EXPLORING THE OUTDOORS: A MULTIPLE CASE STUDY
EXAMINING TEACHER BELIEFS AND PRACTICES
IN PRESCHOOL OUTDOOR PLAY

By

Beverly Hershey Goodling

Liberty University

A Dissertation Presented in Partial Fulfillment
Of the Requirements for the Degree
Doctor of Education

Liberty University, Lynchburg, VA
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ABSTRACT

The purpose of this multiple case study was to discover the beliefs and practices regarding preschool outdoor play for early care and education teachers at three diverse school locations. Each site, located in central Pennsylvania, represented a different playground environment: manufactured, natural, and a mixed environment. Using purposeful, maximum variation sampling, three teachers from each of the three centers were selected as participants, based on age, number of years teaching, and educational background. Data collection methods consisted of observations, using the *Preschool Outdoor Environment Measurement Scale* (DeBord, Hestenes, Moore, Cosco & McGinnis, 2005), semi-structured interviews and a document review to gain an overall understanding of the goals for each center regarding children’s use of the playground and to achieve triangulation of data. Cross-case analysis was based on the following a priori themes: teacher beliefs, teacher planning, teacher behaviors, and playground affordances. Findings from the study demonstrated that although all teachers valued scheduled outdoor play, and viewed their overarching role as supervisory, a disparity existed in how teachers engaged with children and utilized the playground environment to optimize children’s learning. Teachers’ practices ranged from supervising independent play to planning activities and interacting with children to scaffold learning. According to this study, the affordances of the playground do influence teacher interactions with children. The teachers with more convenient access to loose parts were more likely to include loose parts on the playground environment, and were observed as more engaged in meaningful interactions with children. Recommendations are provided for directors of early care and education programs, professional development providers, higher education faculty, parents and regulatory organizations.

*Keywords:* early care and education, preschool, playgrounds, teacher beliefs, outdoor play, nature, affordances
Dedication

This dissertation is dedicated to my husband, Barry, for always supporting me and believing in me throughout this process; and to our children, Laura and Dan, for their love of nature, support and encouragement, and to our son Kyle, in heaven, for teaching me to find the beauty in each day. Finally, to my parents, Art and Joyce Hershey, for encouraging my sense of wonder and curiosity of the natural world as a child and for instilling in me a love for learning.
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List of Abbreviations

Attention-Deficit/Hyperactivity Disorder (ADHD)
Capital Area Affiliate of NAEYC (CAAEYC)
Child Development Associate (CDA)
Children and Nature Network (CN&N)
Early Childhood Environmental Rating Scale-Revised Edition (ECERS-R)
Nature Action Collaborative for Children (NACC)
North American Association for Environmentalist Education (NAAEE)
National Association for the Education of Young Children (NAEYC)
National Association for Sports and Physical Education (NASPE)
Office of Child Development and Early Learning (OCDEL)
Preschool Outdoor Environment Measurement Scale (POEMS)
Standards, Training/Professional Development, Assistance, Resources and Support (STARS)
United Nations Convention on the Rights of the Child (UNCRC)
CHAPTER ONE: INTRODUCTION

Overview

To many, the school playground is viewed as simply a space for physical play, to run off extra energy during recess time. White (2004) credited this thinking to 19th century psychologist, Herbert Spenser, who espoused the ‘surplus energy theory’. However, according to the National Association of Education for Young Children (NAEYC), outdoor play is an important part of each day’s learning activities, part of the curriculum. NAEYC recommends that children enrolled in preschool and childcare programs spend time learning in both indoor and outdoor environments each day (Copple & Bredekamp, 2009).

In the past few years, a wealth of research has been added to the early childhood literature on the importance of planning for the outdoor environment and the benefits for children (Grubbels, Van Kaan, & Jansen, 2012; Nelson, 2012; Torquati, Gabriel, Jones-Branch, & Leeper-Miller, 2010; Waters & Maynard, 2010; Wilson, 2012; Wirth & Rosenow, 2012). What the literature does not address is how early care and education teachers understand their role in light of this recent research. This multiple case study assisted in providing a current, in-depth understanding of the connection between teacher belief and practice in outdoor play experiences for preschoolers.

Background

Outdoor play has held a prominent place in the field of early childhood education since its beginning with German educator Friedrich Froebel’s kindergarten and nursery school movement in the early 1800s (Gray & MacBlain, 2012; Wilson, 2012). The founders of early childhood education emphasized the importance of learning in the outdoor environment. This was in stark contrast to the predominant theory of the day which held that playing outside or
recess was merely to get a break from in-class activities (Gray & MacBlain, 2012). These early educators were viewed as radicals as they promoted the theory that children learn through play.

The idea of recess being important for the simple reason of giving children a break from concentrating on academics is dated back to Currie (1862), who wrote,

> If then, in school, we take from him, to a great extent, his power of spontaneous locomotion, we must compensate for it with periods of exercise both in school and out of it. The younger the child, the more he does require. (p. 137)

In other words, because teachers are limiting a young child’s natural desire to be active when asking him or her to sit in school, they must make up for this with periods of exercise. Interesting to note here is that nowhere is it stated that it was developmentally inappropriate to ask young children to concentrate for long periods of time. Because this was given practice at the time, then it was the teachers’ responsibility to provide breaks where free movement was permissible.

British philosopher, Herbert Spenser, is credited with labeling this need to be given breaks as the ‘surplus energy theory’ (White, 2004). It was believed that young children possess a total energy surplus because they are taken care of, and not responsible for themselves. This so-called surplus energy accumulated while the body was at rest and could be released through play. Therefore, children built up surplus energy while sitting at school desks, working on lessons, and unless the built up energy was dissipated, they would not be able to concentrate on lessons. Evans and Pellegrini (1997) refuted this theory and stated that there is little empirical evidence to support it. It is not developmentally appropriate for children to sit for long periods of time, therefore how does one measure what amount of energy is surplus? Additionally, temperaments provide variability in activity levels, where some children are happy to sit and
watch others play, while others are extremely physically active even after they are exhausted (Evans & Pelligrini, 1997).

Although the ‘surplus energy theory’ has little logical or empirical support, it is a belief that many teachers continue to hold today (Dyment & Bell, 2007; White, 2004). However, the culture of childhood is changing. After surveying 800 mothers in the United States, Clements (2004) found that when current children’s outdoor playtime was compared to that of their mothers when they were children, children today spend less time playing outdoors. Additionally, they participate in more organized outdoor activities, as compared to the free play of their mothers, and overall, participate in more indoor play activities compared to outdoor play activities. The root causes of this change seem to be the increased use of technology, parental fears about safety, little or no access to outdoor spaces for play, and more planned, structured activities for children’s free time (Clements, 2004; Rideout, Vandewater, & Wartella, 2003; Tranter & Malone, 2004).

Another possibility for the lack of outdoor play could be a misunderstanding of the benefits of play. Vygotsky’s (1978) social constructivist theory suggests that play promotes both mental and social development for children. The NAEYC supports this theory and recommends children enrolled in early care and education programs spend time playing in both indoor and outdoor environments each day to support development and learning (Copple & Bredekamp, 2009). In the past few years, a wealth of research has been added to the early childhood literature on the importance of planning for the outdoor environment and the benefits for children (Grubbels, et al., 2012; Nelson, 2012; Torquati et al., 2010; Waters & Maynard, 2010; Wilson, 2012; Wirth & Rosenow, 2012).
If the early childhood research supports outdoor play, then why does there seem to be a lack of it in programs for young children (Copeland, Sherman, Kendeigh, Kalkwarf, & Saelens, 2012)? In order to support quality outdoor play experiences for young children, the connection between the research, teacher beliefs, play policy and practice needs to be examined. Renick (2009) used a single case study design at one preschool in Dallas Texas, “to explore how teacher’s beliefs and practices influence the function of preschool outdoor play” (p.vi). Chakravarthi (2009) used quantitative and qualitative research to examine teacher beliefs and children’s activity levels in both high and low quality outdoor environments in childcare centers. Both of these researchers discovered a philosophy – reality variance related to teacher belief and actual practice and called for further research.

Additional research is needed in this area to more fully understand the gap between the recent research highlighting the benefits of playing outdoors, teacher beliefs and understanding, and the actual practice of scheduling and planning for play in the outdoor environment. By listening to the experiences of early care and education teachers, observing actual practice, and reviewing policies for playground use, this research hopefully illuminated the barriers that may have prevented teachers from implementing the findings of recent research. Practical suggestions for operationalizing the recent research for higher education professionals and professional development providers, as well as owners and directors of sites for early care and education are a positive outgrowth of this research.

Situation to Self

As an early childhood educator, I have 18 years of experience in the field of early care and education. It has been through my varied experiences as a classroom teacher, center director, professional development provider and college professor, that I became interested in
outdoor play for preschool children and the varied beliefs and practices prevalent in the field today. My early childhood experience assisted in establishing credibility with the participants from the selected early care and education centers. I brought an ontological philosophical assumption to this research because I presented reality as seen through many views and perspectives on the issue of outdoor play for preschoolers. Social constructivism was the paradigm that guided the study, because the participants’ beliefs and practices were formed through their experiences and interaction with others (Creswell, 2013).

**Problem Statement**

In light of recent research on childhood obesity, detrimental effects of increased screen times, and decreased time interacting with nature (Louv, 2005; Wilson, 2012; Wirth & Rosenow, 2012) the benefits of outdoor physical activity for young children have been highlighted in the early childhood literature. Children in the United States are spending less time playing outdoors than children in the 1950s and 1960s (Clements, 2004; Louv, 2005). According to the U.S. Census Bureau, in the spring of 2011, 61% of children under age 5 were in some type of regular child care arrangement (www.census.gov/prod/2013pubs). Because more than half of the nation’s children under age 5 are spending most of their waking hours in an early care and education environment, it is imperative that these programs provide quality outdoor experiences as part of their regular programming.

The teacher in an early care and education program literally sets the stage for learning both in the indoor and outdoor environment. Although teachers rarely play a role in the design of the outdoor playground, they do have a tremendous amount of influence over the set-up and utilization of what the playground affords to enhance the learning of young children (Ward, 2010; White, 2012). Studies indicate a discrepancy in how early care and education teachers
view their role on the playground (Blanchet-Cohen & Elliot, 2011; Chakravarthi, 2009; Kuo, 2009; Renick, 2009; Tarman & Tarman, 2011). Some feel that time spent outdoors is recess time or a time to burn off excess energy. Others views align with NAEYC recommendations that outdoor play is an important part of each day’s learning activities, part of the curriculum.

Additional research was needed in this area to more fully understand the gap between the recent research highlighting the benefits of playing outdoors, teacher beliefs and understanding, and the actual practice of scheduling and planning for play in the outdoor environment (Chakravarthi, 2009; Renick, 2009). By listening to the experiences of early care and education teachers, observing actual practice, and reviewing policies for playground use, this research provides an in-depth understanding of the current beliefs and practices of preschool teachers concerning outdoor play.

**Purpose Statement**

The purpose of this multiple case study was to discover the beliefs and practices of outdoor play for early care and education teachers at three different school locations, with diverse playground environments. For this study the term early care and education includes both full-day childcare and half-day preschool programs, for children ages 3-5 years old. School playground environments included a natural setting with grass, trees, and limited stationary equipment; a traditional, manufactured playground with mostly embedded, stationary equipment; and a playground that included a mix of both natural and manufactured affordances. By exploring teacher beliefs and practices in three diverse playground settings, I sought to provide an in-depth description of each site as well as overall perceptions and factors that influence teacher decision-making regarding the provision of outdoor play and the utilization of the outdoor playground. This multiple case study is instrumental in design in that the intent of the
The study was to examine preschool teacher beliefs and practices concerning outdoor play, illustrated by the three selected sites or cases. The theory guiding this study is Vygotsky’s (1978) social constructivist theory as it explains how children learn through interacting with others and with their environment. Additionally, Ajzen’s (1991) theory of planned behavior explains the strong connection between attitudes toward behaviors and intentions to perform behaviors, thus teachers who intentionally plan time for outdoor play will most likely have a positive attitude about the importance of outdoor play time for young children.

**Significance of the Study**

Early care and education teachers have a distinct role in providing outdoor play experiences for young children. According to the U.S. Census Bureau, in the spring of 2011, 61% of children under age 5 were in some type of regular child care arrangement (www.census.gov/prod/2013pubs). The National Association for Sports and Physical Education (NASPE) recommended at least 60 minutes, and up to several hours of unstructured physical activity for preschoolers per day (2002). A recent study of 8,950 children, by Tandon, Zhou, and Christakis (2012) from the Seattle Children’s Research Institute, found that almost half of the preschoolers observed in the study were not given at least one opportunity for parent-supervised outdoor play each day. If parents are not providing outdoor play time for their children, then opportunities provided by early care and education settings are even more crucial. Differing opinions of preschool teachers regarding their role and involvement in children’s play on the center playground impacts children’s opportunities for learning in the outdoor environment (Tarman & Tarman, 2011). Variations in policies regulating the amount and quality of outdoor play and a variety of environmental factors lead to a marked variability between centers in physical activity and sedentary behaviors (Copeland et al., 2011; Trost et al., 2010). Because of
the number of preschool children spending most of their waking hours in an early care and education environment, it is imperative that these programs provide opportunities for physical activity in quality outdoor environments. This study is empirically significant in that it explored teacher beliefs and practices in a variety of playground settings and examined the understandings that influence teacher decisions regarding their role and the utilization of the outdoor playground.

Theoretically, this research uncovered teacher beliefs and understandings related to outdoor play and discovered if understandings are congruent with actual practice. Vygotsky’s (1978) social constructivist theory asserts that children construct knowledge through social interactions in their cultural environments. Much of the environment and opportunities for interaction in an outdoor play setting are determined by the teacher (White, 2012). The tendency exists for teachers to view the outdoor environment as a less important venue for development and learning to occur, when compared to the indoor environment (White, 2012, Davies, 1997). The Preschool Outdoor Environment Measurement Scale (POEMS) assessment tool, based on social constructivist theory, was used to measure teacher interactions. This assessment asserts that “children learn by interacting with other children, adults, objects, and natural materials found in the environment” (DeBoard et al., 2005, p. 12).

The assertions from this case study contribute to the early childhood field by highlighting the current beliefs and practices of preschool teachers, in light of the plethora of recent research on the benefits of children’s play in the outdoor environment. Hopefully, this case study uncovers barriers that teachers encounter in providing optimal outdoor play experiences for young children and supports the early childhood professional community, including higher education, in planning professional development opportunities that highlight the current research and the significance of the teacher’s role in outdoor play experiences. Ultimately, young
children benefit by having the opportunity to play outdoors in stimulating, research supported environments.

**Research Questions**

In order to more fully understand teacher’s beliefs and practices regarding outdoor play for young children, specific questions need to be clarified that guided the research.

1. **How do early care and education teachers describe their beliefs and perceptions of outdoor play practices?**

   Through semi-structured, open-ended interviews, teachers were prompted to share their deeply held beliefs on the purpose of outdoor play as part of the daily schedule for preschool classes. The transcribed, aggregate responses to this question uncovered current teacher beliefs for each of the three cases and provided a basis for categorizing themes for each case and between cases.

2. **How do early care and education teachers plan for outdoor play as a part of their preschool curriculum?**

   Documents from each center, illustrating plans and schedules for the school day, as well as teacher interviews clarified teacher intention for practice on the playground. Plans for use of the playground reflected teacher beliefs on the purpose of outdoor play.

3. **What behaviors do early care and education teachers typically exhibit when on the playground with their students?**

   Data was gleaned from all three sources to inform this question. Observations of teachers on the playground using the POEMS (DeBord et al., 2005) assessment tool specifically Domain 2: Interactions, and Domain 5: Teacher/Caregiver Role documented individual teacher planning, scaffolding, and interactions with children on the playground. Teachers described their role on the playground in the teacher interviews, and playground policy and procedures for teachers was
found in the staff and parent documents from the individual sites. This information was
triangulated for each site, and across sites, to develop a rich understanding of teacher beliefs and
practice related to their role on the playground.

4. How do the affordances of the playground environment influence teachers’ beliefs and
practice?

Affordances for activity and play can be made available to children on the playground through
three venues. Affordances include the activities that are embedded or readily available due to the
stationary play equipment, the geographical nature of the environment, and the materials that
teachers add to the environment. By participating in the interviews, teacher had the opportunity
to discuss how affordances, specific to their site and playground environment, influence their
beliefs and practice. Teacher interviews, playground observations, documents and photographs
provided evidence of the affordances, and support how beliefs and practices are influenced by
the affordances offered.

Research Plan

The purpose of qualitative study was to find meaning and understanding about a
phenomenon (Creswell, 2013). Case study research design was selected for this study because it
focuses on the “how” and “why” questions related to the real life phenomenon (Yin, 2009) of
teachers’ beliefs and practices concerning preschool outdoor play. A multiple case study was
chosen because this method of research provides the opportunity to understand the phenomenon
in three different preschool sites, each with a different playground environment. According to
replication logic, if the three cases corroborate one another, then the findings of the case study
can be considered to be more robust (Yin, 2009). Because this case study was used to
understand the phenomenon of teacher beliefs and practices, in addition to simply understanding
the individual cases, it is an instrumental case study (Stake, 2006). Stake (2006) refers to the phenomenon that binds the collection of cases together as the *quintain*. In a multiple case study, the researcher seeks to understand the *quintain* in light of the individual cases (Stake, 2006).

In order to more fully understand preschool teacher beliefs and practices regarding outdoor play, I investigated several sites to understand the phenomenon under varying environmental conditions. Specifically, I purposely selected three early care and education centers designated for quality, according to state and national standards. Additionally, the sites were selected to represent each of the following three diverse playground environments: a manufactured environment with embedded equipment on safety surfacing; a natural environment with nature related features such as trees, plants and grassy areas; and a mixed environment which includes elements of the manufactured and natural environments. Three teachers were purposely selected from each site, were observed during playground activity, and then interviewed using a semi-structured interview guide. By analyzing the interview transcripts, observational data, and related documents such as parent and staff handbooks, playground policy statements, and class schedules, I sought to discover the teachers’ deeply held beliefs and practices related to outdoor play and factors that influence their practice. The end result is a description of teacher beliefs for each individual case related to the given type of playground, and then an understanding of collective teacher beliefs and practices across cases, including diverse playground environments.

**Delimitations**

The study is bounded to represent high-quality early care and education programs, as represented by NAEYC accreditation and/or Pennsylvania Keystone Standards Training/Professional Development, Assistance, Resources and Support (STARS), Star 4 designations. NAEYC accreditation is the ‘gold standard’ in early care and education, with more
than 400 standards and criteria to assure quality, based on the latest research on young children. To earn NAEYC accreditation, programs must meet all ten standards by successfully performing at least 80% of the criteria related to each standard (www.naeyc.org). The Keystone STARS program is Pennsylvania’s voluntary, state-funded, quality initiative for early care and education. Centers are rated on a Star 1 to Star 4 rating scale, based on quality programming, responsiveness to the needs of children, health and safety practices, and level of teacher qualifications (www.pakeys.org). The case study is bounded by these limitations in order to capture the beliefs and practices of teachers who are well-educated in the field and who receive on-going professional development on the latest evidence-based practices for early care and education.

A potential weakness or limitation of case study design is the fact that the researcher is the primary source of data collection and analysis (Merriam, 1998). Herein lies the possibility for biased and unethical practice, because the researcher is typically not accountable to other researchers for determining the specific data to collect. It was up to me, the sole researcher, to identify the most meaningful and accurate data to report and the venue for reporting the data from the interviews and observations.

Data for this study was limited in that it was collected from only three early care and education centers in central Pennsylvania. Observational data is limited due to the use of the POEMS (DeBord et al., 2005) assessment during one outdoor play experience facilitated by each teacher interviewed.

**Definitions**

The following terms are defined to provide meaning for several concepts included in this study.
1. **Affordance** – The functional meaning of an environment or the possibilities for action inherently present in an environment (Fjortoft, 2001). Examples from a playground environment include a hill or steps for climbing, levers for sliding, and sand for digging.

2. **Early care and education** – For this study, the term includes full-day childcare and half-day preschool for children ages 3-5 years.

3. **Loose parts** – Any open-ended play materials, natural or manufactured, that children can move, manipulate, and generally use in a variety of ways. Examples include natural materials, such as pine cones, rocks, and bark, and manufactured materials such as blocks, fabrics, and containers.

**Summary**

Despite the current wealth of research on the benefits of outdoor play for young children, there seems to remain a lack of understanding of the teacher’s role in promoting whole child learning on the playground. This study addressed teacher beliefs and practices associated with outdoor play. Vygotsky’s (1978) social constructivist theory provided the theoretical framework, as well as Ajzen’s (1991) theory of planned behavior. Early care and education teachers play a significant role in providing meaningful outdoor play experiences for young children. This study provides recommendations for administrators, teachers, regulatory organizations, and parents. Beliefs and practices are formed through experiences and hopefully this research will aid in assisting others to explore the limitless learning possibilities in the outdoor environment.
CHAPTER TWO: LITERATURE REVIEW

Overview

Since the initial release of Richard Louv’s bestselling book, *Last Child in the Woods* in 2005, a significant amount of research has been published, highlighting the importance of outdoor play for young children’s optimal growth and development. Opportunities for children to play outdoors are declining. British author and outdoor play advocate, Tim Gill (2005) wrote, “children are disappearing from the outdoors at a rate that would make the top of any conservationist’s list of endangered species if they were any other member of the animal kingdom” (para. 5). This review of the literature focuses on the importance of outdoor play related to preschool age children in early care and education settings, playground environments, and specifically teacher beliefs and practices within those settings. Various playground affordances are discussed as well as common policies and center procedures regulating children’s play on outdoor playgrounds. The literature is anchored in the framework of Vygotsky’s (1978) social constructivist theory and Ajzen’s (1991) theory of planned behavior. Further research is needed to explore whether current teacher beliefs and practices are reflecting the high level of importance of outdoor play and teacher involvement indicated by the recent literature, and the relationship of teacher beliefs and practice to the playground environment.

Theoretical Framework

Vygotsky’s (1978) social constructivist theory and Ajzen’s (1991) theory of planned behavior provide the conceptual framework for this research study. According to Vygotsky (1978), children learn through interacting with the environment and through social interaction with others. According to social constructivist theory, play is important for the growth of a child’s cognition. Vygotsky’s (1978) view of play integrated all areas of learning, believing that
play promoted cognitive, emotional and social development. Following the social constructivist framework, children’s learning opportunities would possibly differ according to the planned environment and interactions provided by the teacher during outdoor play time.

Ajzen’s (1991) theory of planned behavior ascertained that “intentions to perform behaviors of different kinds can be predicted with high accuracy from attitudes toward the behavior” (p. 179). This theory is compatible with Bandura’s (1977) theory of perceived self-efficacy. A person’s ability to perform a certain behavior is strongly related to their confidence in their ability to perform the behavior and their attitudes regarding the behavior. This theory relates to the present research in that teachers need to have a confident and thorough understanding of their role in guiding students during outdoor play in order to scaffold learning in the outdoor environment. The research on the benefits of outdoor play for young children is irrefutable (Louv, 2005; White, 2012). However, do preschool teachers understand the important role they play in offering young children to opportunity to reap the benefits of spending time outdoors? The purpose of this literature review is to look at the historical background of outdoor play, the researched benefits for children, various playground environments, the teacher’s role on the playground and school policy affecting outdoor play.

Review of the Literature

Play-based Learning

For hundreds of years, play has been universally recognized as being essential for the optimal development and well-being of children. Play is the most natural method for learning because it is child-centered, fun and motivating. Research studies too numerous to mention point to the benefits of play in all areas of child development: cognitive, physical, social, and emotional. Founding philosophers and theorists in education, Rousseau, Froebel, Montessori,
and Dewey, all believed in the inherent benefits of allowing children to control their learning through individual and corporate play (Gray & MacBlain, 2012). More contemporary theorists, Lev Vygotsky and Jean Piaget also believed a child develops new understandings through play and active involvement with the environment. Piaget emphasized self-discovery and the role of the teacher to prepare the environment, whereas Vygotsky focused on the teacher as a facilitator of learning through interactions with the child during explorations (Gray & MacBlain, 2012).

The importance of play has been internationally recognized by the United Nations Convention on the Rights of the Child (UNCRR), Article 31, stating the “right of the child to rest and leisure, to engage in play and recreational activities appropriate to the age of the child and to participate freely in cultural life and the arts” (Office of the High Commissioner for Human Rights, 1990). Although this right is challenged around the world by the lack of child labor laws and poverty, here in the US it is also challenged by high academic standards and the hurried, scheduled lifestyle many families feel is important for their child’s later life success.

The National Association for the Education of Young Children (NAEYC) promotes play as “an important vehicle for developing self-regulation as well as for promoting language, cognition and social competence” (Copple & Bredekamp, 2009). A report from the American Academy of Pediatrics reaffirms the importance of play to enhance all areas of a child’s development and provides suggestions for pediatricians on how to assist families, schools, and communities support the benefits of play by providing balance to the modern, scheduled lifestyle of the child (Ginsburg, 2007).

In *A Mandate for Playful Learning in Preschool*, authors and play-researchers Hirsh-Pasek, Golinkoff, Berk, and Singer (2009) list seven evidence based principles of how children learn. These principles include the need for (a) developmentally appropriate programs and
policies, (b) active learning, (c) socially responsive environments, (d) meeting social and emotional needs, (e) embedding new information in meaningful contexts, (f) valuing the process of learning as much as the outcome, and (g) respecting individual differences (Hirsh-Pasek et al., 2009). Each of these seven principles can be easily integrated into unstructured free play time and teacher guided learning experiences on the outdoor playground.

**History of Outdoor Play**

Outdoor play has held a prominent place in the field of early childhood education, from its beginning with German educator Friedrich Froebel’s kindergarten and nursery school movement in the early 1800s (Gray & MacBlain, 2012; Wilson, 2012). Froebel believed that play should provide the foundation of education for young children, and from the beginning, included an outdoor nature area in his kindergartens. Froebel focused on the child’s overall development, and his playgrounds for preschools reflected this focus by including gardening, animals to care for, nature walks, and loose natural play materials for exploration (Frost & Wortham, 1988).

The Macmillan sisters, Rachel and Margaret, founders of the *Nursery School Movement* in London, England at the beginning of the 20th century, emphasized the outdoor environment for learning (Gray & MacBlain, 2012). As social reformers of their day, they worked to get the children of very poor factory workers out of unhealthy living conditions and off the streets of London. The Macmillans emphasized the development of the whole child and included learning in both the indoor and outdoor environments at a time when playing outside was generally seen as a break from indoor academic activities. Plant and animal care was included in the outdoor environment to emphasize the importance of caring for themselves and others (Gray & MacBlain, 2012).
As academic pressures heightened in education during the latter part of the 20th century, the emphasis on outdoor play seemed to be non-existent. In an effort to prepare children for later learning, priority was given to reading and math skills, typically within the provisions of the indoor environment. Although outdoor play has remained a part of the preschool schedule, early childhood teachers seem to prefer the indoor environment and find it easier to focus on academic learning in the indoor environment (Davies, 1997).

More recently, after the publication of Richard Louv’s book, *The Last Child in the Woods* (2005), resurgence in national and international initiatives to get children outdoors has emerged. Two popular initiatives include The Children and Nature Network (CN&N) and the Nature Action Collaborative for Children (NACC). The CN&N, co-founded by Louv in 2007, is an international network created by educators and community leaders to raise the importance of quality time in the outdoors for children. Not all children have the same opportunities for outdoor experiences and a particular focus of CN&N is to gather and disseminate research that documents disparities as well as offers ways to reduce disparities (Rivkin, 2014).

The NACC, also a worldwide initiative, was founded in 2006 and is sponsored by the World Forum Foundation. Membership has brought together a variety of professionals from landscape architects, environmentalists, educators and health care professionals to collect and disseminate research based information on connecting young children with nature. Additionally, NACC promotes advocacy initiatives and professional growth and mentoring (NACC, 2007).

The White House joined this outdoor nature movement, when in 2010, First Lady Michelle Obama launched the *Let’s Move* campaign to target the epidemic of childhood obesity in the United States. In addition to a focus on healthy eating, this campaign includes the initiative *60 Minutes of Play Every Day*, to encourage families, communities and schools to help
children lead healthier lifestyles by following the NASPE guidelines of 60 minutes of physical activity every day for preschoolers. Families and children are encouraged to spend at least part of their 60 minutes of physical activity each day in the outdoor environment, where the benefits are multiplied (www.letsmove.gov).

The Benefits of Outdoor Play

The outdoor environment offers a variety of affordances for learning that are not as readily found indoors. These affordances include more space for movement, nature and seasonal changes, fewer restrictions on voice levels, and more freedom for robust social interactions and self-directed learning (Rivkin, 2014). Research has supported integrated, whole child learning in the outdoor environment, including the areas of physical development, academic learning, social and emotional development, the growth of creativity and imagination and the nurturing of a love for the earth, or biophilia.

Physical development. Some of the most widely recognized benefits of outdoor play for young children are the physical benefits it offers. With national attention on the childhood obesity crisis, many research studies have focused on determining the sources of moderate to vigorous activity levels on playgrounds (Fjortoft, 2001; Grubbels et al. Research indicates that children have the highest activity levels when engaging in outdoor play, most likely because open space provides fewer constraints on the child’s gross motor activity when compared to the indoor environment (Grubbels et al., 2012). Grubbels et al. (2012) found that children were significantly more physically active on playgrounds where jumping equipment was present, as well as ground markings, such as those used on a fixed track for running. In this study, high levels of physical intensity were directly observed in the outdoor playground. Frequent, positive play experiences in a stimulating natural environment with trees and variable landscape have
also been linked to more advanced motor fitness, including coordination, balance and agility when compared to the traditional playground with embedded equipment (Fjortoft, 2001). However, Storli and Hagen (2010) found different results when they used accelerometers to measure physically active play on a traditional playground with climbing structures and a swing and compare results with activity on a playground in a natural beach environment. There was no significant difference in the level of physically active play between the two play environments.

The outdoor playground offers a variety of opportunities for the development of both gross and fine motor skills. Gross motor skill development includes locomotor skills, such as running, skipping and jumping, and non-locomotor skills such as bending, lifting and turning (Wilson, 2012). Fine motor skills include the many skills used in constructive play when manipulating objects, for example, building with blocks and painting with a paint brush. Fine motor skills development is prevalent in the sand box and when loose parts are added to the playground environment (Frost, Brown, Sutterby, & Thorton, 2004).

Not only do children have the opportunity to develop physical skills on outdoor playgrounds, but playgrounds also provide the opportunity to develop a lifelong habit of enjoying physical activity in the outdoors. Frost et al. (2004) suggested that promoting physical activity on the playground should be a part of teacher training, because of the vast opportunity that teachers have to introduce and reinforce these developing skills and experiences for young children.

**Academic learning.** According to Wirth and Rosenow (2012), “Dimensions Educational Research Foundation is substantiating previous findings . . . that positive, appropriate experiences with nature bring significant benefits to children” (p.43). The Dimensions Foundation works in partnership with the National Arbor Day Foundation to provide field-tested,
researched based information and resources for educators and families to assist children in reaping the benefits of connecting to nature in the outdoor environment. Teachers in Dimensions early education research classrooms serve as co-researchers and have worked with a group of national consultants to collect and analyze data based on direct observation of children in their outdoor classrooms since 1998 (www.dimensionsfoundation.org). Researchers from Dimension’s Nature Explore Classroom, in Lincoln Nebraska, used case study designed research to analyze ‘Nature Notes’, or teacher documentation, from 63 outdoor pretend play experiences to answer the question, “How does authentic play in the Nature Explore Classroom facilitate key learning/skill development for young children?” (Miller, Tichota, & White, 2013, p. 13). The researchers identified the “social/intrapersonal, kinesthetic, visual-spatial, and math skills the children were developing” in every observation of pretend play that was analyzed (Miller et al., 2013, p.24). In addition, language/literacy skills were developed as children interacted with teachers and peers in all but one play experience. Children developed science skills in approximately two-thirds of the sessions analyzed and construction and engineering skills were developed in over half of the sessions. The overarching significance of this research was the holistic learning that occurred; children were developing skills in a variety of learning domains simultaneously (Miller et al., 2013). This research replicated findings by Bohling, Saarela and Miller (2010) from a Nature Explore Classroom in Forest Lake, Minnesota.

The findings from the Nature Explore Classroom “suggest that the combination of intentionally designed spaces and natural materials plus make-believe play allowed children to demonstrate their knowledge about the world in unique ways” (Miller, Tichota, & White, 2013). For example, when playing outdoors, children used natural materials to represent something entirely different, such as sand in a bucket becoming soup for dinner. This ability to represent is
directly related to the underlying concepts in reading and writing. When children can manipulate symbols in dramatic play, they are more likely to be able to use symbols associated with reading, writing and mathematics (Bodrova & Leong, 1996).

Waters and Maynard (2010) used grounded theory research to explore which specific elements of the outdoor environment stimulate children’s interest and subsequent learning. Researchers studied the types of objects from nature that children bring to the teacher to initiate interaction on the playground. They proposed that “the richness of a natural space offers teachers a wealth of opportunity to respond to children’s interests” and suggested that “flexible loose parts” and “the provision of spaces for children’s outdoor play that are natural, flexible and varied” best support cognitive engagement, in addition to physical and social-emotional development (Waters & Maynard, 2010, p. 481). Unique learning opportunities for children in a natural outdoor environment include the natural cycles of growth and decay, fundamental understandings of plants and wild animals, and ecology.

Howard Gardner introduced the theory of multiple intelligences in the early 1980s (Gardner, 1999). More recently he added naturalistic intelligence to his former list of seven types of intelligences. Gardner (1999) theorized that the core of this intelligence relates to the ability to acutely recognize and compare plants, animals and other parts of the natural environment as well as increasing one’s sensitivity to patterns in the natural world. According to Gardner’s theory, creative play in a natural environment will cultivate this naturalistic intelligence. The natural world is filled with patterns, such as the venation patterns of leaves and the arrangement of leaves on a plant stem. Recognizing patterns is important for learning many academic concepts, for example, understanding numeracy in math and in decoding words and putting them into sentences as part of literacy development (Wilson, 2012).
Gardening activities on the playground provide children with a variety of academic learning. First hand experiences with plants and seasonal growing cycles provide more in-depth knowledge than what can simply be learned through books and media. Opportunities for developing a positive attitude toward science and science process skills abound in the garden. Children learn math, science and language concepts holistically as they record observations, measure plant growth and identify types of plants that grow around them. (Hachey & Butler, 2009; Miller, 2007; Wirth & Rosenow, 2012). Gardening activities for young children also promote individual responsibility, teamwork, and a sense of community (Frost et al., 2004).

**Curiosity and imagination.** Interacting with nature in the outdoor environment provides children with both hands-on, experiential learning and the ability to self-direct learning in a sensory rich environment. The outdoor environment requires full use of the senses, whereas the indoor environment may at times rely on the use of only two senses: hearing and seeing. When playing outdoors, a child can touch a leaf that fell from a tree and notice how it varies from the other leaves on the playground. The child can notice the smell and smooth texture of the leaf and notice the effects of weather changes on the leaves and other surrounding fauna. This rich sensory environment encourages the development of curiosity and imagination.

Richard Louv (2005), stated that “children need nature for the healthy development of their senses, and therefore, for learning and creativity” (p. 55). Wilson (2012) claimed that wonder is the primary source of knowledge and motivates children toward lifelong learning. Children are more likely to develop their sense of wonder in a natural environment which stimulates and entices their curiosity. In the outdoor environment, children are typically provided with less structure and more freedom to physically move their bodies while actively exploring the world around them. They have more opportunities to independently interact with
one another and the environment, make decisions, and problem solve. Creativity and imagination are encouraged when activities are less structured and in a more varied environment (Burdette & Whitaker, 2005). Offering flexible and creative learning opportunities will assist in building a child’s imagination, developing communication skills, and ultimately building relationships with others (Burdette & Whitaker, 2005; Canning, 2010).

**Social and emotional well-being.** For healthy, whole child development, social emotional learning should be viewed as important as, and integrated with academic learning (Ginsberg, 2006). The outdoor playground is a place where children have the potential to develop the social emotional skills that are crucial for later school success. When given the gift of child centered play, children learn to see themselves as part of a group, separate from adults, and develop social skills through interactions with peers. They learn to cooperate and compromise as they navigate conflicts that arise in play situations (Burdette & Whitaker, 2005). With climbing structures, sliding boards, and swings, the playground offers physical challenges to control and conquer, and thus provides the child with a feeling of accomplishment and overall well-being (Perry, 2004).

Playgrounds that include nature offer children safe places to learn to manage both positive and negative emotions (Miller, 2007). Research from University of Illinois at Urbana/Champaign focused on nature as a treatment for Attention-Deficit/Hyperactivity Disorder (ADHD) in children found that exposure to green settings and/or activities in natural outdoor environments are potentially effective in increasing concentration levels and reducing symptoms of ADHD (Kuo & Taylor, 2004). Louv (2005) suggested time in nature, such as a walk in the park, be used as an antidote to reducing the increasing number of attention deficits in young children.
Opportunities for taking risks. Although a controversial topic, early childhood experts agree that young children need the opportunity to participate in activities they view as risky, in order to “test the limits of their physical, intellectual, and social development” (Little & Wyver, 2008, p. 33). Risky activities in this sense involve a feeling of uncertainty and a challenge that can be conquered. Examples of risky play in the outdoor playground environment include jumping off of large rocks, swinging high and riding a tricycle at a faster speed. Curtis (2010) makes a clear distinction between a hazard and a risk. Hazards are dangerous situations that could result in serious injury, such as a climbing structure with loose boards or sharp nails protruding from a structure. Teachers can watch for hazards on the playground and do what is necessary to eliminate them. Whereas risks need to be monitored and scaffolded by teachers on the playground as the child navigates risky situations appropriate for his or her level of development (Curtis, 2010). Successfully working to manage a risky challenge promotes a sense of competence and confidence in oneself. Little and Wyver (2008) point out that the term risk taking brings about negative connotations, but “the reality is that the willingness to engage in some risky activities provides opportunities to learn new skills, try new behaviors, and ultimately reach their potential” (p. 33).

Biophilia. Edward O. Wilson (1994), a sociobiologist at Harvard University, introduced the term biophilia, or the love of nature and living organisms. Humans are innately drawn to nature (Rivkin, 2014; Wilson, 1994). White (2004) wrote, “We need to allow children to develop their biophilia, their love for the Earth, before we ask them to save it” (p. 4). Children are naturally drawn to nature and have the potential to become more environmentally concerned after they have had the opportunity to develop a love, or passion for nature. The opposite is also true in that children who become disconnected with the natural world have a tendency to develop
biophobia, or a fear of nature. Consistently positive experiences with nature at a young age help develop more positive caring attitudes toward nature as an adult (Chawla, 2006; Wells & Lekies, 2006).

Richard Campen (2012), director of operations at the Peak District National Park in the UK wrote, “If future generations are to engage with science and the environment, they must be able to enjoy nature as children” (p. 31). According to Campen (2012), many biologists and environmentalists refer back to memorable experiences with nature that sparked an interest for their later work in preserving the environment. Thompson, Aspinall, and Montarzino (2008) found similar results when examining the relationship between childhood and adult experience in the outdoors. Adults who spent more time in nature as children were more likely to access nature as adults. This research suggested that patterns of outdoor exercise and enjoyment are established in childhood. In order to emotionally connect with nature, children need to explore and experience the wonders of the natural world firsthand. The North American Association for Environmentalist Education (NAAEE) identified six principles of environmental education: interdependence or the connection between living things, systems, where one lives, integration and infusion of environmental education, direct experience with authentic materials, and lifelong learning (Torquati et al., 2010).

**Playground Environments**

**History.** Throughout history, playgrounds for public school environments have followed the general design trends as those for public playgrounds. Preschool playgrounds were first designed in a developmentally appropriate fashion, emphasizing play. According to Frost (2006), the first public playground for younger children was established in Boston in 1886, was consistent with the outdoor play theories of the time, and emphasized motor skill development
and expending excess energy. It was a pile of sand, or a ‘sandgarten’, modeled after the piles of sand provided for children’s play in Berlin, Germany (Frost, 2006). Until the present time, high quality preschools, based on child development research, have been relatively unaffected by the second theoretical track which initially influenced park playgrounds and later public school playgrounds.

This second theoretical track emphasized physical fitness and made its greatest impact with the giant steel structures, such as the giant slides, seesaws and jungle gyms of the 1940s (Frost, 2006). The ‘surplus energy theory’ supported the emphasis on physical fitness and older playgrounds with wide open asphalt areas encouraged vigorous, competitive play (Dyment & Bell, 2007). The National Recreation Association guidelines for apparatus, established in 1928, “recommended that preschool playgrounds contain a sandbox, six chair swings, a small slide and a simple low climber” (Frost & Wortham, 1988, p. 21).

**Current playgrounds.** Contemporary theories on play have extended the early focus of preschool playgrounds of simply expending excess energy and playful exercise, to the broader benefits including all areas of child development. Recognizing the outdoor playground environment as an extension of the indoor classroom, and as an equally important part of the learning environment, is considered crucial to maximizing the benefits of outdoor play. Froebel believed that the outdoor environment, including the activities provided for children, should be planned as carefully as the indoor environment (Wilson, 2012). Nelson (2012) labeled the outdoor environment as a teacher. He argued that because physical environments teach children, it is important to create outdoor environments that “provide children with a wide range of activities and “support more opportunities for self-directed learning” (Nelson, 2012, p. 46).
**Types of environments.** Current playgrounds for young children vary from traditional playgrounds with lots of embedded equipment to open, ‘green’ playgrounds that focus on nature activities. Overall, the environment needs to be developmentally appropriate for the children who will be using it. For the highest quality rating on the Early Childhood Environmental Rating Scale, Revised Edition (ECERS-R), centers need to provide a variety of surfaces on the outdoor playground to encourage different types of play, and include block play, sand and water play, and props for dramatic play in the outdoor environment (Harms, Clifford, & Cryer, 2005). Research suggests that teachers are rarely consulted in playground design (Davies, 1997; Herrington, 2008). Factors such as the chronological age and experience of the children, their physical characteristics, and skill development should all be considered when stakeholders are making decisions about purchasing appropriate playground equipment (Frost et al., 2004)

Sense of place is a concept that is highlighted in the literature related to types of environments (Trantner & Malone, 2004). Freedom to explore and be creative on the playground gives children a sense of placeness, or a relationship with the physical environment. When children use rocks to outline a pretend house and or pretend play in a home-made fort, they are creating a sense of place. For adults, many fond memories of outdoor play are related to a sense of place.

Associating the playground environment with physical activity levels has been met with mixed results. Using accelerometer readings, Storli and Hagen (2010) found that traditional playground environments with fixed equipment elicited similar levels of activity as compared to playgrounds with natural elements and more open spaces. Children who were more active, were more active on all days, independent of the environment.
**Loose parts.** Simon Nicholson’s (1973) ‘loose parts theory’ states, “In any environment, both the degree of inventiveness and creativity, and the possibility of discovery, are directly proportional to the number and kind of variables in it” (p.174). Research on adding loose parts to the playground environment have affirmed Nicholson’s theory. In research by Bundy et al. (2009), loose parts such as car tires, boxes, and pieces of fabric were added to the playground with no defined purpose. Accelerometers showed that children were more active and their play was more creative with the use of these materials. Injuries did not increase, although teachers were concerned about safety and litigation concerns. Maxwell, Mitchell, and Evans (2008) also found the addition of loose parts to a traditional playground with fixed equipment added to children’s constructive play. Small groups of children constructed spaces for dramatic play, using blocks and plastic pipes that were added to the playground environment. These constructions served as sites for dramatic play scenarios. Loose parts increase the variety of options for play and encourage creativity and problem solving (Canning, 2010). Wilson (2012) suggested considering variety and complexity of materials when choosing loose parts for the playground.

Loose parts in a natural environment can include natural elements that can be picked up from the ground such as pine cones, sticks, and leaves. Waters and Maynard (2010) recorded and analyzed what children brought to show their teachers when on the playground, and found natural loose parts provided the opportunity of rich conversation between children and their teachers which enhances cognitive development. Loose parts on the playground, consisting of natural materials in this study, provided the teachers with the opportunity to respond to child-initiated interaction (Waters & Maynard, 2010). Children will play in the environment provided,
however, researchers have found that when loose parts and adult support are available, the child’s play becomes more imaginative and sustained (Martin, 2011).

**Children’s outdoor preferences.** When interviewed, young children generally respond that they prefer to play in the outdoor environment as compared to indoors (Kernan & Devine, 2010). This could be explained by the variety of child-centered activities that the outdoor environment provides. The function of play and play behaviors do vary according to the playground setting and the affordances offered by the setting (Bohling et al., 2010; Canning, 2010; Dowdell, Gray & Malone, 2011; Dyment & Bell, 2007; Fjortoft, 2011; Maxwell et al., 2008; Trantner & Malone, 2004). Several studies have focused on where and how children prefer to play when given the opportunity of a varied playground environment. Maxwell et al. (2008), found that play on embedded playground equipment, such as a slide, climbers and swings, was more functional. Gross motor play such as climbing, sliding and jumping was prevalent on the embedded equipment. Although this vigorous physical activity is important for healthy development, according to Wilson (2012), children can easily become bored with the lack of options for creativity. Tranter and Malone (2004) concluded that many new commercial playgrounds with embedded equipment reflect the needs of adults to have a break from children, rather than focusing on the developmental needs of the child. Lucas and Dyment (2010) observed elementary age children during recess and lunch breaks on a playground that included open green space, embedded play equipment and paved sports courts, and found that the green area with grass, trees, rocks and stumps was the most popular.

Natural areas on playgrounds seem to provide children with more opportunities for constructive play and imaginative, dramatic play (Canning, 2010; Dowdell, Gray & Malone, 2011). Trantner and Malone (2004) explored the connections between the play behaviors of
children and the geography of the playground. In comparing children’s play in two environments, the environment that produced the most imaginative play with elements of the environment was the playground that included a pine forest with lots of loose material for creativity. One example from this research described children using pine cones as currency when playing store in the forest (Trantner & Malone, 2004). Fjortoft (2001) found that the diversity of a forest landscape stimulated physically active play and motor development. Because of the opportunity to meet various developmental needs of children on the playground, it is important for schools to include a variety of play environments (Trantner & Malone, 2004).

Gender differences exist in children’s play preferences in specific areas on the playground (Frost et al., 2004; Holmes & Procaccino, 2009; Lucas & Dyment, 2011). Observational findings from research by Holmes and Procaccino (2009) indicated that boys preferred to play on the jungle gym and swings whereas girls’ first preference was the swings and then the sandbox. When comparing popularity of playground equipment, swings seem to be the most preferred, based on children’s choice. Children enjoy swings because of the rhythmical movement that stimulates the central nervous system, and can provide a sense of calming or a sense of excitement (Frost et al., 2004). Many playgrounds have removed swings due to safety concerns or the amount of open space required by regulations to surround swings for safety purposes (Holmes & Procaccino, 2009).

A variety of play environments on a school ground is important in order to support different types of play and the different temperaments of children (Frost et al., 2004; Trantner & Malone, 2004). Children who are in childcare for most of the day occasionally need a place for privacy. A natural playground that includes a garden, a labyrinth, or even a large tree with overhanging branches can provide a private space for a child (Trantner & Malone, 2004).
Dyment and Bell (2007) found that in order to stimulate active play, school grounds should be designed with adequate space, a diversity of environments, and the opportunity to interact with nature.

**Teacher Beliefs on Outdoor Play**

In 1997, Margaret Davies interviewed teachers from eight preschools in order to examine their beliefs and practices regarding the role of the teacher in outdoor play. Davies found that teachers perceived their role as mostly supervisory, setting up the environment for play, but intervening only when necessary to redirect unsafe or inappropriate behavior. It was clear from Davies’ research that teachers believed children should be given freedom to engage in activity on the preschool playground without unnecessary interference from their teacher. When the researcher observed the same teachers on the playground with children, the children’s independent play supported the teacher’s reported beliefs (Davies, 1997).

Since 1997, much research has been published on the benefits of outdoor experiences for young children. Two recent researchers, Chakravarthi (2009) and Renick (2009) focused on teacher beliefs and practices. Chakravarthi (2009) used quantitative and qualitative research to examine teacher beliefs and children’s activity levels in both high and low quality outdoor environments in childcare centers. Using accelerometers, Chakravarthi (2009) found that preschool children’s physical activity levels correlated positively with increased teacher engagement during outdoor play. Additionally, when interviewed, teachers reported that they believed the outdoor environment provided important opportunities for children’s development in all areas of learning, and teacher interaction was important in scaffolding this learning. However, when observed on the playground with children, these same teachers were not found
interacting with children and scaffolding learning. In fact, they were not even in close proximity of children during their outdoor play (Chakravarthi, 2009).

Renick (2009) used a single case study design to explore teacher’s beliefs and practices on outdoor play in one preschool in North Texas. Similar to Davies (1997) and Chakavarthi (2009), Renick (2009) found that the teachers viewed their main role on the playground as supervisory. The teachers in this study did not feel it important to plan for outdoor activities and articulated that they wanted to give children the same freedom to play as they had been given as children. Similar to Chakavarthi’s (2009) study, Renick (2009) found that the teachers believed in the importance of outdoor play to the development of young children, however the teachers in this study “lacked knowledge and motivation that would promote the development of their outdoor environment” (Renick, 2009, p. 108). Although all three studies were limited in design, they reflect the continued prevalence of a lack of teacher planning for outdoor play.

Role of the teacher. First and foremost, the teacher has a pivotal role in deciding whether or not the young children in their classroom engage in outdoor play on a regular basis. National Association for the Education of Young Children (NAEYC) accreditation criteria (NAEYC, 2014) and the ECERS- R (Harms et al., 2005) tool, both hallmarks of quality in early care and education, recommend that children spend 30 minutes of outdoor play time in half-day programs and at least 60 minutes for full day programs. However, requirements for and benefits of outdoor play for a child’s development and learning are not typically included in early education teacher training (Blanchet-Cohen & Elliot, 2011; Herrington, 2008; Renick, 2009). Teachers often prefer the indoor environment for learning activities and lack confidence in their abilities to provide a stimulating outdoor environment (Davies, 1997). Teachers with more educational background and professional development feel more positive about providing
outdoor play (Dowda et al., 2009). Weather conditions, such as extreme temperatures and precipitation, and teacher preference for the indoors are noted as teacher reasons for not taking children outside to play (Copeland et al., 2011; Martin, 2011). Challenging design features of the outdoor playground have also been a detriment to teachers in providing outdoor playtime on a daily basis (Renick, 2009).

After scheduling time for outdoor play, the preschool teacher is responsible for what happens in the outdoor environment. Teachers have the responsibility to introduce children to the outdoors and to nurture this relationship (Blanchet-Cohen, 2011; Maynard & Waters, 2007). NAEYC supports teacher planning of the outdoor environment, with the understanding that children will develop many of their physical skills through unstructured free play (Copple & Bredekamp, 2009). It is the responsibility of the teacher to consider the set-up of the outdoor environment, evaluating whether there are affordances for pretend play, construction, and open areas for running and chasing (Perry, 2004). By including nature in the outdoor curriculum, teachers can transform simple recess breaks into rich learning experiences (Wirth & Rosenow, 2012). A mix of both teacher planned and child initiated activity is most appropriate in both the indoor and outdoor environments (Copple & Bredekamp, 2009).

The role of the teacher in a social constructivist approach to learning is to engage in children’s learning and play in order to assist them in reaching levels of knowledge that they could not reach on their own (Bodrova & Leong, 1997). Children have a natural attraction to nature and the outdoors, and it is the role of the teacher to not only introduce the child to the outdoors, but to nurture and extend this relationship (Blanchet-Cohen & Elliot, 2011, Maynard & Waters, 2007). NAEYC’s stand on developmentally practice affirms that child initiated, teacher supported play is important for development and learning (Copple & Bredekamp, 2009).
Teachers can foster learning through play by giving children enough time to develop their play, assisting in planning and monitor progress of their play, and providing themes and appropriate props and toys to support their play (Bodrova & Leong, 1997).

According to Dimensions Educational Research Foundation (2007), interesting, creatively designed natural outdoor environments will only be effective for children’s growth and development when the adults in the classroom are exploring it with them. Teachers have the opportunity to offer language, interest and enthusiasm for the child’s outdoor explorations. When observing the effects of teacher interactions on children’s play on the playground, Martin (2011) found that teacher observation and interaction allowed the children to extend their play, such as supplying a cloth, table and chairs when children were setting up a tea party. Play was less imaginative when teachers were simply supervising and children were left entirely to their own devices, riding tricycles and running around (Martin, 2011). Teachers can also support peer interactions and discourage inclusiveness in children’s play (Perry, 2004). Wright and Stork (2013), when referring to the assumption that early childhood teachers think physical development automatically happens when children play on the playground, wrote that “even unstructured play requires planning and preparation on the part of the teacher to maximize its benefits” (p. 41).

Canning’s (2010) research with ‘denmaking’ or children’s creative use of play spaces supports teacher involvement in outdoor play. As described in this study, one teacher supported children with building dens or forts in a public wooded space. Aware of the need to balance health and safety concerns with allowing autonomy in this setting, the teacher stayed close to the group at all times, but guided children to problem solve and experiment to extend their skills and curiosity. Canning (2010) concluded that the “combination of flexible spaces and resources,
positive relationships between practitioners and children, and also between children mean that enabling environments develop from not just the physical space, but also facilitating children’s interests and exploration” (p. 565). This supports findings by Tarman and Tarman (2011) who found that children tend to be involved in functional or non-play activities. When teachers facilitate play with children, the play is more productive.

Children benefit when teachers view outdoor play as an opportunity for children’s learning as opposed to a break time for children to get rid of ‘surplus energy’ (Dowdell et al., 2011; Wilson, 2012). Wilson (2012) identified the importance of an adult sharing the outdoor environment as influential in supporting children in their interactions with and about nature. Dowell et al. (2011) concurred that teachers in the natural playground environment supported children’s discoveries of nature items such as leaves, worms and bugs. Additionally, the teachers in the natural playground environment took an active role in modeling enthusiasm and fostering an interest in nature. In this study, the teachers in the traditional playground environment, with embedded equipment, were less likely to engage children in nature exploration and social interaction (Dowell et al., 2011).

Teachers on the early childhood playground continue to view supervision as the dominant role of the teacher, while the children expend their ‘surplus energy’ and take a break from the more formal learning activities that occur inside the classroom (Dyment & Coleman, 2012; Renick, 2009). Surplus energy theory promotes the misconception that children are physically active and on the go most of the time they are on the playground, although Dyment and Coleman (2012) found that almost half of outside time is spend in sedentary physical activity. Davies (1997) wrote, “The tendency for teachers to stand around watching children play, intervening only when a safety hazard arises or when a child requires some form of assistance, appears to be
a particular feature of teachers’ interpretation of their role in outdoor settings” (p. 3). When teachers focus on supervision, safety issues, and risk avoidance, fewer opportunities exist for physical activity and/or learning activities on the playground (Little, Sandseter & Wyver, 2012; Little & Wyver, 2008; Stan & Humberstone, 2011).

**Beliefs on risky play.** The balance between safety risks and the benefits of children’s risky play on playgrounds has been widely debated (Curtis, 2010; Little & Wyver, 2008; Sandseter, 2009). Although the presence of risk can lead to liability issues, as mentioned before, a certain amount of risk is necessary to build self-confidence and a personal sense of security and independence. In Sandseter’s (2009) study, the affordances for risky play on two different types of playground environments were evaluated. Categories of risky play included heights, speed, dangerous tools, near dangerous elements, rough and tumble play, and play where children could disappear and get lost. After staff and children were observed on a traditional playground and a natural playground, it was determined that both playgrounds afforded a great deal of risky play. Children seek risky forms of play in any play environment, however, the nature playground afforded more intense and thrilling play scenarios.

Stan and Humberstone (2011) used an ethnographic approach to study how teachers’ beliefs on risk affect primary school pupils’ experiences on the playground. The researchers observed several times that teachers were overly concerned about counting children, children not getting hurt, and overstating warnings when children were involved in low risk activities. It was argued that the teachers need to find a balance between the importance of ensuring safety and allowing children to feel empowered to participate in exciting and challenging play, while learning to manage risk (Stan & Humberstone, 2011). Bundy et al. (2009) labeled this tendency
as ‘surplus safety’ and found that teachers’ fears were related more to concerns about litigation than the likelihood of injury.

**Policy and Regulations Surrounding Outdoor Play**

In the early care and education setting, policies exist that can either help or hinder the case for outdoor play for children. Dyment and Bell (2007) suggest that “school rules and policy are needed to ensure the culture of the school ground is explicitly targeted as a means of promoting physical activity” (p. 473). Many teachers believe that safety regulations prohibit stimulating play experiences on the preschool playground (Copeland et al., 2012, Little & Wyver, 2008). Blanchet-Cohen and Elliot (2011) found that “while engaging the children in the outside space, educators were often anticipating whether they might be transgressing licensing regulations” (p. 770). In this study, teachers wanted to allow children to explore the adjacent wooded lot, and allow children to jump off of rocks, following their own understandings of what is best for children and so they kept secrets from licensing officials (Blanchet-Cohen & Elliot, 2011). Little and Wyver (2008) emphasized that when safety and fear of litigation cause “play opportunities for children to become so sterile and unstimulating that children may actually place themselves at greater risk of injury as they seek to inject some excitement back into the activity”, (p.35).

Wilke, Opdenakker, Kremers and Grubbels (2013) support the creation of policies related to weather, outdoor clothing, parent communication, safety, and daily playgrounds duties of teachers in order to promote the physical activity of children on the playground. Copeland et al. (2011) used a telephone survey to examine the variability of physical play environments and weather-related outdoor play policies in 162 childcare centers in one county in Ohio. Findings revealed considerable variability of indoor and outdoor play spaces, and highlighted the possible
large effect of inclement weather, play policies and teacher beliefs and practices on providing opportunities for physically active play.

**Summary**

The review of the literature on young children and outdoor play illustrates the need for further research regarding current teacher beliefs and practices on playground utilization. The research indicates the declining opportunities for children to play and learn in the outdoor environment. Due to the increased use of childcare, early care and education teachers are key instruments in providing children with much needed opportunities to learn in the outdoor environment. Frost et al. (2004) summarized this need by stating that “time, opportunity, materials, and equipment for children’s free and unfettered creative play, unfettered by overzealous and over-cautious adults, is essential for children’s healthy development” (p. 26).

Current research indicates a disparity in teacher understanding and actual practice with scaffolding outdoor experiences for young children. This study will assist in understanding the current beliefs and practices of early care and education teachers in high quality centers related to the use of the playground to support children’s learning in all areas of development.
CHAPTER THREE: METHODOLOGY

Overview

The purpose of this multiple case study was to discover the beliefs and perceptions of early care and education teachers, on the practice of outdoor play for preschoolers. Teacher beliefs and practices were explored from three early care and education settings, each with a different playground environment. Chapter Three explains the selected research design, and how this design was implemented to collect and synthesize the data. A description of the three sites, along with the criteria for selecting participants from each site is discussed. My research questions are presented and relate to specific teacher beliefs on outdoor play, if and how teachers plan for outdoor play, how teachers perceive their role when on the playground with children, and how the affordances of the playground influence teacher beliefs and practice. The conceptual framework for this study is based on Vygotsky’s (1978) social constructivist theory and Ajzen’s (1991) theory of planned behavior. To conclude this chapter, I discuss the trustworthiness and ethical considerations of the research study.

Design

Creswell (2013) defines the qualitative case study as “an in-depth study of a bounded system or case” (p.103). This qualitative case study was a multiple study in that it explored three different bounded cases, or early care and education settings (Merriam, 1998). According to Merriam (1998), the inclusion of multiple cases will “enhance the external validity or generalizability of your findings” (p. 40). The issue of teacher beliefs and practices of outdoor play for preschoolers was studied beyond the three individual early care and education sites, or cases, making this study instrumental in design (Stake, 2006). The current literature highlights a disparity between teacher beliefs and actual practice on the playground (Chakravarthi, 2009;
Malone & Trantner, 2003; Renick, 2009). A multiple case study design allowed me to collect data from multiple sources in order to gain an in-depth understanding to illustrate teachers’ beliefs and practices surrounding outdoor play. I observed and compared three different playground environments in order to understand the potentially different perspectives from which teachers operationalize outdoor play experiences for preschool children.

**Research Questions**

The following research questions guided this case study research in order to more fully understand teachers’ beliefs and practices regarding outdoor play for young children:

1. How do early care and education teachers describe their beliefs and perceptions of outdoor play practices?
2. How do early care and education teachers plan for outdoor play as a part of their preschool curriculum?
3. What behaviors do early care and education teachers exhibit when on the playground with their students?
4. How do the affordances of the playground environment influence teachers’ perceptions and practice?

**Sites**

Purposeful sampling was used in this study to select multiple cases, or early care and education centers, because this method most closely aligns with qualitative research design (Creswell, 2013). According to Stake (2006), three main criteria for selecting cases in a multiple case study are relevance to the phenomenon of interest, diversity across the contexts, and the opportunity provided to study and learn about the cases. Three early care and education centers designated for quality in the state of Pennsylvania, with diverse playground environments, were
purposely selected for this study, in order to understand the phenomenon of beliefs on outdoor play. Teacher beliefs and practices at each site were observed and studied for the purpose of offering a cross-case analysis, to ultimately enhance the knowledge base of early childhood outdoor play, and to offer generalizable findings to inform programs, practices and policies.

All three sites, labeled Site 1, Site 2, and Site 3 for confidentiality purposes, are located in central Pennsylvania, are designated as Keystone Standards, Training/Professional Development, Assistance, Resources and Support (STAR) STAR 4 centers and are accredited by the National Association for the Education of Young Children (NAEYC). Keystone STARS is a Pennsylvania state “initiative of the Office of Child Development and Early Learning (OCDEL) to improve, support, and recognize the continuous quality improvement efforts of early learning programs in Pennsylvania”(www.pakey.org). Participation in the STARS program is voluntary and the performance standards for STARS designation are grouped into four levels: STAR 1, STAR 2, STAR 3, and STAR 4. Staff qualifications and professional development, programming for children, family and community partnerships, leadership and management are the areas measured by the STARS performance standards (Appendix A).

NAEYC accreditation is the “gold standard” in early care and education, with more than 400 related criteria listed under the following ten standards: relationships, curriculum, assessment of child progress, health, teachers, families, community relationships, physical environment and leadership and management. The standards are based on the latest research on the care and development of young children (Appendix B). To earn NAEYC accreditation, programs must meet all ten standards by successfully performing at least 80% of the criteria related to each standard (www.naeyc.org). All three sites offer child-centered, developmentally appropriate, play-based curriculum.
Additionally, the three sites were selected according to three diverse playground environments. I was acquainted with Sites 1 and 3 due to my participation on the governing board of the Capital Area affiliate of NAEYC, or CAAEYC. Both centers have served as host sites in the past for CAAEYC’s Connect for Quality event, an event where the CAAEYC organization highlights quality early care and education centers in the region. Also through my affiliation with CAAEYC, I had previously met both center directors and had toured both Sites 1 and 3. Site 2 was one of two STAR 4, NAEYC accredited sites, with a combination of natural and manufactured affordances on the playground that were recommended to me by a colleague. I visited both sites and both center directors were interested in participating in the study. I ultimately chose Site 2 because the manufactured and natural affordances were contained within the same fenced-in area, whereas the other site offered two separate playgrounds, one with natural and one with manufactured affordances.

Site 1 - Manufactured Playground

Site 1 is a franchise of a for-profit, corporate childcare organization, located in a small town in central Pennsylvania, and has been in operation since 2011. The center serves 158 children from six weeks of age to 5 years, in full or part-time childcare, preschool and kindergarten, and is open from 6:30 am to 6:30 pm, Monday through Friday. After school and summer childcare is provided for children ages 5 years to 12 years. The preschool age group is divided into five classrooms with a maximum of 16 children in each class, staffed by a lead teacher and an assistant teacher. The center is overseen by the franchise owner, and is led on a daily basis by the full-time director. This site is recognized as a Pennsylvania Keystone STARS, STAR 4 program and earned NAEYC accreditation in December 2015. I selected this site for my study because of the predominately manufactured affordances of the preschool playground.
The focus of the 6222 sq. ft. preschool playground is a manufactured, composite resin playground set, installed on rubber playground tiles and surrounded by a concrete sidewalk and grass. The playground set allows for climbing on a ladder or stairs, walking and sitting on or under the platform and sliding down the two sliding boards. A musical set is embedded at the opposite side of the playground on another area of rubber playground tiles, and includes two child-sized xylophones on stands, and a set of four single post plastic bongo drums. A bike path encircles the larger activity area.

**Site 2 - Combination Playground**

Site 2 is a small early care and education center located on the site of a retirement community in central Pennsylvania, and has been in operation since 1986. The program serves 36 children, ages six weeks to 5 years, and is open from 6:30 a.m. to 5:30 p.m., Monday through Friday. Twenty of the children are enrolled in the preschool classroom, either part-time or full-time. Two head teachers share the weekly teaching schedule for this preschool classroom, and a full time assistant teacher helps in the classroom each day. A full-time director manages the day to day activities of the program. This site is recognized as a Pennsylvania Keystone STARS, STAR 4 program and has been NAEYC accredited for several years. I selected this site for my study because of the combination of manufactured and natural affordances of the playground.

In addition to an embedded, wooden playground set for climbing, swinging and sliding, this 15,900 square foot space also includes a variety of garden areas, planted and maintained by the children. Other manufactured affordances include a bike trail and a child-sized playhouse. Natural affordances include manicured landscaping, a large sandbox, a bamboo frame teepee with a “fire-pit”, and a rowboat for dramatic play purposes.
Site 3 - Natural Playground

Site 3 is a private elementary school in central Pennsylvania which offers programs for 215 students in preschool through 8th grade. The school has been in operation since 1971, and was started by a group of parents as an alternative to public education. The preschool serves students from 2.5 years to 5 years old. The students are divided between 4 multi-age classrooms, and are enrolled for morning only or full day, with a minimum attendance of 3 days per week. The school is open from 7 a.m. until 5:45 p.m. Monday through Friday, allowing for before and after school care on an as needed basis. The preschool half-day program is open from 9 a.m. to 11:45 a.m. and the full-day program is open from 9 a.m. to 2:45 p.m. Each class of 12-15 children is led by a teacher and an assistant teacher. The site is led by a school director, assisted by an early education administrator for the preschool and kindergarten classes. This site is recognized as the program with longest history of NAEYC accreditation in the area, and the before and after school programs are designated STAR 4 programs. I selected this site for my study because of the mostly natural affordances of the playground.

Site 3 is situated on a 14 acre wooded campus, which has been recognized as a National Wildlife Federation Schoolyard Habitat. The main outdoor play space is approximately one acre, which allows for plenty of open grassy space for group games and active exploration. Although this playground does include embedded swing sets, a slide and climbing apparatus along the perimeter of the play area, the main emphasis is on nature. Natural affordances include a large sand box, flower and vegetable gardens, child-designed and constructed bird feeding areas, and a nature trail through the woods.

The demographic data for the geographical location of each site is included in Table 1 (US Census Bureau quick facts, 2010). Sites 1 and 2 are located in small towns with
predominately middle class, Caucasian residents, whereas Site 3 draws children from a larger middle-class suburban region with residents of mixed ethnicities.

Table 1

*Demographic Description of Sites*

<table>
<thead>
<tr>
<th></th>
<th>Site 1</th>
<th>Site 2</th>
<th>Site 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population, 2010</td>
<td>8,981</td>
<td>9,369</td>
<td>24,036</td>
</tr>
<tr>
<td>Persons per sq. mile</td>
<td>3,726.6</td>
<td>4,055.8</td>
<td>1,801.9</td>
</tr>
<tr>
<td>High school graduates</td>
<td>90.7%</td>
<td>88.4%</td>
<td>92.6%</td>
</tr>
<tr>
<td>Bachelors+</td>
<td>30.8%</td>
<td>27.4%</td>
<td>34.2%</td>
</tr>
<tr>
<td>Median income</td>
<td>30,068</td>
<td>50,702</td>
<td>33,289</td>
</tr>
<tr>
<td>Persons below poverty</td>
<td>6.7%</td>
<td>6.1%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Persons under 5 years</td>
<td>5.7%</td>
<td>6.3%</td>
<td>5.3%</td>
</tr>
<tr>
<td>Race – White, not Hispanic or Latino</td>
<td>90.3%</td>
<td>92.4%</td>
<td>65.4%</td>
</tr>
<tr>
<td>Race – Black or African American</td>
<td>2.2%</td>
<td>1.3%</td>
<td>23.6%</td>
</tr>
<tr>
<td>Race – Asian</td>
<td>1.8%</td>
<td>1.2%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Race – Hispanic or Latino</td>
<td>3.5%</td>
<td>3.7%</td>
<td>3.9%</td>
</tr>
</tbody>
</table>

Table 2 highlights the ages of children served, total enrollment and the physical size of the playground for each site. In addition to the diverse affordances of the three playgrounds in this study, the sizes of the playgrounds are variable. NAEYC accreditation criteria require at least 75 square feet of outdoor play space for each child playing outside at any one time. The maximum space required is based on one-third of the total center enrollment (NAEYC, 2014). The playgrounds on all three sites meet this maximum space requirement.
Table 2

*Physical Description of Sites*

<table>
<thead>
<tr>
<th>Site</th>
<th>Ages of children served</th>
<th>Total center enrollment</th>
<th>Playground size in square feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site 1</td>
<td>6 weeks – 12 years</td>
<td>158</td>
<td>6,222 sq. ft.</td>
</tr>
<tr>
<td>Site 2</td>
<td>6 weeks – 5 years</td>
<td>36</td>
<td>15,900 sq. ft.</td>
</tr>
<tr>
<td>Site 3</td>
<td>3 years – 8th grade</td>
<td>215</td>
<td>65,340 sq. ft.</td>
</tr>
</tbody>
</table>

**Participants**

Purposeful, maximum variation sampling was implemented in order to investigate different perspectives on teachers’ beliefs and practices related to preschool outdoor play (Creswell, 2013). The center directors, from each of the three early care and education centers selected for this study, completed a screening checklist for participants (Appendix C). I selected three preschool teachers from each site, based on age, number of years teaching, and educational background, to represent a maximum variation of personal beliefs and practices. All of the preschool teachers at each of the three sites were females of Caucasian ethnicity. All teachers selected as participants held at least a Child Development Associate (CDA) certificate, associate’s degree or a bachelor’s degree in education or a human development related field, and at least two years of classroom experience. Demographic data for each teacher is presented in Table 3 and a more detailed description of each teacher is presented in Chapter Four.
### Table 3

**Demographics of Teacher Participants**

<table>
<thead>
<tr>
<th>Site/Name</th>
<th>Current position</th>
<th>Age range of children in years</th>
<th>Number of years teaching preschool</th>
<th>Number of years at current site</th>
<th>Degree/Certification</th>
<th>Ethnicity</th>
<th>Gender</th>
<th>Age*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 /Jane</td>
<td>Teacher</td>
<td>3–4</td>
<td>2</td>
<td>1</td>
<td>C.D.A.</td>
<td>Caucasian</td>
<td>Female</td>
<td>a</td>
</tr>
<tr>
<td>1 /Liz</td>
<td>Teacher</td>
<td>4–5</td>
<td>3</td>
<td>1</td>
<td>B.S. Elem. Ed.</td>
<td>Caucasian</td>
<td>Female</td>
<td>a</td>
</tr>
<tr>
<td>1 /Mary</td>
<td>Teacher</td>
<td>3–4</td>
<td>2</td>
<td>1</td>
<td>C.D.A.</td>
<td>Caucasian</td>
<td>Female</td>
<td>a</td>
</tr>
<tr>
<td>2 /Beth</td>
<td>Asst. Teacher</td>
<td>3.2–5.6</td>
<td>2</td>
<td>1</td>
<td>A.A Elem. Ed., B.A. in progress</td>
<td>Caucasian</td>
<td>Female</td>
<td>a</td>
</tr>
<tr>
<td>2 /JoAnn</td>
<td>Teacher</td>
<td>3.2–5.6</td>
<td>19</td>
<td>19</td>
<td>C.D.A.</td>
<td>Caucasian</td>
<td>Female</td>
<td>d</td>
</tr>
<tr>
<td>2 /Megan</td>
<td>Teacher</td>
<td>3.2–5.6</td>
<td>24</td>
<td>27</td>
<td>B.A. Child/Family Service</td>
<td>Caucasian</td>
<td>Female</td>
<td>d</td>
</tr>
<tr>
<td>3 /Carrie</td>
<td>Teacher</td>
<td>3.75–5</td>
<td>31</td>
<td>31</td>
<td>B.S. Elem. Ed.</td>
<td>Caucasian</td>
<td>Female</td>
<td>d</td>
</tr>
<tr>
<td>3 /Grace</td>
<td>Teacher</td>
<td>2.75–3.75</td>
<td>20</td>
<td>1</td>
<td>B.S. Elem. Ed.</td>
<td>Caucasian</td>
<td>Female</td>
<td>c</td>
</tr>
<tr>
<td>3 /Lauren</td>
<td>Teacher</td>
<td>3.4–4.8</td>
<td>4</td>
<td>4</td>
<td>B.S. Elem. Ed.</td>
<td>Caucasian</td>
<td>Female</td>
<td>c</td>
</tr>
</tbody>
</table>

*Note. *Age: a. 18 – 27; b. 28 – 38; c. 39 – 49; d. 50+

### Procedures

No data was collected before I obtained IRB approval from Liberty University (Appendix D). I sent email messages to four early care and education center directors, requesting to meet to discuss my research and to tour their playground (Appendix E). Two of the sites had a mixed manufactured and natural environment. All of the center directors were interested in my research and verbally agreed to participate. Sites 1, 2, and 3 were selected because they met the requirements of NAEYC accreditation or Keystone STARS 4 designation, and the specific
playground environments described in detail earlier in this study. All three sites were located in South-central Pennsylvania, within 20 miles of the state capital of Harrisburg, PA.

Next I requested and received a letter of written informed consent from the director from each site providing permission to conduct my research at the center. Once IRB approval was obtained, I met with each center director to build a relationship and to describe the nature of the study. The directors assisted in selecting potential participants, based on the criteria stated previously in the participant section, by completing the screening checklist for participants. The checklist identified teachers by their initials and included information such as gender, ethnicity, age range, number of years teaching preschoolers, age range of children in classroom, and highest educational degree. Using purposeful sampling to include maximum variation of personal beliefs and practices, I chose 3 prospective participants from each site, and asked the center directors to provide information on my research study to the selected teachers. Each teacher was given a letter requesting their participation in the study, and the informed consent document. All of the teachers who received the letter agreed to participate and signed the consent form (Appendix F). I offered to meet with the participants individually before the observations and interviews, but no one requested this meeting.

Next, I contacted the directors from each site to set up the playground observations and interviews. I chose the Preschool Outdoor Environment Measurement Scale (POEMS), (DeBord et al., 2005) as a tool to assess playground quality and interactions (Appendix G). (Note: Dr. Linda Hestenes, Associate professor at the University of North Carolina, Greensboro, and one of the authors of the POEMS document provided permission to use the POEM scale to collect playground observation data in this case study while I waited for permission from the publisher). Permission to use the POEMS assessment was secured from the publisher, Kaplan Early
Learning Company (Appendix I). Data was collected at each site in the late spring, before the start of summer programming. Using the Preschool Outdoor Environment Measurement Scale (POEMS), (DeBord et al., 2005) assessment tool, I observed each teacher on the playground before conducting the interview in order to refrain from influencing teacher behavior on the playground (Appendix G). I observed the teachers on the playground during one full morning classroom outdoor time. At Site I, I observed teachers in the morning and interviewed them in the afternoon, on the same day, at the request of the director. At Sites 2 and 3, the observations and interviews took place on different days, scheduled by the director. Each teacher interview lasted 35 to 60 minutes depending on the amount of information the teacher offered. The interviews were semi-structured, using a pre-determined interview guide to focus the conversation, yet allow for clarifying and probing questions (Appendix H). Interviews took place in a quiet, private meeting space within the center, during the teacher’s break time. The interviews were audio-taped and transcribed by a professional. The transcripts were either emailed or hand delivered to the participants for review and member checking. The participants were asked to respond if something was documented incorrectly on the interview transcript, and none of the participants responded to my request. After the interview, I presented each of the participants a 20-dollar gift certificate from a local educational supply store.

Most of the documents, including parent and staff handbooks, playground policy documents, and classroom daily schedules, were gathered from either the teachers or director during one of the center visits. I photographed each playground without children present in order to most adequately represent the playground environment and affordances.

After the data was collected from each site, I imported the teacher interview data into ATLAS.ti7 software to serve as a data base and a tool to assist in coding and tracking themes
based on the research questions. The POEMS (DeBord et al., 2005) assessment data and physical documents were placed in file folders labeled for each site. A detailed vignette was created for each case, and then the data was analyzed across cases, looking for recurring themes based on the research questions.

The Researcher’s Role

In qualitative research, the researcher is the “human instrument” or the research tool (Creswell, 2013). As the researcher, I became familiar and built rapport with the center director and teachers in all three research sites. I conducted all of the interviews, observations and document collection. According to Stake (1995), the role of the researcher as an interpreter of data is central in case study research. The researcher finds new connections and makes this new information available to others.

As the research tool, and the primary instrument in data collection, I need to clearly discuss my personal beliefs regarding outdoor play and playground environments in order to avoid misrepresenting data and interpretations. My love for nature and the outdoors stems from my childhood, growing up in a rural area before the age of electronics and parental fear of allowing children to play outdoors unsupervised. I spent many childhood hours playing with friends and siblings in the nearby creek and exploring the wooded areas near my home. Forts were constructed, living things were examined, and my curiosity was nourished. These rich experiences certainly influenced my belief in the importance and benefits of children spending quality time outdoors in a natural environment. I recognize my bias toward natural play areas due to my childhood experiences, but I do not believe this bias influenced my research. In this study I was searching for the teachers’ beliefs and practices and used the same research protocol, including interview questions with all of the participants.
In addition, because of my former role as a board member of CAAEYC and currently as a professional development provider in my surrounding educational community, bias may occur because of my desire to encourage high-quality early care and education. I believe that the outdoor environment is an extension of the indoor classroom environment, that learning occurs in both setting, and teachers need to plan for stimulating explorations in both environments. Participants in the study may not be willing to share their deeply held personal beliefs regarding outdoor play if they are influenced by my personal beliefs and practices. For this reason, I will need to be careful to use an unbiased approach when interviewing teachers and when collecting data. Although I was familiar with two of the directors, I was not familiar with any of the teacher participants in order to prevent my bias from influencing the results of this research. Member checks, peer review and reflective notes further reduced the influence of my bias on data collection and analysis.

Data Collection

Most importantly, no data was collected until I received IRB approval from Liberty University. To begin the data collection process, I met with each center director to discuss the study, select the participants, and schedule the observations and interviews. Informed consent was obtained from the teacher participants in this study. Four a priori codes, aligned from the research questions and the review of the literature, were developed prior to data collection. The a priori codes were (a) teacher beliefs, (b) teacher planning, (c) teacher behavior on the playground, and (d) the affordances of the playground.

Evidence for a case study can be obtained from a variety of sources including documentation, archival records, interviews, direct observation, participant-observation, and physical artifacts (Yin, 2009). Using multiple methods of data collection or sources of evidence
is important for triangulation of data which is necessary to strengthen reliability, as well as internal validity (Merriam 1998, Yin, 2009). In this study, triangulation was secured through studying three sites, observing and interviewing three teachers at each site, and the collection of physical documents and photographs of each of the playground environments. I also searched each center’s website to obtain information on outdoor play philosophy and policies.

**Direct Observation**

Non-participant, direct observations of the teacher participants with their class on the playground was conducted using the *Preschool Outdoor Environment Measurement Scale* (DeBord et al., 2005). Dr. Linda Hestenes, Associate professor at the University of North Carolina, Greensboro, and one of the authors of the POEMS document provided written permission to use the POEM scale to collect playground observation data in this case study while I waited for official permission from the publisher (Appendix I).

The POEMS assessment tool was designed to serve as a checklist for teacher and administrator use as well as “a research instrument to study the implications of outdoor environmental quality on children’s development and learning” (DeBord et al., 2005, p. 2). Tested for reliability across 41 childcare programs in North Carolina, the internal consistency for the scale was strong (Cronbach’ alpha = 81%). Validity was measured against the N.C. Star Rated Licensing scale with a moderately strong positive correlation.

The use of the POEMS (DeBord et al., 2005) assessment was conducted for the purpose of obtaining data from playground observations for use in triangulation. Each teacher was observed for one complete outdoor activity period on one day. This was a period when the teacher was responsible for her assigned children’s activities on the center playground. I observed teachers on the playground before interviewing them to reduce the influence of the
interview process and questions on their behavior on the playground. The suggested use for the POEMS assessment is “to observe a class of children and their target teacher in their outdoor space for approximately one hour or for a complete outdoor activity period” (DeBord et al., 2005, p. 4).

In addition to using the POEMS assessment tool, I wrote brief field notes during the observations, focusing on what mattered to the teachers when they were on the playground with their class. My notes included descriptions of the environment, direct quotations from the teachers, and my initial interpretations of the observation data (Merriam, 1998). The playgrounds were photographed without children or teachers present in order to illustrate the playground environment for outside observers (Yin, 2009).

**Interviews**

Semi-structured, focused, individual interviews were conducted with the three preschool teacher participants from each center. When interviewing the teachers, an interview guide with pre-determined questions was enhanced by the researcher for the purpose of probing for deeper understanding (Yin, 2009). Following Yin’s (2009) suggested interview practices, the ‘why’ questions regarding teachers’ beliefs and practices were posed as ‘how’ questions in order to maintain a non-threatening atmosphere.

In order to refine my initial interview questions, I contacted two colleagues with doctorates in education and prior experience with qualitative research, to review my interview questions for focus and clarity. The suggestion was made to begin my interviews with a question about the participant’s educational background and professional development related to outdoor play in place of my original first request of recounting early memories of outdoor play. I decided
to test the order of interview questions and refine questions by piloting interviews with two teachers that met the criteria for participants.

I piloted the original interview questions with two preschool teachers, both with Masters in Education degrees, from the NAEYC accredited early care and education center located on the college campus where I currently teach. My previous work at this center and the close geographical proximity allowed for a less structured relationship with the participants (Yin, 2009). The center and teachers met the qualification requirements for participants in the study. The two pilot interviews each lasted for 45 minutes to one hour, were conducted in a private campus library conference room, and were audio recorded and transcribed. In addition to providing valuable practice with interviewing skills, the two pilot tests assisted me in determining the flow and usefulness of each question and whether additional questions should be included (Merriam, 1998). In the pilot interviews, both of the teachers’ shared their earliest memories of playing outdoors as a child without prompting, as they talked about the influences on their beliefs on outdoor play for young children, therefore I deleted this initial question from the interview protocol. I also condensed several original interview questions to provide clarity and succinctness. The interview questions linked to the research questions and supportive literature are recorded in Table 4.
### Table 4

**Participant Interview Questions**

<table>
<thead>
<tr>
<th>Interview Questions:</th>
<th>Research Question and Literature Support:</th>
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<tr>
<td>1. Was there any part of your schooling or professional development that has affected your beliefs and practices related to outdoor play? Please share anything that you feel has affected your beliefs.</td>
<td>a. How do early care and education teachers describe their beliefs and perceptions of outdoor play practices? The literature indicates that teachers with more educational background and professional development feel more positive about outdoor play (Dowda et al., 2004) and interact and facilitate outdoor play more often (Chakravarthi, 2009). However, the benefits of outdoor play for a child’s development and learning are not typically included in early education teacher training (Blanchet-Cohen &amp; Elliot, 2011; Herrington, 2008).</td>
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<td>2. Describe your outdoor play schedule. How much time does your class typically spend outside on the playground on days when the weather is nice? What type of weather prohibits your class from spending time outdoors?</td>
<td>b. How do early care and education teachers plan for outdoor play as a part of their preschool curriculum? Nationally recognized standards for high quality child care require 30 minutes of outdoor play time for half-day programs and at least 60 minutes for full day programs (NAEYC, 2014; Harms, Clifford, Cryer, 2005). NASPE (2013) recommends 60 minutes of structured (in short 15 minute segments) and at least 60 minutes of unstructured physical activity each day for children ages 3-5. Weather conditions that typically prevent outdoor play include subfreezing temperatures and light rain, and outdoor play policies related to weather vary considerably between centers (Copeland et al., 2011).</td>
</tr>
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</table>
3.a. Tell me about any factors that encourage you to take children outdoors on a daily basis.

Tell me about any factors that discourage you from taking children outdoors on a daily basis.

This question is designed to identify the factors that promote or prohibit children from having the opportunity to play outdoors during their time spent in child care. Weather related policies and conditions, attitude about the outdoor environment and design of the outdoor environment can affect a teacher’s decision making regarding time spent outdoors (Copeland et al., 2011; Martin, 2011). Copeland et al. (2012) identified societal pressure for safety, including stricter licensing codes, and kindergarten readiness initiatives as additional factors that inhibit physical activity and outdoor play.

3.b. Have parents ever encouraged or discouraged you from taking children outside? What have they said to you to make it difficult? How do you handle this?

Teachers often feel pressure from parents to keep children from participating in vigorous activity for fear of injury. Teachers reported that societal pressure for academics, especially from parents, causes them to prioritize pre-literacy and other academic skills over outdoor and active play time (Copeland et al., 2012).

4.a. Do you plan specifically for daily outdoor play activities? If so, tell me about your typical plans for the outdoor time?

Do you change or rotate the materials provided for children’s use on the playground?

According to Wright and Stork (2013), in order to maximize the benefits of physical activity on the playground, preschool teachers need to plan and prepare the environment, and facilitate structured and unstructured play. Natural features of the playground and state of playground equipment can restrict teachers’ ability to plan for outdoor play activities (Davies, 1997).

NAEYC supports teacher planning of the outdoor environment (Copple & Bredecamp, 2009), with the understanding that children will develop many of their physical skills through unstructured free play. Children also need more structured teacher-led instruction to optimize physical health for a lifetime.

Lack of parent support and increased licensing restrictions are often mentioned as barriers to planning stimulating outdoor play activities (Blanchet-Cohen, 2011; Little, Wyver & Gibson, 2011).

4.b. Do you ever plan for outdoor activities in an environment other than your school playground (i.e. field trips)? If so, please tell me about those activities.

A study by Dowda et al. (2004) found that programs that facilitated field trips going outside of the program premises allowed children more moderate to vigorous physical activity.
5. Describe the ideal role of the teacher when children are on the playground. Do you feel you are able to achieve this ideal role when you are on the playground? Why or why not.

c. What behaviors do early care and education teachers typically exhibit when on the playground with their students?

Two theories have been highlighted in the literature about teacher behavior on the playground area as follows: a strictly supervisory role, allowing children to totally create their own play with minimal teacher intervention (Davies, 1997), and a more interactive role, supporting the child’s activity and ideas (Martin, 2011; NAEYC, 2014).

When interviewed, teachers state their primary role on the playground is to supervise and to ensure the safety of the children (Dyment & Coleman, 2012; Renick, 2009). When teachers focus on supervision, safety issues, and risk avoidance, fewer opportunities exist for physical activity and/or learning activities on the playground (Little et al., 2012; Stan & Humberstone, 2011).

Teachers should refrain from direct instruction on the playground, but provide enough playtime, create a safe environment and serve more as a model and demonstrator of desired play behaviors (Tarman & Tarman, 2011).

6. Some teachers would say that the outdoor playground should be an extension of the classroom for young children and guided opportunities for play and learning should be intentionally prepared for outdoor playtime. What would you say to them?

Children will play in the environment provided, however researchers have found that when loose parts and adult support are available, the child’s play becomes more imaginative and sustained (Martin, 2011).
<table>
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<th>Question</th>
<th>Answer</th>
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<td>7. Some teachers would say that the outdoor play should be unstructured in order for the purpose for children to burn off surplus energy. What would you say to them?</td>
<td>Although surplus energy theory has not been supported by research, it is still a widely held view of early education teachers (Evans &amp; Pellegrini, 1997; White, 2004). Surplus energy theory promotes the idea that children are physically active and on the go most of the time they are on the playground, although Dyment and Coleman (2012) found that almost half of outside time is spend in sedentary physical activity.</td>
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<td>8. How would you describe the ideal outdoor environment? What do you consider to be the most important components in outdoor playgrounds for young children?</td>
<td>c. How do the affordances of the playground environment influence teachers’ beliefs and practices? Research supports that the physical features of the outdoor environment have an important role in determining the opportunities for physical activity, play and learning (Renick, 2009; Sandseter, 2009; Trost, Ward, &amp; Senso, 2010).</td>
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<td>9. How do you feel about your center’s playground? As a teacher, what are some things that you like about your playground? What would you change if you could?</td>
<td>Research suggests that teachers are rarely consulted in playground design (Davies, 1997; Herrington, 2008). Many teachers believe that safety regulations prohibit stimulating play experiences on the preschool playground (Little &amp; Wyver, 2008). When asked about preferred environments, most teachers associated positive comments with the presence of plant material. Teachers also wanted more sensory stimuli, more space and more challenging equipment (Herrington, 2008; Renick, 2009). For the highest quality rating on the ECERS-R, centers need to provide a variety of surfaces on the outdoor playground to encourage different types of play, and include block play, sand and water play, and props for dramatic play in the outdoor environment (Harms et al., 2005).</td>
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Documents

Pertinent documents were collected from each site including parent and teacher handbooks, brochures, outdoor play policies, website information, classroom schedules, and photographs of the playground environments. The documents were placed in folders, labeled for each site or case in this study (see Appendix J). The documents were initially reviewed and analyzed by coding applicable data using the a priori codes established from the research questions and literature. By examining the documents, I was able to develop a broader perspective on the philosophy, policies, and procedures that influence teacher beliefs and practices at each center. I recorded the data from the documents in a table shell created for each site (Appendix K), and synthesized it with the interview and observation data to corroborate the themes and sub-themes and triangulate the data for the case description and cross-case analysis (Merriam, 1998, Yin, 2009).

Data Analysis

In order to develop a thick, rich description of each site or case, I immersed myself in the data by reading and making notes as the data was collected (Merriam, 1998). The teacher interviews were transcribed and organized in electronic and paper document files, creating individual case data bases (Yin, 2009). The physical documents collected from each site and the teacher’s playground observation, including the POEMS (DeBord et al., 2005) assessment documents and field notes, were organized in the physical file data bases for each case.

I imported the transcribed teacher interviews from each case to ATLAS.ti, version 7.5.2, qualitative data analysis software. Starting with the first interview transcript, I used ATLAS.ti 7 to select quotations, and created primary document families using the pre-established a priori codes, aligned with the research questions and review of the literature. I replicated this analysis
method for all nine of the participant interviews. On the second round of analysis of the teacher interviews, I used the network view for the coded quotations from the primary document families to search for and identify sub-themes which captured the meaning of the data (see Appendix L). After the second round of coding, I reviewed the data placed in each code family and added additional sub-codes as needed.

In addition, the physical documents from each case were analyzed and coded according to the a priori themes, and recorded on a table shell created for each site. By triangulating the aforementioned data, using categorical aggregation, (Creswell, 2013) a vignette or detailed description of each case was created, looking for “convergence of evidence” (Yin, 2009, p.117). Patterns and repetitions of data were sought, looking for information that was supported in more than a single source of evidence in order to provide a meaningful description of teachers’ beliefs and practices within each case (Yin, 2009).

Next, I completed a cross-case synthesis (Yin, 2009) by analyzing and synthesizing the data across the three cases. I used the Atlas.ti.7 ‘code families’ network tool to search for patterns of similarities and differences, and looked for common themes which were replicated across all three cases (see Appendix M). In addition to the replicated themes, I sought the differences in teacher beliefs and practices that may be related to the affordances of the playground environment in each case. Finally, I reported the meaning learned from the multiple case study on teachers’ beliefs and practices, and developed naturalistic generalizations or assertions from analyzing the data (Creswell, 2013).

**Trustworthiness**

In order for the findings of this qualitative research study to be valid and reliable for future practice, procedures which reflect trustworthiness were followed. According to Lincoln
and Guba (1985), trustworthiness addresses credibility, dependability, transferability, and confirmability. The following paragraphs explain each of these components of trustworthiness in more detail.

**Credibility**

Credibility refers to the extent to which the case study findings accurately describe the reality of the case. According to Lincoln and Guba (1985), member checking is the most important step in ensuring credibility of research findings. Participants played a major role in this case study research, and were asked to review the written transcripts of their recorded interviews, as well as their individual descriptions from the participant section. Rich detailed descriptions of each individual case enhanced the credibility of the between case findings. The center directors reviewed the draft of the case study descriptions of their individual program in order to enhance credibility. Peer debriefing from the three members of my dissertation committee, all with earned doctoral degrees, occurred after the completion of the full manuscript draft and enhanced credibility for this research.

One of the major strengths of case study research is the opportunity to use multiple sources of evidence to develop ‘converging lines of inquiry’, or triangulation (Yin, p. 115). According to Creswell (2013), researchers are triangulating data when they “locate evidence to document a code or theme in different sources of data” (p. 251). Triangulation of data was used to increase the trustworthiness of the research and to provide a detailed understanding of each case and across cases. In this study, three sources of data were triangulated: data from participant interviews, from researcher observations, and from the review of documents.
Dependability

Using a replication design, dependability was maintained through the use of consistent data collection procedures and consistent analysis between all three cases (Yin, 2009). I maintained a chain of evidence, documenting the research procedures used in collecting and analyzing data from each program. The chain of evidence provides documentation of all communication, observations, interviews, physical documents and narratives from each site, and is stored on my computer in an electronic file as well as in physical files organized for each site. This increases reliability because it allows another researcher to repeat the procedure and arrive at the same results (Yin, 2009).

Transferability

Transferability is the aspect of qualitative research that relates to external validity or the possibility to transfer the findings of one study to apply to other situations. The use of replication logic in this multiple case study increased external validity, and added to the generalizability of the research findings (Yin, 2009). The rich descriptive detail provided about each program, data collection and analysis also assisted with transferability. However, qualitative research is best applied to the setting in which it was carried out, and according to Lincoln and Guba (1985) the researcher can only provide “the thick description necessary to enable someone interested in making a transfer to reach a conclusion about whether transfer can be contemplated as a possibility” (p. 316).

Confirmability

Lincoln and Guba (1985) consider the audit trail as the major technique for establishing confirmability. Throughout the process of collecting and analyzing data, I kept an audit trail listing dates for each step (Appendix N). Additionally, the triangulation of data collection
confirmed the reality of the cases and reduced the effect of researcher bias. To reduce personal bias, the researcher must disclose any preconceived notions concerning the research questions being investigated. I disclosed my personal bias earlier in this chapter, in the section entitled *The Role of the Researcher*. Additionally, I kept a reflective journal with notes on all actions to increase confirmability (Appendix O).

**Ethical Considerations**

IRB approval to conduct this research study was met on April 29, 2015. I obtained approval from the directors of each of the three research sites and all participants involved in the study were informed of all aspects of the study and provided signed consent forms. Because I conducted on-site research at three early care and education centers, I made available my personal security clearances required for working with young children in PA (child abuse history, FBI fingerprint and state police clearance). Pseudonyms were used for all persons, places, or institutions in this study. All data was stored in password protected computer files and hard copies were kept in a locked file drawer in my home office.

**Summary**

The current instrumental, multiple case study explored the beliefs and perceptions of teachers on the practice of outdoor play for preschool age children. Teacher beliefs and practices were investigated at three early care and education centers, each with a different playground environment. The three playground environments included a manufactured environment with embedded equipment on safety surfacing, a natural environment with nature related features such as trees, plants and grassy areas, and a mixed environment which includes elements of the manufactured and natural environments. Three teachers were purposely selected from each site to be observed during playground activity and then interviewed using a semi-structured interview
guide. By analyzing the interview transcripts, observational data, and related documents such as parent and staff handbooks, playground policy statements, and class schedules, I identified themes related to teacher beliefs and practice within the three cases, and across cases. Vygotsky’s (1978) theory of social constructivism and Ajzen’s (1991) theory of planned behavior provided a framework for the research and guided the data analysis. The procedures used to insure the trustworthiness of the study and ethical concerns, including confidentiality of the participants, were discussed at the end of this chapter. The specific themes and findings of this study are discussed in Chapter Four.
CHAPTER FOUR: FINDINGS

Overview

The purpose of this instrumental, multiple case study was to discover the beliefs and practices of outdoor play for early care and education teachers at three school locations with diverse playground environments. Vygotsky’s (1978) social constructivist theory and Ajzen’s (1991) theory of planned behavior provided the conceptual framework for this research study. In this chapter, I present findings from the analysis of the interviews, playground observations, and review of documents from each site. First, I provide a detailed description of each site, along with photographs of the outdoor playground. Next, I present my findings which evolved from the cross-case analysis.

Description of Sites and Participants

This case study is instrumental, and the purpose is to go beyond the individual cases, to find teacher beliefs and practices on outdoor play, across diverse school and playground environments (Stake, 2006). In this section, I present my findings, beginning with a detailed description of each site, prepared as part of the within-case analysis. Narratives include a description of the site, focusing on the structure and culture of the center, the affordances of the playground, and any unique characteristic of each site. The description of each site is followed by a portrayal of each research participant from the site, including her educational background, beliefs, and practices on the playground.

Site 1

Site 1 is a franchise of a for-profit, corporate childcare organization, located in a small town in central Pennsylvania, and has been in operation since 2011. The center serves 158 children from 6 weeks of age to 5 years in full-time or part-time childcare, preschool and
kindergarten. After school and summer childcare is provided for children ages 5 years to 12 years. The preschool age group is divided into five classrooms. This site is recognized as a Pennsylvania Keystone Standards, Training/Professional Development, Assistance, Resources and Support (STARS), STAR 4 program and earned National Association for the Education of Young Children (NAEYC) accreditation in December 2015.

Site 1 has three separate playground areas, each surrounded by a tall, black metal fence. The playgrounds are each specifically designed for a different age of children; toddlers, preschoolers, and school-age children. Site 1 was selected for this study because the focus of the 6222 sq. ft. preschool playground is a manufactured playground set, made of a composite resin material, installed on rubber playground tiles, surrounded by a concrete sidewalk. The area not covered in the rubber playground tiles is covered with patchy grass. The affordances of this playground set include four wide steps and a three rung climbing ladder leading up to a platform. Educational activity panels surround the platform and include movable letters for creating 3 letter words, a simple maze, and diagrams depicting modes of transportation and planets. Two sliding boards are connected to the platform. The playground set is covered by a large shade umbrella (Figure 1).

A musical playground set is embedded on an area of rubber playground tiles, at the opposite side of the playground, with a grassy area in between. This set consists of two, child-sized xylophones on stands, one with metal keys and the other with plastic keys. The xylophones can be played with rubber mallets. Situated beside the xylophones is a set of four single post plastic bongo drums. This set is also covered by a large shade umbrella (Figure 2).

Additional affordances on this playground include two water fountains, two child-sized picnic tables, and a set of three connected hoops with nets, at varying heights, for basketball play
(Figure 3). A water table and a variety of water toys are available for use on warm temperature days designated for water play. A small, locked storage shed held the balls and tricycles for children’s use on the playground. Teachers reported they are not allowed to take indoor learning materials outside to the playground. Typical affordances added by teachers are bubbles, hula hoops and sidewalk chalk. Tricycles were popular on the days I observed and were ridden on the sidewalk, encircling the embedded playground set. The preschool classrooms each have a door opening out to the playground, however only one of the three preschool teachers used this classroom door to enter and exit the playground. The two other teachers used the main door at the end of the building to move their class to and from the playground (Figure 4).

According to the teacher interviews and the parent handbook for Site 1, the importance of physical exercise is emphasized for healthy physical and social development. Children are required to wear closed-toed footwear year-round, to prevent injury when running and climbing. The classes go outside to play every day, unless it is raining, the playground is snow covered, an ozone warning has been issued, or the temperature is over 90 degrees or below 25 degrees Fahrenheit. The teachers rely on the Director or Assistant director to make the decision whether or not the weather is suitable for outdoor play. When it is too wet to use the playground, the teachers are sometimes permitted to take their classes on walks through the adjoining neighborhood. Each classroom has a daily, 45-minute playground session scheduled in the morning and a 30-minute session in the afternoon. The teachers do not have the flexibility to take children outside other than their scheduled times, due to the use of the other classes. During each of these set outdoor play sessions, the teacher, assistant teacher and the class are alone on the playground.
Parents occasionally enter the playground at the end of the day if their child’s class is outside during pick-up time. The director often attaches an article to the parent newsletter, and occasionally the topic is outdoor play. A unique aspect of Site 1 is that all of the classrooms and playgrounds at the center are equipped with video cameras, allowing the parents to watch their child (or their class) from an electronic device through the Parent Communication Portal. One teacher mentioned that a parent recently commented that they saw their child was having a great time on the playground and they were really excited to see this.

All three of the teachers interviewed mentioned that the children like to sit on the climber platform or under climber when on the playground. Riding the tricycles is also popular. The teachers felt that the children need more to do on the playground, and that more space and a bike path away from the climbing equipment would be helpful. One teacher mentioned wanting more nature, including trees for shade and gardening space, and two teachers thought that swings should be added, although there was a concern about the safety of swings.

Figure 1. Site 1 playground set 
Figure 2. Site 1 xylophones and drums
Site 1 participants. The three participants at Site 1 are in the 18-27 age range, and each has taught at this location for one year. They each stressed supervision of the children as their main responsibility when on the playground, and carried a backpack containing first aid supplies and the children’s contact information during the time their class was outside. The teachers will be named Jane, Liz and Mary for confidentiality purposes.

Jane. Jane is the lead teacher of 3 and 4 year olds and recently completed the Child Development Associate (CDA) certificate. She was on maternity leave over the winter months after the birth of her first baby. She shared that she “knows kids and how outside . . . helps to get their energy out and run around.” Her CDA classes taught her about different types of play and how being outside helps to develop gross motor skills, and she believes these classes had the greatest influence on her beliefs about outdoor play. She noted that the lesson plan sheets that teachers are required to complete for each week do not include a category for outdoor play, but she tries to add outdoor learning activities to the scheduled class playground time. One example she gave occurred during a month long unit on exercise and healthy eating. She provided
activities such as hopscotch, an obstacle course and sidewalk chalk. Although Jane views supervision as her main responsibility, she believes that “having things to do outside keeps them from getting in trouble”. During the observed outdoor play time, Jane supervised by rotating children on the tricycles, reprimanding a boy who was chasing a girl riding the tricycle, comforting a girl who was under the music stand crying, and reminding a pair of boys not to hang from the ball nets. When asked why children should have outdoor playtime, Jane answered that “it helps them develop” and “it’s just something that makes them happy”. She also shared, “that’s my job, to make the kids happy”.

**Liz.** Liz is the lead teacher of 4 and 5 year olds and has a Bachelor’s degree in Elementary Education. She has been teaching preschool for 3 years and this is her first year at this site. She stated that her beliefs on outdoor play have come from her college classes, especially one focused on play. Liz shared that working in a childcare setting has not influenced her beliefs on outdoor play, “because a lot of people believe that out on the playground their sole responsibility is watching”. She likes to take her class outside every day, even if only for a short time when the weather is questionable. Liz plans outdoor activities for most days that correspond to the theme for the week. When I observed, her class was learning about elephants and she created an elephant foot print hop-scotch game on the side walk. Liz believes her number one responsibility is safety, but she also likes to facilitate learning. During her playground observation she facilitated small group activity by drawing with several children with sidewalk chalk. She rotated around the playground to interact with a variety of children and assisted a child with playing ‘Mary Had a Little Lamb’ on the xylophone. Occasionally her class is on the playground with another class and she is frustrated when the teachers from the other class stand and talk to one another, causing her to be responsible to redirect children and supervise rather
than facilitate play. She stated, “A lot of them (teachers) aren’t educated and some of them stand beside each other and are more concerned with chit-chatting. So if I have a good group with me and I know that they’re (the children) being watched, then I can facilitate play.”

**Mary.** Mary is the lead teacher for a class of 3 and 4 year olds and has earned a CDA certificate. She has been teaching at Site 1 for one year and has an 11 month old baby. Mary shared that at the childcare center where she previously worked, outdoor playtime was not emphasized. She feels that it is emphasized at this center and teachers are encouraged to plan optional activities for the outdoor playtime. She takes her class outside during her scheduled outdoor time as much as she can, even if she has to go outside and wipe off the equipment after a rainstorm. On rainy days, she and her assistant teacher plan physical activities for the children to do inside, like yoga and balancing on a balance beam.

Mary believes that her beliefs on outdoor play originated from taking the CDA classes, especially from using the ECERS-R, (Harms et al., 2005). She had to rate her outdoor play time using the ECERS-R tool. Although this childcare center does not take children outside in the snow, Mary commented that if it were up to her, parents would send in snowsuits and the children would go outside to play in the snow. She regularly plans for outdoor activity, although it is not required by her Director. She writes her plans on the bottom of the lesson sheet in the space marked ‘PM activity’. Examples of activities include ‘Duck, Duck Goose’ and ‘Simon Says’. Twice a week she plans an activity that goes along with the theme of the week. During the upcoming ‘Ocean and Water’ week, she plans to write the numerals 1 to 10 on a plastic shower curtain and have the children use a water spray bottle to spray the numeral with the corresponding number of sprays. According to Mary, when the teachers need supplies to use for
outdoor activities, they simply add the items to the supply list that they give to the Assistant Director each week. She was encouraged that she usually receives the supplies that she requests.

Mary also believes that supervision is the main responsibility for teachers when on the playground. In addition to supervision, she also tries to encourage all of the children to be involved in play. She agrees that the playground should be an extension of the classroom, as an environment for learning, but added, “I don’t feel like, as a center, that we go by that philosophy; but I know individual teachers do”. She added that it is important to follow the interests of the children and allow them free choice on the playground. She feels that it’s important to plan activities, but just as important to “allow them to do whatever they want to do”.

**Site 2**

Site 2 is a small childcare center located on the site of a retirement community in central Pennsylvania and has been in operation since 1986. The childcare center serves 36 children, ages 6 weeks to 5 years. Twenty of the children are enrolled in the preschool classroom, either part-time or full-time. Two head teachers share the weekly teaching schedule for this preschool classroom, and a full time assistant teacher is in the classroom each day. This site is recognized as a Pennsylvania Keystone STARS, STAR 4 program and has been NAEYC accredited for several years. This site was chosen for my study because of the manufactured and natural affordances of the playground.

In the center of this large, 15,900 square foot space, surrounded by a natural, wooden fence, is a play area with an embedded, wooden playset. This playset includes a climbing wall, two slides, a set of swings, and a ladder and stairs leading to two separate shaded platforms with higher and lower decks. This playground surface is covered with rubber tire chips, and this area
also includes two, smaller ‘stand alone’ sliding boards, a metal car structure for pretend play, several rubber tires, and tree stools for balancing (Figure 5).

Adjacent to this embedded area is a large, walk-in sandbox with two child-height tables and two containers of plastic tools for sand play. A flat, asphalt bike path circles around the perimeter of the playground. The area outside of the chipped safety surface is covered in grass and vegetation (Figure 6). The emphasis on nature is evident with a variety of flowers, trees and shrubs, in addition to several garden plots. On one of my playground observations, I noticed a rabbit hiding in the grassy area behind the man-made hill with a sliding board (Figure 7).

Additional affordances include a wooden, child-sized playhouse, complete with seating areas, a variety of books, and bins of manipulatives, including play dishes, trucks, blocks, baby dolls and bug catchers. Another space on the perimeter of the playground includes a bamboo frame ‘tee-pee’ with a fire pit and logs for seating (Figure 8). Adjacent to this area is a red row boat embedded in mulch and three tin buckets, turned upside down and used with mallets for making music. Child-sized picnic tables, chairs and wooden benches are scattered through the area, as well as benches and chairs suitable for adults.

The preschool children enter the playground through an outside door, located in the hallway of their basement level classroom, that leads to a concrete patio and the playground used by the toddlers. The teachers reported that the patio area is sometimes used by the preschoolers for special projects and activities. To get to the preschool playground, the children follow their teacher up the wooden stairs, through a wooden gate in the fence, to reach their fenced in playground that is adjacent to the ground level of the building. For the preschoolers, a one hour outdoor playtime is scheduled in the morning, and a 45 minute time is scheduled for the afternoon. According to the parent handbook and teacher interviews, children go outside most
days, including the winter months. Their outdoor playtimes are flexible; therefore if the weather is expected to be too hot or rainy later in the morning, they will go out earlier. The teachers reported that they sometimes take the children outside at times other than their scheduled playground times, when integrating the outdoors into the curriculum, such as their gardening projects. Parents are expected to provide winter outerwear, including boots for playing in the snow. Children are not allowed to wear sandals, or open-toed shoes to allow for safe, active play on the playground.

A unique aspect of this site is that the parents were very involved in the development of the playground. During an interview, a teacher explained how several years ago a parent meeting was held, where the parents and teachers brainstormed ideas for improving the playground. The idea for the bamboo teepee came from this meeting. Parents harvested the bamboo from a family farm and a teacher’s husband created the teepee. Another parent brought the unused row boat from home; it was painted, and added to the playground. Rocks and logs were also donated by parents.

Another unique aspect of Site 2 is the intergenerational programming that occurs with the residents of the retirement home. The children are welcomed to be involved in many activities planned for the residents and vice versa. Sometimes activities are intentionally planned for both generations to be involved. Examples include visits from alpacas, Clydesdale horses, a Thanksgiving meal with residents, and a Christmas program. The children can take walks with their teacher on the well-manicured grounds of the retirement home, and to the local park.

The teachers at Site 2 like the natural areas of their playground, but wish there was more open space for children to simply run around or play organized games and not interfere with the children riding on the bike path. Gardening is a big theme on this playground and the teachers
share the director’s vision for providing children with nature experiences. They are looking forward to when the newly planted trees grow to provide more shade, and to replacing the few remaining plastic elements with natural ones.

*Figure 5. Site 2 playground set*

*Figure 6. Site 2 sandbox, gardens and bike trail*

*Figure 7. Site 2 hill with sliding board*

*Figure 8. Site 2 bamboo tee-pee and fire pit*
Site 2 participants. The three teachers interviewed at Site 2 share the teaching load of the single preschool class. The teacher participants will be called Beth, JoAnn, and Megan for confidentiality purposes. JoAnn and Megan are the lead teachers and job share the morning hours. Beth was hired as long-term substitute teacher, because the regular assistant teacher is on an extended leave due to the chronic illness of her husband. Beth works full-time as an assistant teacher in the morning and leads the group in the afternoon. Beth is the only assistant teacher included in this study, and was included because of the unexpected absence of the third regular teacher.

Beth. Beth has an Associate’s degree in Elementary Education and is currently taking classes to earn a Bachelor’s degree. She is in the 18-27 age range and has worked at Site 2 for one year. This is the second center where she has worked and mentioned that there are many more open-ended activities available for outdoor play at this center as compared to her previous experience.

Beth does not remember ever having a course related to outdoor play and shared that her beliefs have come from simply working with children. When I observed her on the playground she followed a child into the storage shed to find out what he wanted. He asked about the baseball bats, so she got two bats from the shed and included another boy who was not involved in activity to join them in hitting baseballs. She believes that safety is the most important part of her role on the playground, but then after safety, it’s guiding the children in making decisions, and to expand their learning. She usually keeps the shed open when she is on the playground and allows the children to get the loose parts for the activities that they would like to use for that day. Beth emphasized her belief that each child is unique and while some need time to run and
expend energy on the playground, others are more interested in more structured activities. She believes that the teacher needs to allow for both types of play during the outdoor time.

**Megan.** Megan is in the 50+ age range and has been a preschool teacher at Site 2 for 24 years. She is a lead teacher in the preschool classroom. Megan has a Bachelor’s degree in Child and Family Service and has taken a few workshops on outdoor play. She shared that most of her beliefs on outdoor play have come from her own childhood experiences, and being allowed to go outside to “climb and explore and discover and build and play”. She shared that the center director has also provided a strong influence on her beliefs. She believes her job on the playground is to keep the children safe and then to facilitate learning. Megan occasionally plans for the outdoor playtime, such as planting the garden, but in general, she, along with the other teachers at Site 2 feel that this is free time for the children to decide what they want to do. During Megan’s playground observation, she noticed a child was scooping up a ball with a bug net and she asked if he would like to try lacrosse. When the child agreed, she went to the toddler playground and found small lacrosse sticks and showed the child how to use it with the ball.

**JoAnn.** JoAnn is the additional lead teacher in the preschool classroom, and holds a Child Development Associate certificate. She is in the 50+ age range and has taught at Site 2 for 19 years. JoAnn shared that many of her beliefs on outdoor play have come from her childhood experiences spending all day outside, building forts and playing in the creek in her backyard. Also, she learned about outdoor play by taking the CDA courses, and additional workshops.

JoAnn has a deep interest in gardening and reads anything she can from NAEYC about gardening with children. During the interview she excitedly shared about the tomatoes, watermelon, cucumbers, peppers and beans that the children planted in the garden areas. Another of JoAnn’s focuses is modeling a respect for living things. I observed JoAnn reminding a child
not to pull the leaves off of a tree because it is a living thing. She also shared that she encourages children not to step on bugs to kill them, but to observe them and to keep them in their habitat. She sees her role on the playground as keeping children safe and also to facilitate learning and allow the children the freedom to plan their playground activity. She plans the environment for the children to explore, but only occasionally plans specific outdoor activities such as a pretend fair, and sports activities.

Site 3

Site 3 is a private elementary school in central Pennsylvania which offers programs for 215 students in preschool through 8th grade. The school has been in operation since 1971, and was started by a group of parents as an alternative to public education. The current building was completed in 2004, and received national recognition for its design, construction and operation as a ‘green’ building. The preschool students are divided between four classes, and attend morning only or full-day, with a maximum of 15 children in each class. Each class is led by a teacher and an assistant teacher. This site is recognized as the program with longest history of NAEYC accreditation in the area. This site was chosen for my study because of the mostly natural affordances of the playground. From the beginning, the school directors emphasized learning about nature and the environment through active play and exploration on the large, 14 acre wooded campus, which has been recognized as a National Wildlife Federation Schoolyard Habitat. Although the entire campus consists of 14 acres, the main outdoor play space is approximately one acre, and is surrounded by a metal fence. The preschool classrooms open directly to the playground and the full day classes go outside twice a day, for 30 minutes in the morning and 30 minutes in the afternoon. Teachers have flexibility with when they use the playground, and are able to use the playground at times other than their regularly scheduled time.
Parents are expected to dress their children to go outside in the winter and snowy weather with hats, mittens and boots. Extreme temperatures and rain are the key conditions that would keep children inside.

Affordances on the Site #3 playground include individual classroom vegetable gardens (Figure 9) and flower gardens that the preschool children help to maintain. Several of the preschool classrooms created bird feeding stations that can be observed from the low classroom windows. The large open, grassy space at the center of the playground allows for group games and active play. Along the perimeter of the playground is a large walk-in sandbox, an embedded swing set, a climbing apparatus with a sliding board and a climbing tunnel (Figure 10). According to the teachers interviewed, the most popular piece of equipment on the playground is the giant tire swing, connected to the branch of a large tree (Figure 11). To comply with licensing regulations, the school attached a giant rubber cushion to the side of the tree to prevent injuries when the tire swings back against the tree. This area is supervised by a teacher at all times.

Although there is no bike path on the playground, preschool children may use a small parking area to ride tricycles when an adult is present. Cones are put in place to keep cars away from the area. The tricycles are kept inside and according to teacher interviews, most bike riding actually takes place inside the school in the hallway, due to the planning and supervision required when using the parking area.

A unique aspect of this school is the parent involvement. The handbook states that all of the parents are Trustees of the school and must sign a contract for 10 hours of volunteerism per year. Helping maintain the school grounds is part of this level of commitment on the part of the
parents. Another unique aspect of the outdoor environment is the environmental trail, designed by teachers and students, and accessible from the playground. More than thirty trail stops along this wooded trail point out local flora and fauna, and information about the local watershed (Figure 12). Preschool students have access to this trail when led by a teacher. One teacher told me that she does not allow her class to go into the woods because of the poison ivy; the other two teachers reported that they do take their classes on walks in the woods.

All three teachers agreed that natural affordances are what they like the most about their playground. Two mentioned that they would like to have a bike trail where children could ride tricycles on the playground and one mentioned that more shade on the main area of the playground would be nice. A pergola is being constructed in the near future to provide more shaded outdoor learning space. Two of the teachers would like to have a musical element added to the outdoor space.

Figure 9. Site 3 classroom gardens

Figure 10. Site 3 swings and sand area
**Site 3 participants.** The three teacher participants from Site 3 will be called Lauren, Grace and Carrie for confidentiality purposes. Each of the teacher participants is a lead preschool teacher in one of the four preschool classes at Site 3. Lauren and Grace teach in full day childcare classrooms and Carrie teaches in class where children attend half-day.

**Lauren.** Lauren has a Bachelor’s degree in Elementary Education, but started her college career on an environmental track. She finds it interesting that she is now teaching preschool with a focus on environmental education. She is in the 39 – 49 age range and has been a lead preschool teacher at Site 3 for four years. Lauren became interested in teaching at this school after she enrolled her daughter. Currently, her daughter and son both attend the school.

Lauren’s degree did not include courses that discussed outdoor play, and she has not attended workshops on the topic. She attributes her beliefs and practice on her experiences playing outdoors as a child, and on her experience teaching at Site 3. At the beginning of each school year, she informs parents in a newsletter, that she enjoys the outdoors and will take children outside for learning activities at times other than recess. She tries to take her class outside each day, at least for a short time, even in light rain or snow. She typically uses their scheduled outdoor time for unstructured play, where the children can choose what they want to
do. She sees “keeping everyone safe and accounted for” as her main role as a teacher, and then she tries to facilitate learning as situations arise. Lauren shared that she likes to take her class on the trails in the woods to make observations of the environment. One activity took place in the fall, when her class dumped the remains from carving pumpkins along the trail and then came back a few weeks later to observe how the natural material decomposed over time.

**Grace.** Grace has a Bachelor’s degree in Elementary Education and has been teaching preschool for over twenty years. This is her first year at Site 3 and she is currently a long-term substitute teacher. She is looking forward to being hired as a full time teacher starting next year. She is in the 39–49 age range and has a son that attends the school.

Grace stated that she did not learn about the importance of outdoor play in her college education, but developed her beliefs throughout her twenty plus years of teaching young children. She came to this location from an urban school with an asphalt covered playground and a few embedded pieces of equipment. She added lots of loose parts to the playground at this previous site, but she is noticing that the children at Site 3 are not as interested in the loose parts. Grace thinks it’s because the playground offers so many other affordances. She occasionally plans activities for the outdoor time, but usually prefers this time to be more child directed.

Grace views her primary role on the playground as supervision, and sees this as a challenge at times because of the large space. She does not take her class on walks in the woods because of the poison ivy along the path. She facilitates learning as situations arise, such as when I observed her scaffolding the children who were concerned that the water runoff from the playground cover would cause a flood. With her encouragement, the children built dams with the sand and honeysuckle flowers (picked from the vines along the playground fence) to control the path of the water.
**Carrie.** Carrie started teaching at Site 3 thirty-one years ago, soon after she completed her Bachelor’s degree in Elementary education. She is in the 50+ age range and is the lead teacher for a group of older 2 and 3-year-old children who attend the school for half days. She plans for approximately 30 minutes of outdoor time each morning. Many of her beliefs related to outdoor play have come from her childhood experiences. After student teaching in schools with more traditional playground environments, she was hired at Site 3, where 30 years ago, children were free to move in and out of the classroom as they wished. Working within this open philosophy has had the biggest impact on her beliefs and practices.

She believes that it’s not just important for children to get exercise outside, but learning experiences in nature are just as important. When her group traveled outside during my observation, they stopped to look at their garden and a bird feeder that they constructed outside their classroom window. She was observed pointing to a robin, sitting under the climber, for the children to observe. She typically plans activities for the outdoor environment related to the themes for the classroom, but keeps her plans very flexible in order to follow the children’s interests and activity level.

**Results**

Next I will report on the results of the cross-case data analysis, where I examined the three cases to determine common themes and differences between the cases (Stake, 2006; Yin, 2009). From the cross-case analysis of the data, the major themes that were repeated across the three sites or cases fit into the a priori themes identified from the research questions and review of literature. The a priori themes were: (a) teacher beliefs, (b) planning for the outdoors, (c) role of teacher on the playground, and (d) playground affordances. Subcategories emerged from these overall themes as a product of triangulating the data from the playground observations,
interviews and documents collected in this study. In the following section, I describe the themes that emerged from the cross-case analysis and present them in the framework of the four research questions.

**Research Question 1:** How do early care and education teachers describe their beliefs and perceptions of outdoor play practices?

**Value of Outdoor Play**

When responding to the interview questions, all of the participants highlighted the value they placed on outdoor play. Motivation to provide outdoor play was strong across all cases. The provision of outdoor play on a regular basis, both morning and afternoon, was reported and observed across all sources of data: teacher interviews, observations and documents, including written daily schedules. All three sites are NAEYC accredited and this research found that all three sites are following or going above the one hour a day recommendation set by NAEYC criteria for high quality programs (NAEYC, 2014).

When asked about the most important reason to have children play outside, Jane (S1) responded, “I mean, it helps them develop. But they just enjoy it. I don’t know. It’s just something that makes them happy, so, that’s usually my job, to make the kids happy.” Carrie (S3) talked about the importance of integrating the outdoors into the daily life of the students, a key topic when the teachers met to plan their new school building. She said,

And nature’s a big tie-in at our school. And when we planned this building, part of the input that we all got to give was -- like a real general consensus was you wanted a place where you could go in and out. And I’m lucky enough that I have one of these doors where we can go in and out. And that there would be windows, and there would be air coming in, and we would have places for gardening, and, you know, doing other things.
According to Joann (S2), many parents decide to send their children to Site 2 because of the playground and the emphasis on outdoor play. She said, “They’re told right from the beginning that, you know, probably outdoor play is valued as much here as the indoor class instruction or any of the other components of the center”. Many teachers were influenced to value outdoor play by working in a center that placed such high emphasis on it. I will discuss this in a later section on teaching environments.

**Childhood experiences.** Several teachers shared childhood experiences as the most dominant influence of why they believe outdoor play is so important for young children. They talked about going outside in the morning, playing all day with neighborhood friends in forts, creeks and tree houses, and not coming back inside until it was time for dinner. Megan (S2) excitedly shared,

> I mean, mom would open the doors up at 8:00 in the morning, you went outside and played, and, you know, you used your imagination. You were discovering out under the trees. You were playing. It was just -- I equate good, happy memories with being outside, being young.

It is interesting to note that the teachers who expressed these sentiments were all over age fifty. These older teachers, who had fond memories of playing freely outdoors as children, also shared that they did not recall learning about the importance of and how to facilitate outdoor play in their teacher preparation courses in college.

**Educational background.** Kelly (S2), still in her 20s and currently taking classes for a bachelor’s degree and PreK-4 teacher certification, agreed that she has not had coursework related to outdoor play. Liz (S1), a younger teacher with a bachelor’s degree, indicated that she did learn about “facilitating play not only inside the classroom but outside” in one of her early
childhood courses. Other younger teachers recalled learning about incorporating outdoor play in their Child Development Associate (CDA) classes. Mary (S1), a teacher in her mid-20s, shared that she didn’t think about the importance of getting children outdoors until she started the CDA classes. One of her assignments was to complete an Early Childhood Environmental Rating Scale (ECER-S) assessment on her classroom, including the playground. It included a section on developmentally appropriate playground equipment and the teacher’s role. She commented, “So that’s when I first started really thinking about outdoor time. And then there’s some other stuff that our teacher was telling us about. So it pretty much comes from doing my CDA.” Jane (S1) agreed that she learned about outdoor play in her CDA class, especially how it “helps them develop (gross motor skills) by playing outside.”

**Teaching environments.** Many of the teacher’s beliefs and perceptions of outdoor play were influenced by their current or past teaching environments. Several teachers shared experiences from working at centers where outdoor play was not emphasized. Mary (S1) talked about how she works with teachers who have worked previously at other centers and if they are not encouraged to plan for the outdoor time, then “they don’t think about anything else to do outside besides letting them play on the climbers, or ride bikes or play with balls.” All of the teachers at Site 3 shared stories about working in other locations and how their current views on outdoor play have been influenced by the natural environment on their playground. Megan (S2) talked about her director being a very strong influence on her beliefs. She commented, “She (the director) loves nature. She loves the natural playgrounds and the discovering and the exploration; like our teepee that’s outside is bamboo.”
Purpose of Outdoor Play

Two teachers from Site 1 commented that it is important for children to play outside to release energy. Jane (S1) commented that “I mean, everybody likes to go outside. It helps, you know, get their energy out and run around.” Mary (S1) added, “If it’s raining all day and they don’t get to go outside, you can see that them not getting out and getting all their energy out is not good, especially with our kids.”

Other teachers agreed that children sometimes need to run around and ‘use up energy’ on the playground, but pointed out that they should have activities and tools to use to direct their energies. Teachers from all three sites commented on including outdoor activities in the curriculum, and learning in the outdoor environment was mentioned across the websites. On a page describing the curriculum for preschoolers, the website for Site1 states that children “will have the opportunity to discover in our learning centers, as well as outside on our age-appropriate playground.” Ellen (S1) shared both sentiments when she said,

I do believe that they need to go outside and get some of their energy (out). Especially in the winter months when it’s cold, or if we have a day where it’s just soaking wet and we can’t go outside because it’s pouring, you definitely can see a change in the child’s behavior. But a lot of times then I’ll make something active for them to do inside. The other day it was raining so one of the kids said, “Hey, can we make indoor hopscotch?” And I was like, “Sure. That’s a great idea.” So I do try to find something gross motor for them to do outside, simply because I am a firm believer that they need gross-motor time every day. But also, at the same time, I do like it to relate to the classroom, too, because it’s still school. It’s still a learning environment. Just because it’s outside doesn’t mean
that we can’t learn and do the same activities. So I do find myself doing activities that relate to the theme that we can talk about things that we’ve been learning outside, too. Laura (S3) has an interest in environmental education and felt that by encouraging her students to interact with nature, she can teach them about caring for the environment. She said, “So I think that using outdoor play to just develop this love for nature and why it’s important to take care of earth. So that’s another tool that I use for when we’re outside.”

Gardening is a popular activity during the summer months at Sites 2 and 3. The teachers incorporate all areas of the curriculum into gardening as the children count and plant the seeds, water the plants, observe growth and eat the produce for snack. The teachers at both sites were observed checking the gardens with the children who were interested.

Research Question 2: How do early care and education teachers plan for outdoor play as a part of their preschool curriculum?

Planning for the Outdoors

None of the teacher participants are required to include specific activity plans for outdoor play on their daily lesson guides. The director from Site 1 reported that her teachers are encouraged, but not required to plan optional activities for outdoor time. All three of the teachers at Site 1 stated that they plan an optional playground activity, related to the curricular theme, for at least two days a week. For example, Mary (S1) explained,

Next week we’re talking about the ocean and water. We found this activity where you take a shower curtain, a cleaner one, and then you put it outside and you write numbers, maybe 1 through 10, and you get a spray water bottle and they have to look at the number and spray how many times that number is.
Jane (S1) added that she plans outdoor activities as part of her curriculum, but these activities can only take place during their scheduled outdoor play time, because of the limited space on the playground. She explained, “We do have activities that we have to do for planning, and they’re outside. Like we do it during outside time, but not like additionally, because we can’t really, just because everybody else is out there.”

The teachers at Sites 2 and 3 took their classes outside for planned activities at times other than their scheduled outdoor time. Outdoor time at these centers was typically dedicated to independent free play, according to the children’s interests. Carrie (S3) explained this thought when she said, “. . . like that day that we did the mud puddle paint, we went out and did that together. But then we also still went out and had just playground time later, you know. That wasn’t our only time that we went out during the day.”

At Site 2, planned activities during outside time included water days, sports activities during a related theme, caring for the gardens, and an annual outdoor fair to coincide with the local community fair.

**Allow for independent play.** Most of the teachers interviewed believed that it was important for children to be independent in their play on the playground, without interference from the teacher. Joann (S2) said that planned activity and independence are both important. She added,

I guess I would say it’s not an either/or, it’s both/and, you know. You know, sometimes it might be more structured, the unit, and there’s an interest in that. You know, something more like games, you know, like sporting events. And sometimes they’ll come up with the idea to make it competitive, and I wouldn’t totally dissuade them from doing that. If they want to make first place ribbons—I try to take my lead from what
they’re interested in doing, you know. So I’d say I would fall maybe more towards—not that it’d be just considered just an energy burn-off thing, but that they have freedom.

Mary (S1) put it this way:

Sometimes we will have stuff to do and then sometimes we’ll just let the kids run out their energy. Do whatever they want to do that day. So like—because I feel like, if you had something planned every time they went outside, they would just feel like their whole day’s planned and they don’t get to do anything that they want to do.

I observed both independent play and teacher facilitated play during my observations at the three sites. There was evidence of teachers following the interests of the children at all three sites. At two of the sites, playground visits occurred after a rainy day when the children did not have their outdoor play time. I observed more interest in large motor play, climbing on the equipment and riding tricycles, on these days. This observation, in addition to teacher feedback, supports the idea that there are times when children need to expend more energy on the playground.

**Planning for all areas of the curriculum.** Domain 4 of the POEMS (DeBordet et al., 2005) assessment tool, used in the focused observations, measures the outdoor classroom as an extension of the indoor classroom, to promote all areas of child development. To score well in this domain, the assessor needs to observe evidence of the arts, math/science, and language activities available for children during any given day. According to my observations, this domain scored the lowest for all three of the research sites. While several teachers planned optional activities for children during the outdoor time, the curricular areas of art, drama, music, math, and specific language activities were not observed on the day of my focused observation. However, many teachers shared planned activity ideas that incorporated additional areas of the curriculum. Grace (S3) explained,
If we’re doing like a math activity, like we would go out and collect like acorn stems. We did stuff with seeds. And we found some seeds that we planted, milkweed and stuff. So anything like that. Like, you know, and like we did things where we counted. And we were doing counting with acorns when we were looking about and collecting nuts. And they did all kinds of stuff with their acorns. And we made games and (used) anything like rocks, sticks, so.

Figure 13 illustrates the percentages of items present for each domain on the POEMS assessment for each of the three research sites.

![Figure 13](attachment:image.png)

**Figure 13.** Bar graph displaying results of the POEMS assessment, based on a 100-point scale.

**Schedules.** All of the teacher participants scheduled regular outdoor play time for their classrooms. Because of the larger number of classes and the smaller playground, the teachers at Site 1 carefully follow their scheduled outdoor play times. As previously mentioned, many of the teachers from Sites 2 and 3 use the playground for structured learning activities at times other than their planned outdoor time. Outdoor times were flexible and were described as more of a
‘recess’ time, where children independently made decisions about how to play on the playground. All of the teachers at Site 3 talked about this flexibility, for example, Grace (S3) explained her outdoor schedule this way:

Typically, on the schedule, as they have it established, is 11:30 to noon, which is a half an hour, in the morning. And then, in the afternoon, we go out again, about twenty of two, till about a quarter after. But I will tell you that, depending on the day, we might go out earlier. Depending on the day, we might stay out later.

Policies and regulations. There was a difference in philosophy between the sites according to whether children went outdoors in inclement weather. All of the sites generally followed The Pennsylvania Early Learning Keys to Quality (www.pakeys.org) position statement says that children are expected to go outside when the forecast temperature and wind chill is above 25 degrees F, and there is no precipitation falling. Illustrating one side of the spectrum of beliefs, Megan (S2) commented,

I have to say, though, we try, even in the extreme situations. If it’s very cold and windy out still, and it might be below, as long as it’s not harming the children and they’re bundled up and they have all their gear on, we’ll go out on the patio. Or we’ll go out for a 15-minute walk and come back in. Just so that they’re outside and they get that fresh air. I just think that’s so important. And in the summertime, if it’s over 98, we try to go out early in the morning. Or, if we’re doing water play and they have water to drink, you know—we’re looking out for their best interest.

The teachers from Site 3 commented on providing extra hats, mittens, boots and snow pants for children so that they could go outside in the snow and cold weather. Grace (3): “most of our children come equipped with the clothing that they need to go out and enjoy it, in most any kind
of weather.” The parent handbook from Site 2 included a statement on children needing warm outerwear because they will go outside to play throughout the winter months.

The teachers interviewed from Site 1 shared that they follow the temperature guidelines, but do not go outside when there is snow on the ground. At Sites 2 and 3, the individual teachers made the decision whether or not to go outside, however, at Site 1 the teachers called the office to find out if it is permissible to go outside according to the weather conditions. Liz (1) said that when the office staff says it is questionable to go outside, it’s up to the teacher to make the decision. She added, “Some teachers choose to stay inside. … But I at least take them out.” All of the teachers from Site 1 concurred that they do not go outside when there is snow on the ground.

**Research Question 3:** What behaviors do early care and education teachers exhibit when on the playground with their students?

**Supervision**

All of the teachers interviewed reported that their main responsibility on the playground was the supervision of the children. This priority was also highlighted in the documents, specifically in the policies for teachers. All of the sites follow written teacher guidelines for supervision when on the playground. Specific supervision guidelines include positioning your body so you can see the children, counting the children when leaving one area and entering another, and never leaving a child unsupervised. Teachers need to provide greater supervision to the high risk play equipment, like climbers, slides and swings. Supervision was evident during the observations as teachers were overheard reminding children to “keep the tools in the sand”, “add the stick to the campfire”, “no monsters” and “you need to walk on the sidewalk; you can run in the grass”. Mary (S1) explained her focus on supervision this way:
Standing in the right spots so you can see everything. Like, if there’s two of us out there, we shouldn’t be standing next to each other. We should be at opposite sides. That, and I find what I’m doing most when I’m outside is, if there’s a kid --like we have one that just sits on the bench and he doesn’t go and play. And I’m always encouraging him to get up and go play with the kids or play with the ball or ride a bike. And kind of like keep them busy. Because I know, in the winter time, when we can’t get out the bikes, and the balls, or anything, because there’s snow in the grass, they get bored. And you have to encourage them to do things. And then that’s when you have to, as a teacher, do the extra steps to find stuff to help them not be bored outside.

Beth (S2) echoed the thoughts of most teachers participants when she describes the teacher’s role as “encouraging them to do what they want to do, but don’t be like hovering over them trying to make decisions for them . . . . Yeah, I think safety is probably the most important element, and then just guide them.”

During the observation, a few of the teachers were highly focused on supervision, which was generally the case at Site 1 on the manufactured playground. Jane said,

Sometimes I spend too much time, you know, getting them to do the correct thing, and I don’t have time to, you know, go and help, you know, play with other kids. I spend too much time worrying about the kids that are going down face first on the slide, or hitting each other.

**Scaffolding Learning**

Although all the teachers responded that supervision was their main responsibility, many felt strongly that they also need to be interacting with the children. Liz (S1) was concerned about the lack of knowledge that many teachers have in the area of scaffolding children’s
learning on the playground. She stated, “A lot of people (working in childcare) believe that out on the playground their sole responsibility is watching. And from college classes I learned you need to be interacting and still facilitating learning.” Domain 2 of the POEMS assessment measures the teacher’s interactions. The assessment states, “By following the children’s lead, adults will notice when children want to explore and learn about their surroundings. Active participation, by asking open-ended questions, can help lead children’s development” (DeBord et al., 2005, p.12). All of the teachers at Sites 2 and 3 were observed following the child’s lead and interacting for the intention of supporting children’s learning on the playground. For example, Megan (S2) extended a child’s interest in lacrosse by borrowing a child sized lacrosse stick from the toddler room for him to use instead of the bug net that he was using to carry the ball. Grace (S3) scaffolded the children’s problem solving skills as they created a dam for the run-off water in the sandbox after she removed the cover, filled with rain water from the overnight storm. JoAnn (S2) explained her focus on scaffolding by saying,

So, as far as the major role, I would see myself as facilitating what they want to do.
Making their ideas possible for them and maybe suggesting material to them, if they’re looking for an idea, or just giving them access to the material. And then asking a lot of how and why questions, open-ended questions. You know, what they might have learned from doing it. Or, you know, make a prediction about something.

**Research Question 4:** How do the affordances of the playground environment influence teachers’ perceptions and practice?

**Playground Affordances**

One of the key elements of this research study was to compare teacher beliefs and perceptions of outdoor play across diverse playground environments. Each playground in this
study provided children with a very different set of affordances, which are detailed earlier in this chapter. The key themes under this topic were the addition of loose parts, safety, and the ideal playground.

**Loose parts.** Loose parts are materials that can be synthetic or natural, but are open-ended and can be moved and arranged as children choose (Nicholson, 1973). Other than the tricycles and balls stored in the small playground shed, I observed no loose parts, or extra toys on the playground of Site 1, other than the sidewalk chalk that Liz (S1) brought to the playground with her. During the Site 1 interviews, teachers told me that it was against center policy to take indoor materials, such as books and blocks, outside. There seemed to be a concern that these items would get dirty and need to be washed when brought back inside. Teachers are able to request items for specific outside projects to be purchased and usually receive their requests, if the items are not too costly.

The playground at Site 2 included a large shed filled with a variety of materials or loose parts where children can enter and help themselves with teacher supervision. Megan (S2) explained,

> You know, they’re allowed to go in the shed. If they want the bikes, they can have the bikes. If they want the balls, they get the balls out. There’s fishing rods that go to that boat. They asked me to get the butterfly nets out today. We didn’t have to water the garden today, because it obviously poured last night. But I was wishing you’d be here when the tomatoes are on. Oh, my god . . . they’re over there and they’re picking them and they’re eating them . . . . So they’re learning so much.

At Site 3 sand toys remain on the playground and a variety of manufactured loose parts such as hoops, balls, scarves, and musical instruments are kept on a cart inside the multi-purpose area.
Tricycles are also kept in that indoor area and are only available when the whole class uses the blacktop area by the parking lot for outdoor play. Because of all the vegetation at Sites 2 and 3, natural loose parts are available for play, such as sticks, acorns, mulch and leaves. Grace (S3) commented that she was previously employed at an urban school which had a small empty blacktop area for a playground. She carted a variety of loose parts to the playground each day. In her new position at Site 3, she has noticed that the children often do not choose to play with the additional materials when she offers them, but prefer to play on the equipment and in the sandbox.

**Safety and affordances.** Many of the teachers from Sites 2 and 3 echoed concerns about increased safety regulations for children in childcare. Carrie (3) shared,

. . . one of the things that’s been hard for people here is at the school is -- we’ve gotten so much bigger. And then there is so, so much more standards of all the regulations for safety, which have their importance, but also don’t always kind of jive with the philosophy of the school. We’ve had some big wrangling in staff meetings about, you know, what -- how can we be safe but still allow the kids the freedom that we want them to be able to have here?

Specific concerns at Site 3 included the PA Department of Health Services’ (DHS) recent ruling against using wading pools in childcare and the popular tire swing. The swing needs to be justified to the DHS licensor each year, although it is always supervised and a large plastic cushion was attached to the tree to prevent injuries when swinging back against the tree.

The concern at Site 2, according to Megan (S2), was a waterfall with a small pool at the bottom. The shallow pool contained fish, and netting was placed over the pool to prevent accidents. The waterfall was off the patio leading to the playground and when the patio had to
be redone, the waterfall was removed. Megan and Joann both wish they still had the waterfall because the children enjoyed sitting at the top, observing and listening to calming sound of the flowing water. Megan (S2) went on to talk about how the children used to be able to enjoy water play outside in their bare feet, but this year, due to new regulations, they need to wear water shoes for outdoor water play. She commented,

I understand that. But at the same time, you know, it’s just one of those tiny little things that, you know, they’re not enjoying the grass under their feet and, yes, I know you can step on things and you might get hurt, but I just think we put this little ball around our kids sometimes and, you know, we don’t allow them to experience some of that stuff.

Additionally, when asked about how they would change their playground if they could, a teacher at Site 1 felt that climbing bars would be a nice addition to challenge children, but suspected they wouldn’t be approved because (according to her understanding) one-on-one supervision would be required. Swings were also mentioned, but again, this teacher thought that swings would not meet state regulations.

Ideal playground. During the interviews, teachers were asked what they liked most about their playground and about the affordances they would include on an ideal playground. Because the three playgrounds are so diverse, I will summarize the teachers’ responses from each site. All three teachers at Site 1, the manufactured playground, were interested in having a larger playground space that would allow children to run more freely. The teachers liked the grass on their playground and the canopies for shade. A space to ride tricycles, away from the congested play area, and more playground equipment, including swings and a climbing apparatus were provided as suggestions to improve the current playground. Mary (S1) said,
I wouldn’t want to clutter the whole playground with stuff to do, but just more things for them to do other than climbing, because I feel like that’s all they’re doing, or just walking up steps, or just walking around, or running in the grass . . . . because they do get bored.

They’ll just sit under the climber.

My observations concurred; several of the children took turns riding the two tricycles around the track, while most of the others either sat on top or under the platform on the climber, or chased other children in the grass. One of the teachers added an activity with sidewalk chalk to her outdoor time, which engaged many of the children. She did not take the tricycles out of the shed because of the children drawing on the bike path.

At Site 2, the combination playground with manufactured and natural affordances, the teachers all mentioned that they would like to have more open space for children to play games, such as baseball, and to run freely without interfering with the tricycle riders. They are looking forward to eventually having mature shade trees in the active play areas and one teacher mentioned doing away with the remaining plastic equipment and adding logs for climbing. On this playground, I observed children riding bikes, pretending to travel in the row boat, looking for bugs with bug nets, raking in the sand, catching baseballs with a teacher, and ‘roasting marshmallows’ on the ‘campfire’.

The teachers from Site 3, the playground with more natural features, all affirmed their liking for the open grassy areas and the natural wooded area on their playground. Most felt that they had the ideal playground, but when asked about what they would add, a pavilion to house an outdoor learning area was mentioned. Grace (3) shared that children need quiet spaces in outdoor areas too, and a shaded pavilion would allow space for a child to sit and draw or read a book. Two of the teachers wanted to create a music station, and one had an idea for a water play
station with pipes and funnels flowing into an outdoor water table. Finally, Grace (3), who teaches the group of younger children, was interested in a trail for tricycles on the main playground. During my observation visits, I saw children collecting honeysuckle, swinging on the tire swing, building dams in the sandbox, playing on the swings, climber and slide, and running across the grass.

**Summary**

The results from the data collection and analysis for this multiple case study were described in Chapter Four. The study explored teacher’s beliefs and practices of outdoor play at three high quality early care and education programs, with diverse playground environments. After interviewing all participants, conducting observations using the POEMS (DeBord et al., 2005) assessment, and reviewing program documents and web sites, each case was independently analyzed and themes and patterns were recorded. Triangulation of data within each cases and across cases was used to identify themes and subthemes related to teacher beliefs and practices of outdoor play. Social constructivism was the theoretical framework that guided the study along with Ajzen’s (1991) theory of planned behavior.

The cross case analysis produced the following sub-themes that answered the four a priori themes related to the research questions. Research question 1 was related to teacher beliefs. The following categories were identified from this theme: value of outdoor play, childhood experiences, education, teaching environments, and the purpose of outdoor play. Research question 2 examined how teachers plan for outdoor play and the categories of allowing for independent play, planning for all areas of the curriculum, schedules, and policies and regulations were the sub-categories from this theme. Research question 3 explored how teachers perceived their role on the playground, with the categories being supervision and scaffolding
learning. Finally, research question 4 connected to how the affordances on the playground influence beliefs and practice, and the categories included playground affordances, loose parts, safety, and the ideal playground. Each of the themes and categories indicated commonalities between the bounded systems of each individual case.
CHAPTER FIVE: DISCUSSION

Overview

The purpose of this instrumental, multiple case study was to discover the beliefs and practices of outdoor play for early care and education teachers at three different school locations with diverse playground environments. The playground environment at Site 1 featured a manufactured playground set embedded on safety surfacing and a path for tricycles. The Site 2 playground featured a mix of both natural and manufactured affordances, with children’s gardens, and manicured landscaping with flowers, trees and shrubs. A bamboo teepee and a canoe were added to promote dramatic play, in addition to a more traditional, manufactured playground set embedded in chipped rubber, and a tricycle path. Although Site 3 included embedded, stationary swings and climbing equipment, the primary focus of this one acre playground was the fully natural setting with grass, trees, children’s gardens and a nature trail through the 14 acre wooded property. By exploring the beliefs and practices of three teachers from each of the three diverse playground settings, I sought to provide an overall understanding of teacher beliefs and practices of outdoor play, including the factors that influence teacher decision making regarding the outdoor play experience for the young children attending these sites.

In this Chapter, I provide a summary of my findings, based on the four research questions related to teacher beliefs, teacher planning, teacher behaviors on the playground with children, and how the affordances of the individual playgrounds might influence teacher beliefs and practice. I discuss these findings in relation to Vygotsky’s (1978) theory of social constructivism and Ajzen’s (1991) theory of planned behavior, and the review of the literature in Chapter Two. Implications of the findings for various stakeholders, including center directors, teachers,
professional development providers, and higher education professors are included. I conclude the chapter by identifying the limitations of the study and present recommendations for future research.

**Summary of Findings**

This study was guided by four research questions related to teacher beliefs and practices of outdoor play for young children. In this section, I report a summary of the findings of the study, based on the four research questions.

**Research Question 1:** How do early care and education teachers describe their beliefs and perceptions of outdoor play practices?

A review of the interview, observation and document data indicated that all of the teacher participants in the three high quality early care and education centers placed high value on providing outdoor play for young children. This was evident through the recommended thirty minutes or more outdoor playtime allotted in both the morning and afternoon schedules, in nine classrooms, across all research sites.

Teachers described their beliefs as being based on their current and past experiences, either as a child growing up, experiences at their current or former place of employment, or educational experiences. Teachers describe the purpose of outdoor play as an opportunity to release energy, make choices for independent play, and to integrate nature and learn in the outdoor environment.

**Research Question 2:** How do early care and education teachers plan for outdoor play as a part of their preschool curriculum?

Outdoor time was a part of the daily schedule for both mornings and afternoons in all of the classrooms participating in the research. Teachers followed the Pennsylvania state guidelines
which expect children to play outside each day when the temperature/wind child is above 25 degrees, below 90 degrees, there is no precipitation and no air quality alert (www.pakeys.org).

Site 1 did not expect that children come prepared with boots and clothing to go outside in the snow, and the teachers did not take the children outside when there was snow on the playground. Parents from Sites 2 and 3 are told explicitly in the center handbooks, and at enrollment that children will go outside on most days and are willing to provide the clothing necessary for snowy weather. All sites indicated that some teachers take the children outside if there is light precipitation.

By reviewing documents and teacher interviews from each research site, I found that none of the teacher participants were required to include written plans for the outdoor environment in their daily lesson plans. Although several of the teachers did include a game or a theme related activity to their outdoor time occasionally during the week, it was clear that the teachers in this study viewed outdoor time as a time for children to make their own choices and play independently from teacher direction.

Many of the teachers in this study viewed regularly scheduled outdoor play times as ‘recess’ and used additional time outside of the regularly scheduled recess time for planned curriculum that involved the outdoor environment. This was possible for the centers with the larger playground and a more flexible schedule for using the outdoor space. However, for a center with limited outdoor space available for one class at a time, additional outdoor time for learning activities was not possible.

For the teachers who planned, the focus of the planning was on the activity and theme for the week, and not on curricular areas or the developmental area that the activity enhanced. Additional planning occurred on an occasionally basis, related to seasonal activities such as
water days in the summer and a fall harvest fair. The lack of planning for all areas of the curriculum was illustrated by the results of the focused observations using the Preschool Outdoor Environment Measurement Scale (POEMS, DeBord et al., 2005) assessment. Domain 4 of the POEMS assessment is focused on the outdoor curriculum or program, and it was found that all of the teachers scored the lowest in this domain as compared to the other domains, because opportunities for engagement with the arts, math and language activities were not present on the day of the observation.

**Research Question 3:** What behaviors do early care and education teachers typically exhibit when on the playground with their students?

All of the teacher participants described their main role on the playground as supervision. Guidelines for supervision were included in the teacher handbooks from each site, teachers voiced their understanding of the need for supervision in the interviews and strong teacher supervision was observed on the playground. Although all teachers responded that supervision was their main responsibility on the playground, many believed that they also need to interact with the children to scaffold learning. These teachers were observed in near proximity to the children; they were interacting and asking open-ended questions to support children’s learning. A clear distinction was observed between the teachers who viewed their role on the playground as simply a supervisor and those who viewed themselves as facilitators for the children’s independent learning through play.

**Research Question 4:** How do the affordances of the playground environment influence teachers’ beliefs and practice?

Affordances for activity and play on a playground are realized through three venues. They include the embedded, stationary play equipment, the geography of the playground, and the
moveable materials that teachers add to the playground. According to the data collected in this study, the affordances of the playground do influence teachers’ beliefs and practices of outdoor play. On the playground with limited, manufactured affordances, the teachers had difficulty thinking beyond what their current playground offered for children’s learning and development when asked what changes they would make to create an ideal playground setting. The teachers who worked on playgrounds with more affordances, including the addition of nature, held a wider view of the possibilities of materials and activities for learning on the playground environment.

Another finding that emerged across the playground environments was that it appeared that teachers were much more interested and willing to provide children with props and loose parts for creative play when the materials were immediately available, contained in a playground shed, and easily accessible. The playgrounds that included natural affordances provided the teachers with a more convenient possibility for gardening with the children and other nature explorations. It is interesting to note that there was no discussion of nature, other than weather related issues, on the playground with predominately manufactured affordances.

The theme of safety, related to playground affordances, emerged in the teacher interviews across all playground environments. Although the teachers view the safety of children as most important, they are concerned about licensing and accrediting organizations over-regulating opportunities for children’s exploration on the playground. The danger of swings, climbing equipment, wading pools and other water features was brought up in teacher interviews. For the most part, the teachers feel that children may be protected too much and not permitted to engage in behaviors that they view, from their own experience, as part of a ‘normal’ childhood.
**Discussion**

Teacher’s beliefs and perceptions of outdoor play were revealed in their interview discussions, their daily schedules, as well as their observed practice on the playground. All of the teachers in this study viewed their overarching role as supervisory, confirming the review of the literature on teacher’s beliefs (Chakavarthi, 2009; Davies, 1997; Renick, 2009). However, a disparity was found in how they engaged with children and utilized the playground environment to optimize children’s learning. This discussion begins by reviewing the findings of this study through the lens of the theoretical framework. The remainder of the discussion is dedicated to relating the results of this research to the previous research cited in the literature review.

**Theoretical Framework**

Vygotsky’s (1978) theory of social constructivism was the paradigm that guided this study. Social constructivism posits that children grow cognitively and socially as they interact with others and their environment. Relative to the current study of how teachers understand their role and teacher practices, as teacher interactions and the playground environments differ, children’s learning opportunities would also differ. According to my observations, triangulating the POEMS (DeBord et al., 2005) assessment data across the three cases, the three cases differed significantly with teacher interactions and the setting for play and learning. POEMS assessment Domain 2 measures ‘Interactions’ and includes the following categories: interactions with the environment, child-child interactions, teacher-child interactions and parent-child interactions (DeBord et al., 2005). Minimal interactions were observed for two of the playground observations at Site 1. Interactions in all categories, across all teacher participants, measured high for Sites 2 and 3 (see Figure 13).
Domain 3 of the POEMS assessment measures ‘Play and Learning Settings’, measuring the availability of manufactured elements, natural elements, spaces available for play and manufactured and natural loose parts (DeBord et al., 2005). The scores varied significantly in this domain, with Site 1 scoring significantly lower, due to the lack of materials on the playground, specifically loose parts. This data confirmed research by Dowell, Gray and Malone (2010) which indicated that teachers on a manufactured playground with simply embedded equipment were less likely to engage children in meaningful interactions and nature exploration. Additionally, this data correlates with the findings of Waters and Maynard (2010) who found that loose parts (natural in their study) provided greater opportunity for teacher-child interactions. The outdoor environment offers a variety of opportunities for children to explore, question and experiment with how things work. On a playground where fewer meaningful interactions with the environment, other children, and teachers are present, the child is offered fewer opportunities for learning.

Additionally, Ajzen’s (1991) theory of planned behavior provided a framework for this study. This theory postulates that “behavior is a function of salient information, or beliefs, relevant to the behavior” (Ajzen, 1991, p. 189). When transferring this theory to the current study, it would seem that when a teacher has a positive attitude toward outdoor play, he or she would be more intentional in planning for outdoor learning. This theory is illustrated in the example of the children’s gardens that were planned and implemented by teachers in two of the research sites. According to the teacher interviews, observations, and document reviews, the outdoor environment was highlighted at each of these schools. The teachers’ positive view on gardening was evident in the interview data, observations and review of the various documents, such as the website and brochures marketing the centers. The teachers took pride in involving
the children in planting, maintaining, and harvesting the produce from the gardens. According to Ajzen’s (1991) theory, the teachers were more likely to intentionally plan for the gardening activities as part of their curriculum because most teachers already possessed strong positive attitudes about gardening, there was a bit of social pressure at both sites to participate in gardening, and the philosophy of the school and the director supported gardening endeavors, therefore making it seem to be a manageable behavior to perform.

**Teacher Belief and Practice**

The current research study was significant in building on the previous research of Renick (2009) and Chakravarthi (2009) which indicated a philosophy-reality variance related to teacher belief and actual practice. When cross-analyzing the interview and observation data for the current research, a philosophy-reality variance did not exist. The interview data from the teacher participants matched the observation data, as to whether or not teacher believed it was important to provide affordances and scaffold outdoor play. Several teachers in this study referred to children needing to burn off ‘surplus energy’ while on the playground. According to Evans and Pellegrini (1997) ‘surplus energy’ theory has not been supported by research, however, it remains to be a widely held view of teachers (Davies, 1997; Dyment & Bell, 2007; White, 2004).

However, the teachers who intended on and were observed scaffolding learning, the focus of scaffolding was mainly on the physical and social aspects of child development. The POEMS (DeBord et al., 2005) assessment tool and the Early Childhood Environmental Rating Scale-Revised Edition (ECERS-R, Harms et al., 2005) tool, used for program evaluation for the Pennsylvania Keystone Standards, Training/Professional Development, Assistance, Resources and Support (STARS) designation, both highlight the need for programs to provide learning opportunities across all development and curricular areas. Ultimately, findings from this case
study concur with the findings from Chakravarthi (2009), in that teacher beliefs are still limiting opportunities for children on the outdoor playground. In this study, teachers were somewhat unable to utilize the outdoor environment as an extension of the indoor classroom, especially in the curricular areas of literacy, math and the arts.

Teacher participants expressed that outdoor play time should be a time for children to play independently and a time to learn in the outdoor environment. The literature highlighted both, somewhat opposite, theories on the teacher’s role in planning activities for children when out on the playground. One theory supports teachers as supervisors and encourages children to create play independently, without teacher intervention (Davies, 1997). Conversely, the National Association for the Education of Young Children (NAEYC) Accreditation Criteria (2014) and research by Martin (2011) suggest that adults should be more interactive and support the child’s ideas and activity on the playground. The ECERS-R (Harms et al., 2005) assessment used in assessing quality for Pennsylvania STARS designation, describes supervision during free play “as an educational interaction (where) staff help children think through solutions to conflicts, encourage children to talk about activities and to introduce concepts in relation to play” (p. 64).

Because of the wealth of research currently available related to the benefits of outdoor play for young children when scaffolded by educational interactions from their teachers, the results from this study indicate that teachers are still somewhat lacking in their understanding of how to fully maximize learning by viewing the playground as an outdoor classroom.

Chakravarthi (2009) found that teachers with more educational background interacted more with children on the playground to facilitate play as compared to teachers with less education. This was confirmed in the current research as the teachers with bachelor’s degrees
were observed interacting and facilitating play more often than the teachers with less educational background.

**Safety Concerns**

Increased licensing restrictions are often mentioned in the literature as barriers for teachers when planning engaging and sometimes challenging outdoor play activities (Blanchet-Cohen, 2011; Little, Wyver & Gibson, 2011). Teacher participants in this study agreed that safety of the children in their care was paramount; however, they expressed specific concerns related to over-regulation. Concerns including the elimination of a waterfall and fish pond, the licensing concerns over a tire swing, and the safety of swings and climbing apparatus were voiced. Teachers at one of the sites were observed reminding children to ‘walk on the sidewalk’, although the sidewalk encircled the active section of the playground. During this observation it seemed to me that the children’s freedom to play was unduly interrupted by teachers who were overly concerned about supervision.

**Affordances and Loose Parts**

Nicholson’s (1973) loose part theory posits that the degree of inventiveness and creativity is directly proportional to the number and kinds of variables in the environment. The literature supports the addition of loose parts, or any material, natural or manufactured, that can be manipulated and arranged by children for creative play, to the playground (Bundy et al., 2009; Canning, 2010; Maxwell et al., 2008; Wilson, 2012). Walters and Maynard (2010) found that loose parts provide more opportunity for conversation with the teacher. According to my observations and teacher interviews, the opportunity for children to play with loose parts, and more so the ease of accessibility of loose parts available for teachers to use when planning the playground environment for play, seemed to be related to the amount and accessibility of storage
on the playground. For the most part, children enjoyed playing on all of the playgrounds observed in this research study, however, cross-case analysis supported the findings of Martin (2011), that indicated when loose parts and adult support were available for children, play became more imaginative and sustained.

**Implications**

The findings of this research have many practical implications for all stakeholders in early care and education, from those involved in higher education to parents of young children. Previous research was supported in several areas and new understandings were uncovered. By sharing the experiences of teachers in three different playground environments, the results of this research will hopefully have a positive impact on decisions made by those who influence young children’s opportunities to play outdoors.

**Implications for Higher Education**

The results of this study were consistent with previous research which indicated that guidance for teachers on the benefits of outdoor play, and the importance of scaffolding learning in the outdoor environment is not typically included in teacher education programs (Blanchet-Cohen & Elliot, 2011; Herrington, 2008; Renick, 2009). Additionally, the more mature teacher participants in this study referred to their positive outdoor experiences in their early years as the basis for their beliefs and practices for outdoor play as teachers, rather than specific courses from their higher education experiences. The younger teachers referred to their previous or current work experiences, and the coursework offered by the Child Development Associate (CDA) credential, a nationally recognized credential in early childhood education and a stepping stone for career advancement after a high school diploma. It is interesting to note that these younger teachers did not share their own childhood experiences as a basis for their beliefs. The question
remains whether the young teachers in this study grew up with similar childhood experiences involving unstructured, outdoor play, as the more mature teachers reported. Regardless of childhood experiences, the literature indicates that teachers with more education and professional development feel more positive about providing outdoor play (Dowda et al., 2009), and interact more to scaffold learning on the playground (Chakravartha, 2009). This study supported the previous research in that the teachers with more educational background were more likely to interact with children in order to support their learning. For these reasons, it is imperative that current teacher education programs provide specific coursework related to the benefits of outdoor play, and how to facilitate and scaffold learning in the outdoor environment.

**Implications for Administrators of Early Care and Education Programs**

The majority of children in the US spend their early childhood years being cared for outside of the home (www.census.gov/prod/2013pubs). Because of the limited time children are spending in the outdoor environment, and the current research on the benefits of outdoor experiences for child development, it is vital that teachers and caregivers for young children understand the opportunity they have to promote and provide high quality outdoor experiences for the children in their care. The cross-case analysis of this study highlighted the positive vision and motivation of teachers with larger playground spaces and a variety of playground affordances, both manufactured and natural. By providing more variables, or affordances in the outdoor environment, teachers are better able to stimulate children’s senses and desire to explore. The opportunities for gardening projects in two of the playgrounds from this study provide a strong example for how gardening can assist teachers in identifying opportunities for learning. Gardening provides children with hands-on experiences with nature, while measuring growth and distinguishing patterns, an important skill needed for literacy development. These teachers
were excited about the wide range of learning opportunities offered by their playground environments, which in turn, benefit the children in their care.

Additionally, according to the cross-case analysis from this research, the teachers with more convenient access to loose parts, including a variety of both natural and manufactured materials, were more likely to plan for and encourage the use of loose parts to support children’s creative play. An easily accessible, adequate sized storage shed, located on the playground, supported teachers in their use of loose parts. Additionally, the data analysis suggested that more professional development and support is needed to encourage teachers to create affordances and use loose parts to provide outdoor learning opportunities in the areas of the arts, math and language.

Finally, this research supported flexible use of the playground, in order to permit class use at times other than regularly scheduled ‘recess’ times. Many teacher participants used additional planned and spontaneous playground visits, outside of their regularly scheduled time, to provide outdoor activities that supported the curriculum. For some programs, this will not be possible due to lack of playground space related to the number of children using the playground; however, this is an important consideration for administrators to keep in mind when designing, allocating and scheduling playground space for classrooms.

This research highlighted the key role played by administrators in creating a creative, engaging outdoor environment for young children. The administrator has the power and opportunity to share the vision for quality outdoor spaces across all stakeholders: the community, families, and teachers. Fueled by the national attention on the importance of early experiences and active play to prevent childhood obesity, much research, support, and tools are available for programs desiring to enhance the learning on their playground environment. A
wide variety of resources such as the POEMS (DeBord et al., 2005) assessment tool, implemented in this study, and organizations that support outdoor learning for young children, such as Nature Explore (https://natureexplore.org), are available for minimum cost. Ongoing professional development to promote center-wide engagement in playground enhancement will empower teachers to provide richer, more meaningful learning opportunities for children in all curricular areas, ultimately enhancing children’s learning experiences on the playground.

**Implications for Organizations Regulating Early Care and Education Programs**

This study is consistent with previous research that indicated a positive correlation between the teacher’s educational background and their meaningful interactions with children to facilitate play on the playground (Chakravarthi, 2009). The findings support current initiatives, both nationally (NAEYC) and state-wide (PAkey) that support hiring teachers with education beyond the high school level, preferably a bachelor’s degree in education or a human development related field. Research to practice initiatives, such as scholarships and grants for teachers to use to further their education would be a positive outcome of this research.

Teacher concerns about excess safety were also voiced. Children need to be able to explore and play freely in safe environments, in order to build confidence and to achieve developmental learning goals. Surplus safety measures have the potential to hinder positive, teacher-supported play experiences. This research highlighted the need to empower teachers to provide richer, more meaningful outdoor learning opportunities for children in all curricular areas. Because of the surplus safety concerns noted in this study and in similar studies, it behooves regulating agencies to balance playground safety training requirements for teachers with meaningful, professional development related to the addition of loose parts and teacher-scaffolded learning during outdoor play.
Implications for Parents of Young Children

Richard Louv (2005) documented the changes in modern family life over the last two decades, and its effect on children spending limited time in nature. In many homes, children spend more time going to organized lessons, viewing television and interacting with electronic devices than being physically active outdoors. Louv (2005) believes that families need to take “nature experience out of the leisure column and place it in the health column” (p. 121). In other words, his theory is that families need to view outdoor play as a necessity for children’s healthy growth and development. Parents and caregivers can be excellent role models by enjoying the outdoors together with their children. The Nature Explore Families Club (Wirth & Rosenow, 2012) is an excellent resource for schools and families with young children to tap when searching for age appropriate nature activities to engage the whole family.

When informed of the benefits of outdoor play and learning, families are equipped with key questions to ask when making the decision on which early care and education center will best meet the needs for their child. Families should review the school’s promotional materials and parent handbook to check for evidence of an emphasis on outdoor play. Find out if the teachers adhere to a regular outdoor play schedule, and how they view their role on the playground. If possible, observe children at play on the playground during an unannounced visit to the site. Optimally, teachers will be supervising and interacting with the children to support their play. Spotting children happily engaged in play, interacting with their peers, their teacher and a rich environment is a sign that outdoor play is valued at the center. During planned visits to potential centers, touring the playground is as important as touring the classroom.

Parents possess a strong, compelling voice when advocating for their child. As a parent of a child enrolled in an early care and education center, it is important to be involved and to
team with teachers and administrators to provide the best environment for your child. Parent involvement in promoting more outdoor activity in schools and community groups will help to provide all children with the opportunity to reap the benefits of outdoor learning.

**Limitations**

Case study research has inherent limitations, and it is important to frame the results of this study within the parameters of the following limitations. With the researcher being the primary research tool, the possibility of bias exists in my reporting of the research findings. I recognized my biases in Chapter 3 and used member checks, peer review and reflective notes to reduce the influence of my bias on data collection and analysis.

Data for this study was limited in several aspects. One limitation is that data was collected from only three early care and education centers in central Pennsylvania. This limited geographical location assisted me as the researcher to reduce travel expenses and time constraints; however the results may not be generalizable to other geographical areas. All three sites were located in middle class, suburban neighborhoods, whereas more diversity of socioeconomic environments would possibly provide different results. Lastly, although maximum variation sampling was used to select participants for this study, all of the possible teacher participants from the three sites were Caucasian and female. More ethnic and gender diversity may have provided more variable perspectives on outdoor play.

Observational data is limited due to the use of the POEMS assessment during one outdoor play experience facilitated by each teacher interviewed. Another limitation on observational data is that the research was conducted on the outdoor playground during the late spring, when the temperatures are comfortable for going outside. Although teachers self-
reported their practices during the winter months, observations at that time may have yielded different results.

**Recommendations for Future Research**

This research was delimited to participants from high quality early care and education centers, as designated by NAEYC accreditation and/or Keystone STARS designation. Future research including participants from non-accredited, lower quality early care and education sites would suggest whether findings are consistent across sites of varying quality.

The teachers in this study who held bachelor degrees in education, or related fields reported that they did not remember participating in coursework related to outdoor play in their teacher education programs. A study surveying a variety of teacher education programs for the inclusion of outdoor play instruction would highlight this omission and possibly lead to greater inclusion of this topic in teacher education programs.

This study included both for-profit and non-profit early care and education centers. It is unclear whether the variable of working for a profit producing vs. a non-profit center influenced the teachers’ beliefs and practices on outdoor play. The possibility exists that a profit producing franchise is more conservative in allowing for extra outdoor playground space, and in purchasing additional affordances. A study exploring playground affordances at for-profit and non-profit centers would inform stakeholders in both settings.

One of the cases in this multiple case study benefitted from teacher and family involvement in the design and maintenance of the outdoor playground. Future research exploring the impact of teacher and family involvement on playground design and utilization would inform directors and teachers at early care and education centers wishing to enhance their outdoor environment.
Quantitative research studies in this area have mainly focused on preventing childhood obesity and children’s activity level on the playground, as measured by using accelerometers (Chakravarthi, 2009). It is possible that a quantitative study linking playground affordances and/or teacher planned learning opportunities in the outdoor environment to children’s learning outcomes would result in schools allocating time for outdoor play. In our current educational system, evidence-based practices are highly valued. Therefore, if children’s test scores measuring school readiness were tied to outdoor play and investigation, I think schools would be more likely to link the outdoors with learning objectives.

Summary

This multiple case study explored teacher beliefs and practices of outdoor play for early care and education teachers at three locations, with diverse playground environments, to develop understandings on perceptions and factors that influence teacher decision-making regarding their role on the playground and the utilization of the outdoor environment. Data was collected through teacher interviews, observations, and a review of documents. Within-case and cross-case analysis was utilized to analyze the data, based on the following a priori themes: teacher beliefs, teacher planning, teacher behaviors, and playground affordances.

Recommendations are provided for directors of early care and education programs, higher education faculty, regulatory organizations and parents of young children. Beliefs and practices are formed through experiences, both past and present, and hopefully this research will aid in assisting others to explore the limitless learning possibilities for young children in the outdoor environment.
REFERENCES


*Learning with nature idea book: Creating nurturing outdoor spaces for children.*  
Lincoln, NE: Arbor Day Foundation.


United States Census Bureau, Quick facts (2010), Retrieved from http://www.census.gov/quickfacts/table


APPENDICES

APPENDIX A: PA Keys to Quality STAR 4 requirements

Keystone STARS can help you understand the quality of a child care/ early learning program. For a young child, everything is a learning experience. The early learning program you choose, such as child care or Head Start, can affect how well your child does in kindergarten, school, and in life.

Children who attend a quality child care / early learning program

- come to kindergarten ready to learn;
- do better in school; and
- are more likely to graduate high school, attend college, and get good jobs.

What is Keystone STARS?

Keystone STARS rates child care programs from one to four STARS on things you care about (meets state regulations for safety, offers a kid-friendly atmosphere with good teachers that partner with you to help your child learn) so you can find the program that feels right for your family. Child care and Head Start programs that participate in Keystone STARS earn a STAR 1 to STAR 4 rating based on quality standards that measure:

- **Staff education**: early childhood teachers have the training and knowledge for working with young children
- **Classroom/Learning environment**: the program has a variety of materials and activities for each age level that makes it possible for children to learn something new every day!
- **Including families and the community**: Families and community members are encouraged to become a part of the child’s learning progress
- **Leadership and management**: a quality program has to have sound business practices to ensure your child’s safety and early learning

As programs earn more STARS, they are providing higher quality early education for your child.

Keystone STARS is managed through a partnership of the Office of Child Development and Early Learning (OCDEL) and the Pennsylvania and Regional Keys.

APPENDIX B: NAEYC Accreditation Requirements

**Step 1: Enrollment/Self-Study**
Align your program with the 10 NAEYC Early Childhood Program Standards
- Submit enrollment form and fee
- Access TORCH
- Use Self-Study Tools in TORCH to evaluate program quality and to inform quality improvement efforts
- Plan your program’s accreditation timeline, considering submission deadlines for reaccreditation if applicable

**Step 2: Application/Self-Assessment**
Compile evidence on how your program meets the 10 NAEYC Early Childhood Program Standards
- Submit application and fee, selecting a Candidacy due date for Step 3
- Use Self-Assessment Tools in TORCH to document that your program meets the 10 NAEYC Early Childhood Program Standards
- Gather documentation that your program meets the Candidacy Requirements
- Download Candidacy Materials eight weeks prior to self-selected Candidacy due date
- Complete Candidacy Materials

**Step 3: Candidacy**
Demonstrate key components of high quality programming and preparedness for site visit
- Submit Candidacy Materials and fee on or before Candidacy due date
- "Fine tune" program improvement efforts in preparation for site visit
- Receive Candidacy decision from the NAEYC Academy

**Step 4: Meeting the Standards**
Demonstrate how your program meets the standards by allowing an NAEYC Assessor to observe your program in action and review evidence collected in Self-Assessment.

For programs accepted as Candidates for NAEYC Accreditation:
- Receive contact from NAEYC Assessor(s)
- Provide NAEYC Assessor(s) with your program’s calendar and selected exclusion date
- Submit changes in staff to NAEYC Academy (if applicable)
- Receive notification of 15-day window in which the site visit could occur
- Receive notification of site visit one business day prior to the visit
- Receive site visit within six months of Candidacy due date
- Receive accreditation decision within three months of site visit
- Accredited Programs: Celebrate your Accreditation Decision!

**Step 4: Maintaining the Standards**
Demonstrate continued compliance with the 10 NAEYC Early Childhood Program Standards.
- Submit Annual Report on first through fourth anniversaries of accreditation anniversary date
- Update NAEYC with new information, including major programmatic changes, licensing/regulatory updates, and incidents that did or could have compromised the essential health or safety of any child.
- Submit to additional verification or random visits to demonstrate continued compliance with the program standards

Retrieved from www.naeyc.org/academy/pursuing/fourstepoverview
APPENDIX C: Screening Form for Participants

Screening Checklist for Participants (Preschool teachers)

Name of Center __________________________

<table>
<thead>
<tr>
<th>Initials of prospective participant</th>
<th>Gender</th>
<th>Ethnicity</th>
<th>Age</th>
<th># of years teaching preschoolers</th>
<th># of years teaching at your Center</th>
<th>Ages of children in classroom (age of youngest and oldest child in months)</th>
<th>Highest educational degree</th>
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APPENDIX D: IRB Approval Letter

LIBERTY UNIVERSITY
INSTITUTIONAL REVIEW BOARD

April 29, 2015

Beverly A. Goodling
IRB Approval 2158.042915: Exploring the Outdoors: A Collective Case Study Examining Teacher Beliefs and Practices in Preschool Outdoor Play

Dear Beverly,

We are pleased to inform you that your above study has been approved by the Liberty IRB. This approval is extended to you for one year from the date provided above with your protocol number. If data collection proceeds past one year, or if you make changes in the methodology as it pertains to human subjects, you must submit an appropriate update form to the IRB. The forms for these cases were attached to your approval email.

Thank you for your cooperation with the IRB, and we wish you well with your research project.

Sincerely,

Fernando Garzon, Psy.D.
Professor, IRB Chair
Counseling

(434) 592-4654

Liberty University | Training Champions for Christ since 1971
4/10/2015

Hi (School administrator),

Hope you are doing well! We met almost a year and a half ago when I was at (Site 3) for the CAAEYC Connect for Quality event on a Saturday afternoon in November. I was excited to see the natural playground at (Site 3) and mentioned to you that I would be doing research toward my Doctorate in Education degree from Liberty University. My research is on teacher perceptions and practices regarding outdoor play. I am now ready to choose sites for my research and am interested in using (Site 3) as one of my three research sites.

I have attached a letter which describes my research in a bit more detail. I would also be available to meet with you at your convenience to discuss this further.

I look forward to hearing from you about this possibility.

Best to you,

Bev Goodling

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Bev Goodling, M.Ed.
Adjunct Instructor, Education Dept.
 Messiah College, Suite 3019
One College Ave.
Mechanicsburg, PA 17055

(717) 350-2667 cell
bgoodli2@messiah.edu
APPENDIX F: Informed Consent Form for Participants

The Liberty University Institutional Review Board has approved this document for use from 4/29/15 to 4/28/16 Protocol # 2158.042015

CONSENT FORM

Exploring the Outdoors: A Collective Case Study Examining Teacher Beliefs and Practices in Preschool Outdoor Play
Beverly A. Goodling
Liberty University
School of Education

You are invited to be in a qualitative research study of early care and education teachers' beliefs and practices of outdoor play. You were selected as a possible participant because you meet the study criteria by being a teacher of children ages 3-5, you have a minimum of a CDA or an associate's degree in early childhood education or a human development field, have been teaching for 2 years, and teach in a NAEYC accredited or STAR 4 program. I ask that you read this form and ask any questions you may have before agreeing to be in the study.

Beverly Goodling, a doctoral candidate in the School of Education at Liberty University is conducting this study.

Background Information:
The purpose of this study is to discover the beliefs and practices of outdoor play for early care and education at three different preschool locations, each with a different playground environment.

Procedure:
If you agree to be in this study, I would ask you to do the following things:

- First I will ask to observe you on your school playground during a planned outdoor play time, using the Preschool Outdoor Environment Measurement Scale (POEMS). POEMS is an assessment tool designed for outdoor environment in childcare centers for children ages 3-5 years old. The playground observation will be scheduled during your regular playground time and will last the length of the planned playground time, up to one hour.

- After the observation, we will set a time for me to interview you on your beliefs and practices of outdoor play. The interview will be scheduled at a mutually agreeable time, and will last approximately 1 hour. I will be audiotaping the interview for future reference.

Risks and Benefits of being in the Study:
The risks are minimal, and are no more than the participant would encounter in everyday life. When observing children interacting with teachers on the playground, I may become privy to information that triggers the mandatory reporting requirements for child abuse, child neglect, or intent to harm self or others. I will make my personal required security clearances for working with children in the state of Pennsylvania (child abuse history clearance, FBI fingerprint record clearance and criminal history clearance) available to you, as a site participating in this study.

There are no direct benefits to participation in this research.

The results of the POEMS assessment will be made available to you for your use, as desired. Additionally, you will have the opportunity to review the transcription of the recorded interview in order
to check to be sure your responses were recorded accurately. You will also have access to the final results of your responses were recorded accurately. You will also have access to the final results of this research study, which may inform your work with young children on the playground. By listening to the experiences of early care and education teachers, observing actual practice, and reviewing policies for playground use, this research will hopefully illuminate overall perceptions and factors that influence teacher decision making regarding the provision of outdoor play and the utilization of the outdoor playground.

Compensation:

You will receive a $20 gift certificate from the Learning Source, 3401 Hartdale Dr., Camp Hill, PA, as a token of my appreciation for your assistance with both the playground observation and the interview. You will receive the gift certificate at the conclusion of the interview, but early withdrawal from this study will prohibit you from receiving a gift certificate.

Confidentiality:

The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely and only the researcher will have access to the records. All early care and education centers and teachers participating in this study will be given pseudonyms to protect the privacy and confidentiality of the center and participants. Recorded data will be stored on my personal, fingerprint- and password-protected iPhone and will not be shared in other locations or on other personal devices. A professional will be hired to transcribe the audio recording, and will have access to the recorded data only during the time of transcription. All recordings will be erased after transcription. Transcribed interviews, POEMS observations, parent and staff handbooks and playground policy documents will be stored in a locked cabinet. Informed consent forms will be stored separately from the data collected to assure the confidentiality of the participants. All records and informed consent documents will be maintained by the researcher for three years after the completion of this study after which they will either be returned to the site or shredded and disposed.

Voluntary Nature of the Study:

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

How to Withdrawal from the Study:

You may withdraw from the study at any time by providing a written request to withdraw to the researcher conducting the study at the email address below. Any participant data that has been collected prior to the time of withdrawal will be permanently deleted and destroyed, including the permanent erasure of audio taped interviews.

Contacts and Questions:

The researcher conducting this study is Beverly A. Goodling. You may ask any questions you have now. If you have questions later, you are encouraged to contact her at (717) 350-2667 or bgoodli2@msenu.edu, or her faculty advisor, Dr. Michele Goodwin at mgoodwin@liberty.edu.
If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to contact the Institutional Review Board, 1971 University Blvd, Suite 1837, Lynchburg, VA 24515 or email at info@liberty.edu.

Please notify the researcher if you would like a copy of this information to keep for your records.

Statement of Consent:

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

(NOTE: DO NOT AGREE TO PARTICIPATE UNLESS IRB APPROVAL INFORMATION WITH CURRENT DATES HAS BEEN ADDED TO THIS DOCUMENT.)

☐ The researcher has my permission to audio-record me as part of my participation in this study.

Signature: ___________________________ Date: _____________

Signature of Investigator: _________________________ Date: _____________
## APPENDIX G: POEMS Document

### Domain 1: Physical Environment

1. **1.1.** The space between parking and the center entrance allows easy and safe drop-off/pick-up for both children and parents. At least three (3) of the following are present:
   - parking close to the entrance
   - sidewalks that lead to the entrance
   - pedestrian crosswalk
   - speed bumps
   - entrance covered from rain/snow

   **Total Checked**

2. **1.2.** The center's external main entrance arrival area gives a welcoming impression of being child-friendly. At least two (2) of the following are present:
   - child art
   - colorful displays
   - banner
   - plants

   **Total Checked**

3. **1.3.** On the outside or inside of the main entrance door, there is a foyer, lobby, or covered porch that can serve as a place for social interactions between adults and children.

4. **1.4.** The outdoor play and learning areas are shaded or buffered from the sun and danger of adjacent parking areas (e.g., by shrubs, solid fencing, walls, or distance from parked vehicles).

5. **1.5.** The outdoor area is enclosed by a sturdy fence that is at least four (4) feet tall. The fence has a safe gate closure and has no entrapment spaces.

6. **1.6.** The windows of the classroom and other learning spaces receive adequate sun and external shade (e.g., trees, pergolas, retractable awnings, window shades, etc.) so that classrooms do not become too hot and glaring or too cold and dark.

7. **1.7.** Windows are at the children's eye level.

8. **1.8.** Windows can be opened to allow fresh air.

9. **1.9.** Classrooms being observed open directly outdoors into usable transition spaces (e.g., deck, patio, pergola) large enough for noisy, messy activities to occur.

10. **1.10.** Ground surface drainage in the outdoor area appears adequate (no gullies, sustained pooling of water, washed-out mulch, or soil erosion).

11. **1.11.** The overall impression of the outdoors is of a natural area. The landscape contains at least five (5) of the following:
   - a variety of species of trees
   - vines
   - a variety of species of shrubs
   - topographic variations (such as mounds, terraces, slopes)
   - a variety of non-poisonous flowering plants (perennial or annual)
   - a variety of safe ground surfaces (mulch, grass, pebbles)
   - logs
   - smooth rocks
   - other

   **Total Checked**

12. **1.12.** Outdoor space is easily accessible by children, including those with special needs. Children of all abilities can play in the same vicinity, regardless of the abilities of children presently enrolled.

13. **1.13.** Shade is provided to accommodate the total number of children in the classroom. Examples of shade: shadows cast by the building, manufactured shade structures, trees, pergolas, umbrellas.

### Calculation

Total the number of items checked as present. Divide by the maximum number of items in this domain and multiply by 100.

<table>
<thead>
<tr>
<th>Domain 1</th>
<th>%</th>
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<tr>
<td></td>
<td>+ 13 x 100</td>
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</table>
## Domain 2: Interactions

### 2.1. At least one child is observed touching, noticing, and sensing the natural environment (such as cloud watching, smelling flowers, touching trees).

### 2.2. Evidence of at least one child-initiated activity with natural loose parts (e.g., collections of objects, piles of pebbles, rows of sticks, etc.) is present.

### 2.3. Teacher/caregiver allows spontaneous or unplanned child-initiated activities to occur within the natural environment (e.g., digging other than sand, forming snow angels, making mud pies, picking leaves).

### Child-Child Interactions

2.4. Defined areas encourage child-to-child interactions. At least two (2) of the following are present:

- child-sized picnic table
- puppet theater
- intersecting pathways
- two-person bench
- play store
- talk tubes

### Teacher/caregiver: Child interactions

- Observe target teacher/caregiver the one to be interviewed.

2.5. Children approach the teacher/caregiver with questions and seek support for their learning and teacher/caregiver responds appropriately.

2.6. Teacher/caregiver encourages or facilitates small group activity.

2.7. Teacher/caregiver skillfully notices children's learning needs by listening to and observing cues in order to guide their planning of learning activities. (Include in interview if not observed: How do you decide what to do outdoors with the children?)

**Response:**

2.8. Teacher/caregiver uses open-ended questions to explore children's interests that lead to initiating learning activities. (Include in interview if not observed: How do you build on children's interests outdoors? How do you know what they are interested in?)

**Response:**

2.9. Teacher/caregiver does not let personal fears of wildlife or nature (e.g., bugs, frogs) influence the children negatively. He/she responds appropriately. (Include in interview if not observed: Have you ever encountered something you were afraid of or didn't like—a bat, an insect, a spider, or an earthworm? How did you handle that with the children?)

**Response:**

2.10. Teacher/caregiver models inquisitiveness and exploration to support new learning.

2.11. Teacher/caregiver supports children's ongoing learning without forcing involvement or intruding.

### Parent-Child Interactions

2.12. Parents are welcome in the outdoor areas (observe evidence in handbook, newsletters, bulletin boards, photos). Include in interview if no observed: Do parents spend time in the outdoor space? Probe this topic.

**Response:**

2.13. Adult-sized sitting spaces are available for parents/relatives and children to interact outdoors.

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<th>Total Items</th>
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<td>= ( \frac{\text{Total Items}}{13} \times 100 )</td>
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</tbody>
</table>

**Domain 2** %
### Domain 3: Play and Learning Settings

#### Features

3.1. The outdoor area contains an adequate variety of play and learning settings with constructed or manufactured elements. At least four (4) of the following should be available for the children to use:

- Arts/crafts area
- Acoustic play area
- Sitting bench
- Woodwork bench
- Easy supervised cozy nook
- Anchored play equipment
- Crawl-through place tunnel
- Small stage (including puppet stage)
- Raised deck
- Playhouse
- Balance beam or opportunities to balance
- Other

3.2. The area contains an adequate variety of play and learning settings with **natural elements**. At least four (4) of the following should be available:

- Sand play area
- Water play area
- Trees
- Grass maze
- Flower or vegetable garden
- Safe stepping stones
- Rolling/Climbing mound
- Animal habitat (e.g., bird blind, rain garden, butterfly garden, logs, urpits, "lift-up," bird feeder, ext larn)
- Other

3.3. A **multipurpose, open, grassy area** is available for large group games, running, dramatic play, music and movement, parachute play, social gatherings, etc. (Note: Measure this by imagining 15 preschool children holding hands in a circle.)

3.4. A variety of **horizontal, elevated work surfaces** are available (e.g., picnic table, stump, counter, raised deck) for art, dramatic play, etc. There should be at least two surfaces present.

3.5. Circulation areas are ample and pathways can be used by wheeled toys (sufficient space available to accommodate wheeled toys for the children in the group).

3.6. Play materials and equipment are developmentally appropriate.

### Materials and Loose (to be observed)

3.7. Enough outdoor toys are available for all children to use without undue competition.

3.8. Play materials and toys can be reached and played with by children.

3.9. Wheeled toys such as tricycles, wagons, and wheelbarrows are available.

3.10. Storage is adequate for outdoor toys, loose parts, and supplies.

3.11. At least four (4) manufactured loose parts are available:

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<th>Item</th>
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<tr>
<td>Blocks</td>
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<tr>
<td>Manipulatives</td>
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<td>Pieces of cloth</td>
<td></td>
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<tr>
<td>Skipping rope</td>
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<tr>
<td>Hoses</td>
<td></td>
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<tr>
<td>Sand toys</td>
<td></td>
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<tr>
<td>Balls</td>
<td></td>
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<tr>
<td>Water toys</td>
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<td>Chalk</td>
<td></td>
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<tr>
<td>Rings/hoops</td>
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<td>Other</td>
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3.12. At least four (4) of these **natural loose parts are available**:

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<tr>
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<tr>
<td>Smoothed sticks</td>
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<td>River stones</td>
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<td>Driftwood</td>
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<td>Mulch</td>
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<td>Pine cones</td>
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<td>Driftwood</td>
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<td>Shells</td>
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<td>Grubs</td>
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<td>Acoms</td>
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<td>Other</td>
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</tbody>
</table>

3.13. A variety of **decorative, colorful, and stimulating elements**, at least three (3), are used to enliven the character of the area:

<table>
<thead>
<tr>
<th>Item</th>
<th>Total Checked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decoative object</td>
<td></td>
</tr>
<tr>
<td>Banner</td>
<td></td>
</tr>
<tr>
<td>Statue</td>
<td></td>
</tr>
<tr>
<td>Gazing ball</td>
<td></td>
</tr>
<tr>
<td>Wind sock</td>
<td></td>
</tr>
<tr>
<td>Flag</td>
<td></td>
</tr>
<tr>
<td>Cultural artifact</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

Total Items

Total the number of items checked as present. Divide by the maximum number of items in this domain and multiply by 100.

Calculate %

\[ \text{Domain 3} \times \frac{100}{10} \]

%
### Domain 4: Program

#### 4.1. Art, drama, and music activities are supported by the outdoor program with at least four (4) of the following present on the day observed:

<table>
<thead>
<tr>
<th>Craft materials</th>
<th>Sound panel or instruments</th>
<th>Paint</th>
<th>Total Checked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tape or CD player</td>
<td>Children's art displays</td>
<td>Easels</td>
<td></td>
</tr>
<tr>
<td>Singing</td>
<td>Markers, chalk, crayons, pencils</td>
<td>Props to support movement and dance</td>
<td></td>
</tr>
<tr>
<td>Puppets</td>
<td>Clay, play dough</td>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

#### 4.2. Math and science activities are supported by the outdoor program with at least four (4) of the following on the day observed:

<table>
<thead>
<tr>
<th>Collecting, classifying, sorting</th>
<th>Magnifying glasses</th>
<th>Bird feeders</th>
<th>Total Checked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collecting tray and containers</td>
<td>Hopskotch and number games</td>
<td>Blocks</td>
<td></td>
</tr>
<tr>
<td>Measuring temperature (e.g., thermometer on child's level)</td>
<td>Gardens, diverse plantings</td>
<td>Measuring length (e.g., ruler, tape measure)</td>
<td></td>
</tr>
<tr>
<td>Measuring volume (e.g., rain gauge on child's level)</td>
<td>Natural items to support exploration (e.g., shells, slugs' teeth, eyes, pine cones)</td>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

#### 4.3. Language activities are supported by the outdoor program with at least four (4) of the following on the day observed:

<table>
<thead>
<tr>
<th>Storytelling area</th>
<th>Books on tape</th>
<th>Microphone</th>
<th>Total Checked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flannel board with materials</td>
<td>Labels on materials or signs</td>
<td>Puppets</td>
<td></td>
</tr>
<tr>
<td>Dry-erase board with markers</td>
<td>Children's books</td>
<td>Alphabet garden</td>
<td></td>
</tr>
<tr>
<td>Letters (pencils, plastic alphabet, letter puzzles)</td>
<td>Paper with writing materials (e.g., pencils, crayons, markers)</td>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

#### 4.4. Opportunities for physical activity and movement are supported by the outdoor program with at least five (5) of the following (materials must support each item) activities:

<table>
<thead>
<tr>
<th>Climbing</th>
<th>Throwing</th>
<th>Dancing</th>
<th>Lifting</th>
<th>Total Checked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sliding</td>
<td>Kicking</td>
<td>Hopping</td>
<td>Balancing</td>
<td></td>
</tr>
<tr>
<td>Crawling through</td>
<td>Skipping</td>
<td>Jumping on/off</td>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

#### 4.5. Opportunities for various levels of children's physical abilities are offered (e.g., jumping, sliding, climbing). Lesser and greater challenges are provided. At least two pairs are present (e.g., lower and higher climbing areas; tricycles with and without pedals).

#### 4.6. Opportunities for vestibular stimulation are supplied by the outdoor program with at least two (2) of the following:

<table>
<thead>
<tr>
<th>Rolling</th>
<th>Swinging</th>
<th>Merry-go-round</th>
<th>Gliders</th>
<th>Total Checked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rocking</td>
<td>Sliding</td>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 4.7. There is evidence of both an indoor/outdoor connection and an outdoor/indoor connection on the day observed (For example: both plants inside and books outside).

#### 4.8. At least one planned activity is linked to seasonal changes (e.g., snow play, beach parties, apple-butter making, kite flying, lemonade stand, etc.). Include in interview if not observed. Within the last month, what special activities have you done outdoors? Activity must relate to the season or weather.

Response:

#### 4.9. Children go outside at least two times each day for at least 30 minutes each period. (Include in interview if not observed. When do you take the children outside?)

Response:

---

Total items

Calculate %

Domain 4

\[ \frac{\text{Total number of items checked as present}}{\text{Maximum number of items in this domain}} \times 100 \]
Materials from POEMS Preschool Outdoor Environment Measurement Scale by Karen DeBord, Linda Hestenes, Nilda Cosco, and Janet McGinness (www.poemsnc.org/poems.html), pages 11, 13, 15, 17 and 19, is reprinted with permission from Kaplan Early Learning Company, 1310 Lewisville-Clemmons Road, Lewisville, NC, 27023 USA.
APPENDIX H: Interview Guide

Date:
Place:
Time of interview:
Interviewer:
Interviewee:
Position of Interviewee:

1. Was there any part of your schooling or professional development that has affected your beliefs and practices related to outdoor play? Please share anything that you feel has affected your beliefs.

2. Describe your outdoor play schedule. How much time does your class typically spend outside on the playground on days when the weather is nice? What type of weather prohibits your class from spending time outdoors?

3. Tell me about any factors that encourage you to take children outdoors on a daily basis. Tell me about any factors that discourage you from taking children outdoors on a daily basis. Have parents ever encouraged or discouraged you from taking children outside? What have they said to you? How do you handle this?

4. Do you plan specifically for daily outdoor play activities? If so, tell me about your typical plans for the outdoor time? Do you change or rotate the materials provided for children’s use on the playground? Do you ever plan for outdoor activities in an environment other than your school playground (i.e. field trips)? If so, please tell me about those activities.

5. Describe the ideal role of the teacher when children are on the playground. Do you feel you are able to achieve this ideal role when you are on the playground? Why or why not?

6. Some teachers would say that the outdoor playground should be an extension of the classroom for young children and guided opportunities for play and learning should be intentionally prepared for outdoor playtime. What would you say to them?

7. Some teachers would say that the outdoor play should be unstructured in order for the purpose for children to burn off surplus energy. What would you say to them?

8. How would you describe the ideal outdoor environment? What do you consider to be the most important components in outdoor playgrounds for young children?

9. How do you feel about your center’s playground? As a teacher what are some things you like about your playground? What would you change if you could?

APPENDIX I: Permission for POEMS

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Requested by:
Bryce Hershey Goodling, EdD
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Messiah College, Suite 3019
One College Ave.
Mechanicsburg, PA 17055
(717) 359-2607 cell
bgoodli2@messiah.edu

Name of Course:
EdD dissertation

Title of work for which selections are desired:
Exploring the Outdoor: A Multiple Case Study Examining Teachers Beliefs and Practices in Preschool Outdoor Play

LIST PRICE PUB DATE
n/a Fall 2016

Fees: none

Credit Line: Material from POEMS: Preschool Outdoor Environment Measurement Scale by Karen DeFord, Linda Heintzes, Robin Moore, Nihda Cosco, and Janet McSinniss (www.poems.org/poems.html). pages 11, 13, 15, 17 and 19, is reprinted with permission from Kaplan Early Learning Company, 1310 Lewisville-Clemmons Road, Lewisville, NC 27023, USA

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[Signature]

Kaplan Early Learning Company

Applicant's Signature

Date

Date
## APPENDIX J: Table of Documents

<table>
<thead>
<tr>
<th>Site</th>
<th>Website</th>
<th>Promotional brochures</th>
<th>Teacher handbook/policies</th>
<th>Family handbook</th>
<th>Classroom schedule</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Outdoor play included</td>
<td>N/A</td>
<td>“Good to know” supplement to employee handbook</td>
<td>Parent Essentials handbook</td>
<td>Yes</td>
<td>Employee orientation web training</td>
</tr>
<tr>
<td>2</td>
<td>Newsletter Outdoor play included</td>
<td><em>Engaging Children Through Natural Play and Exercise</em> and Informational brochure</td>
<td>Supervision policy</td>
<td>Parent handbook</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Outdoor play included</td>
<td><em>Environmental Trail Walk</em> brochure; <em>Take a tour of (Site 1’s) Green School Environment</em> flyer; Informational brochure; <em>Why Choose (Site 1)?</em> flyer</td>
<td>Playground safety guidelines and General supervision guidelines</td>
<td>N/A</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>
### Site 1 documents

#### “Good to Know” supplement to employee handbook

- **Health and fitness**
  - Highlighted on the website as one of 4 essential elements for childcare.

#### Center website

- **Children**
  - Must wear closed-toe footwear year-round to prevent injury from running, jumping and climbing.

- **Outdoor play**
  - Important for a child’s development; physical exercise

#### Family handbook

- **Children**
  - Go outside every day unless it is raining, very cold, or excessively hot.

#### Other

- **From director**
  - Teachers are evaluated on playground duties and supervision as part of a quarterly review.

### Planning for outdoors

- **Each classroom** has two scheduled play times, one in the morning and one in the afternoon.

- **2 scheduled outdoor times per day.**

### Teacher role/behavior on playground

- **Teachers** will take their classes out the doors at the end of the hallway.

- **Teachers** need to be aware of the blind spots on the playground and provide adequate supervision.

### Playground affordances

- **Teachers** need to get bikes and toys out of the shed and return them during their playground time.
<table>
<thead>
<tr>
<th><strong>Site 2 documents</strong></th>
<th><strong>Promotional brochures</strong></th>
<th><strong>Center website</strong></th>
<th><strong>Family handbook</strong></th>
<th><strong>Teacher handbook</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Teacher beliefs</strong></td>
<td>Outdoor play brochure with photos and explanations of the playground—“Engaging children through natural play and exercise” “Hands-on discovery in a natural setting” – on Site 2 brochure</td>
<td></td>
<td>On occasion children are walked to public parks or other places of interest for filed trips.</td>
<td></td>
</tr>
<tr>
<td><strong>Planning for outdoors</strong></td>
<td></td>
<td>Schedule: 10:30 – 11:30 am and 4:00 – 4:30 pm Closed toe shoes required for playground Outdoor play provided each day. Warm clothing needed for winter months.</td>
<td>Outdoor play is required each day unless conditions pose a health threat. Children should wear clothing layered for warmth including hats, mittens, snow pants and boots for outdoor play when there is snow.</td>
<td></td>
</tr>
<tr>
<td><strong>Teacher role/behavior on playground</strong></td>
<td></td>
<td></td>
<td>Children supervised by sight and hearing at all times. High risk play areas will receive most staff attention (swings, climbers, slide). Staff have attendance sheets outside to monitor drop off and pick up times.</td>
<td></td>
</tr>
<tr>
<td><strong>Playground affordances</strong></td>
<td>Playground affordances pictured and benefits explained in brochure.</td>
<td></td>
<td>Parents asked to contribute “Loose parts” to add to children’s creative play, both indoor and out, to the family picnic. Newsletter describes a gardening theme and activities on the playground.</td>
<td></td>
</tr>
<tr>
<td>Site 3 documents</td>
<td>Promotional brochures</td>
<td>Center website</td>
<td>Family handbook</td>
<td>Teacher policies</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------------</td>
<td>----------------</td>
<td>-----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Teacher beliefs</td>
<td>Environmental trail brochure describing the watershed, flora and fauna, and human impact on environment. “The school building, grounds, and daily routines designed to foster caring for the environment.”</td>
<td>The school’s curriculum integrates subject areas in a natural way and includes opportunities for outdoor play as well as all other curricular areas. Recognized as a national Wildlife Federation Schoolyard Habitat.</td>
<td>Parents sign a contract for 10 hours of volunteerism to assist the school each year. Parents help with playground and landscape upkeep.</td>
<td>Exploration and creative activities in nature are encouraged. Limited number of safety guidelines are in place for the outdoor environment in order to not inhibit active and creative outdoor play.</td>
</tr>
<tr>
<td>Planning for outdoors</td>
<td>Curriculum presents a balance of teacher directed and child selected indoor and outdoor activities. From the beginning, the school’s curriculum has always encouraged learning about and concern for nature.</td>
<td>Two or more recess periods provided each day for free choice outdoor play. Warm clothing needed for winter months.</td>
<td>Outdoor play is required each day unless conditions pose a health threat. Children should wear clothing layered for warmth including hats, mittens, snow pants and boots for outdoor play when there is snow.</td>
<td></td>
</tr>
<tr>
<td>Teacher role/behavior on playground</td>
<td></td>
<td></td>
<td>Teachers responsible for supervising outdoor play with optimal visibility. “Adults supervising children are to be actively engaged in play, supervision, and guidance of children on the playground.”</td>
<td></td>
</tr>
<tr>
<td>Playground affordances</td>
<td>Playground affordances pictured and benefits explained in brochure.</td>
<td>Parents are asked to bring a contribution of “Loose parts” to add to children’s creative play, both indoor and out, to the family picnic. Newsletter describes a gardening theme and activities.</td>
<td>Use of the hard surface parking lot for bicycles is permitted when an adult is present and cones are in place to keep cars out. Children may use the wooded trails supervised by an adult.</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX L: A Priori Themes and Codes

**Theme 1: Research Q1:** How do early care and education teachers describe their beliefs and perceptions of outdoor play practices?

1. Value of outdoor play
   a. Childhood experiences
   b. Education
   c. Teaching environments

2. Purpose of outdoor play

**Theme 2: Research Q2:** How do early care and education teachers plan for outdoor play as a part of their preschool curriculum?

1. Planning for outdoors
   a. Allow for independent play
   b. Planning for all areas of the curriculum
   c. Schedules

2. Policies and regulations

**Theme 3: Research Q3:** What behaviors do early care and education teachers typically exhibit when on the playground with their students?

1. Supervision
2. Scaffolding learning

**Theme 4: Research Q4:** How do the affordances of the playground environment influence teachers’ beliefs and practice?

1. Playground affordances
   a. Loose parts
   b. Safety and affordances
   c. Ideal playground
APPENDIX M: Sample Code Family Network View from Atlas.ti.7
APPENDIX N: Audit Trail


Pilot interview protocol – January 12, 2015

IRB application submitted – March 16, 2015

Conditional IRB approval – April 12, 2015

Site 1 permission – April 8, 2015

Site 3 permission – April 22, 2015

Site 2 permission – April 27, 2015

IRB Approval – April 29, 2015

Site 3 Carrie playground observation and interview – May 29, 2015

Site 3 Grace playground observation and interview – June 3, 2015

Site 3 Lauren playground observation and interview – June 3, 2015

Site 2 Kelly and Donna observation – June 19, 2015

Site 2 Pam observation – June 22, 2015

Site 2 Kelly, Donna and Pam interviews – June 22, 2015

Site 1 Mary, Jane, Liz playground observations - June 25, 2015

Site 1 Jane, Liz, Mary playground interviews – June 26, 2015

Submitted Chapter 4 to dissertation chair for review – May 16, 2016

Dissertation draft submitted for committee review – July 5, 2016

Dissertation draft approved by committee – July 14, 2016
APPENDIX O: Sample Reflective Journal Pages

5/10
Organized site documents into plastic collapsible folders.
Site 3 description
Added photo for site description

5/11
Wrote teacher descriptions

5/12
Completed photos - B&W
Wrote final board post
Teacher descriptions for site 1

5/13
Finished teacher descriptions

5/15
Finished teacher descriptions
Added this section to chapter 4 and emailed to this week's case study analysts for research questions.

5/20
Recorded line [5] to 075

5/21
Finished second round of coding
Put into familiar according to research questions

5/25
Revised list of themes and codes
Added table shells for document data to appendix
Added quotes for RQ 1 and 2

6/27
Descriptions from chapter 4 sent to directors and participants for member check

6/28
Heard back from all 3 directors - Site 3 had a few changes
Have not heard back from any teachers.