Appropriate Activities subscales. However, significant findings on the Inappropriate Beliefs and Inappropriate Activities subscales suggest that in low-quality classrooms teachers had a hard time differentiating between "appropriate" and "inappropriate" beliefs and practices.

A well-known assessment for measuring classroom quality—*Early Childhood Environmental Rating Scale* (ECERS-R; Harms, Clifford, & Cryer, 1998)— is designed to

measure the process quality dimensions of the classroom which includes the different

interactions a child has with their learning environment including access and the allotment of

time to different learning centers. High-quality learning environments have been found to

predict later child academic outcomes on literacy and social-skills (Peisner-Feinberg et al.,

2001). Although the ECTUS-P is not a standardized measure of classroom quality, its unique

design may allow for further exploration to see how teachers' beliefs about different process

quality aspects of their environment relate to both their values about learning materials and how

much time they spend in those centers.

Early Childhood Teacher Training and Experience

Teacher training has also been shown to influence teacher's beliefs and classroom

practices. Vartuli (1999) explored if teacher beliefs and observed practices are influenced by

teacher certification, educational degree, and teaching experience.   The ECSBP and CPI

instruments were used to compare group differences.   Hierarchical cluster analysis was used to

group teachers into three groups- child-initiated; academically directed, and middle-of-the-road.

There were no significant differences when comparing educational degree and teaching

experience with the three teacher clusters. In a second model, years of experience was

trichotomized into three groups, (few, 1-7 years; average, 8-19 years; and many, 20-31 years)

and compared to teachers total scores on the CPI. Analysis of variance yielded a significant

difference in the number of years of experience and the total score of the CPI. Thus, teachers

with fewer years of experiences reported using more developmentally appropriate practices.

Teacher certification was also examined to see if having specific training in early

childhood influenced teachers' reporting on belief instruments. Researchers recoded teacher

certification into two groups- early childhood or an early childhood combination certificate; and

elementary or an elementary combination (excluding early childhood). They found that teachers with an early childhood certification/training had significantly higher total mean scores on both the ECSBP and observed practice on the CPI. These findings suggest that having a higher level of education or more years of experience does not guarantee that teachers will implement DAP. Research suggests that teachers with more early childhood training tend to embrace more developmentally appropriate practices in their classroom (Cassidy, Buell, Pugh-Hoese, & Russell, 1995; McMullen, 1999; Whitebook, Howes, & Phillips, 1990). Although researchers found a significant relationship between years of experience, training in early childhood to best practice, this study was conducted prior to the NCLB and RTT. Further research is needed to examine if similar findings exist in the current education context post-NCLB.

Promising studies support the importance of teacher education programs and training in shaping teacher's practice within the classroom. While many teachers may hold different educational degrees, does holding a specific certificate or training in child development influence how teachers carry out classroom instruction? Howes, Whitebook, and Phillips (1992) found that teachers with more years of schooling (Bachelors and beyond) engaged in higher quality teacher-child interactions within the classroom. In one study, Heisner and Lederberg (2011) conducted a study to examine the impact of the Child Development Associate (CDA) credential training on teachers' beliefs and self-reported practices in preschool classrooms. Seventy-six preschool teachers enrolled in a CDA class, and a comparison group of fifty childcare providers were surveyed using the TBPS and the ECSBP. Repeated measures multivariate analyses of variance showed that teachers in the CDA training group began to endorse more developmentally appropriate beliefs and practices as a result of completing their training program.

Teachers in early childhood classrooms typically work in teams with differing level of expertise and training. Han and Neuharth-Pritchett (2010) explored the relationship between early childhood teachers' educational level and their beliefs by looking at the difference between lead teachers and teacher assistants in state-funded prekindergarten classrooms. For their study they sampled 35 lead teachers and 27 teacher assistants and collected basic teacher demographic data (age, level of education, sex, ethnicity) and found that there were significant differences in teachers' ethnicity and level of education. The majority of the lead teachers in their sample identified as White and the largest number of teacher assistants identified as African American. Additionally, teacher assistants tended to hold less than a 4-year college degree while none of the lead teachers had less than a 4-year college degree. All teachers were asked to fill out the Teacher Attitude Inventory (French & Blazina, 1992), which asks teachers their attitudes about different classroom practices. A significant difference was found between the lead and assistant teachers on both their beliefs about developmentally appropriate and inappropriate practices scale. Lead teachers were more likely than their assistants to endorse activities that are developmentally appropriate. On the contrary, these findings also suggest that teacher assistants are more likely to choose more developmentally inappropriate methods of instruction with preschoolers. These findings begin to raise questions about the quality and importance of teacher training and its impact on early childhood classroom practice. Additionally, the specific learning goals, standards, and educational policies that guide both education and teacher requirements are also important considerations that influence how knowledge about teaching and learning gets disseminated.

Influences and Support on Teacher Classroom Practice

    Many researchers have examined the relationship between teachers' beliefs and practices using a variety of self-report measures. Fewer studies attempt to understand the contextual factors that may be influences teachers' practice (Parker & Neuharth-Pritchett, 2006). Teachers are influenced by both external and internal factors. Parker and Neuharth-Prichett (2006) conducted a study to examine the relationship between teacher beliefs and developmentally appropriate classroom instruction. Additionally they wanted to see if any external factors such as peer pressure, high-stakes testing, and curriculum limitations influenced or shaped their beliefs. Thirty-four kindergarten teachers participated in this study and were asked to fill out surveys, participate in observations and interviews. Researchers had six guiding questions that they used to explore the role of the teacher in a child-centered or teacher-directed classroom, teaching philosophy, and pressures on accountability and performance. All 34 teachers reported that they felt that kindergarten has become more academicized. Additionally teachers reported experiencing pressures to get children ready for the upper grades. Teachers who were more teacher-directed in their practice reported feeling the least amount of pressure while child-centered teachers felt more. Their third main finding is that teachers who adopt a more child-centered developmentally appropriate practice correlated with an increased agency in their classroom and freedom to make their own decisions. Overall this study suggests that teachers who use more child-centered practices tend to have higher levels of motivation and control in their classrooms. However, external pressures from mandates and peer accountability influence, the type of approach to learning teachers may implement despite their knowledge of best practices. They also raise the possibility that there may be inconsistencies in how teachers perceive the two different approaches to learning and their impact on the child's development.

There are a number of sources of support (i.e. previous knowledge, supportive school culture, flexibility and creativity in instruction to name a few) that teachers' reference when thinking about their classroom practice. Researchers have found that teachers' previous experience, flexibility in curriculum requirements, family members, and resources (e.g. materials, money, physical environment) were sources of support for early childhood teachers (Jones et al., 2000). At the same time, teachers reported various barriers that limited the way they could teach in their classroom. Several examples of barriers are physical environment, co-workers, administration, parents of children in their class, and mandated curricular requirements (Jones et al., 2000).

The empirical story unpacking that values are most predictive of best practice is inconsistent. Several studies suggest that there is a strong relationship between teachers' beliefs and practices (Kowalski et al., 2005). Some findings suggest that there may be measurement limitations and difficulties on assessing teachers' belief structures due to the complex nature of early childhood settings (Kowalski et al., 2005; Wilcox-Herzog, 2002). Teachers' belief systems are important for daily decision-making practices. For example, what classroom choice-time centers are offered, how much time teachers spend teaching instructional and center based activities, and creating an overall classroom climate for young children (Lara-Cinisomo et al., 2009). Although teachers have a certain belief or educational philosophies, the translation of these beliefs into practice get challenged within the classroom context. There are differing perspectives that suggest the relationship between beliefs and practices are small, specifically cautioning researchers to interpret finding carefully given limitations to the generalizability of self-report data. Teacher ideologies and perspectives are shaped way before they make their way to pre-service teacher education programs. The value system and positions teachers bring to

their classrooms are shaped by their experiences within the education system. The studies

referenced in this chapter provide empirical support that teacher values can be influenced by

their education and training; knowledge of child development; expectations and pressures; and

through life experiences. Although these studies were conducted over a decade ago, and policies

such as NCLB had not even been introduced, values and beliefs are a more stable construct.

Changes in value systems do not unfold as quickly thus the studies referenced above speak to the

nature of the construction of belief systems for teachers as it relates to classroom practice. A

more pressing issue for our youngest citizens, how do their current experiences in schools post-

NCLB contribute to their future belief systems? What "best practices" should remain in an early

childhood education classroom? What follows is an overview of the literature on two distinct

approaches to teaching young children.

Classroom Approaches to Teaching Young Children

Approaches to early childhood learning have evolved over time. As the needs of our

society change and methodological strategies advance, the theories of development and learning

evolve. For example, federal policies like the NCLB of 2001 introduced an idea of

accountability that has changed the expectations for teachers and children. A decade later,

academic content has been placed center-stage in today's kindergarten classrooms, and other

aspects of the child's development seems to have taken the back seat (Hyun, 2003). At the core

of early childhood education, where teachers nurture the child and the child reap those benefits,

how teachers instruct their classrooms is having a new impact on the experience. Teachers'

ideologies on best practice for early childhood settings are now being challenged. What seems to

be an increased reliance on teacher-directed instruction to get young children ready for the upper

grades as opposed to using more child-centered approaches to learning is becoming the norm

(Jeynes, 2006). At the crossroad between theoretical notions of best practice and the contextual demands of kindergarten, thinking about how such differing approaches to classroom instruction influence child outcomes for all children is necessary.

Miller & Almon (2009) present a model that illustrates the range of experiences that can take place within a kindergarten classroom. In their report, they suggest that there is a kindergarten continuum that many educators fall under, however striking the balance between playful experiences with a purpose is the "balanced" form of instruction for young children.

THE KINDERGARTEN CONTINUUM
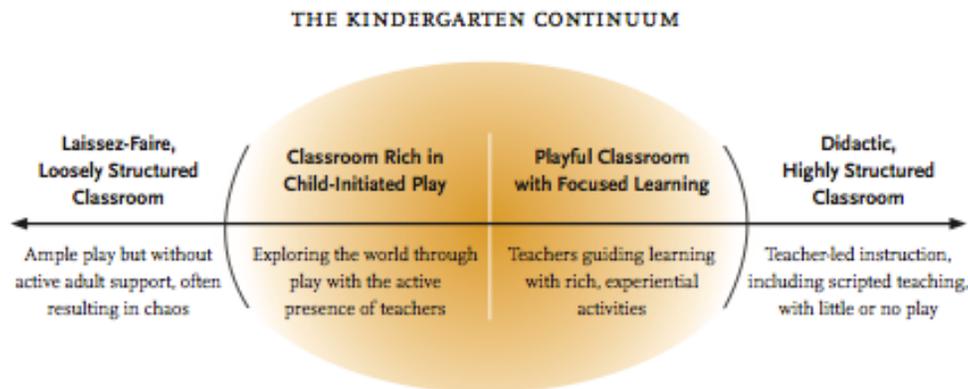
Figure 2.1 Kindergarten Continuum adapted from "Crisis in the Kindergarten: Why Children Need to Play in School" by Miller and Almon (2009).

The two commonly used approaches to classroom instruction- "child-centered" and "teacher-directed" approaches to learning- have empirical evidence suggesting that both types of classroom instruction aid in the mastery of different types of information and have been found to predict different academic outcomes for children (Chien et al., 2010, Goldstein, 2008; Hamre, 2012). Early childhood teachers have a variety of approaches to draw from in their tool-box to implement with children. Even though, there may be various strategies teachers can use, their beliefs about best forms of instruction influence their practice within the classroom context.

Thus, it is critical to examine the messiness that teachers face in their practice in hopes of beginning the process of understanding and managing the tensions that arise on a daily basis.

Child-centered learning. The child-centered learning approach has been a long-standing pillar for guiding teachers about engaging young children in meaningful learning experiences. This approach is heavily influenced by developmental theory and education. This approach views the learning environment as a place that promotes child exploration and development of the whole child- cognitive, physical, and social emotional domains. This constructivist view of development embraces the idea that children learn by actively constructing meaning through the interaction with the environment. Piaget (1964) believed that children develop in stages and that the child needs to actively explore his/her context while also interacting with peers. Vygotsky also believed that children learn best through their active engagement in their classrooms (Wertsch, 1991). The use of tools and language are important factors in guiding each child's development. For Vygotsky, the use of cultural tools would be the various materials and artifacts available within the classroom environment- that can be used independently or with the help of a teacher to further the developmental learning goal. The teacher's role is to guide the child and meet him/her at their developmental level and provide an enriched environment to support possibilities for learning. Counter to the Piagetian view that development precedes learning, a Vygotskian early childhood classroom intentionally sets up the learning environment to allow the child to interact with the different cultural tools located within each learning center. For example, if a child is playing in the dramatic play learning center, the teacher's role is to allow the child to engage in fantasy or make-believe play with dress up materials. In addition, support the child by expert facilitating children's use of language and creativity. As the child engages with the tools, the adult can deepen the learning experience by

asking open-ended questions and following the child's lead. Through this engagement in a shared activity guided by an expert, the construction of knowledge emerges and concepts begin to take form for the child.

A child-centered classroom is characterized by learning opportunities for children where they have the freedom to explore their environment and have access to classroom learning materials through the guided instruction and support from their teachers. There is also a strong focus on the individual child's development and interests in creating the overall experience for the child. A teacher who embraced this type of learning approach might structure their classroom in a way that would provide ample time for exploring and learning as well as opportunities to have rich conversations with children. Additionally this teacher might structure their day around multiple opportunities for the teacher to follow the child's interest and deepen their curiosity through language, play, and use of more open-ended materials (Bredekamp & Copple, 2009).

Research has shown that children who receive instruction in classrooms with high quality and more child-centered learning environments have more positive outcomes in the later grades (Burchinal et al., 2002; Lamb, 1998; NICHD ECCRN, 2000). Children entering kindergarten without mastery in self-regulation and social competence will not do well in school (Cooper & Farran, 1988; Duncan et al; 2007; McClelland, Adock, & Morrision, 2006; Ursache, Blair, Raver, 2014). The importance of a child developing their social skills as an indicator of school readiness speaks to the expectation and type of learning environment a child will enter. Embedded in the child-centered approach is the foundation to help children develop these early learning skills such social emotional development which include skills such as self-regulation (ability to take turns and wait in line), responsibility, independence (autonomy), which have been

shown to be important factors for later academic success (McClelland et al., 2006).   These

findings suggest that teachers need to understand their role in the facilitation of the child's

developmental processes and mastery of content knowledge.

   Benefits of play-based experience.   Play is a developmental context that has been

shown to promote optimal development for young children (Astuto & Ruck, 2015; Ginsberg,

2009). In this sense, a learning environment = classroom is the context in which development

can unfold.   The benefits of play allow children to use their creativity, discover, and explore

their environment to develop foundational skills. Through play, children can take turns, exercise

self-control, and develop perspective-taking, skills that can assist with the mastery of academic

content (Ginsberg, 2009). Play then becomes the vehicle for young children to learn and explore.

While many educators would agree that the benefits of play are tremendous, creating

opportunities for playful learning has become a challenge. Historically, a child-centered play-

based classroom was a non-negotiable method for instructing young children and a central pillar

for how children learn. With the introduction of academic standards, opportunities for play are

taking on new forms and are being challenged/questioned as having a place within the early

childhood, specifically kindergarten classroom (Miller & Almon, 2009). Although some view

play as an add-on to classroom instruction, as a filler of time or as "anything goes approach"

(Miller & Almon, 2009), intentional guided play can be used as a pedagogical tool that has been

linked to positive academic and social outcomes for all children (Bodrova & Leong, 2006;

Ginsburg, 2007; Hirsh-Pasek, Gollinkoff, Berk & Singer, 2009). Play proponents suggest that

this type of learning blends with the child-centered approach to instruction because it is

consistent with developmental principles of how children learn and grow (Hirsh-Paseak &

Golinkoff, 2009). The role of the teacher does not take a back seat in a play-based classroom.

Rather, an effective play-based classroom requires that the teacher understand best practices through a developmental lens for how young children learn. Most importantly, the role of the teacher, in facilitating rich play, is essential.

Play advocates and researchers vary widely on the role of play in children's learning, lives, and classroom experiences. Some advocates remain true to initial conceptions of how children learn rooted in Piagetian and Montessori approaches to learning. While there are few if any empirical studies that connect the benefits of unstructured open-ended play to child outcomes, more recently, there is a growing interest in examining the role of play in the development of the child. Bodrova and Leong (2003) promote the role of play in children's development. However, they take on a Vygotskian perspective to how children learn. A more dynamic approach, a playful learning, is an approach that intentionally targets specific skill sets for children to master in the classroom through play. Contrary to the unstructured view of play, intentional play is hard work. In a recent randomized control trial of a play-based curriculum, *Tools of the Mind*, Diamond, Barnett, Thomas, and Munroe (2007) found that the play-based curriculum and teaching instruction helped children develop executive functioning (EF) skills (Ursache, Blair, & Raver, 2014). EF is known to be an important early precursor for later school success and higher standardized testing scores.

Gmitrova and Gimtrov (2004) found that children's cognitive performance related to their learning environment. Researchers looked at the difference between child-centered play versus teacher-directed play and found a significant increase in children's cognitive behaviors when engaged in child-centered play activities. This finding supports the argument to make sure children have time for child-centered play opportunities. The long term benefits of such opportunities helps young children learn how to regulate their emotions, develop problem

solving skills, and develop higher levels of thinking, which can be used as a foundational base for academic learning (Ray & Smith, 2010).

A qualitative study conducted by Ranz-Smith (2007) asked teachers to talk about their experiences teaching in the era of NCLB. Ranz-Smith (2007) found that all teachers said that they felt pressures to eliminate more child-centered play opportunities in their classrooms because they had to get through curricular requirements. Similarly to Gmitrova and Gimtrov's findings, Ranz-Smith (2007) also found that even teachers who believed in child-centered play practices the external pressures at times overrode their beliefs and changed their instructional practice.

Overall, research on the benefits of a play-based approach to classroom instruction is mixed and complex. Play is not a one size fits all approach added to any classroom. There is a growing interest and empirical base demonstrating the relationship between play-based learning and child outcomes (Playful Learning Summit Group, 2009). Executive function has emerged as the "hot topic" for researchers and policy makers alike. Current studies have established links between the importance of play opportunities for young children and the development of self-regulation skills (e.g. turn-taking, inhibition, perspective taking) as important indicators of school readiness (Bodrova & Leong, 2003). In 2009, a New York Times headline *"Can the Right Kinds of Play Teach Self-Control,"* Paul Tough presents empirical evidence linking specific forms of play with the development of self-control for children. Documenting if opportunities for play-based experiences and exploration exist within the kindergarten classroom are important considerations for educators, researchers and policy makers alike given recent headlines such as "Kindergarten Cram." In the 2009 NY Times article "*Kindergarten Cram,*" Peggy Orenstein presents her synthesis of the current state of kindergarten. She highlights that

children no longer are playing in the sandbox but rather are preparing for their future multiple choice bubble tests. Although Orenstein does not choose a position, she eloquently poses important questions for the general public to think about, "How far are we willing to go to commit to certain forms of practice?" There are many benefits to play-based experiences and the tensions she raises important implications for how young children develop and learn.

Teacher-directed learning.   The child-centered approach to instruction has been criticized as not being rigorous enough to prepare children for the upper grades (Vecchiotti, 2003).   In contrast to this approach is the more didactic or teacher-directed learning instruction. Teacher-directed classrooms are characterized by higher level of teacher control over their classroom. Teachers tend to structure the activities around opportunities for them to instruct or teach information. An example of a teacher-directed learning activity might be using more didactic forms of instruction such as the use of worksheets and memorization where children are left to work more independently (Burts et al., 1992, Stipek, 2004). Teachers using this approach will provide information to children via modeling, repetition, explanation, and closed-ended questioning (Early et al., 2005; Smerdon, Burkam, & Lee, 1999). Teacher-directed instruction has a negative connotation, specifically towards pro-NAEYC supporters, also known as being developmentally inappropriate for children (Bredekamp & Coople, 2009). Advocates for this form of instruction present a convincing argument for the usefulness of this approach to improving basic skill development for low-income children (Adams & Englemann, 1996, Stipek, 2004; Van Horn et al., 2005; Weisberg, 1994;). Stipek et al. (1995) found that children instructed by developmentally inappropriate instruction scored better on measures of letter recognition and reading achievement but not on math. This finding was only significant for poor minority students. Consistent with Stipek's findings, Chien et al (2010) found similar trends,

children who spend the most time in free-choice activities experienced smaller gains in various school readiness skills. Stipek and Byler (1997) present a perspective on a common misunderstanding that developmentally appropriate practices are only effective with white, middle-class children. Their counter agreement suggests that there may need to be a broader definition for DAP when examining specific cultural and linguistic contexts. Additionally, exploratory learning may not be enough for countering experiences of poverty children experience in the years prior to schooling. This view of getting disadvantaged children "ready" through the use of skill building as a necessary means for school success is an important perspective to consider when examining teacher practice. This also may have implications for children's later success. The decision to adopt a more teacher-directed instruction was influenced by the teacher's fundamental beliefs or personal experience and possibly influenced by external pressures that may arise for teachers. Stipek and Byler (1997) found that teachers felt a need to take on more teacher-directed instruction emphasizing the repetition of basic skills as a result of wanting children to be ready for the academic rigors that they will face in the upper grades. Teachers also felt pressured by parents to teach such skills. Spidell-Rusher, McGrevein, & Lambiotte (1992) found that teachers and principals in urban and rural school districts placed more emphasis on academic teacher-directed instruction as educators in more suburban areas. On the other side of the debate, researchers have found negative outcomes for children placed in DIP classrooms. For example, children displayed more stress related behaviors when working in large group activities and independently while working on workbooks or worksheets (Burts et al., 1992; Burts, Hart, Charlesworth, & Kirk, 1990). Additionally, children in more DIP classrooms showed more negative affect, more dependence on adults, less compliance with teacher requests and more likelihood of "getting in trouble" (Stipek, 1998).

Child-centered and teacher-directed approaches to learning have been guided by philosophies for teaching young children. Both approaches have been shown to produce differing results for different populations of students. The ECTUS-P was designed to capture teachers' beliefs about classroom practice on these two dimensions of learning environments-child-centered or teacher-directed supports for learning.

Purpose of the Study

Over the past decade, in response to NCLB reform, teachers and schools have been working hard to find ways to better prepare children to succeed in passing state standardized assessments. After a decade long of new mandates targeted at improving the quality of elementary education, RTT, became the new face of NCLB, attached with new mandates and expectations for school readiness and closing the achievement gap (Race to the Top, 2009). Today, parents, children, and schools are now feeling the impact of such change. This provides a ripe context for researchers to explore the impact of accountability on the classroom learning experiences and teaching practices for young children.

There is a growing need to understand which factors influence teachers' classroom practice. Over the last decade education policies such as the development and implementation of the CCSS and Quality Rating Systems (QRS) have changed the expectations and practices in early childhood (Goldstein, 2007; Hatch, 2005). The goal of NCLB (No Child, 2001) was to reform the education system with the aim of closing the achievement gap by focusing on school level performance between racial and ethnic minority subgroups in a given school relative to their white peers (Anderson, Medrich, & Fowler, 2007).

With the introduction of this reform, one major goal was to increase education quality by strongly encouraging accountability and performance standards for elementary grades 3-8. With

this reform came new accountability standards for both teachers and students, which are changing the practices within the classroom. Schools are expected to get children "ready" for the upper grades. Standardized testing that begins in grade three has impacted how teachers spend their time in their classrooms with their children (Astuto, 2006; Miller & Almon, 2009). More attention is being directed towards test prep and mastery of basic skills (Graue, 1993). Additionally, kindergarten teachers are being asked to adapt to new policies and expectations with little autonomy (Goldstein, 2008). Much attention has been placed on student outcomes, teacher performance and classroom quality as a response to these new mandates, however little research has focused on the relationship between teacher beliefs and how young children are actually spending their time in classrooms. In addition, how are teachers' making sense of the new pressures and expectations they are experiencing in kindergarten? If a kindergarten teacher's role is two-sided, to both guide the development of children and get them ready to master academic concepts and meet the standards, a closer look inside the classroom window is needed (Goldstein, 2007).

Attention to accountability and teacher performance raises questions about how teachers use their classroom time and their learning environments. For this reason, it is critical to examine how local policies and teacher ideologies influence their classroom practice. This research will begin to address what factors influence kindergarten teachers' beliefs in the context of learning in the 21st Century for New York City Public Schools.

Study Objectives

Teachers' beliefs about their classroom practice are influenced by their personal characteristics and belief systems as well as school reform policies (e.g. educational policies and mandates). This research is guided by human ecological and social constructivist theories to explore the relationship between kindergarten teachers' educational values and beliefs as well as their approaches to learning with classroom materials and learning tools. To achieve this, the following questions will be addressed:

Research Questions

1) Are teachers' characteristics (degree obtained, having additional credits, training and resources, and number of years teaching in early childhood) associated with teachers' values about their classroom practice?

2) Are teachers' characteristics (degree obtained, having additional credits, training and resources, and number of years teaching in early childhood) associated with the amount of time spent in learning centers in the classroom environment?

3) Do barriers to play-based experiences (funding, administrative support, and time) moderate the relationship between teachers' characteristics and their values about child driven material use?
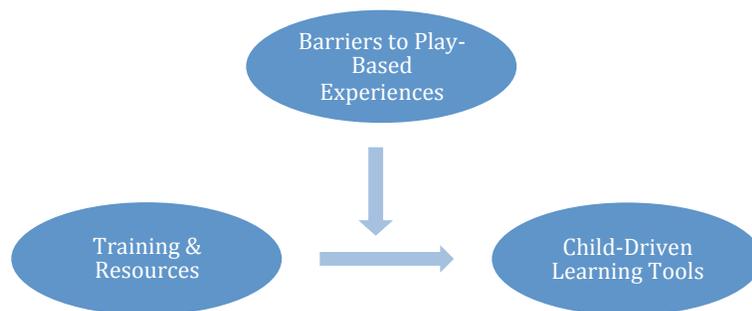
Figure 2.2 Proposed barriers to play-based experiences moderation model on child driven learning tools

4) Do barriers to play-based experiences (funding, administrative support, and time) moderate the relationship between teachers' characteristics and the amount of time spent in child-centered play?
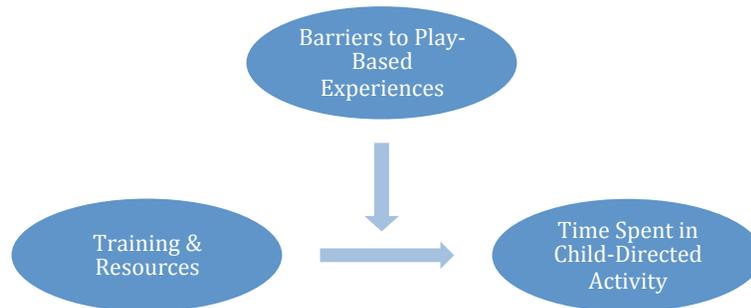
Figure 2.3 Proposed barriers to play-based experiences moderation model with time spent in child-directed activity

Hypotheses

1) Teachers' characteristics will be significant predictors of values about the use of child driven learning materials.

2) Teachers' characteristics will significant predictors of time spent in child-centered opportunities.

3) Teacher's values about the use of child driven learning materials will depend on the amount of barriers teachers perceive in their classroom context. (see Figure 2.1).

4) The amount of time teachers spend in child-centered classroom activities will depend on the amount of barriers teachers perceive in their classroom context (see Figure 2.2).

CHAPTER III

METHODS

Data for this study comes from an existing dataset developed by Astuto, et al. 2015 to develop and pilot a measure of early childhood classroom quality the ECTUS-P. Analyses were conducted to explore the relationships between kindergarten teachers' beliefs and their classroom practices during an era of school reform.

Participant Characteristics

The analytical sample for the present study includes 142 participants, 97% of whom are female and from varied ethnic backgrounds. The majority of the teachers identified their race as White (46%) and was between the ages of 30-39 years of age, however ages ranged from younger than 25 years of age to 60 years or older. Fifty percent of the sample reported being born in New York, and 48% born outside of New York State. Most of the sample (58%) held a Master's degree or higher (see Table 3.1 for additional teacher and school level demographics).

Participant Sampling

Data for this study were collected during the 2006-2007 academic school year. The participants in this analytical sample are kindergarten teachers from an economically and ethnically diverse school region in New York City, which includes five school districts. Through collaboration with the Department of Education Early Childhood Program Office, a school region in Brooklyn, NY was identified to recruit kindergarten teachers to participate in the larger study (i.e., Astuto, et al. 2015). Every kindergarten teacher in this region (n=280) was asked to participate. Survey packets were sent out to all kindergarten teachers in the region. The Early Childhood Program Office helped coordinate the delivery and collection of the surveys.

Table 3.1

Teacher and School Level Characteristics

	n	*%*
Gender	142	4%
Male	5	97%
Female	137	
Age	141	
Under 25 years	9	6%
25-39 years	29	21%
30-39 years	44	31%
40-49 years	34	24%
50-59 years	20	14%
60 or older	5	4%
Race	140	
Black	35	25%
Hispanic	25	18%
White	65	46%
Other	15	11%
School District	138	
District 13	20	15%
District 14	27	20%
District 15	65	47%
District 16	25	18%
District 18	1	1%
Percentage of Students Receiving Free Lunch	102	
0-20 %	4	4%
21-40%	5	5%
41-60%	3	3%
61-80 %	6	4%
81-100%	84	59%

Measure

     The Early Childhood Time-Use in Schools Profile Development (ECTUS-P). The ECTUS-P developed by Astuto and colleagues (2015) was designed to fill the conceptual gap of current teacher report instruments or measures of classroom quality by allowing the user (i.e., educators) or researchers, to document and broadly assess in a cost-effective way teacher's perceptions of the ways in which educational policies and priorities influence how classroom time is allocated (e.g., unlike observational measures, teacher-report measurement is more economical). One goal in the development of the ECTUS-P was to determine the extent to which kindergarteners are participating in various activities- however the structure and comprehensiveness of the measure allow it to be useful for a variety of purposes such as capturing the factors which determine the ways time is allocated, the value teacher's place on various classroom activities, the role of computers in the classroom, and how standardized assessment and preparation activities occur in the kindergarten classroom. For the purposes of the current study, an examination of teacher's values and classroom practices was explored.

     Description of the ECTUS-P. The ECTUS-P is a comprehensive measure that asks teachers to report on the types of materials present in the classroom and the amount of time spent in different kindergarten classroom activities throughout a typical day. It is divided up into five parts that ask the teacher to document different aspects of the classroom which include: (1) Teacher Demographics; (2) Classroom Environment-Materials; (3) Class Schedule; (4) Values about Classroom Materials and Resources Scale (VCMR); and (5) Influences on Organization and Activity Scale (ICOA). Part 1 of the measure asks demographic information about the teacher and the school/district. Demographic data about teacher's gender, age, ethnicity, language, years of education and training, number of years teaching at all grade levels, and the

number of years teaching pre-K, kindergarten, and first grade. Additionally, school data about

the school's district, percentage of students receiving free or reduced lunch, curriculum used,

number of students in classroom, and the status of the school the teacher worked in. Part 2 asks

teachers to describe the classroom environment about their current teaching experience.

Classroom Environment-Materials section (see Appendix A) teachers are asked to indicate the

quantity, average usage, accessibility/location and obstacle(s) to use of the specific materials

within their classroom setting. In order to capture a snapshot of a typical day's activities,

teachers were asked to indicate the number of minutes they spend in the various centers or

activities during the day (i.e., 0 = *NONE,* 1 = *1-30 minutes,* 2 = *31-60 minutes,* 3 = *61-90*

minutes, 4 = *more than 90 minutes*). Part 3 asks teachers to respond to questions about

assessments and testing practices in their classroom in an open-ended format. Part 4, teachers

were asked to indicate "agreeablity" using a 4-point Likert scale (i.e., 1 = *strong disagree,* 2 =

disagree, 3 = *agree,* 4 = *strongly agree*), of their use of classroom materials/resources from the

VCMR scale listed in (see Table 3.2).   Part 5, using the same response scale, teachers were then

asked to indicate influences on their classroom organization and activities from the ICOA scale,

(see Table 3.3). The instrument ends with the open-ended item, "*What words would you use to*

describe how children in your class spend their day?" The data generated from this item

provides an opportunity to explore the narratives teachers' use when given the opportunity to

describe how children are spending their classroom time (Adapted from Astuto, et al., 2015).

Table 3.2

Part 4. Values about Classroom Materials and Resource Scale (VCMR)

Item	Strongly Agree	Agree	Disagree	Strongly Disagree
Factor 1: Child Driven Learning Tools				
The use of children's storybooks in my classroom is appropriate for a kindergarten class				
The use of blocks in my classroom is appropriate for a kindergarten class				
The use of art material in my classroom is appropriate for a kindergarten class				
The use of dramatic play in my classroom is appropriate for a kindergarten class				
The use of outside play equipment is appropriate for a kindergarten class				
The use of sand and water in my classroom is appropriate for a kindergarten class				
Factor 2: Adult-Driven Learning Tools				
The use of instructional materials in my classroom is appropriate for a kindergarten class				
The use of standardized assessments and test preparation in my classroom is appropriate for a kindergarten class				

Table 3.3

Part 5. Influences on Classroom Organization and Activity (ICOA)

Item	Strongly Agree	Agree	Disagree	Strongly Disagree
Factor 1: Training and Resources				
Developmental and/or educational theory influences the organization and activity in my class				
My training background influences the organization and activity in my class				
Adequate space and funding influences the organization and activity in my class				

Data Cleaning

For purposes of the current study, items from the original ECTUS-P were selected and merged into a clean database to address the proposed research questions. For further description of the development of the measure and its psychometric properties see Astuto et al., 2015. Exploratory data analyses (Behrens, 1997) was used to screen and check for normality of the distributions, outliers, multicollinearity and unexpected relationships between variables. Skewness and kurtosis tests were performed on all selected variables to assure normal distribution and a Missing Values Analysis (MVA) was performed in SPSS. All missing data were identified as "missing at random." Results showed no bias and no monotonicity. Several variables were slightly skewed and kurtotic. Child Driven Learning Tools was negatively skewed (-6.301). Choice time, standardized testing time, and socialization time were significantly skewed, while choice time, science time, and socialization time were kurtotic (Skewness = 3.39, 3.07, 3.39, and Kurtosis = 4.69, 3.79, 6.20, respectively). Although several

learning center variables were skewed and/or kurtotic, given that the items are a measure of time (minutes) it theoretically makes sense that teachers are reporting spending different amounts of time in specific subject areas, thus variables will be used in their untransformed state. Even though, there may be differing perspectives when it comes to variable transformations, for purposes of this study, it is appropriate that teachers would report greater endorsement of certain items that may be reflected as such.   More recently, statisticians are also suggesting that variables be left in their untransformed state when there is a conceptual rationale (personal communication with statistician, May 2014).

Variable Identification and Construct Development

  Teacher characteristics. Teacher demographic variables are generally used in research for purposes of describing participants and/or examining specific characteristics as predictors in the analysis. Teacher characteristics were selected from both part one of the demographic portion of and part five ICOA scale from the ECTUS-P and will be defined in the current study as (1) level of education with continuing education credits (2) number of years teaching in early childhood classrooms, and (3) the influence of training and resources.

  Level of education.   The original construction of this variable showed little variability thus teacher level of education variable was constructed by collapsing five response choices into dichotomous categories 1 = *bachelor's degree plus additional credits* and 2 = *master's degree plus additional credits*. Using this new coding scheme, 51% of the sample holds a master's degree plus additional credits as compared to 49% holding a bachelor's degree plus additional credits (see Table 3.4).

Years teaching early childhood. The number of years teaching in early childhood classrooms ranged from one year to over 30 years teaching (see Table 3.4 for distribution of the number of years teaching). The average number of years teaching in early childhood was 7 years, *M* = 7.43, *SD* = 6.50 (see Table 3.5).

Training and resources. The training and resources subscale is part of the ICOA scale, which measures various factors that impact how teachers carry out their daily classroom schedule and practice. Training and resources subscale consists of 3-items which represent teacher's training and spatial resources (e.g., developmental and/or educational theory, training background, adequate space, funding) (α = 0.73). Items are rated on a 4-point Likert scale (e.g., 1 = *strongly disagree* to 4 = *strongly agree*), where 44 % of the teachers reported that they agreed that their training and spatial resources influenced their ability to use certain materials in their classroom. The subscale ranged from 1 to 4, *M* = 3.35, *SD* = .50 (see Table 3.3 for further description of independent variables).

Table 3.4

Frequency of the Number of Years Teaching in Early Childhood

	n (133)	*%*
1 year	17	13%
2 years	11	9%
3 years	14	11%
4 years	12	9%
5 years	8	6%
6 years	10	8%
7 years	13	10%
8 years	8	6%
9 years	4	3%
10 years	13	10%
13 years	5	4%
14 years	2	2%
15 years	3	2%
16 years	1	1%
17 years	1	1%
19 years	1	1%
20 years	2	2%
21 years	1	1%
23 years	3	2%
25 years	2	2%
32 years	1	1%
36 years	1	1%

Table 3.5

Independent Variables Representing Teacher Characteristics

	n	*%*
Training & Resources Influence on Classroom Activity		
Strongly Agree	61	44%
Agree	70	50%
Disagree	8	6%
Strongly Disagree	0	0%
Original Level of Education Responses		
Bachelor's Degree	27	19%
Master's Degree	69	49%
Additional 30 credits of continuing education	29	21%
Master's Degree + 30 credits	13	9%
Bachelor's Degree + 30 credits	3	2%
Recoded Level of Education Responses		
BA or BA/Additional Credits	69	49%
MA or MA/Additional Credits	72	51%

Values about classroom resources and materials. VCMR scale consists of two subscales: (1) Child Driven Learning Tools which refers to materials or activities that are considered to be more open-ended and child-centered, such as storybooks, blocks, art materials, dramatic play materials, sand/water table, outside play equipment, and (2) Adult Driven Learning Tools which represents materials that are focused on more "academic/test prep" content areas and considered to be more teacher-directed practices (i.e., standardized assessments, instructional materials (e.g., flashcards, workbooks, textbooks). This scale is part of section four of the ECTUS-P.

The use of children's storybooks, blocks, art materials, dramatic play materials, sand and water table, and outside play in my classroom is appropriate for kindergarten class. The use of child-centered classroom materials are 6-items from the VCMR Child Driven Learning Tools subscale (α = 0.87). Items are rated on a 4-point Likert scale, ranging from 1 = *strongly disagree* to 4 = *strongly agree,* where 64% of the teachers reported that they strongly agree that the use of Child Driven Learning Tools is appropriate for their classroom, *M* = 3.51, *SD* = .733.

The use of instructional materials and standardized assessments and test preparation in my classroom is appropriate for a kindergarten class. The use of teacher-directed classroom materials are 2-items from the VCMR Adult Driven Learning Tools subscale (α = 0.65). Items are rated on a 4-point Likert scale, ranging from 1 = *strongly disagree* to 4 = *strongly agree,* where 53% of the teachers reported that they agree that the use of Adult Driven Learning Tools is appropriate for their classroom, *M* = 3.42, *SD* = .705.

Class schedule. Seven daily activities, which include both academic content and approaches to learning, were selected from part three of the ECTUS-P—Class Schedule.

In a typical day, how much time, in total, is given to literacy, math, standardized assessment and test preparation, science, center-time (teacher-led), choice-time (child-led), and socialization. Teachers were asked to report the number of minutes they spend in the various learning centers or activities during the day. Items were ranked on a 5-point Likert scale (i.e., 0 = *NONE,* 1 = *1-30 minutes,* 2 = *31-60 minutes,* 3 = *61-90 minutes,* 4 = *more than 90 minutes*), which measured the amount of time kindergartner teachers give to both instructional time and open-ended time.

Accountability barriers to play-based opportunities. Four "accountability barriers to classroom material use" composites were created using three items from part two—Classroom

Environment section of the ECTUS-P prompt, "Why do some schools not use X material" across both child-centered and teacher-directed approaches to learning materials. Three obstacles to using classroom materials were identified for the creation of barrier composite which include "funding is not available for materials," "administration does not see value in material," "there is not enough time to use material." Only participants with 80% or more data were included in the creation of composite scores. There are eleven learning centers/activities that correspond to this section that were coded into two categories: child-centered and teacher-directed approaches to learning. Further description of composite construction will be explained below.

Funding barrier for child-centered material use. A "funding barrier for child-centered material use" composite was created using seven items identified as learning materials that promote child-centered learning from part two—Classroom Environment section of the ECTUS-P which include: children's storybooks, blocks, art materials, dramatic play materials, sand/water table, outside play equipment, and open-ended objects. Each child-centered learning area is dichotomously scored (0 = *no* and 1 = *yes*) to represent "why" there may be an absence of each child-centered learning material when responding to specific funding obstacle "for using the area/items" prompts. The composite had responses ranging from teachers experiencing 0 to 7 barriers, where the greater the number, the more barriers a teacher experiences in her/his classroom ($M = 4.48$, $SD = 2.20$). The funding barrier for child-centered material use composite indicates strong internal consistency, $\alpha = .80$.

Administration valuing child-centered material use. An "administration valuing child-centered materials use" composite was created using the same seven items that were identified previously. Each child-centered learning area is dichotomously scored (0 = *no* and 1 = *yes*) to represent "why" there may be an absence of each child-centered learning material when

responding to specific administration valuing materials use obstacle prompt. The composite had responses ranging from teachers experiencing 0 to 7 barriers, where the greater the number the more barriers a teacher experiences in her/his classroom ($M = 2.35$, $SD = 2.28$). The administration valuing child-centered material use composite indicates strong internal consistency, $\alpha = .83$.

Time barrier for child-centered materials. A "time barrier for child-centered materials use" composite was created using the same seven items that were identified previously. Each child-centered learning area is dichotomously scored ($0 = no$ and $1 = yes$) to represent "why" there may be an absence of each child-centered learning material when responding to specific time obstacle prompt. The new time barrier composite had responses ranging from teachers experiencing 0 to 7 barriers, where the greater the number the more barriers a teacher experiences in her/his classroom ($M = 2.81$, $SD = 2.33$). The time barrier for child-centered material use composite indicates strong internal consistency, $\alpha = .82$.

Barrier sum score to child-centered approaches to learning. A "barriers sum score to child-centered approaches to learning" composite was created using two composites "administration valuing child-centered material use" and "time barrier to child-centered material use." The barriers sum score to child-centered approaches to learning composite had responses ranging from teachers experiencing 0 to 14 barriers in their classrooms ($M = 5.16$, $SD = 3.79$). Only two composites were significantly related to each other and appeared to be strong enough to include in the creation of the barrier composite. When removing the funding barrier to child-centered material use composite, the alpha increased by .122 thus this composite was deleted from the overall barrier sum score composite. The barriers to child-centered material use composite appeared to have moderate internal consistency, $\alpha = .52$.

There is an established theoretical and empirical relationship between different teacher ideologies and classroom practice. The proposed study examined specific variables and constructs from the ECTUS-P scale to add to this body of literature. The most proximal level to classroom practice is teacher characteristic variables such as years of teaching, training and education will be examined first. Next, classroom environment variables such as specific learning tools and classroom materials (i.e. story books, blocks, dramatic play, etc.), and accountability pressures to specific learning tool use (i.e. administration does not see value in specific learning tool) may influence classroom practice. Finally, teacher's values about their classroom and approaches to learning material use will be measured by examining subscales from the VCMR and ICOA scales.

CHAPTER IV

RESULTS

Analytic Strategy

The purpose of this study was to examine how kindergarten teachers' training and resources influence the types of materials used in their classroom and how much time is spent in different learning areas each day during an era of school reform. Pearson correlation coefficients (Hayes & Matthes, 2009) were computed to determine the existence of relationships between teacher demographic characteristics, influence of teacher training and resources on teacher values about their practice and materials including both VCMR Child Driven Learning Tools and VCMR Adult Driven Learning Tools, barriers to play-based opportunities, and the amount of time spent in the following classroom activities: (1) literacy; (2) math; (3) standardized assessments and test preparation; (4) science; (5) center time (teacher directed); and choice time (child-directed). A series of regression models were tested to explore learning and teacher practices in kindergarten classrooms, which included teacher characteristics as predictors in each model. Additionally, moderation was tested to explore the influence of teachers' perceived barriers to classroom material use.   Four main questions guided the analysis that included: (1) Do teachers' characteristics predict teachers' values about their classroom practice and material use?; (2) Do teachers' characteristics predict the amount of time spent in different learning centers in the classroom environment?; (3) Do teachers' perceived barriers to classroom practice moderate the relationship between teachers' characteristics and their values about material use?; and 4) Do teachers' perceived barriers to classroom practice moderate the relationship between teachers' characteristics and the amount of time spent in child-centered activities?

Data Analysis for Research Question One

Which teacher characteristics predict teacher's values about their classroom practice? Bivariate correlation analysis was conducted to examine the correlation between teacher characteristic variables – namely, ICOA Training and Resources and number of years teaching in early childhood with the two teacher value factors from the VCMR (i.e., Child Driven Learning Tools and Adult Driven Learning Tools). Chi-square analysis was conducted for the remaining categorical teacher characteristic variables to examine if relationships exist between teachers level of education and VCMR subscales. Two significant correlations were found between teachers' ICOA Training and Resources and the VCMR Child Driven Learning Tools subscale Pearson's r (117) = .522, p = .001 and VCMR Adult Driven Learning Tools subscale Pearson's r (134) = .220, p = .01. The remaining two correlations among teacher characteristic variables: level of education and number of years teaching in early childhood with the two teacher value factors from the VCMR were non-significant and level of education was excluded from further analysis due to measurement error[3]. Thus, overall there were weak or nonexistent relationships between teacher characteristics and their values about their classroom practice with the specific sample using the ECTUS-P.

Although the number of years teaching in early childhood was not significantly correlated with the outcome, both number of years teaching and ICOA Training and Resources were used to represent teacher characteristic predictors. Multiple regression analysis was used to determine which teacher characteristics predict teachers' values about their classroom practice.

Model one. Multiple regression analyses were used to test if the number of years teaching in early childhood and ICOA Training and Resources significantly predicted teachers'

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[3] Teacher's level of education was elicited using the following categories: (1) Bachelors degree, (2) Masters degree, (3) Additional Credits, (4) Doctorate degree. Since teachers were allowed to select more than one response data cannot be interpreted thus excluded from analysis.

endorsement of VCMR Child Driven Learning Tools. The results of this model indicated that 25% of the variance was accounted for by ($R^2 = .25$, (2, 108) = 18.972, p = .000). ICOA Training and Resources (3-items) predicted greater use of VCMR Child Driven Learning Tools (b = .680, SE = .111, β = .514, p = .000) (see Table 4.1). In this analytical sample of kindergarten teachers, ICOA training and classroom resources made available to teachers significantly increased their endorsement of VCMR Child Driven Learning Tools.

  Model two. Multiple regression analysis was used to test if the number of years teaching in early childhood and ICOA Training and Resources significantly predicted teachers' endorsement of VCMR Adult Driven Learning Tools. The results of this model indicated that 6% of the variance was accounted for by (R^2 = .06 (5, 124) = 2.496, p = .05). It was found that ICOA Training and Resources (3-items) predicted greater use of VCMR Adult Driven Learning Tools (b = .349, SE = .116, β = .264, p = .05) (see Table 4.1). In this analytical sample of kindergarten teachers, training and the amount of classroom resources made available to them significantly increased their endorsement of VCMR Adult Driven Learning Tools.

Table 4.1

Teacher's Training & Resources as Predictive of Child and Teacher Driven Learning Tools

Predictor	Child Driven Learning Tools		Teacher-Driven Learning Tools	
	R^2	B	R^2	B
ICOA Training & Resources	.24 ***	.674	.05 *	.304
Years Teaching		- .057		-.001

*p < .05, *** p < .000,
* controlling for years teaching

Data Analysis of Research Question Two

How do teachers spend their time in kindergarten classrooms? What are the relationships between teachers' characteristics and the amount of time spent in different activities in the classroom? Specifically, do teacher characteristics predict the amount of time spent in child-centered learning (choice time)? Descriptive analysis was performed to document the amount of time teachers' reported spending in different learning centers: (1) literacy; (2) math; (3) standardized assessments and test preparation; (4) science; (5) center time (teacher directed); and choice time (child-centered; see Table 4.2 for percentage of time spent in each area). Bivariate correlation analysis was conducted to examine the correlation between teacher characteristic variables – ICOA Training and Resources and number of years teaching in early childhood with the amount of time spent in literacy, math, standardized assessment and test preparation, science, center-time, choice-time, and socialization time (see Table 4.3). Chi-square analysis was conducted for the remaining categorical teacher characteristic variables to examine if a relationship exists among teachers level of education to the amount of time spent in learning areas. Choice, standardized testing, and socialization time were significantly skewed, while choice, science, and socialization time were kurtotic (Skewness = 3.39, 3.07, 3.39, and Kurtosis = 4.69, 3.79, 6.20, respectively). One significant correlation was found between ICOA Training and Resources and time spent in choice time. Training and resources was positively correlated with time spent in choice-time (child-centered) Pearson's r (139) = .227, p = .001 and the number of years teaching in early childhood was moderately correlated with time spent in center time (teacher-directed activities) Pearson's r (129) = .073, p = .10. Thus, overall there were weak or nonexistent relationships between teacher characteristics and teachers class schedule with this analytical sample using the ECTUS-P.

Table 4.2

Percentage of time spent in various activities reported by Kindergarten teachers in NYC.

	No Time	1-30 Minutes	31-60 Minutes	61-90 Minutes	90+ Minutes	Not Reported	Total
	%	%	%	%	%	%	%
Literacy	0	2	21	41	33	3	100
Math	0	15	58	20	2	4	100
Testing and test prep	19	39	26	6	3	7	100
Science	3	56	36	1	1	3	100
Center Time - Teacher Directed	0	8	56	31	1	4	100
Choice Time – Child Directed	6	54	37	1	1	1	100
Socialization Time	2	61	29	4	2	1	100
Other Time	4	19	13	2	1	62	100

Table 4.3

Pearson Correlations Between Training & Resources and Years Teaching with Time Variables

Variable	1	2	3	4	5	6	7	8	9
1. Years Teaching	--	.536	.926	.706	.972	**.073**†	.513	.332	.688
2. Training & Resources		--	.135	.103	.133	.067	-.094	**.227****	.151
3. Literacy			--	**.369****	.100	-.145	.099	.090	.007
4. Math				--	**.196***	-.035	.072	-.002	-.117
5. Science					--	.152	.033	**.231****	**.248****
6. Center (Teacher-Directed)						--	.081	**.338****	**.256****
7. Testing							--	.007	-.163
8. Choice (Child-Directed)								--	**.240****
9. Socialization									--

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
†p <.10 (2-tailed).

Multiple regression analysis was used to determine the predicted value of training and resources to the amount of time teachers spent in child-centered activities also referred to as choice-time.

Model three. Multiple regression analysis was used to test if ICOA Training and Resources significantly predicated the amount of time spent in choice-time. The results of the regression indicated that the predictor explained 4% of the variance ($R^2 = .04$, F (2, 128) = 3.596, p = .030) when choice time was the outcome. ICOA Training and Resources predicted greater amounts of time being spent in choice time learning centers ($b = .268$, $SE = .107$, $\beta = .217$, $p = .013$).

Data Analysis Research Question Three

How do accountability pressures impact teacher's classroom material use and instruction? Specifically, do the number of perceived barriers (accountability pressures), and ICOA Training and Resources predict teacher's endorsement of VCMR Child Driven Tool Use? In order to identify the relationships between teachers' perceived barriers as a potential moderator, descriptive analyses were performed. The ECTUS-P asked teachers to report on 11 different possible barriers however three barriers were selected as potential obstacles to the use of child-centered materials based on empirical themes reported in the early childhood field: (1) funding is not available for materials; (2) administration does not see value in the use of materials; and (3) there is not enough time to use materials. More than 50% of teachers reported that funding was the main obstacle for each child driven learning material (see Figure 4.1). Whereas at least 20% of teachers reported that their administration did not value the use of child driven learning materials. Finally, roughly at least 30% of the time teachers reported that there wasn't enough

time in their schedule to use child driven learning materials (see Figure 4.1 – 4.3 for percentage

of perceived barriers by teachers for each child driven material).
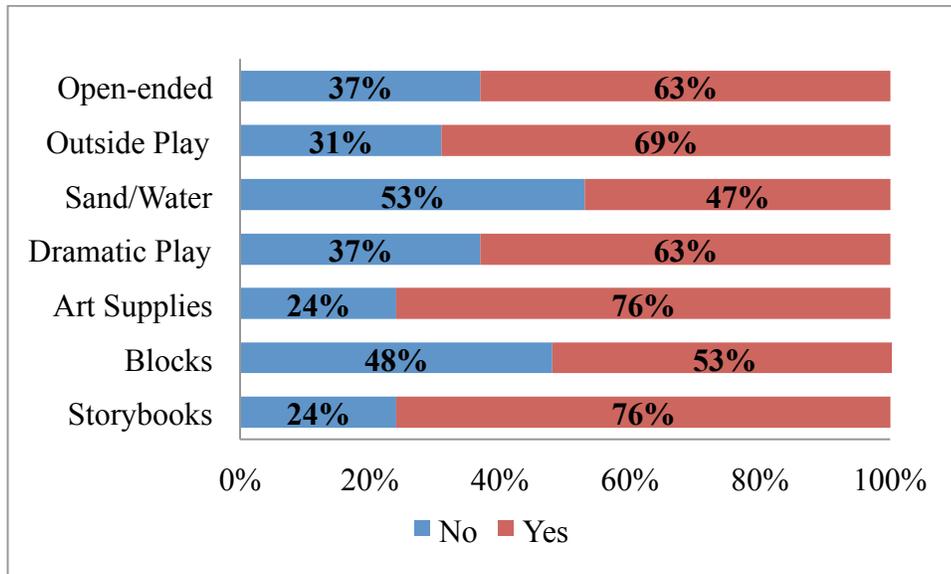
Figure 4.1 Percent of teachers who report funding as a barrier
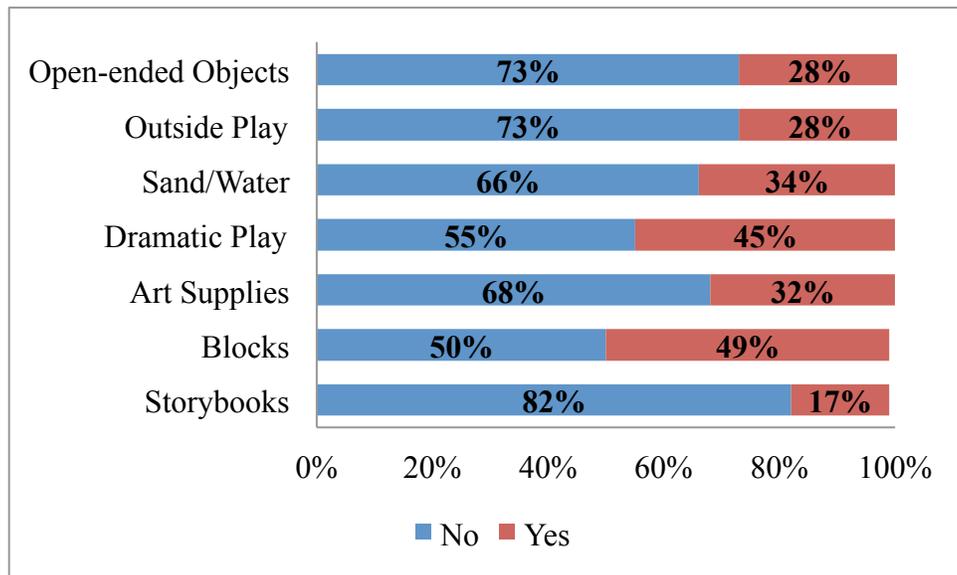
Figure 4.2 Percentage of teachers who report administration does not value material as a barrier
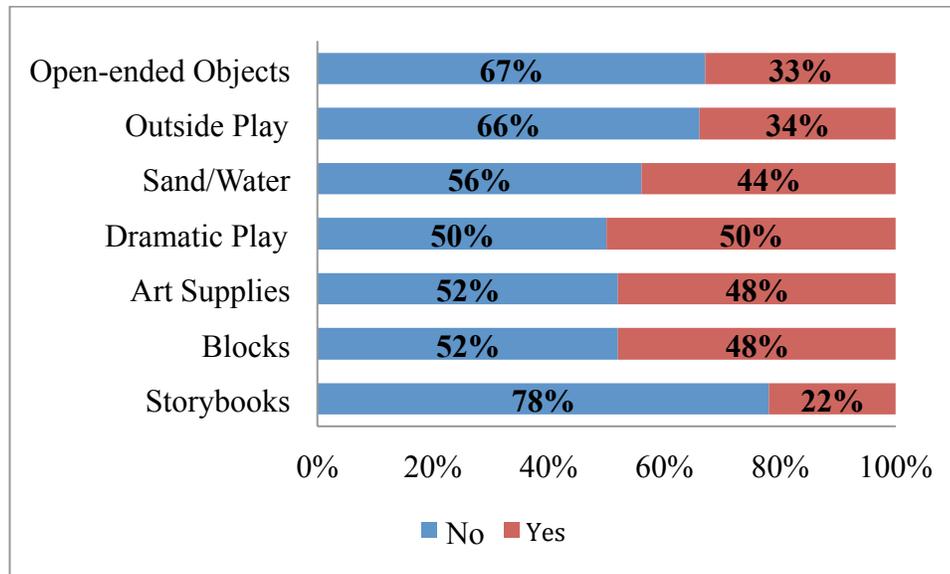
Figure 4.3 Percentage of teachers who report time as a barrier

An accountability barrier sum scores were computed to explore the range of possible barriers teachers experienced for each area. School funding was the most frequently reported barrier to the use of child driven learning materials ($M = 4.48$, $SD = 2.20$). Administration's values towards the use of child driven materials were the least frequently reported barrier ($M = 2.35$, $SD = 2.28$). Teachers did not endorse many barriers collectively to using child driven learning materials ($M = 2.81$, $SD = 2.33$; see Figure 4.4).
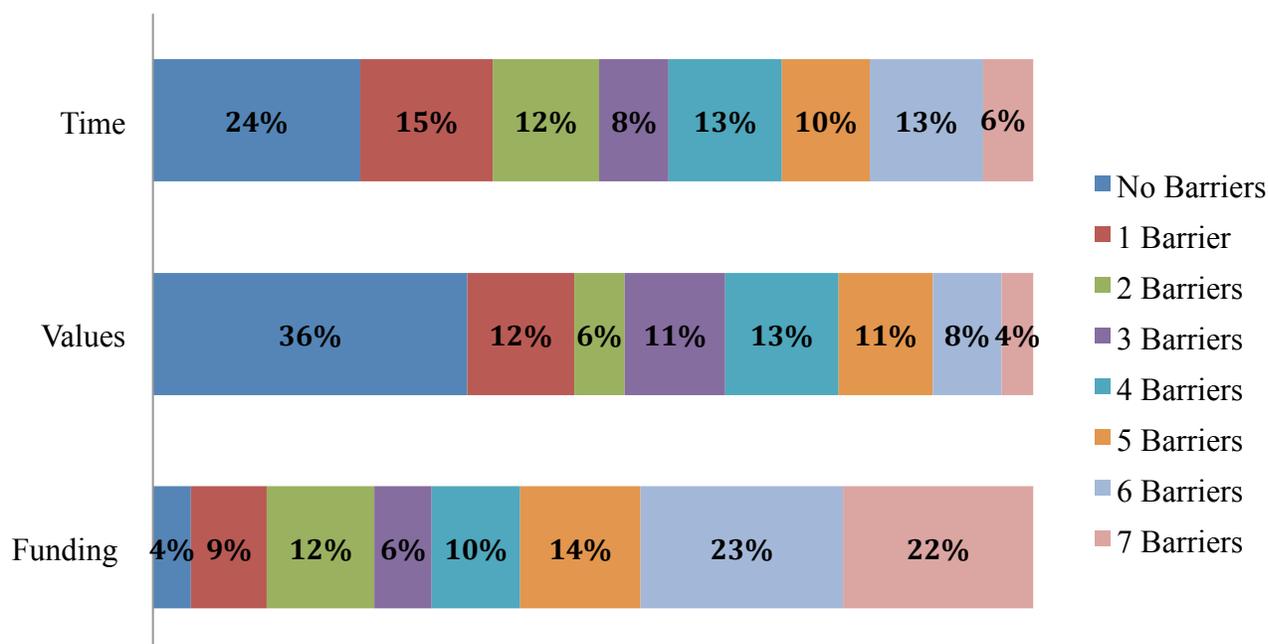
Figure 4.4 Proportion of total barriers to child driven material use

To test the hypothesis that the usage of child driven materials are a function of teachers' training and classroom resources, and more specifically whether teachers' perceived accountability pressures moderates the relationship between ICOA Training and Resources and classroom values, moderation analysis was performed. All independent variables were standardized to make interpretation easier (Aiken & West, 1991).

Model four. A hierarchical multiple regression was run to assess the increase in variation explained by the addition of an interaction term between ICOA Training and Resources and perceived barriers to classroom practice to a main effects model. Perceived barriers did moderate the effect of training and resources on teacher's values about child driven learning

tools, as evidenced by an increase in total variance explained of 3%, which was statistically

significant (F (1, 112 = 17.94, p < .000).

Moderation analysis was employed following the procedures from Hayes (2008). In the

first step, two variables were included: ICOA Training and Resources and barrier sum score for

teachers perceived accountability pressures to child driven learning materials. These variables

accounted for a significant amount of variance in teachers VCMR Child Driven Learning Tools,

R^2 = .283, F (2, 113) = 23.79 p < .000. To avoid potentially problematic high multicollinearity

with the interaction term, the variables were standardized, and an interaction term between ICOA

Training and Resources and barriers was created (Aiken & West, 1991).

Next, the interaction term between ICOA Training and Resources and teachers perceived

barriers was added to the regression model, which accounted for an additional significant

proportion of the variance in teachers VCMR Child Driven Learning Tools, ΔR^2 = .03, ΔF (1,

112) = 4.77, p = .031, b = .055, t (112) = 2.18, p < .03. Examination of the interaction plot

showed an enhancing effect that as training and resources and perceived barriers increased,

teacher's use of child driven learning tools increased. At low training and resources, teacher's

use of child driven learning tools was similar to teacher's who experienced low or high-

perceived barriers. Teachers with high training and resources and high perceived barriers were

still able to value the use of child driven learning tools (DAP) despite the

obstacles/accountability pressures they were experiencing.

Table 4.4

Teacher's ICOA Training & Resources as Predictive of VCMR Child Driven Learning Tools

Predictor	VCMR Child Driven Learning Tool Use	
	R^2	B
	.28***	
Block 1		
Constant		3.42***
Training & Resources [a]		.35***
Barriers to Child-Centered Play [a]		-.08
Block 2	.33***	
Constant		3.40*
Training & Resources [a]		.19*
Barriers to Child-Centered Play [a]		-.78*
Training X Barriers [a]		.70*

* p < .05, *** p < .000, [a] = Variables have been standardized
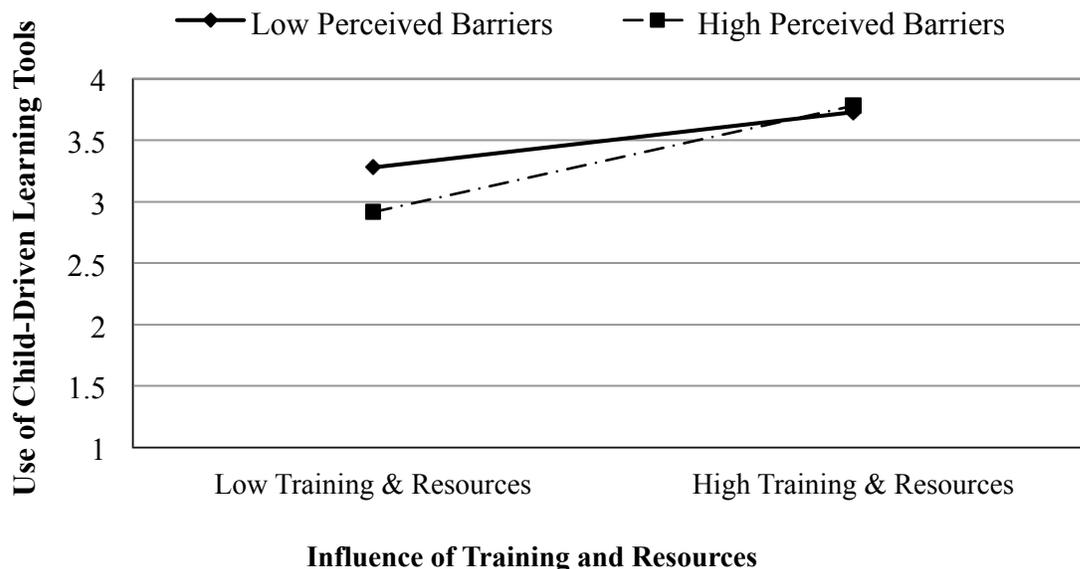
Figure 4.5 Accountability pressures as a moderator in the relation between teacher's training and resources and values about the use of child driven learning tools.

Data Analysis Research Question Four

Do teachers' perceived barriers to child driven learning materials moderate the

relationship between teachers' ICOA Training and Resources and the amount of time spent in

child-centered learning (choice-time)?   To test the hypothesis that the amount of time spent in

choice-time is a function of teachers' training and classroom resources, and more specifically

whether teachers' perceived barriers to child driven learning materials moderates the relationship

between ICOA Training and Resources and the amount of time spent in child-centered learning

activities (choice-time), a hierarchical multiple regression analysis was conducted.

Model five. A hierarchical multiple regression was run to assess the increase in variation

explained by the addition of an interaction term between ICOA Training and Resources and

perceived accountability pressures to classroom practice to a main effects model. Perceived

barriers did not significantly moderate the effect of training and resources on teacher's use of

choice-time. Although the model accounted for a small increase in total variance explained of

1%, the overall model fit is marginally significant (F (1, 131 = 3.27, p < .10).

Moderation analysis was employed following the procedures from Hayes (2008). In the

first step, two variables were included: ICOA Training and Resources and barrier sum score for

teachers perceived barriers to child-centered materials. These variables accounted for a

significant amount of variance in the amount of time teachers spend in choice time, R^2 = .04, F

(2, 132) = 3.456 p < .034. To avoid potentially problematic high multicollinearity with the

interaction term, the variables were standardized and an interaction term between training and

resources and teachers perceived barriers was created (Aiken & West, 1991).

Next, the interaction term between ICOA Training and Resources and barrier sum score

for teachers perceived barriers was added to the regression model, which did account for a

significant proportion of the variance in the amount of time teachers report spending in choice

time, ΔR^2 = .02, ΔF (1, 131) = 2.793, p = .023, t (134) = 3.266 p =.10.   Examination of the

interaction plot showed a non-significant interaction on the amount of time spent in choice time

activities.

Table 4.5

Teacher's ICOA Training & Resources as Predictive of Time Spent in Choice-Time Activities

Predictor	Choice Time	
	R^2	B
Block 1	.04*	
Constant		1.36***
Training & Resources [a]		.14*
Barriers to Child-Centered Play [a]		-.01
Block 2	.05*	
Constant		1.35***
Training & Resources [a]		.01
Barriers to Child-Centered Play [a]		-.57†
Training X Barriers [a]		.57†

†p <.10, * p < .05, *** p < .000   [a] = Variables have been standardized

SUMMARY

This chapter addressed the analysis of data from four main research questions using the ECTUS-P. Descriptive analyses were performed for questions one, two, and three to establish relationships between predictors and outcomes. Multiple regression analysis was used for questions one and two to examine the influence of number of years teaching and ICOA Training and Resources on both teachers' values on the use of child driven materials and time spent in play-based experiences. Finally, questions three and four were explored using moderation to examine if teachers' perceived barriers influenced the effect that ICOA Training and Resources had on teachers' values about child driven learning and time spent in play-based experiences.

CHAPTER V

DISCUSSION

Opportunities for play-based experiences and exploration that foster creativity and curiosity are competing with test preparation activities that focus on literacy and math instruction (Bassok & Rorem, 2014; Graue, 2009; Miller & Almon 2009). The result of NCLB has created a context where teachers are negotiating the use of standards-based instruction and DAP. Although many advocates are writing about the disappearance of play and child-centered instruction in early childhood classrooms, there is a dearth of literature providing empirical evidence documenting such trends (Bassok & Rorem, 2014; Miller & Almon, 2009). In order to address this gap, a new measure—ECTUS-P, that was developed to document (a) how children spend their time in kindergarten; (b) what influences kindergarten teacher's practice; and (c) what values teachers endorse was used in this study. Using the ECTUS-P, the current study explored how kindergarten teacher's characteristics related to their values and classroom practice. Given these data were collected four years after the introduction of NCLB, accountability pressures were explored to examine the impact NCLB on teachers' values and classroom practice. In response to Miller and Almon's (2009) recent claim that there is a "Crisis in Kindergarten," this study aimed to situate the role of the teacher in negotiating the new tensions that exist. Equally as important, taking a strengths-based approach, exploring what factors may help influence how teachers' meet best practice was examined.

Although the purpose of kindergarten has changed, children's development and curiosity to learn have remained relatively consistent over time. The expectations and goal of the kindergarten curriculum seems more like content experienced in the primary grades thus for many children this creates a mismatch between what four and five year olds need to experience

(e.g. basic social-emotional supports, separation, sharing) and what content is being introduced (e.g. standards, workbooks, focus on literacy and math skills).   The context for educating young children has changed over the last two decades as a result of new research and federal policies that have shaped the type of learning that gets privileged in the public school classroom. Teachers' values about what type of instruction they implement in kindergarten are also challenged by these policies. Young children are capable of mastering a broad range of skills, and reading, writing, and arithmetic are just a few of the skills that begin to develop in kindergarten. Researchers have documented when children are scared, feeling anxious, and not excited in the classroom, their ability to learn and connect with academic concepts is compromised (Diamond, 2010; National Scientific Council on the Developing Child, 2010). More importantly, at a young age, children begin to associate these negative emotions and stressful experiences with schooling, which can have grave consequences for later academic achievement.

The first research question examined which kindergarten teachers' characteristics predict teachers' values about which materials are important for kindergartners. Findings indicate that the influence of ICOA Training and Resources (e.g. teachers' educational training, knowledge of developmental theory, and classroom resources) and the number of years teaching in early childhood are important contributors how teachers value the use of both child driven learning materials and adult-driven learning materials for young children.   For VCMR Child Driven Learning Tools approach to learning, 80% of the teachers who responded to these items on the survey (n = 116) agreed that developmentally appropriate materials are important for kindergarten classrooms. The use of storybooks, blocks, art materials, dramatic play materials, sand and water, and outside play equipment are all materials that are characteristic of a child-

centered classroom where children have access to "free play" and child driven activities. This finding is on par with other research studies that have examined the relationship between teacher beliefs/values to their practice (Jones et al., 2000; Han & Neuharth-Pritchett, 2010; Heisner & Lederberg, 2011). The high proportion of teachers endorsing DAP-like materials does not seem uncommon given that teachers are working with young children. It is also encouraging to document that DAP and child-centered materials are still important principles for teachers. Equally as important, this findings reaffirms that training matters for kindergarten teacher's endorsement of DAP. In addition, these results reveal that the number of years teaching in early childhood classrooms was an important predictor for how teachers' value classroom materials for the current sample.

In the initial analysis, other teacher characteristics were explored to see if they would be good predictors to include in the analysis models. Given that level of education and additional credits were not interpretable they could not be included in the multiple regression models. A possible caveat for why there were poor distributions in teacher demographic indices could be attributed to the unique features of NYC schools and district configurations. The United Federation for Teachers Union (UFT) along with NYC Department of Education may also have more strict regulations for allowing teachers to teach in the public school settings (e.g. college degree is a required component) thus level of education may not be as meaningful when examining DAP in this context. Unfortunately these data did not specifically ask teachers to document the type of additional credits they received or any child development training programs/credits thus future work should explore if child development classes are important predictors to implementing DAP. Consistent with other research using teacher self-report measures of teachers' values and practice, the ECTUS-P appears to be capturing critical

dimensions of similar constructs. NYC kindergarten teachers endorse best practice when they feel that they have adequate space, solid background in developmental theory and educational experiences to do DAP.

Although the majority of the teachers reported valuing materials that lend themselves to DAP, 76% of the teachers who responded to the survey (n = 136) simultaneously agree that VCMR Adult Driven Learning Materials are important for kindergarten classrooms. The use of instructional materials and standardized assessments and test preparation materials are characteristic of teacher-directed or didactic forms of instruction that have been implemented in response to accountability pressures. How can teachers report endorsing materials that facilitate free play while at the same time value instructional tools for young children? What appears to be a dichotomy between DAP and standards-based instruction has challenged teachers for decades. According to recent findings, kindergarten teachers are especially vulnerable when it comes to their practice due to the tensions that have emerged between DAP and standards-based instruction (Astuto, 2006; Bassok & Rorem, 2014; Goldstein, 2008; Miller & Almon, 2009). Opportunities for play-based experiences provide the context for the development of the whole child (e.g. cognitive, social-emotional, physical), which has been associated with school readiness skills and achievement in children (Astuto, 2006; Ursache, Raver, & Blair, 2014; Zigler & Bishop-Josef, 2006).   These findings provide empirical support that tensions exist and NYC kindergarten teachers do report that both child and teacher directed materials are important for teachers working in kindergarten classrooms. However, these findings also suggest that teachers are being trained in values of DAP as well as the realities of standards-based instructional practices.   If kindergarten teachers in NYC are valuing both types of materials

(child and adult driven), how do they manage to allocate time to promote different experiences for young children in their classroom?

The second research question examined how teachers allocate time in their classrooms post-NCLB. In addition, how does ICOA Training and Resources predict the allocation of choice-time (child-centered) for young children in a specific region in NYC? Findings indicate that the influence of ICOA Training and Resources (e.g. teachers' educational training, knowledge of developmental theory, and classroom resources) predicts how teachers allocate time for choice activities (free play) in their classrooms. More than half (55%) of the teachers from this study reported spending anywhere from 1 – 30 minutes per day in choice time activities. Based on the previous findings, teachers value materials that are typically used during choice time. However, in a typical full-day kindergarten in NYC only 8% of the day is dedicated to "choice-time" (i.e. full-day is equal to about 6 hours or 360 minutes per day). This is in stark contrast to "academic" oriented subjects such as literacy and math. These data provide compelling evidence that young children are spending the majority of their day in literacy (more than 60 minutes per day) and math (more than 30 minutes per day) instruction. While teachers reported that they spent on average anywhere from 1 to 30 minutes on science, standardized testing/preparation, center, choice, and socialization time. The allocation of time across different content areas may seem alarming if these results are compared to quality indicators found in an assessment tool such as the ECERS-R which require that children spend 1/3 of their classroom time in child-selected or more free play opportunities. Of particular interest, the literacy finding appears to be on par with other research suggesting that given the recent demands placed by policies such as NCLB and more recently CCSS, teachers are focusing more of their classroom instruction time on literacy practices (Bassok & Rorem, 2014). Although teachers only reported

spending at least 30 minutes per day on math, there are mixed trends for the increase and/or decrease in the amount of time children spend in math instruction. This is especially true when schools have a high proportion of low-income minority students with a focus targeted at closing gaps between rich and poor. For schools that had a high percentage of children receiving free or reduced lunch; Bassok and Rorem (2014) highlight that there was a 30-minute increase per week in math instruction for non-white low-income children. On the other hand, all other groups experienced a slight decrease in math instruction. While these data cannot compare the amount of time NYC children spent on math instruction prior to NCLB, given the high proportion of ethnically/racially diverse children in the NYC school system that are eligible for free or reduced lunch, the upward trend of increased time is worth noting.

More recently, as pre-kindergarten is being put in the hot seat for aligning practices that get children "ready" for kindergarten, new research is emerging to provide support for the "drill and kill" mentality in kindergarten. Recent studies have found that children are spending more time in literacy and math instruction and placed in classroom learning environments that are said to be more instructional in nature (Bassok & Roreml 2014; Chien et. al., 2010).   Astuto et al, 2015 question the need for more empirical research to determine if a right balance exists between opportunities for play-based experiences and academic instruction on child outcomes. Researchers have also demonstrated the link between access to high-quality learning environments and short and long-term outcomes for children (Barnett, 1995; Chetty et al., 2011). Classrooms that have been rated as being of high quality typically meet both the structural (e.g. space, resource, and materials) and process (e.g. quality of interactions, sufficient time for such interactions) dimensions required to receive such a rating. For example, a classroom that gets rated of good quality on the ECERS-R has met the required amounts of time allocated to "free-

play" opportunities. Unlike the ECERS-R calculation of "substantial portion of the day" the

ECTUS-P asked teachers to document how much time their children were spending in literacy,

math, science, standardized testing/test preparation, center time (teacher-directed), choice time

(child-directed), and socialization time.   This alternative approach to capturing time snapshots is

a new fresh method that can be beneficial for educators to monitor their practice and develop a

quality type rating system for kindergarten

These data were collected at a ripe moment in history, a few years after the introduction

of NCLB thus providing the perfect research context to explore the initial impact of such policies

on teachers practice. The third research question explored the influence of accountability

pressures on the influence teachers training and resources on the values about child driven

material use. Given the many pressures teachers experience from multiple stakeholders as a

result of accountability mandates, a descriptive account documented the proportions of barriers

teachers experience in their classroom/school context as it relates to the use of child driven

learning materials that align with principles of DAP. Through moderation analysis, findings

suggest that a significant interaction was found between ICOA Training and Resources and

accountability pressures teachers perceived as influencing their use of VCMR Child Driven

Learning Tools.   For the sample of kindergarten teachers who experienced barriers

(accountability pressures), the importance of ICOA Training and Resources between teachers

who perceived low versus high barriers was non-significant in their VCMR Child Driven

Learning Tools. However, when teachers perceived many barriers (accountability pressures),

ICOA Training and Resources were significantly important for the continued endorsement of

VCMR Child Driven Learning Tools. This is an exciting finding that suggests that teacher

training programs and instilling the values of DAP can serve as potential protective mechanisms

for teachers. Equally as important, given the testing and accountability crunch that kindergarten teachers report experiencing, looking for ways to promote and/or protect opportunities for play-based experiences are crucial.   Both findings provide empirical evidence that early childhood training matters, especially for teachers operating in high poverty schools as indicated by percent of children eligible for free or reduced lunch post-NCLB.

The final research question explored how the accountability pressures influenced how teachers allocate choice-time in their classrooms post-NCLB. Findings indicate a non-significant interaction between accountability pressures and ICOA Training and Resources on the amount of time teachers' report their children spending in choice-time. When examining the slope and interception plots, there were no differences between teachers who experienced low or high barriers and the amount of time they reported spending in choice time activities. The lack of finding a significant interaction on the amount of choice time teachers reported spending in their classroom speak to the need to further explore if there are other possible variables that are not captured or measured in the current study.

Since these data were collected, early childhood education has undergone seismic shifts in their goals for educating young children. There has been a surge of inquiry since 2006 exploring how such policies NCLB, RTT, CCSS influence the quality of teaching for educators and opportunities for learning for young children (Brown & Lan, 2015; Miller & Almon, 2009; Goldstein, 2007; Snow, 2012). With all the recent newspaper headlines and advocacy claims that kindergarten is not the same as it was two decades ago, suggests that access or the lack thereof to opportunities for child-centered play and exploration need further exploration. Findings from this study have important implications for researchers, practitioners, and policy makers alike.

Limitations

While the findings presented in this study provide empirical support documenting the influences on kindergarten teacher practice and time allocation in their classrooms, there are several limitations that this study cannot address. First, the study relied on the method of self-report. As with any self-report measure, the ability to provide unreliable data has been challenged (Haeffel & Howard, 2010). Self-report measures have been used in research for many years. A limitation of this study is that teachers were asked to choose the best response from items in each measure and self-report about their current classroom experience. It is possible that teachers may not be reporting about these activities accurately and exaggerates or neglects to report. However the authors of the ECTUS-P performed convergence analysis between the two scales that were used in this study and individual items that ask teachers to report "how often" and the "quantity" of items found in their classroom. They reported an 85 - 95% internal consistencies agreement throughout the measure (Astuto, et al., 2015). A second limitation to this study is that the findings from this research cannot be generalized to all early childhood professionals given the small sample size and isolated school region. Although NYC public school system is very diverse, the sample of teachers who participated in this study represents one region (e.g. five districts) in one borough in NYC. More research is needed to administer the ECTUS-P with other teachers across the city to examine if similar patterns and profiles exist. Although school level demographics were collected, it might be useful to document and learn more about the composition of the children in the classroom. If the classroom has a high proportion of minority children or children with special needs, instruction may be different. Future revisions of the ECTUS-P may benefit from the addition of such variables. Thirdly, given this was the administration of the ECTUS-P, the variability of the data

was limited. Women typically dominate early childhood fields, so these data are consistent with such trends. The original research questions were to explore how teacher demographics predicts values and time in early childhood classrooms. Due to measurement limitations, the variable for teacher's level of education was not interpretable. This would have been an important variable to examine to see if beyond a teacher's degree, are there differences between teachers who receive specialized training in child development and those who did not? Additionally, adding clarifying questions to determine the year teachers received their teaching certification and if their training specialized in early childhood. Fourthly, these data were collected at the peak of NCLB when kindergarten teachers began to experience the trickle-down effect of the testing policies. Given the focus across the nation on testing and CCSS, the ECTUS-P may need to be refined to catch up with the new changes that have taken place since 2006. Does this measure capture the experiences and forms of instruction that are "expected" to take place in today's kindergarten? If not, what is the role of play-based experiences in kindergarten? How does play or play-based experiences relate to the content and standards for today's five-year-olds? One important area that needs further empirical evidence is to examine how the testing and accountability climate has impacted preschool teachers experience in their classrooms. A downward extension of the ECTUS-P would be an important contribution for documenting similar trends in preschool. Finally, although more than half of the sample reported their race as White, the role of race and teacher-teacher and teacher-child racial composition is an important area for further exploration. Research has found that low-income minority children tend to be paired with teachers who are also of their same race (Ready & Wright, 2011). If we aim to help close the school readiness gap for minority children, figuring out how to situate opportunities for play-based experiences and pairing minority children with educators that have the right training

to support the development of minority children is crucial. The ECTUS-P can provide data to highlight the potential proportional differences in opportunities children experience as a result of the type of school they are in, their neighborhood context, and racial composition of schools. Future work with the ECTUS-P could include using a classroom based observational tool in conjunction with the ECTUS-P to further explore the relationship between teachers' self-report of their practice and what they actually do on a daily basis.

Implications for Researchers

These findings present an exciting next step for researchers. In this study training and resources are critical influences for how teachers value best practices and allocate time in their classrooms. Believing in DAP and best practices alone are not enough to provide children with a rich play-based learning environment. Allocation of class time spent in standard-based instruction and play appear to be competing for the same seat in the kindergarten classroom. Such competition calls for attention to examining if the "right dosage" exists to help maintain balance in the classroom and level the playing field for all children in the United States. When children have opportunities to engage in rich meaningful play, a whole host of skills are tried out and further developed in the child. This study raises important questions and call to action for researchers interested in the importance of play and best practice for young children. Below are recommendations and implications for continued exploration.

1. First, more research is needed using the ECTUS-P. Future studies can use the ECTUS-P in combination with other child-outcome measures to provide empirical support linking how time-use in the classroom predicts different outcomes for young children. If researchers can demonstrate a direct connection between the minimal amount of time children need access to in early childhood classrooms in order to see

measurable gains in later achievements, then researchers would be able to communicate such messages to practitioners and policy makers. Research tells us that children who enter school with the ability to pay attention, sit on the rug, and follow directions (dimensions of executive functions) are more prepared and have established support for positive child outcomes later in life (Ursache, Raver, & Blair, 2014). Astuto & Ruck (2015) also found a direct link between kindergarten children who had access to child-centered learning environment and had opportunities to play were more civically engaged in 8th grade. Together these findings contribute to the continued research to further explore the use of "time" as a measurement to connect with direct outcomes to examine how much time and what type of activities are given to children. Especially in a diverse school system like NYC, a goal for any school district would be to make sure all children have access to the tools and approaches to learning that promote best outcomes for children.

2. Secondly, there is a need to debunk and reimagine what play-based learning is all about. As more and more newspaper headlines provide "shout outs" for the usefulness of play, the four-letter word still seems to hold various meanings for educators, parents, and policy makers. Play advocates draw from theory and education research demonstrating the importance of play in an early childhood classroom. However, the theories that guide what type of instruction is usually implemented stems from developmental psychology. As education reform will continue to transform, it is important to ask teachers about their understanding of best practice as it relates to play and the developmental needs of the children in their

classrooms. Additionally, this measure can serve as both an evaluative and reflexive tool for educators.

3. This work fits in nicely with the Playful Learning Summit Working Group's recommendations for future research.   Specifically, a tool like the ECTUS-P can help explore what kinds of supports teachers need to organize their classrooms to facilitate play. Additionally, the group raised the question to determine which variables are important to consider for mediation and moderation. Opportunities for play-based experiences in the classroom are an important variable to explore further. The ECTUS-P can be used to develop classroom play-context profile to be used to mediate or moderate important relationships to child outcomes in a cost-effective way. Another key point that was raised is how does play reflect the quality of classroom settings? The ECTUS-P is a comprehensive measure that can be used as a proxy for classroom quality while documenting opportunities for playful learning. Finally, New York State has fully implemented P-12 standards, which has influenced how play is being positioned in new early learning standards and initiatives. Play is no longer mentioned in the updated learning goals for young children. The ECTUS-P can be used to examine the role of the CCSS on teacher's classroom profiles and document how much time is being spent on standardized testing preparation.

Implications for Educators

As a developmental psychologist, thinking about how "best practice" and principles from developmental psychology get communicated to educators was a motivating question that guided

this study. The results from this study highlight the need to ground the early childhood workforce in principles of development in context.

1. Training matters. Regardless of the "shove down" of academic standards and pressures teachers experience in their school districts, the need for professionalizing teachers and giving them a wide repertoire of skills to pull on in the classroom can serve as a buffer against unnecessary pressures. While this does not erase the reality of a more academic classroom, if teachers have enough resources and developmental training then they are better positioned to find creative solutions to work around such pressures.

2. DAP can co-exist in today's classrooms. Many critique the usefulness of DAP given the shifts in educational priorities. Teachers from this study felt that child driven learning materials were important for kindergarteners. Educators should be excited to see that DAP is still valued and seen as an important framework for educating young children. Professional development trainings should capitalize on this momentum and develop creative and culturally relevant modules that are tailored to meeting the needs of diverse communities. DAP may manifest itself in different ways across different learning environments. Teachers may decide to allocate time in new ways to meet the standards. Further exploration is needed to see if there are other dimensions of DAP that are not being captured in the current measure of the ECTUS-P.

3. Growing a playful workforce. If researchers can look inside the "black box" to uncover the different meanings of play, this knowledge base can then funnel back into the type of trainings educators receive. Educators continued to be bombarded with

requirements to measure and assess children, however through this process educators too begin to lose sight of their core values for how best to educate young children. Providing supports for teachers and creating a school culture that will recognize the value of play-based learning as a method of instruction and opportunity for assessing young children. As preschool expands in NYC and across the country, a new workforce is being created to teach our children. These data could not be more timely for recognizing that upfront training in theories of child development are critical for integrating educators into a discourse and historical movement that opportunities for play-based experiences and DAP are pillars for the new dawn of early childhood care— preschool and kindergarten to achieve the desirable effects down the road. Additionally, as the Playful Learning Summit Working Group call to action, the role of teacher training and development are key for both professional development and research design. As we begin to develop a playful workforce, the co-construction of knowledge will be key to a successful model. Teachers must be part of the defining and imagination process for the role of play in early childhood and how to move this agenda forward.

4. Time matters. As educators are experiences pressures to get children ready for the upper grades, the data reveals that time is being spent in the "testing" subject areas. On average, children are receiving at least 300 minutes per week in literacy instruction. The proportion of time being allocated to the different content areas each day raises issues for both educators and school official leaders, how should children spend their time in school each day? Kindergarteners are only five when they enter school, still coping with basic social issues of separation and integration into a new

classroom environment, are we as a society doing justice for young children if we all of a sudden make literacy instruction the hallmark focus each day? What about English Language Learners (ELLs) or children who enter school with different experiences and foundations with book reading? The data is clear that kindergarten teachers value DAP practices however they still are focusing their instructional time in content areas that align with testing. How can educators and policy makers rethink strategies for mastering standards while, not compromising the mechanism by which children learn best—PLAY.

CONCLUSION

In New York City, kindergarten may no longer be the first schooling experience for children. Recent policies to increase the number of preschool seats and access to both public and community-based universal pre-k programs across the city will change future needs and direction of the City's educational system. With recent demographic shifts and trends for whose entering public school systems, the role of teacher training and adequate classroom resources remain a central concern for meeting such needs. Schools of education and alternative teacher education movements can learn from these data that intense, supportive training rooted in developmental theory can provide teachers with important tools that educators can include in their tool kits for educating young children in today's society. As a great thinker once said, "the train is here, we can either jump on board and look inside the "black box" and explore how to work creatively in a new context, or refuse to take a seat and possibly miss out on great things to come" (Astuto, 2012). Parents, educators, researchers, and policy makers need to look around themselves and realize that our nation's education system has evolved. We can refuse to accept accountability

policies and testing on young children. However we must move forward and find new ways of integrating opportunities for child-directed play. Calls to action—together, let's re-imagine the early childhood classroom and rediscover the role of the teacher in meeting best practice for how children learn best.

Appendix A
ECTUS-P Sections

Part II. Classroom Environment: Classroom Materials & Objects

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Quantity, Average usage, Accessibility/Location, Obstacles

Story Books

How many children's storybooks are in the classroom?

How often are children's storybooks used?

Where are the children's storybooks located?

Some classrooms and/or school environments do not use storybooks

Trade Books and Leveled Readers

How are the trade books and leveled readers being used?

Do students have a choice in the level of books they read?

How many children's trade books and leveled readers are in classroom?

How often are children's trade books and leveled readers used?

Where are the children's trade books or leveled readers located?

Some classrooms and /or school environments do not use trade or leveled readers

Blocks

How many blocks are in the classroom?

How often are blocks used?

Where are the blocks located?

Some classrooms and/or school environments do not use blocks.

Art Supplies

How many art materials are in the classroom?

How often are the art materials used in your classroom?

Where are the art materials located?

Some classrooms and/or environments do not use art materials.

Dramatic Play Materials

How many materials for dramatic play (e.g., costumes, puppets, dolls, props) are in the classroom?

How often are dramatic play materials used?

Where are the dramatic play materials located?

Some classrooms and/or school environments do not use dramatic play material.

Sand/Water

Is there a sand and/or water table in the classroom?

How often is the sand and/or water table used?

Where is the sand/or water table located in your classroom?

Some classrooms and/or school environments do not use sand and water

Outside playground

In the setting you are thinking about, do the kindergarten children have access outside if weather permitted?

How much outside playground equipment is available to the students?

How often is outside play equipment used?

Some classrooms and/or school environments do not use outside play equipment.

Computers

How many functional computers for students are present in the classroom?

Is there a computer lab that is accessible to kindergarten students?

How often do your students use the computer?

Some classrooms and/or school environments do not use computers.

Instructional/ Published Materials (e.g., flashcards, workbooks, textbooks)

How many instructional materials are available?

How often are instructional materials used?

Where are the instructional materials located?

Some classrooms and/or school environments do not use instructional materials.

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