

A CASE STUDY ON THE IMPLEMENTATION OF ADDITIONAL DAILY PHYSICAL
ACTIVITY BEYOND THE STATE-REQUIRED GUIDELINES

by

Frances Eugenia Phipps

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

Liberty University

2019

A CASE STUDY ON THE IMPLEMENTATION OF ADDITIONAL DAILY PHYSICAL
ACTIVITY BEYOND THE STATE-REQUIRED GUIDELINES

Frances Eugenia Phipps

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

Liberty University, Lynchburg, VA

2019

APPROVED BY:

Dr. Vonda Beavers, Ed. D., Committee Chair

Dr. Susan Lovett, Ed. D., Committee Member

Dr. Cari Maneen, Ed. D., Committee Member

ABSTRACT

The purpose of this qualitative case study was to provide an in-depth understanding of teachers', principals' and educational stakeholders' viewpoints of students in 3rd, 4th and 5th grades pertaining to the incorporation of additional daily physical activity into the school day above the state-mandated 30 minutes in an elementary school in rural Western North Carolina. Research questions included: How does additional daily physical activity implemented in the school day influence student cognitive development? Why has additional daily physical activity time been incorporated into the school day? How does extended play benefit students beyond cognitive impact? Personal semi-constructed interviews with 11 teachers, principal of the school, and a focus group of educational stakeholders were conducted. Interviews were audio recorded and transcribed by the researcher to give detailed description of the cases. Upon review of the transcription of the interviews and focus groups, the researcher determined how each participant had experienced the implementation of additional daily physical activity into the school curriculum. Significant statements were established and assigned a code, allowing for condensation of data into broad themes. Physical artifacts were examined to provide insights into the principles and philosophies that provided direction to the school life and activities. This study found that physical activity provides brain breaks, addresses the whole child, promotes problem solving and provides opportunity for released energy.

Keywords: recess, daily physical activity time, state mandate of required physical activity, cognitive development

Dedication

First, giving all glory and honor to God for the successful completion of this endeavor, I dedicate this project to Him. He has showered me with immeasurable blessings as I pursued the completion of this degree.

I thank God for blessing me with my wonderful husband, David, who encouraged me as I persevered through this process, traveling with me to Liberty and keeping occupied while I was in class. You never complained about the hours I spent at the kitchen table researching and writing. Without your love and confidence in my ability to complete this huge task, I would not have been persistent in finishing the race. Your belief in my ability to finish what I started kept me going even when I wanted to abandon the journey.

To my children: Brittany, Maggie, Sarah, Brett, and Clark, thank you for your encouragement and belief and support. I hope each of you always remember that within yourself is the potential to accomplish great things. I love each of you with my entire heart.

Acknowledgments

Thank you, Dr. B, for your encouragement, patience, guidance, and insights. You have truly blessed me, and I would not have finished this demanding process without your support and prayers. You are the best chair ever!

Thank you to Dr. Maneen and Dr. Lovett for serving on my dissertation team. You are two wonderful people who helped me to meet high standards in the doctorate process. Your comments, questions, and suggestions facilitated the development of a thorough investigation of my research topic.

Thanks to my colleagues, Julie and Rebekah, for your continuous encouragement and for believing in me when I didn't think I could do this.

Table of Contents

ABSTRACT.....	3
Dedication.....	4
Acknowledgments.....	5
List of Tables	11
List of Figures.....	12
List of Abbreviations	13
CHAPTER ONE: INTRODUCTION.....	14
Overview.....	14
Background.....	14
Historical.....	15
Theoretical	17
Situation to Self.....	19
Problem Statement	20
Purpose Statement.....	22
Significance of the Study	22
Research Questions.....	24
Definitions.....	25
Summary.....	26
CHAPTER TWO: LITERATURE REVIEW.....	27
Overview.....	27
Theoretical Framework.....	28
Related Literature.....	30

Background Information	31
Theoretical Basis for Play	33
21st Century Theories	37
Educational Policies Impact.....	38
Recess Policies	39
Physical Benefits of Recess	43
Cognitive Benefits of Recess	47
Social Benefits of Recess	51
Emotional Benefits.....	55
Challenges of Recess	56
Physical Education.....	57
Summary	60
CHAPTER THREE: METHODS	62
Overview.....	62
Design	62
Research Questions	64
Setting	64
Participants.....	65
Procedures.....	66
The Researcher's Role	68
Data Collection	69
Interviews.....	70
Document Analysis.....	74

Focus Groups	74
Data Analysis	76
Memoing	76
Documentation Analysis	76
Bracketing	77
Theoretical Propositions	77
Trustworthiness	77
Credibility	78
Dependability and Confirmability	78
Transferability	79
Ethical Considerations	79
Summary	80
CHAPTER FOUR: FINDINGS	81
Overview	81
Participants	82
Principal	82
Fifth Grade Teachers	83
Fourth Grade Teachers	84
Third Grade Teachers	86
Educational Stakeholders Focus Group	87
Results	87
Theme Development	88
Theme 1: Physical Activity Provides Brain Breaks	90

Theme 2: Physical Activity Addresses the Whole Child.....	93
Theme 3: Physical Activity Promotes Problem Solving.....	94
Theme 4: Physical Activity Provides Opportunity for Released Energy.	96
Document Analysis.....	98
Research Questions Responses	105
Central Question	106
Research Question 1	106
Research Question 2	107
Research Question 3	109
Summary	110
CHAPTER FIVE: CONCLUSION.....	112
Overview.....	112
Summary of Findings.....	112
Discussion.....	114
Theoretical	114
Empirical.....	115
Implications.....	118
Theoretical Implications	118
Empirical Implications.....	119
Practical Implications.....	120
Delimitations and Limitations.....	123
Recommendations for Future Research	124
Summary	126

REFERENCES	128
APPENDICES	156
Appendix A: IRB Approval	157
Appendix B: Letter to Superintendent	158
Appendix C: Letter to Administrator/Principal	159
Appendix D: Letter to Teachers.....	160
Appendix E: Letter of Consent Form Letter Teacher	161
Appendix F: Letter to Parents	162
Appendix G: Letter of Consent Form Letter Parent	163
Appendix H: Interview Questions for Teachers	164
Appendix I: Focus Group Questions for Educational Stakeholders	166
Appendix J: Principal Interview Questions	167

List of Tables

Table 1 Codes Related to Themes	90
---------------------------------------	----

List of Figures

Figure 1. School lobby.....	102
Figure 2. 7 Habits Tree.	102
Figure 3. Tree branch 1.....	103
Figure 4. Tree branch 2.....	103
Figure 5. Log display.....	104
Figure 6. Playground.....	104
Figure 7. Soccer field.....	105

List of Abbreviations

Active Healthy Kids Canada (AHKC)

Adequate Yearly Progress (AYP)

Every Student Succeeds Act (ESSA)

Leader in Me (LiM)

Magnet Resonance Imaging (MRI)

Moderate to vigorous physical activity (MVPA)

More Knowledgeable Other (MKO)

No Child Left Behind (NCLB)

Physical Activity (PA)

Program for International Student Assessment (PISA)

Zone of Proximal Development (ZPD)

CHAPTER ONE: INTRODUCTION

Overview

The purpose of this qualitative case study was to provide an in-depth understanding of teachers', principal and stakeholders' beliefs regarding the influence that extended play may have on cognitive development in students who attend an elementary school in Western North Carolina. This first chapter communicates that recess has been eliminated or greatly reduced in elementary schools due to a greater focus on academics. This reduction of recess led to the purpose of this study and forms the research questions guiding this study. This chapter also includes the significance of the research and concludes with a listing of definitions, which are applicable to this study.

Background

Once considered a part of every child's day in elementary school, recess has come to be viewed with disapproval and has faced elimination for numerous reasons that include, but are not limited to, high-stakes assessment, No Child Left Behind (NCLB, 2002), and competition for limited funding (Kohler, Kilgo, & Christensen, 2012; Thompson & Allen, 2012). The pressure of increased time on task and performance on standardized tests are the most often cited reasons for the decline of recess. Even primary classrooms are increasingly faced with political and community pressure to focus more on teaching literacy and other academic skills to young children (Dickey, Castle, & Pryor, 2016). The demands of the federal No Child Left Behind legislation has resulted in schools accounting for every minute of each student's day, asserting that recess is misused time that could be better spent on academics (Dills, Morgan, & Rotthoff, 2011). Recess has been scrutinized by school boards and policymakers aiming to remove recess from children's school experience (Holmes, 2012). According to Beighle and Morrow (2014),

elementary schools in Atlanta, GA are being built without playgrounds as recess has been terminated entirely in those public schools. According to one approximation, 40% of schools in the United States have either removed recess or are deliberating doing so (Deruy, 2016).

As the focus on greater academic achievement throughout schools increases, the role of physical education and recess has lost ground to more academic priorities. This focus is evident in The National Conference of State Legislatures (2016), which reported in the preceding 10 years nearly all 50 states implemented standards-based accountability systems with the intent of improving education. To have a complete understanding of the significance of play in the lives of children, play must be examined in different contexts, beginning with its vast history.

Historical

Play is a worldwide occurrence; every society has a form of play (Dasen, 1984). Many examples of children playing can be found throughout history. An impressive illustration was recorded during the Revolutionary War. While soldiers were using the Boston Common for training purposes, students' playground time was disturbed, resulting in student protests to the governor, who responded with orders to the soldiers to vacate the area for the students (Mulrine, 2000). Amos Alcott (1739-1888), one of the earlier activists of education, proposed that children needed opportunities in their school day allotted to recreation and social interaction (Alcott, 1836). Recess has been included as part of the student's school day, albeit as non-curricular time, since public education began in the early 1800s (National Center for Education Statistics, 2010). During the 1900s, recess breaks included stretching exercises, archery, swimming, tennis, and basketball (ThinkQuest, 2013).

Throughout the history of recess, numerous theories on play dating back to the 18th and 19th centuries considered play and its effects on children's development. Theories including the

surplus energy theory, novelty theory, cognitive hypothesis theory, recapitulation theory, and recreation theory all help to explain both the perceptions and the reasons children play. Play is one of the most valuable educational opportunities that can be provided to students. Play time provides the productive foundation where students fortify social bonds, shape emotional maturity, advance cognitive skills, and progress physical health (Walker, 2014).

A twofold dialogue surrounds the notion of school recess. Recess is assumed to be a customary part of the elementary school day—a time when students can go outside, get away from structured classroom organization, academics, and participate in physical or social interactions with their peers. Advocates of recess reiterate that recess serves multiple purposes, many of which are understated and challenging to quantitatively measure (Fiorelli & Russ, 2012; Hyvonen, 2011). One of those purposes are the physical benefits of recess and free play. Active children often become active adults with lifelong physical activity incorporated in their lives that may prevent obesity and other health-related diseases. The importance of play has been cited in academic success of students. Pellegrini and Davis (1993) suggested that social interaction on the playground transfers to learning skills in the classroom.

Alternatively, recess is viewed by some as an out-of-date and unnecessary break in the school curriculum. This current undertaking to remove recess from the school day is not the first time that recess has been susceptible to public opinion. The Puritans of the Massachusetts Bay Colony banned recess because playfulness was not next to godliness (Schudel, 2001). Recess was first implemented when school academic accomplishments were less critical to students' future lives.

Research asserts that educators' lessons and preparations are expanding in early childhood classrooms (De Hann, Elbers, & Leseman, 2014; Nitecki & Chung, 2013). With

increased pressure to meet educational standards, recess may be viewed as infeasible in a time when schools must allocate additional resources to academics and fewer resources providing a safe outdoor play environment (Cobb-Clark & Jha, 2016; Craig, Imberman, & Perdue, 2013). Nicholson, Bauer, and Wooley (2016) observed the implementation of the 2001 federal NCLB Act imposed several procedures that school systems used to justify the abolition of recess: introduction of “teacher-proof,” scripted curricula; continuous monitoring of student performance; high-stakes testing; and the punishment of teachers, administrators, and students if they do not meet external standards.

Theoretical

Quantitative research studies abound in the statistical realm of physical activity and the benefits it provides to students (Efrat, 2013; Haapala et al., 2014; Ickes, Erwin, & Beighle, 2013; Pawlowski, Tjørnhøj-Thomsen, Schipperijn, & Troelsen, 2014; Woods, Graber, Daum, & Gentry, 2015). Yet there is a gap in the literature that offers an in-depth understanding of the influence on cognitive development of students who attend schools that provide additional daily physical activity within the school day beyond the state-mandated 30 minutes (North Carolina State Board of Education, 2014).

Recess both affords time for the brain to recuperate between complex cognitive tasks and decreases fidgety, off-task behaviors and children with ADHD (attention deficit/ hyperactivity syndrome) are among those who benefit most (Jarrett & Waite-Stupiansky, 2009). With recess no longer being a part of the school day, teachers often explore methods to counterpoise student behaviors that may impede learning. Various theories support the idea that a recess break is a necessary part of the school day. Pellegrini (1995) cited the surplus energy theory, which implies surplus energy collects when students are sitting in the classroom and are engaged in

sedentary activities, resulting in the need for an opportunity for physical activity to blow off steam. The novelty theory (Berlyne, 1966) proposed that people function better when they have a variation of pace. When people are involved in an activity long enough to become comfortable, they become uninterested and seek newness (Yawkey & Pellegrini, 1984). Additional research on spacing the presentation of information indicates that children and adults remember more when the material is dispersed and participation in task is spaced over time (Sindelar, 2004; Toppino, Kasserman, & Mracek, 1991).

Play is a fundamental part of children's development as it provides a time within the school day to join in and obtain the benefits linked with free play. Piaget's (1969) theory of play provided a basis for the importance of additional daily physical activity being accessible to students and was derived from two fundamental components: experience and development (Quraishi & Shirotriya, 2013). Piaget approached play as an extension to his theory of intellectual development, which explained that development occurs as children become more cognizant of their environment. Environmental objects provide students with experiences unique and meaningful to themselves. These experiences are referred to as schemas. For example, cognitive structures increase as children assimilate new experiences into a limited amount of motor and cognitive skills (Quraishi & Shirotriya, 2013). Real learning is not something given by the teacher to the child, but something that originates from the child. Social interactions provide educational value since children are encouraged to think logically and deliberate various viewpoints when interacting with others during these social interactions (Piaget, 1962). The cognitive theory of play embraces four types of play: functional play, constructive play, pretend play, and fantasy or dramatic play. Individually, each type of play is tiered from simple to multifaceted and builds on a child's intellectual processes (Play Works, 2015).

Situation to Self

I have personal and professional reasons for this study. Personally, I attended a small rural elementary school where we played with little or no teacher supervision. When my fourth-grade teacher wanted us to come inside, he would simply yell out the window. Many days it seemed we played forever. I did not appreciate the freedom that was afforded to me. Now as a mother of five children, I witness firsthand the benefits of physical activity for body and mind, often going beyond the laughter, running, jumping, and climbing as our family takes hikes and spends weekends outdoors whenever possible.

In my professional life, when asking students about their favorite part of the day, the reply I receive frequently is “recess.” Professionally, it is essential for me to recommend approaches that are in the students’ best interests. My teaching career has spanned 28 years and other teachers often approach me for advice and my professional opinion concerning educational decisions that can potentially impact students. My interest in play began as I sought to receive National Board Certification. One component focused on the importance of play being present in the elementary classroom. That process contributed to my belief that a solid educational foundation that includes play is essential in students’ childhood experiences. Furthermore, I serve as a mentor to new teachers in my school and I take that responsibility seriously as those teachers trust me to provide guidance both in and out of the classroom. The support I provide touches the students in those teachers’ classrooms.

The elementary school used for the study is in rural western North Carolina. I do not have personal relationships with the research site or teachers, principal, and additional educational stakeholders. This absence of relationships reduced the potential biases in the research. To further reduce personal bias, I reported findings to two or three colleagues for

alternative suggestions and explanations of the data collected.

This research was conducted based on an ontological philosophical assumption (Creswell, 2013). My assumptions about research shaped how I designed this study. As a researcher, I believe that it is important to gain an in-depth understanding of how educators view the incorporation of additional play time into their curriculum and the influence it may have on student cognition. I assume the participants responded to the interview questions honestly and openly. By interviewing in a bounded case system, all the educators have experienced the same phenomenon and have a sincere interest in participation of the research. I collected data from 11 elementary teachers, the principal, and educational stakeholders to report the different participants' viewpoints. These multiple views of the incorporation of extended play provided multiple views of reality. Their quotes and themes from the discussions guided the study.

As the researcher, I made ontological, epistemological, axiological, rhetorical, and methodological philosophical assumptions. This was achieved through the quoting of the participants. A social constructivist paradigm was employed as this research relied on the participants' views and perceptions of the extended play. My background as an elementary school teacher shaped my interpretation (Creswell, 2013). I have extended play incorporated into the school day with my students; therefore, I am compelled to understand how other elementary school teachers view the influence of the extended play on students' cognitive development. Lastly, following a methodological assumption design required that I expect changes within my research questions to improve the quality of the design as my research developed (Creswell, 2013).

Problem Statement

Play is a healthy, essential part of childhood. Educational research supports the belief

that physical activity benefits students in a variety of ways. Recess providing a positive impact on the educational aspect of students' lives has been reported in many studies. Shapiro, Williams, and West (2015) showed "a clear penalty of consecutive classes, especially for the lowest-performing students. Scheduling free periods and P.E. so they provide breaks throughout the day is beneficial to students" (p. 24). Peer interaction that takes place during play is of value for students as well. Studies have shown that children's social competence with peers is a powerful and complementary predictor of school performance and adjustment (Del Prette, Del Prette, De Oliveira, Gresham, & Vance, 2012). Numerous quantitative studies have explored the outcomes of recess interventions on children's physical activity levels, movement patterns, and observations among which findings show that precise interventions have the maximum influence on children's physical activity during free play time (Efrat, 2013; Haapala et al., 2014; Ickes et al., 2013; Pawlowski et al., 2014; Woods et al., 2015).

Educators face the stress of meeting Adequate Yearly Progress (AYP) on state assessments due to the NCLB Act (2002), which has led to less time for non-core subjects (Chang & Coward, 2015; Moyer, 2014). Every Student Succeeds Act (ESSA) was signed into law by President Obama in 2015. ESSA included provisions that will help ensure success for students and schools. Recess is not specifically included in academic standards, thus contributing to the difficulty of including time for play since the areas of content students are expected to learn seems to be endlessly growing (Hatcher, Nunner, & Paulsel, 2012). The problem is few qualitative research studies have provided an in-depth understanding of how educators, principals, and educational stakeholders feel additional daily physical time, beyond the state-mandated time of 30 minutes in the school setting, impacts cognitive development in their students.

Purpose Statement

The purpose of this qualitative case study is to provide an in-depth understanding of the principal, teachers', and educational stakeholders' viewpoints on how extended play incorporated into the school day, above the state-mandated 30 minutes, in an elementary school located in rural western North Carolina influences students' cognitive development. In this study, daily physical activity and extended play were generally defined as opportunities provided to elementary students to participate in lively, collective, and group experiences both in and outside the classroom (Roskos & Christie, 2011). The theory guiding this study was Piaget's (1962) theory of play as this theory demonstrates the importance of play in children's learning development. McLeod (2015) found recurring themes in Piaget's theory included individual learning, flexibility in the curriculum, the centrality of play in children's learning, the use of the environment, and learning by discovery.

Significance of the Study

Substantial research has been conducted in relation to impactful recess interventions, relationships between playground areas and physical activity levels, differences in physical activities based on the season of the year, activity levels based on gender, physical activity levels in relation to peer relationship, and measurements of school physical environments and their effects on play (Brusseau, 2015; Haapala et al., 2014; Ickes et al., 2013; Martin, Bremner, Salmon, Rosenberg, & Giles-Corti, 2012). Additional studies have looked at creating conditions in primary schools that provide the formation of cognitive interests, skills and abilities of thinking activity, intellect qualities, and creative initiative (Almakhan & Manshuk, 2014).

While numerous studies exist, most being quantitative in origin, the empirical significance of this study sought to provide an in-depth understanding of the principal's,

teachers', and educational stakeholders' viewpoints on how extended play incorporated into the school day, above the state-mandated 30 minutes, in an elementary school located in rural western North Carolina may influence students' cognitive development. This in-depth understanding was obtained through interviews with the participants. The results of this study are applicable in the practical, day-to-day decisions of those governing rural school districts, as the study provided insight into the value of the additional play time in the schools. This is significant in that it may help inform the policy makers of the benefits of incorporating additional time for daily physical activity within the school day, resulting in providing research-based evidence to continue providing the additional play time. In other scenarios, this study may provide the substantiation to establish the addition of play time into the day in schools that otherwise did not offer the additional time to their students.

Teachers are held individually accountable to parents, administrators, and the public for student achievement to a greater extent than ever before (Ballou & Springer, 2015; Steinberg & Donaldson, 2016). The theoretical significance of this study may be significant, as educational leaders look closely at how extended play may influence cognitive development, in assisting leaders in determining how better to support teachers in incorporating extended play.

Additionally, this study may build upon the applied theories of Piaget's (1962) cognitive development and may help leaders in education understand why extended play is important.

This study may have additional empirical significance as it adds to the research where a gap exists in qualitative studies providing an in-depth understanding of viewpoints of additional daily physical activity beyond the state-mandated 30 minutes. This research may help make connections between what has been studied about the benefits of recess and the reasons that extended play may be helping student cognitive development.

Research Questions

In this study I focused on lived experiences regarding how extended play may influence student cognitive development in a rural elementary school in Western North Carolina that has additional daily physical activity incorporated into the school day beyond the state-mandated time of 30 minutes. Based on the purpose of this study, the following questions framed the research:

RQ1: How does additional daily physical activity implemented in the school day influence student cognitive development in grades 3, 4, and 5?

Murray and Ramstetter (2013) stated the growing movement of allocating time in school with the emphasis on more academic subjects has led schools to eliminating recess for their students. For most students, physical activity takes place during physical education (PE) classes and not on the playground. PE teachers hope to help students become physically fit and learn behavioral skills that will promote physical fitness outside of the gym (McKenzie & Lounsbery, 2013). However, many people feel that daily physical activity benefits students beyond the physical realm. Doctors hold to the belief that “recess is a crucial and necessary component of a child's development and, as such, it should not be withheld for punitive or academic reasons” (Council on School Health, 2013, p. 183). Furthermore, another study contributes to the current knowledge by suggesting that the intensity of PE sessions might play a role in the positive effect of physical activity on cognition and academic success (Arday et al., 2013).

RQ2: Why has additional daily physical activity time been incorporated into the school day in grades 3, 4, and 5?

The play environment of children is central as it encourages, motivates, and inspires the child and shapes a child's cognitive structure (Crain, 2011). Numerous authors have

documented concerns that administrators, educators, and parents have with school recess (Barrios, Jones, & Gallagher, 2007; Simon & Childers, 2006). With this question I seek to understand the reasons why this school provides the additional daily physical activity for their students and the reasons for doing so.

RQ3: What is the impact of extended play for students in grades 3, 4, and 5 beyond cognitive impact?

Recess provides students with a learning environment that provides opportunities different from the structured classroom. Recess offers students interactions with their peers in communications and negotiations (Holmes, Pellegrini, & Schmidt, 2006). Academic instruction and accountability have contributed to the decline of the popularity of recess in the schools. Increased emphasis on academics is assumed to be the means to meet educational standards (Simon & Childers, 2006). This question may provide the researcher with an understanding of the impact of the additional daily physical activity beyond academics.

Definitions

The definitions below are relevant to this study and are representative of the terminology utilized in relation to the literature used to address the topic, theoretical framework, and case study design.

1. *Recess*—This term refers to regularly scheduled time within the school day for unstructured physical activity and play (Centers for Disease Control and Prevention, 2011).
2. *Daily physical activity*—This term is used interchangeably with the above definition of recess (Centers for Disease Control and Prevention, 2011).
3. *No Child Left Behind*—This law took effect in 2002 and has had a far-reaching impact

- on U.S. public school classrooms. The law affects what students are taught, the tests they take, the training of their teachers and the way money is spent on education (No Child Left Behind [NCLB], 2002).
4. *Cognitive performance*—This term refers to skills and strategies associated with school-based learning (Pellegrini & Bohn, 2005).
 5. *North Carolina mandated physical activity law*—This law was enacted for schools in which PE was not currently offered daily to all K-8 students, mandating a minimum of 30 minutes daily of moderate to vigorous physical activity be provided by schools for all K-8 students. This requirement can be achieved through a PE class offered to all students. On days when PE is not part of a student’s schedule, the 30-minute physical activity requirement can be met by activities such as recess, dance, classroom energizers, or other curriculum-based physical activity programs (North Carolina State Board of Education, 2014).

Summary

The implementation of NCLB (2002) has transformed what is included and excluded within the hours that students are present in their school. There is a gap in the literature pertaining to an in-depth understanding of the viewpoints that educators possess of the additional daily physical activity included in the school day beyond the mandated physical activity. This qualitative case study sought to gain an in-depth understanding and provide information to educators, administrators, and parents regarding additional daily physical activity. The research background, situation to self, problem and purpose statements, significance, research questions, and definitions have been explained in this chapter.

CHAPTER TWO: LITERATURE REVIEW

Overview

This chapter is an overview of the literature and information on the theories that guided this study and the concepts specific to children's play and the current academic expectations in schools. Play is an influential, contextual, and intricate construct, which may be influenced by individual beliefs, education, generation, and culture. Play is a concept that, regardless of its complexity and diversity, many agree is the natural means children use to acquire knowledge about life experiences. However, children's play can, in some contexts, be taken for granted. Academic tasks are identified with learning, and play is associated as an interruption from learning or unpretentiously pointless. Play is often viewed as simplistic in nature, thus leading adults to disregard the importance of play for the sake of play and, potentially, to restrain play opportunities (Varea, 2016).

Over the last 30 years, standards-based education, with a growing emphasis on articulating standards and raising academic achievement, has become the primary focus of education policy in the United States (Walker, 2016). Students no longer receive a break from academic studies and classroom expectations due to the extreme focus on academics (Ljung-Djärf & Olander, 2013). Opportunities provided that allow children to play outdoors are decreasing. British author and outdoor play advocate, Tim Gill (2004) 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). Within this chapter, the researcher will discuss the theoretical framework, related literature and a summation of the content to form the foundation for the gap in the literature.

Theoretical Framework

Researchers and policymakers emphasize that early childhood is a critical developmental stage with the potential to impact academic and social-emotional outcomes (Cooper, Moore, Powers, Cleveland, & Greenberg, 2014). A central constraint of education is that teachers do not simply transmit knowledge to students. Students must actively construct knowledge in their own minds. They do this through discovery, reworking information, checking new information against old, and revising rules when they no longer apply. This constructivist view of learning considers the learner as an active agent in the process of knowledge acquisition (Olusegun, 2015). Constructivist concepts of learning have their historical roots in the work of Dewey (1984), Bruner (1961), Vygotsky (1962), and Piaget (1980). The focus on children's ability to meet the cognitive, physical, and social demands of school success continues to be at the forefront in education (Davies, Janus, Duku, & Gaskin, 2016).

A developmental epistemology that focused on the growth of intelligence was introduced by Swiss clinical psychologist Jean Piaget. Piaget's (1962) cognitive-developmental theory was intertwined with the process and content of intellectual development. From a Piagetian point of view, play could be regarded as a cognitive behavior. As a constructivist, Piaget believed learning is developmental and children progress through developmental stages as they grow. This view of learning suggests students should be provided with opportunities for concrete, contextually meaningful experiences.

Four components contribute to Piaget's cognitive development theory, which encompass the physical environment, the social environment, maturation, and equilibrium. Piaget (1962) believed that these components influence students' intelligence growth. Children are active and motivated listeners. This is evident as soon as they are given a new toy to play with or the

opportunity to engage in new surroundings. Engagement with the new toy or environment will occur as the children gather new information. Knowledge is constructed from their involvement in new environments with new objects. Interaction with one's physical environment is vital for cognitive development (Piaget, 1962).

Piaget (1962) maintained that children build knowledge and schema through a formalized process of imitations, assimilations, and accommodations. Biological maturity is the emphasis as a condition for learning in Piaget's stages of play. The first stage, the sensorimotor stage, characteristically takes place from birth through the acquisition of language. During this stage infants develop an understanding of their world by coordinating experiences with physical interactions with objects. Children at this stage realize that they are separate from their environment and the concept of object permanence develops. By the conclusion of this stage, children have learned to recognize themselves from objects.

Piaget's second stage of development is the preoperational stage, which occurs from the time children develop language until around age 7 (Piaget, 1964). During this stage of development, children learn through pretend play. They develop imaginative skills during this time along with symbolic play. Children struggle with understanding others' perspectives during this stage along with logic and manipulating information they attain. It is during these stages that children learn through reflexes, senses, perceptions and through playful activities. Engagement in make believe and fantasy role playing takes place in this stage. Language skills in which symbols are used to mentally represent objects is being developed. This period of play is crucial to cognitive development. Internally the child is cultivating understanding and knowledge; however, externally the child is unable to convey this information. Therefore, play is essential for the child to be able to transfer this cognizance to others. The second two stages of

development occur from the ages of 7 to 12 when reasoning, concepts, and hypotheses can correspondingly be accomplished through play-based activities. Piaget (1962) contended that as children pass through the different cognitive stages of development their play experiences change because play is one of the facets of any activity.

Play in Piaget's standpoint denotes cognition. Through an experience, the child acquires knowledge, assimilates new information to the learning occurrence, then accommodates to process the experience. Through his own cognitive development theory, Piaget alleged that individuals cannot be given information to immediately understand and use; instead it is essential that children construct their own knowledge. Consequently, through the action of play children begin to construct their own knowledge through repetition, collaboration and interaction with peers and adults (Piaget, 1962). Kolb and Kolb (2010) restated that Piaget held to the belief that play permits students to generate their personal knowledge about the world by intermingling with their surroundings. Play is not the straightforward demonstration of elated entertainment; instead, it is over explicit stages of play that children increasingly advance, introductory at an early age. Peterson, Forsyth, and McIntyre (2015) found that early childhood educators noted one of their greatest struggles was to get administrators and parents to see the value in play. This research will give a voice to educators to communicate the importance of play in their students' education.

Related Literature

Play has been associated with moral, social, emotional, and cognitive learning and development as can be attested to the well-known saying, "Let my playing be my learning, and my learning be my playing" (Singer, 2013). The definition of play in the field of early childhood education is one that is difficult to accurately articulate. Professionals in the education field

overall agree that time for play offers many benefits for elementary school age children that encompasses both academic and social outcomes, yet the term within itself is a difficult one to express (Hughes, 2003; Lauer, 2011; Saracho & Spodek, 1998). According to the American Academy of Pediatrics, “Recess represents an essential, planned respite from rigorous cognitive tasks. It afforded time to rest, play, imagine, think, move and socialize” (Kennedy, 2013).

Many influences, including policy and administrative decisions, testing accountability, and social pressure have had an impact on the amount of time that play is given to students during the school day. Today’s children are playing differently and playing less, and many scholars fear that perhaps their play has a reduced value as well. Changes in play have also been credited to an increased popularity of technology, including television and video games, increased fears of safety of adult caregivers, and decreased access to school recess (Dealey, 2017). This section provides a synthesis of the current literature about the different aspects of recess in schools including physical, social, and the influence it has on the cognitive development of children.

Background Information

Providing free time for students during their school day has been a part of the school schedule for many years. The ancient philosopher Plato said, “Do not keep children to their studies by compulsion but by play” (Dickey, Castle, & Pryor, 2016). Beginning in the early 1800s, outdoor play was a part of early childhood education that was started with the German educator Friedrich Froebel’s kindergarten and nursery school movement. Outdoor play was not only thought to support the foundation of education for children but a vital component of education (Gray & MacBlain, 2015; Wilson, 2001). In 1884, in a paper delivered before the Department of Superintendents of the National Education Association, the philosopher and educator, W. T. Harris, disputed the question of the retention or abolition of recess. Harris

addressed the moral arguments against recess by saying the physical needs of the student outweighed the concerns over the loss of discipline in the schoolroom (Bossenmeyer, 2014). Harris was not alone in his thinking. A Harvard-educated author and philanthropist, Lee advocated for playgrounds in city schools and parks in the late 19th and early 20th centuries (Ramstetter & Murray, 2017). Lee was a leader in promoting school attendance and safe havens for play for all children, especially poor children in the urban core of Boston. Joseph Lee, the father of the playground movement said, "After all, "it is the supreme seriousness of play that gives it its educational importance. Play seen from the inside, as the child sees it, is the most serious thing in life. . . . Play builds the child. . . . Play is thus the essential part of education" (Ramstetter & Murray, 2017, p. 18). To many, educators play is viewed as a means for healthy growth, development and improving academic performance. Play historian Howard Chudacoff (2007) contended that the mid-20th century saw the golden age of unstructured play for American children and since about 1955, children's unstructured free play has been declining steadily. Although difficult to quantify precisely, outdoor free play in particular has declined greatly in the United States (Dealey, 2017). The Council on School Health (2013) released policy recommendations for all elementary schools stating that their belief is recess is a crucial and necessary component of a child's development. Additional benefits include improved classroom behavior regarding increased levels of attention and academic improvement in cognitive development and the furtherment of social development.

With the increase in academic pressures throughout the latter part of the 20th century, the importance on outdoor play seemed to be non-existent. To prepare children for later learning, priority was given to reading and math skills. While outdoor play has remained a part of the preschool schedule, early childhood teachers seem unclear on the process by which movement

experiences influence children's learning and how they personally should be involved (Gehris, Gooze, & Whitaker, 2015). The valuation of play continues to change in the 21st century. With high-stakes assessment, No Child Left Behind ([NCLB], 2002), Every Student Succeeds Act (2015) and the race for limited funding (United States Department of Education, 2016), play is no longer considered a priority for students during their academic day. The practices of elimination or reduction of recess has resulted in conflicting viewpoints and opinions of administrators, parents, and teachers. Literature in the field focuses on policies and administration influences on the current trend of recess being diminished in schools (Ballou & Springer, 2015; Bornstein, 2011; Cobb-Clark & Jha, 2016).

Both quantitative and qualitative studies exist regarding the role and the many facets of play in children's education. Quantitative studies extend the knowledge base with statistics and correlations regarding the intricacies of recess and influence on health, playground composition, gender roles in play, and other specific play interests (Brusseu, 2015; Chin & Ludwig, 2013). In contrast, qualitative studies contribute to the field of education through deeper considerations of primary motives for the decrease of recess time afforded to students (Varea, 2016; Woods, Graber, Daum, & Gentry, 2015). Additional benefits that can be associated with recess include both physical and social realms. The connection of recess to academics and cognition for students encompasses a wide range of information for teachers.

Theoretical Basis for Play

Play is an indispensable component of a child's development and growth. Milteer, Ginsburg and Mulligan (2012) categorized energetic play as a vital theme of childhood which is perhaps one of the utmost fundamentals of healthy development. Children's academic achievement, emotional, cognitive, and physical attributes are often all intertwined within

theories of play. During the 19th century, different child-centered pedagogies were developed that highlighted the needs, experiences, and interests for students (Dewey, 1997). Two theories exist that focus on explaining the relationship between recess and academic achievement for students.

The first theory explaining the relationship between recess and achievement is the novelty theory developed by Berlyne in 1966, which becomes pertinent for the awareness of the connection of behaviors within classroom after recess (Eden, 2010). This theory's foundation is based on the idea as class work becomes less engaging, children become less attentive and seek play to restore novelty or newness of the activity in which they have previously been engaged. This novelty theory supports the view that recess can provide opportunities to explore activities that are a contrast and a change from the academic learning that has been taking place within the classroom. When students return to class after recess, students view academic learning as novel (or new) once again. While switching from one type of focused academic activity to another may include cognitive benefits, this does not provide a break for students that is needed to ensure that "novelty" is established. The outcome instead results in accumulation of energy for the child (Pellegrini & Bjorklund, 1997). Students can learn more effectively if they are provided with non-focused, non-intellectual activities within academics. Recess can supply the novelty students need for increased focus on their academics.

Another related theory is the distributed effort theory, also known as task spacing effect by theorist Dempster (1988). Positive effects of distributed effort have specifically addressed the ways in which children learn numerous school-like tasks, such as native and foreign language, vocabulary, recall from text, and math facts. These studies have recognized the usefulness of task spacing on learning (Pellegrini & Bohn, 2005). Spacing of tasks may make them less boring

for students, which may correspondingly facilitate attention to the tasks. Attention to task, in turn, may be important to subsequent learning (Dempster, 1988; Felmlee & Eder, 1983). Recess can provide the space between tasks that will allow students being able to have more attention to cognitive tasks.

Numerous theorists, such as Herbert Spencer, Moritz Lazarus, Erik Erikson, Sigmund Freud, Albert Bandura, and Lev Vygotsky, have also endeavored to clarify the developmental influences of play in children. One of the earliest theoretical positions on play is the surplus energy theory. Herbert Spencer (1873), a 19th- century British philosopher and psychologist, is credited with the surplus energy ‘theory’ of play that is an extension of Friedrich Schiller’s work in evolutionary theory. Surplus energy theory, as proposed by Spencer, was the belief that if children sit for extended intervals of time in class, they accumulate surplus energy. Physical activity during recess is needed to use up this excess energy so that students can then concentrate on the less active academic tasks in the classroom (Burriss & Tsao, 2002).

The theory of surplus energy was the foundation for the relaxation or recreation theory of play developed by Moritz Lazarus in 1883, which distinguished play as necessary for the renewal of lost energy that occurs through daily activities (Play Works, 2015b). Play is seen as a means of recharging energy from cognitive activities that are new to the student. Play replenishes energy that reflects deep-rooted routines (Meredith, 2010; National Playing Fields Association, 2000).

Erik Erikson (1959) felt that as children are given the opportunity to try new things and formulate activities and create new games, they will develop initiative and feel secure. This will continue in the development of self-concept and the desire to try new things. If schools provide children with a safe space to experiment and appropriate stimuli to learn, the children will

continue to search out their purpose. When a child regularly begins interacting with other children at school, a fundamental component in this stage is play, as it offers children with an opportunity to discover their interpersonal skills through initiating activities (McLeod, 2013). In addition to the play age as a stage within a child's psychosocial development, Erikson (1959) investigated play in a therapeutic context and described many of his experiences as a psychoanalyst. Erikson's play therapy accommodated children who had traumatic events in their lives' experiences to work through those events. This reinforces the understanding that children play through events they do not understand, events they cannot take part in, and they use play to communicate these events, sometimes through re-enactment during play episodes or with toys.

Sigmund Freud (1936) developed the psychoanalytic theory accentuating the significance of play in social and emotional life. According to this theory, play provides children a platform to seek out unfulfilled wishes and aids in the exposure of hidden, unconscious wishes and conflicts. Play serves as a method for venting anxiety, tensions, conflicts, and frustrations that result from repressions and suppression of energy (Quraishi & Shirotriya, 2013). Through play, children resolve tensions and build their cognitive, emotional and moral aspects of life therefore contributing to their personality (Freud, 1946).

Albert Bandura's (1969) social learning theory provides a constructivist viewpoint on play. Bandura proposed a social learning theory, which suggested that observation, imitation, and modeling play a primary role in this process. Bandura's theory combines elements from behavior theories, which suggest that all behaviors are learned through conditioning, and cognitive theories, which consider psychological influences such as attention and memory. Using these experiences, children set and work towards accomplishing goals (Cherry, 2017). Previous reinforcement, promised reinforcement, and vicarious reinforcement act as motivational

factors for children (Kelly & Hagerty, 2010).

Vygotsky (1978) shared many of Piaget's assumptions about how children learn. However, he placed greater importance on the social context of learning. He used the terms zone of proximal development, attention and memory. Vygotsky essentially surmised genetics and social interactions in cooperation are the keys to cognitive development. He chronicled young children's play as motivated by their needs and desires, enabling them the opportunity for their unachieved desires to be realized. Play gives children the ability to use actions and imagination to meet a need. Vygotsky compared games with rules and pretend play by noting that games with rules come with a complex set of rules to follow. Pretend play is imaginary play but requires the players to follow a complex set of rules by agreeing to stay in their chosen roles. Vygotsky alleged play facilitates the child's developing cognition. In other words, children are not just practicing what they know during play: they are learning new things.

21st Century Theories

Diverse frameworks were accepted and recognized throughout the 19th and 20th centuries relating recess to children's social and emotional development. Additional theories are applicable to recess in the 21st century. Terence McKenna's (1998) novelty theory is based on developmental processes as model of time (also referred to as time wave theory). This theory is regarded as extended activity for children (McKenna, 1998). Eden (2010) specified that children's developmental process typically accompanies new events or discovery. When this process occurs, the new behavior becomes novel, resulting in stability and security. Connection with classroom academics can occur when students return from recess as they have energy to participate and engage in class work (Evans & Pellegrini, 1997).

Locke's (2004) theory of knowledge expressed that the thought processes in the mind

could be conveyed through words. The experience as Locke described is obtained from two main ideas: “simple ideas created by our interaction, and simple ideas developed out of our observations concerning our minds” (Locke, 2004, p. 1). Therefore, perception is attached with both sensation and preconception. Preconception must already exist but progresses through experience and only at this time can the mind arrive at perception (Locke, 2004). This theory of knowledge is interwoven with teachers’ perceptions of the school environment. Teachers must make sure that they are supporting the school mission while ensuring that they are instructing student achievement performance and providing a break from academics (Liakopoulou, 2011). These various theories, in conjunction with each other, advocate that recess provides students with necessary daily exercise while improving their ability for engagement in academics (Henley, McBride, Milligan, & Nicholas, 2007).

Educational Policies Impact

Educational assessment and, more broadly, educational research in the United States have entered into an era characterized by a dramatic increase in the prevalence and importance of test score use in accountability systems (Bovaird, Geisinger, & Buckendahl, 2011). Rooted in the framework of providing students with more core academic time and instruction, the education discussion often involves teachers and parents questioning the role of recess for students in the school day. The trend can be traced back to the late eighties and was accelerated under NCLB (2002). Districts under pressure to show academic progress began to force as much instruction into the day as possible. Other schools eliminated recess because of concerns about safety, lack of supervision, and subpar playground equipment (Adams, 2011). In addition, the reasons of disruption of work patterns, high levels of excitement resulting in time being used to calm students down for academics, aggressive behaviors, injuries on playground equipment, and

playground bullying are also often cited as justifications for the reduction in recess (Knowles, Parnell, Stratton, & Ridgers, 2013). Others suggest that outdoor play is on the decline because of the ubiquity and overwhelming appeal of electronic devices and screen-based activities (Alexander, Barnett, & Fitzpatrick, 2016).

Adequate yearly progress (AYP) is the measure by which schools, districts, and states are held accountable for student performance. This is specified in Title I of NCLB (2002), the current version of the Elementary and Secondary Education Act (ESEA) (Nelson, 2016). AYP is not a new concept in the education field. It was introduced into federal law in the ESEA's 1994 reauthorization. NCLB requires states to show growth in student assessments within a predetermined time frame. Furthermore, teachers must also be qualified in the subject areas they are teaching (Education Commission on the States, 2004).

Recess Policies

Throughout the United States, policy and practice on recess vary considerably from state to state and from school to school. States that have general activity laws require schools to have students participate in physical activity outside the classroom for varying amounts of time each week. In some cases, time spent at recess, gym class, or extra-curricular sports would satisfy the requirement. Schools have been placed at the forefront of preventative public health as a key community setting to increase children's physical activity (PA) levels (Hyndman, Telford, Finch, & Benson, 2014). School is an exceptionally important environment for providing and promoting moderate to vigorous physical activity (MVPA) as it is the setting that has the possibility of reaching practically all children, most of whom spend almost half their waking day at school for about 36 weeks a year for 12 years. Throughout the course of the typical school day, children have three potential opportunities for PA. Those three activities are physical

education classes, recess, and other unstructured physical activities such as PA breaks or before and after school activities (Slater, Nicholson, Chriqui, Turner, & Chaloupka, 2012).

Several states, including Texas, Rhode Island, and Illinois are attempting to restore recess in the school day for their students (Play Works, 2015a). In April 2018, Arizona governor signed a law requiring more recess (Daniels, 2018). These efforts made to retain recess are often met with resistance as was noted when an organization representing school administrators and school boards opposed the proposal in Arizona. A few states have mandated recess (Virginia and Hawaii), and others either recommend (Michigan, 2015), urge (Arkansas), or encourage (California) daily recess (Reilly, 2017). Most recently elementary school students in Florida are now guaranteed 20 minutes of recess each day. Florida's law was the culmination of a long campaign by parents in the state. In contrast, New Jersey's governor vetoed a similar bill that would have required 20 minutes of daily recess for students across the state (Reilly, 2017).

In some cases, local school boards mandates recess; however, it is often the school principal that either allows it or discourages it for a variety of reasons (Jarrett, 2013). Many schools have physical education (PE) classes and feel that the time students spend in PE during the school day meets the PA that students need. Slater et al. (2012) conducted a study of a sample of 47 states, 690 districts, and 1761 school revealed that mandating only increased PE or recess time did not result in more overall PA. When more time is given to PE or recess specifically, schools compensate for the increased time in one area by decreasing other PA opportunities. The researchers' suggestion was in order to increase school-based PA, policy makers may need to mandate more of both PE and recess time (Slater et al., 2012).

Inconsistencies among recess policies are prevalent. These policies may vary between schools within the same districts and between public and private schools. In some instances,

public school students are not receiving equal amounts of recess when compared to students in private schools. The National Center for Education Statistics (2010) released information and statistics that reveal third graders in public schools are spending more time on core academics with each passing school year than those in private schools.

The probability of students having 150 minutes a week of PE and at least 20 minutes of recess a day was more likely in states with laws requiring PE and encouraging recess. Many states have started enacting laws requiring schools to provide a certain number of minutes and/or a specified difficulty level of physical activity. Specifically, 21 states require schools to provide physical activity or recess during the school day: Arizona, Colorado, Connecticut, Hawaii, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Mississippi, Missouri, Nevada, New Hampshire, North Carolina, North Dakota, Ohio, South Carolina, Tennessee, Texas and Virginia (Centers for Disease Control and Prevention, 2010). California, Connecticut, Delaware, the District of Columbia, Hawaii, Kansas, Montana, Oregon, South Carolina, South Dakota, and Virginia provide recommendations to school systems for recess within the school day, although it is not a requirement. The remaining states do not endorse or require recess for children in public schools (Lefler, 2012). North Carolina State Board of Education (2014), policy number HRS-E-000, specifically requires schools to offer a minimum of 30 minutes, daily, of moderate to vigorous physical activity for all K-8 students. This requirement can be attained through a physical education class offered to all students. When physical education is not part of a student's schedule, the 30-minute physical activity requirement can be met by various activities that include recess, dance, classroom energizers, or other curriculum-based physical activity programs (North Carolina State Board of Education, 2014).

In a survey of 1,055 schools, the Robert Wood Johnson Foundation found inequalities

among the recess opportunities provided to the students. The amount of time devoted to recess was impacted and influenced by school size, location, region, minority enrollment, and eligibility for free and reduced-price lunch. Large urban schools with high poverty and high minority populations were found to have the least amount of recess (Jarrett, 2013). Because children spend a significant amount of their time in school, their opportunities for play and the ways in which they can engage in play can be greatly defined by the school environment. The way a school approaches children's play including spaces provided, time dedicated, diversity, and quality of equipment, will not only affect the opportunities to be physically active, but will also significantly shape children's diverse experiences of playing (Alexander et al., 2016). In a 2013 analysis of wellness policies in more than 600 school districts around the country, researchers from the University of Illinois at Chicago found that 68% of elementary schools had no policy in place prohibiting the use of withholding of physical activity as a form of discipline during the 2010-11 school year (Blad, 2015).

Many organizations have issued public statements with recommendations pertaining to recess in schools. The Centers for Disease Control and Prevention (2010) and the Council on School Health (2013) stated that children should have 60 minutes of physical activity a day and that recess should not be taken away as punishment. The National Association of Early Childhood Specialist in State Department of Education in their position statement: Recess and the Importance of Play, asserted that recess is an essential component of education and should be part of the curriculum for preschool through elementary school. The National Association for Sport and Physical Education (2011) recommended that all elementary school children should be provided with at least one daily period of recess of at least 20 minutes. The National Association for Sport and Physical Education (2011), the National Association of Elementary School

Principals (2017) and the National Association of State Boards of Education (2012) all advocate that children need both physical education and recess. And finally, the National Association of Elementary School Principals (2017) suggested that principals should promote the development and maintenance of appropriately supervised free play for children during the school day.

A child being inactive and not getting enough physical activity is not just an issue in the United States. Worldwide, the level of PA in children has been insufficient to maintain good health (Bauman et al., 2012). The Active Healthy Kids Canada report card (Tremblay, Barnes, & Bonne, 2014) on physical activity for children and youth has been influential in informing the public of the inactivity of students. In the AHKC 2014 Report Card on PA (Tremblay, Gray, et al., 2014), 15 countries from five continents were grading using nine common indicators (overall physical activity, organized sport participation, active play, active transportation, sedentary behavior, family and peers, school, community and built environment, and government strategies and investments). The results presented an interesting paradox in a pattern of higher PA and lower sedentary behaviors in countries reporting poorer infrastructure, and lower PA and higher sedentary behavior in countries reporting better infrastructure. New Zealand and Mozambique were awarded the highest grade of a B grade with the grade interpretation being success with over half of children and youth, 60-79% for overall physical activity. In overall physical activity, the United States, Australia, Canada, and Ireland scored a D- with the grade interpretation being success with less than half but some children and youth, 20-39% (Tremblay, Gray, et al., 2014).

Physical Benefits of Recess

The benefits of physical activity to maintain optimal health and well-being in children and adolescents are irrefutable. Physical activity is associated with multiple health benefits

across the life course. Consistent activity has been shown to play a part in the primary and secondary prevention of cancer, cardiovascular disease, diabetes, osteoporosis, and obesity. In addition to these physical health benefits, regular participation in physical activity is related with a variety of positive mental health-related outcomes, including reduced anxiety, stress, depression, enhanced cognitive function and academic performance (Murphy et al., 2018). The school environment offers opportunities for children to be physically active (Parrish, Okely, Stanley, & Ridgers, 2013). School recess offers an ideal opportunity and has great potential in helping children to be active daily in many countries around the world. Moreover, as most children attend school and many schools have facilities to provide PA opportunities during recess, this time of the day has the potential to contribute up to 40% towards PA recommendations (Mooses et al., 2017; Ridgers, Stratton, & Fairclough, 2006).

Currently there is a concern regarding the number of overweight and obese children throughout the United States. This number is growing at a disturbing rate (Nemours Foundation, 2012). The American Heart Association (2012) reported that one in three children are either obese or overweight nearly tripling the rate that was recorded in 1963. Childhood obesity and its associated problems, including high blood pressure, elevated cholesterol, and type 2 diabetes is currently the number one concern for health officials in the United States. Apart from the frequent health problems that are often an outcome from overweight status, children who are chronically overweight are also more likely to suffer from various negative psychosocial issues such as poor self-image, lowered self-esteem, poor quality of life, and eating disorders. Furthermore, chronically overweight children are at an increased risk for psychopathologies such as oppositional defiant disorder and depression (Foote et al., 2017). Poor diet and physical inactivity, two primary causes of obesity, are leading causes of death across the United States.

Recess can provide an important strategy for helping reduce obesity by offering regular exercise to students while they are in school (Wang, Li, Siahpush, Chen, & Huberty, 2017). Further benefits may occur if initiated early and with enthusiasm, physical activity incorporated into a child's life increases the likelihood that the child will continue engaging in exercise throughout development and into adulthood (Halperin, Berwid, & O'Neil, 2014).

This awareness of the increasing obesity status among children has resulted in examination of school-based opportunities for physical activity. As it stands, recess is being reduced to less than half of the national recommendation for children (Fernandes & Sturm, 2010). Recommendations for additional time given to physical activity come from various sources. The White House Task Force on Childhood Obesity fronted by First Lady Michelle Obama advocates that elementary school students receive recess and physical activity (Chicago Public Schools, 2011). The Centers for Disease Control (2011) recommended "60 or more minutes of physical activity each day" (p. 1).

Approximately 17%, or 12.5 million, of children and adolescents ages 2-19 years have been diagnosed as obese (Centers for Disease Control and Prevention, 2010). Childhood overweight and obesity are associated with the development of chronic disease in adults (Dinkel et al., 2018). For children to be considered obese, they must have a body mass index at or above 95% (Nemours Foundation, 2012). Supporters for childhood physical activity realize the potential that recess has towards providing children time to exercise. This may also establish the foundation for lifetime wellbeing and a better quality of life. Due to this connection, considerable childhood obesity research concentrates on recommending appropriate day-to-day PA guidelines for students as well as developing ways to increase the number of children meeting those guidelines. Kantomaa et al. (2013) found physical activity and obesity may

mediate the association between childhood motor function and adolescents' academic achievement. Compromised motor function in childhood may represent an important factor driving the effects of obesity and physical inactivity on academic underachievement.

Examining students' physical activity levels during school recess has generated a lot of interest, and quantitative studies have been conducted that have provided an array of information on the different avenues that acceptable PA levels may be accomplished (Black, Menzel, & Bungum, 2014; Brusseau, 2015; Erwin et al., 2012). These researchers examined the correlations of physical activity during school recess of both children and adolescents. This information provides suggestions of which physical characteristics of the school facilities provide the most increased physical activity for the students. Other studies provide students with pedometers to offer information of the most effective recess interventions that increase physical activity (Ridgers, Salmon, Parrish, Stanley, & Okely, 2012).

Powell, Woodfield, and Nevill (2016) suggested that boys and girls have different predictors of their PA levels. Participating in sports activities and engaging in large groups were positive predictors of boys' MVPA, whereas pro-social interactions and small/medium groups were positive predictors of girls' MVPA. These qualitative findings highlighted several themes including: boys and sport; power hierarchies; girls' walk and talk; and imaginary play. Other studies have found that girls accrue less MVPA during PE, which may indicate further studies may need to focus on gender-based approaches in PE (Mooses et al., 2017).

Contributions to students' physical environments that involve playground physical activity levels were addressed through interviews with principals, teachers, and students. The range of issues generated from the responses across the entire school were grouped into comparable themes including playground equipment and aesthetics, length of break time,

children's playground activity levels and preferences, teacher playground participation, bullying, and school policies. Children's playground physical activity levels were affected by the appeal of the playground equipment, the length of break time, children's playground activity levels and preferences, teacher playground participation, bullying, and school policy (Parrish, Iverson, Russell, & Yeatman, 2012).

Cognitive Benefits of Recess

Executive function is a broad term for cognitive skills such as organization, long-term planning, self-regulation, task initiation, and the ability to switch between activities (Walker, 2014). Since the time of the ancient Greeks, there has been an implicit belief that physical activity is linked to intellectual abilities (Tompsonski, Davis, Miller, & Naglieri, 2008). Yet the number of academic standards for students seems to be increasing every year as the opportunity for play is decreasing. Health professions understand that physical activity has been linked to positive influences on concentration, memory, classroom behavior and overall academic achievement (Slater et al., 2012). Unhealthy lifestyle habits among children and adolescents is a major health concern, and some studies have also indicated a negative association between unhealthy lifestyle habits and decreased cognitive function and academic achievement (Stea & Torstveit, 2014). Literature reviews on physical activity and cognition have concluded that physical activity favorably affects cognitive functioning and ultimately an academic score (Burkhalter & Hillman, 2011; Donnelly & Lambourne, 2011). Likewise, accumulating data suggests exercise exerts a beneficial impact on a variety of cognitive functions in humans across development, including, notably, speed of responding, executive functions, and memory and learning (Halperin et al., 2014). Additionally, a combination of meeting multiple

lifestyle behaviors has been strongly associated with increased academic, mathematics and reading achievements (Faught et al., 2017).

Current research focus on the role of recess and physical activity in the development of children and their academic performance is needed to understand the impact of recess in schools. Brez and Sheets (2017) evaluated the effects of recess on children's cognitive skills and academic performance in the classroom. The measures of creativity the study chose did not show significant changes; however, there were significant increases in sustained attention after recess as opposed to before. Brez and Sheets used a very specific measure to assess sustained attention (also referred to as vigilance), which involved being able to identify specific stimuli. Brez and Sheets suggested that allowing children to have breaks through recess could be one key way to improve children's cognitive skills.

Recess is often referred to as the forgotten classroom. A project launched called Liink (Let's Inspire Innovation 'N Kids Project) in two Dallas-Fort Worth areas was designed to observe unstructured, outdoor recesses daily for its impact on the social, creative, and cognitive development of children (Rhea, 2016). Observations and results following 2 years of implementation concluded that all children need recess. Recess has a significant impact on boys because of their need to move and explore. Children are much happier and stable with multiple recesses provided throughout the school day. Children's bodies are designed to move. Emotional turmoil is being created in children through sedentary designed schools. And finally, parents want recess for their children (Rhea, 2016).

Brain research on cognition and fitness levels show that playful, engaging experiences are known to support brain development. Studies of children adopted from Romanian orphanages who showed severe delays in emotional and physical development could be traced to

the very little social contact and opportunities for play. PET scans showed that the neglected children's brains were extraordinarily different from those children who had typical play opportunities (Dickey et al., 2016). Additional brain research suggests mental breaks are necessary because the brain cannot maintain attention for long periods of time. For information to be processed, down time is needed to recycle chemicals crucial for long-term memory formation and attention is cyclical, involving 90-110-minute rhythmical patterns throughout the day (Jarrett, 2013; Jensen, 2005).

Additional existing literature shows encouraging effects of physical activity on children's cognitive outcomes (Fedewa, Ahn, Erwin, & Davis, 2015). Results obtained from the 1-year study showed positive effects for children's mathematics and reading achievement. Other evidence suggests that fitness and sport expertise jointly benefit cognition and that expertise in cognitively demanding strategic sports enhances both domain-specific cognition and domain-general cognitive function (Marchetti et al., 2015).

Justification of removing recess is often founded in comparing students attending school in America to students in other countries. In terms of comparing the amount of recess that students received in the United States to students in other countries, the statistical numbers present an interesting representation. Specifically, students in Shanghai, China have ample recess time. The elementary students enjoy recess that amounts to almost 40% of the instructional school day. Recess does not appear to be detrimental to students' academic success. Shanghai students continued to perform well above average. Students in Shanghai mastered up to 2 additional years of mathematics content compared to students in Massachusetts, the highest-scoring state in the United States (OECD, 2013). Academic loads vary between the United States and Shanghai, but as class time increases, so does the rate at which recess is

offered to students. Research on Finland schools shows that children who engage in more physical activity and play do better academically than children who are sedentary. From kindergarten through eighth grade, students in Finland spend 15 minutes of every hour in recess. International indicators appear to point to Finland having some of the most educated citizenries in the world, provide educational opportunities in an egalitarian manner, and makes efficient use of resources (Sahlberg, 2014).

Childhood presents a critical period in brain growth characterized by prolonged maturation of structures involved in executive function and relational memory as well as fine-tuning of the brain circuitry intended to support operations of the adult brain (Luna, 2009). The interrelatedness of physical activity and brain function makes it clear that a transdisciplinary approach is needed to physical exercise and its implications for growth, especially during child development. Research strongly supports that interrelations will be complex and lead to a reinterpretation of psychological constructivism: the child's mind constructs itself through experience, building and adjusting cognitive and emotional structures as challenges are encountered and adaptations are made (Khan & Hillman, 2014). Additionally, there is much evidence now that aerobic fitness in children generally relates to both brain growth and cognitive performance (Segalowitz, 2016).

The play environment of a child is significant as it nurtures, inspires, and tests the child and shapes a child's cognitive structure (Crain, 2011). The complexity of how the brain works is often perplexing yet processes that occur during recess and play are beneficial in understanding the impact on cognitive development. When playing outdoors, the multi-sensory experiences encourage students to be more observant and curious about their surroundings, leading to a desire to explore, investigate and make sense of their observations (Kemple, Oh, Kenney, &

Smith-Bonahue, 2016). Unrestricted choices made during play result in the connections of millions of neuropathways within the children's brains, which contribute to reducing stress and providing more flexibility and creativity (Rushton, 2011).

Playing "make believe" or playing "pretend" lets children visualize and imagine themselves in another world. When kids play with blocks, they may be building a skyscraper. When they are playing kitchen, they are chefs. Play and exploration foster creativity and lead to creative adults who are innovative and successful (Starke, 2012). Children attending schools that deliver play-based curriculum showed consistent and significant improvements in both play and narrative skills. Learning through play has the potential to increase a child's desire for learning through the medium, which is both non-threatening and fundamentally enjoyable and appears to result in longer lasting benefits (Stagnitti, Bailey, Stevenson, Reynolds, & Kidd, 2016). Participating in this form of play involves transforming objects and actions as children symbolically role play, use script knowledge, and improvisation (Bergen, 2002). Play is obviously not the only path to student learning, nevertheless, the significant role it occupies should not be ignored. Learning experiences that have foundation in play provide students with the access to learn at their current development level (Wu, 2015).

Social Benefits of Recess

Research confirms children need opportunities and support to establish positive social bonds at school (McNamara, Colley, & Franklin, 2015). Social and emotional feelings that children have about themselves and their relationships with others is very important because it is part of the foundation of how the child views themselves (Carlson, Tired, Bender, & Benson, 2011). Social benefits that may come from recess include valuable communication skills, including negotiation, cooperation, sharing and problem solving as well as coping skills, such as

perseverance and self-control. These skills become fundamental, lifelong personal tools.

Physical activity levels during outdoor recess have been studied to provide insights concerning social behaviors. Participation in play can help enable the development of social and emotional skills such as cooperative goal setting, teamwork, and emotional regulation. Physically active games during recess is positively associated with pro-social behaviors such as the ability to develop peer relationships, sharing, problem solving and conflict resolution (Massey, Stellino, Mullen, Claassen, & Wilkison, 2018).

Social interactions at the playground have been represented as a rich learning opportunity to hone and master social skills during preschool years. Children of all ages require socialization as they become contributing members of their personal cultures (Banner, 2005; Isenberg & Quisenberry, 2002). Specifically, all forms of social play (fantasy, role, exercise or rough-and-tumble) have been related to children's social competence (Veiga et al., 2017). Many scholars consider social skills as one of the important areas of development of children and adolescents (Denham & Weissberg, 2004; Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Hupp, LeBlanc, Jewell, & Warnes, 2009).

Classroom activities do not overall lend themselves to providing children with opportunity to withdraw from an activity. In contrast, during recess, children are permitted to join in or leave play situations according to their own preference. This unorganized setting that happens during recess allows children to participate in various social interactions that they may not experience otherwise. Open and free recess period offers time for children to acquire social skills that may not be developed and flourish within a structured classroom environment (Stapp & Karr, 2018). Additionally, friendships and feelings of belonging are inextricably tied to physical and mental health (Lieberman, 2013). Humans are social by nature and rely on

collective knowledge, contributions, collaboration and most prefer to intermingle with others. Students explore and learn about their environment through all five of their senses and body movements by playing freely. Recess provides a means to promote social skills. Providing these opportunities to students gives them the power of deciding what their own action will be despite the fact they are practicing social skills much needed to be able to cooperate with others. Playful interactions with their peers give students the opportunities to develop and maintain positive peer relationships.

Donaldson (2013) contended that as children explore their world, play represents a fundamental relationship with which they obtain basic feelings, ideas and capacities. The capability to control one's impulses and control one's emotional expressions is the earliest and most common demand that societies place on children. Moreover, success at many life tasks depends critically on children's mastery of such self-control. Early self-control has a profound and lasting effect on one's life in adulthood (Tao, Wang, Fan, & Gao, 2014). Taking the opportunity to practice these skills satisfies their needs for connections with their peers, particularly groups of friends and the ability to establish play routines (Lynch & Simpson, 2010; Wood, 2014).

Group play is a multifaceted composition of social, physical, cognitive, cultural, temporal and relational processes (Wood, 2014). During group play, the social skill that may be developed is negotiation skills. Students often practice and exercise their negotiation skills. This type of interaction enables social competencies and self-regulation through giving and taking directives from classmates, as well as asking and giving help. To continue playing in their current situation, children may have to surrender their present demands to remain in the game and keep the game going. This enables and enhances self-control (Poitras, Stimec, & Hill,

2013).

Recess within the academic day, can provide students with many opportunities, including dialogue with friends and acting spontaneously on the playgrounds. Various outdoor play activities which may include kicking a ball, jumping rope, playing tag games, digging in sandboxes, swinging, and hopscotch may all provide the means of problem solving, generating self-expression, and building social interactions among peers. Increased time on task in adults has been associated with fatigue, burnout, lack of enthusiasm and negative outlook. Play can serve as a means of reduction for these symptoms for adults and students alike. Furthermore, having play time can offer students the ability to identify and appreciate their intellectual, emotional and social potential (Elkind, 2012). Learning about one's self and the surrounding can be accomplished through self-experiences provided within a break from the academic structured environment (Play Board, 2014). Through play children encounter original learning experiences that they may not otherwise.

Social collaboration provides children with openings to create friendships and working relationships with peers. Play and social interaction parallel with one another when children can play. Social interaction opportunities with other children permits them to build stronger language skills at an early age, even if the communication is in the form of gesturing. Researchers Hall, Rumney, Holler, and Kidd (2013) in a study of infants ages 18-31 months detected inconsistency in spoken language intelligence based on gesture use. Through increased use of gesturing, communication improved. The source for communicative progress can be found in play, and it is this constructive collaboration through play that children begin to comprehend reality more clearly (Hall et al., 2013). There is a noteworthy positive association between play and cognitive stimulation. Equally, there can be an unfavorable impact if children

are deprived of the time to play.

Emotional Benefits

Some children are restricted in their understanding of emotions and consequently play is a form of communication. Children use play as a safe avenue that allows them to express their feelings and emotions (Brown, Sutterby, & Thornton, 2014). Research suggests that pretend play is linked to school-age children's ability to understand the emotions of others and to describe emotional experiences. Fantasy play has been linked to preschool children's emotional knowledge and empathic responses to peers. Play has also been shown to predict children's coping skills and supports the development of theory of mind and representational ability (Dealey, 2017).

Furthermore, the play experiences that students participate in during school recess may provide an increased emotional well-being to the students. Free play has been shown to release neurochemicals, dopamine, and serotonin, all of which are associated with pleasure and excitement. As the neurochemicals are released from the brain, children have the capability to feel happier and restored after playing (Rushton, 2011).

Finally, the combination of these interactions supports each child with the skills to exercise, understand, and advance the values they learned. Children shape relationships in the world formed for them during recess. Play teaches children to know power by creating situations where they can feel powerful or powerless. These interactions also nourish creativity, imagination, social maturation, improvement in their academic achievements and increase the ability to function more competently in adulthood (Hoffmann & Russ, 2012). Students learn how to control and deal with their emotions which contributes to the possibility of being successful in school (Peltokorpi, Määttä, & Uusiautti, 2011).

Challenges of Recess

There are numerous challenges to overcome in providing recess for students. These include social conflict, injuries, playground equipment, and time taken away from learning. These reasons are used to give support of the decreased time in recess in the schools.

Specifically, social conflict is a long-standing concern during recess. Conflicts that include exclusion, teasing, hitting, fighting, injuries, altercations, cliques, power struggles, and bullies. Many authors have documented concerns regarding school recess (Delidou, Matsouka, & Nikolaidis, 2015; Linker & David, 2017; Parrish, Yeatman, Iverson, & Russell, 2012; Stanley, Boshoff, & Dollman, 2012). Adverse social interactions can lead to ineffective social skills, maladaptive coping strategies, isolation, exclusion, victimization, and loneliness, which are key risk factors that jeopardize well-being and mobilize mental illness (Bloom et al., 2011).

Minimal supervision and minimal equipment have been consistently reported as key challenges during recess. Supervision is inconsistent and the ratio of teachers to students often changes quickly. Additional research suggests that equipment availability influences children's engagement and activity levels, yet recess equipment presents various safety concerns and liabilities when the use is minimally supervised. As consequence, school administrators are uncomfortable with providing equipment due to fears of impending injuries and liabilities (McNamara et al., 2014).

When looking at the statistics of recess injuries, the numbers appear to be incredible. Linker and David (2017) found that approximately 1,786,008 playground-related injuries were treated in emergency rooms nationwide from 2001 to 2008. Of those injured 53% were children ages 5 to 9 years. The top four reported injuries were fractures (36%), contusions and abrasions (20%), lacerations (17%), and strains and sprains (12%). Monkey bars or playground gyms were

associated with 36% of these injuries, while swings (or swing sets) and slides (or sliding boards) were associated with 28% and 21% of injuries, respectively. During that period, the U.S. Consumer Product Safety Commission (CPSC) reported 40 playground-related deaths and cited that approximately 1,180 playground injuries were due to falls (Linker & David, 2017). Playground injuries leave schools possibly liable for their students' safety and responsible for injuries that take place. Schools take on liability risks every time they adopt a program or engage in any activity. Documentation must be kept closely on injuries, as there are records of schools responsible for paying for injuries students obtain on school grounds (Zimmerman, Kramer, & Trowbridge, 2013). Principals often fear the repercussion of the injuries more than the injuries themselves that occur on their watch.

Bullying has emerged as a major barrier to children's active play on school playgrounds and is viewed as an international public health concern (McNamara et al., 2015). Some child "bullies" use force in words, physical power, or intimidation to harm their weaker peers (Farmer et al., 2010). Playgrounds are environments where bullies appear to have no boundaries. This bullying includes stealing equipment and gender and body size intimidation (Stanley et al., 2012). One research study found that three of the four schools at which principals admitted bullying took place witnessed the lowest levels of active play on their playgrounds (Parrish et al., 2011). Other barriers to active play like bullying include having no peers with whom to play and the failure of peers to get along, both of which can limit group activities (Stanley et al., 2012).

Physical Education

Often both viewed and implemented as a substitute for recess in schools are the physical education programs provided in schools. These programs can be a significant component that may motivate students to join in regular physical activity. A high-quality PE program needs to

be both stimulating and motivating to encourage students to participate in the program. School environment conditions are extensive and diverse and encompass the facilities, PE equipment, activity areas, and other various physical conditions. Organizational aspects of PE programs such as scheduling, and the qualifications of teachers vary from state to state. The social aspects such as the characteristics of and interactions among administrators, staff, and students impact PE classes. School environment factors impact the adoptions of other unique policies, and collectively, all of these variables can have implications for an individual school, including the time allocated for PE and recess programs (Lounsbery, McKenzie, Morrow, Monnat, & Holt, 2013). One study found that on average, in-school PA accounts for 30-40% of children's total daily MVPA, with significant input energy from PE. At the same time, systematic reviews divulge that children spend less than 45% of total PE in MVPA, which is less than the recommended 50% (Mooses et al., 2017).

Lounsbery et al. (2013) conducted a study of 75 schools from three United States geographic regions and found that district PE policy adoption may serve as a catalyst for school PE policy adoption. Lounsbery et al. also found that certain measures to improve the quality of PE delivery such as small class size and certified teachers, pose logistical challenges to the number of weekly PE minutes individual students can receive. Policy and environmental factors that were in place in schools that targeted improved PE quality resulted in positive implications for recess time (Lounsbery et al., 2013).

Too often, too many students and lack of time available in the school day result in the reduction in the amount of physical activity for children—the only resolution being to lengthen the school day to offer additional time for physical activity (McConnell & Wendel, 2010). The time restrictions result in an environment that limits physical activity in class, a determinate in

weight control (McConnell & Wendel, 2010). Encouraging students to have a positive approach to PE and physical activity can be a difficult task for educators to employ. The expectations of what happens during PE is contingent on the state and federal statutes that dictate what must be taught in the classes. To bring together American citizens, Michelle Obama, former First Lady, launched a program to promote routine physical activity. Examples of programs intended to foster physical activity to advance wide-ranging health improvements include “Let’s Move” and “Let’s Move in Schools”. Additionally, these programs include methods to develop the wellbeing of all residents in the United States (Psimopoulos, 2013).

Observations from teachers, students, and caregivers have all been carefully analyzed in prior research studies in PE. Insights and involvements of students experiencing social, emotional and behavioral problems were examined by Medcalf, Marshall, Hardman, and Visser (2011). These students were in PE class that used the national PE curriculum in England. Medcalf et al. (2011) examined and reviewed interviews from six case studies over the course of a 24-week period. Through this examination of these case studies, it was concluded that students considered PE to be a significant part of their school experience. With this experience with PE being positive for the involved students, the students feel successful.

Finding ways to motivate those students who may have had less than desirable experiences with physical activity can be a challenging task within the PE allotted time. Aelterman et al. (2012) reiterated the significance of inspiring students by encouraging a physically active lifestyle and increasing student ambition to be healthy, active individuals. PE is fundamentally intended to serve numerous purposes: cognitive development, physical development, skill development, and achievement of the standards in place by the National Association of Sport and Physical Education (NASPE) (Gross & Buchanan, 2011). Enduring to

maintain a physically fit lifestyle is a fundamental theme of PE. This is achieved through constant physical activity outside of school for a lifetime. Encouraging physical activity is the goal of PE and discovering ways to attain that are crucial (Bryan & Solmon, 2012).

After reviewing the literature, I found a gap exists in research on schools that continue to incorporate additional daily physical activity beyond what is state mandated is not present. Research studies have revealed that physical activity benefits the students in numerous ways. This study centers on gaining an in-depth understanding of the viewpoints of educators at an elementary school in rural western North Carolina that incorporates additional opportunities for recess for their students.

Summary

Recess is important to acknowledge because children need relevant and significant interactions and relationships in order to thrive. Relationships and connectedness are central to all major theories of children's physical, cognitive, social and emotional development (Bagwell & Schmidt, 2011). Social interactions mediate language development, social competence, emotional regulation, cognitive growth, self-concept, and psychological adjustment. They provide a context for play, laughter, and support. Furthermore, they provide children with acceptance and understanding that contributes to a sense of connectedness and belonging that has long been recognized as a powerful contributor to healthy development (McNamara et al., 2015).

This chapter presented a review of the current literature relevant to the incorporation of additional daily physical activity in the school day. Research provides views on both educational and recess policies impacting play during school. Benefits from recess are shown to include physical, academic, and social benefits pertaining to recess in the schools. The negative associations with recess are used as reasons to justify the removal of additional physical activity

from the schools.

CHAPTER THREE: METHODS

Overview

The purpose of this qualitative case study was to gain an in-depth understanding of the perceptions of educators pertaining to additional recess incorporated into the school day above the state-mandated 30 minutes of daily physical activity in Western North Carolina with regards to the value of recess in the educational setting. This case study included individual face-to-face interviews, a focus group, and artifact analysis as data collection methods (Yin, 2009).

Trustworthiness and ethical issues are also critical components for ensuring the integrity of the study design (Creswell, 2013). In this chapter, the components of the methods for the study are described including the design, research questions, setting, participants, procedures, and the researcher's role. Furthermore, the data collection methods, data analysis methods, trustworthiness, and ethical considerations are explained.

Design

“As a research method, the case study is used in many situations, to contribute to our knowledge of individual, group, organizational, social, political, and related phenomena” (Yin, 2009, p. 4). A qualitative study was conducted using a case study approach. The case study approach provides an in-depth examination of data to address the research questions. By choosing a qualitative design, the researcher is provided the opportunity to explore the perceptions held by the principal, educators, and educational stakeholders about the additional daily physical activity time provided in their school setting, examine this contemporary phenomenon in depth, and in a real-world context assess numerous points of data, contributing to the knowledge of the existing literature on the topic and to others interested in the topic (Yin, 2009).

A case study design was selected as the approach for this study because the researcher had no authority regarding the behavioral events of the participants. The researcher sought to answer the question of how the additional implementation of recess time impacted the students' cognitive development (Yin, 2009). "A case study is an empirical inquiry that investigates a contemporary phenomenon (the "case") in depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident" (Yin, 2012, p. 16). Baxter and Jack (2008) recommended the following: "Asking yourself the following questions can help to determine what your case is; do I want to 'analyze' the individual? Do I want to 'analyze' a program? Do I want to 'analyze' the difference between organizations?" (p. 545). The reason for studying and understanding this unique implementation of additional daily physical activity into the school day is that it could be beneficial to other students, teachers, administrator and educational stakeholders when addressing the benefits of physical activity.

In this case study an elementary school implemented additional daily physical time into the school day beyond the state-mandated 30 minutes. The method of using a case study is applicable. A case study is a type of research that uses "how" and "why" questions and explores a specific phenomenon that is happening at a specific location with a group of people at that location (Yin, 2009). Upon review of the intended research topic, these situations correspond with the focus of the research study. "In other words, you would use the case study method because you wanted to understand a real-life phenomenon in depth" (Yin, 2009, p. 18). A case study method was selected to understand how the implementation of additional daily physical activity into a student's school day encourages cognitive development. Yin (2009) wrote, "the case study may be used to *enlighten* those situations in which the intervention being evaluated has no clear, single set of outcomes" (p. 20). The outcome of the additional recess time

implemented in the school needs illumination, so others can be informed.

Research Questions

Central Question: What are the lived experiences regarding extended play for the principal, teachers, and educational stakeholders of students who attend a rural elementary school in Western North Carolina that has implemented additional daily physical activity into the school day beyond the state-mandated time of 30 minutes?

RQ1: What is the impact of additional daily physical activity implemented in the school day on student cognitive development in grades 3, 4, and 5?

RQ2: Why has additional daily physical activity time been incorporated into the school day in grades 3, 4, and 5?

RQ3: What is the impact of extended play for students in grades 3, 4, and 5 beyond cognitive impact?

Setting

The location of the study was in a public-school system in rural western North Carolina. This school system has a total of 23 schools: 13 elementary schools, 4 middle schools, 4 high schools, 1 education center, and 1 early college high school. The county school system is governed by a seven-member school board. The district office includes a Superintendent, Associate Superintendent for Administrative Services, and an Assistant Superintendent for Instructional Services. The student population of the school system is approximately 13,500. The racial composition within the school system includes students from the following backgrounds: Asian, Hispanic, Black, and Caucasian students. The North Carolina Department of Public Instruction produces an annual School Report Card for each school in the state. The report cards are one of the state's most comprehensive resources for information about student

achievement, class size, school safety, school technology, and teacher quality at the school, district, and state levels. The report cards also provide a very effective way for the public to compare schools across the state. In most areas, this school system ranks or performs in the top 10% of the schools in the state. The elementary school for this study consists of a preschool program and houses grades K-5. The school has both a principal and an assistant principal. Additional staff includes a school counselor and 2 instructional coaches. The school partners with local health officials and provides onsite medical care for students.

The 2013 implementation of additional physical activity time beyond the state-mandated 30 minutes in this elementary school in the western North Carolina school system justifies why a school in this district was chosen for this study. This specific school has an outdoor playground area available for students during recess time as well as the accessibility of indoor facilities for physical education classes. I have no direct connections with this elementary school or the potential participants; therefore, reducing the possibility of potential researcher bias (Creswell, 2013).

Participants

Purposeful sampling was used for the study, as it is a technique widely used in qualitative research for the identification and selection of information-rich cases for the most effective use of limited resources (Patton, 2001). This purposeful sampling encompassed identifying and choosing educators especially knowledgeable about the phenomenon of interest (Creswell & Plano Clark, 2011). In addition to teachers with knowledge and experience, parents or guardians as educational stakeholders in their students' lives were interviewed. Bernard (2002) and Spradley (1979) addressed the significance of participants' availability, willingness to participate, and the ability to communicate experiences and opinions in an articulate, expressive,

and reflective manner (Palinkas et al., 2013).

The participant group was restricted to the principal, teachers, and educational stakeholders of students provided with additional daily physical activity time beyond the state-mandated time of 30 minutes per day. The participants were selected from an elementary school located in a rural school district in Western North Carolina. As the researcher I sent an invitation to participate in the research study to all teachers of students in grades 3, 4, and 5 within the school, ensuring that a minimum of 10 participants were interviewed until data saturation was achieved. I also sought to interview the principal and a focus group of educational stakeholders. Fusch and Ness (2015) stated that the researcher goes between numerous worlds while engaging in research, which includes the cultural world of the study participants as well as the world of one's own perspective. Consequently, it becomes imperative that the interpretation of the phenomena represent that of participants and not of the researcher for the data to be saturated.

I met with the principal of the elementary school to ensure proper clearance to interview teachers. Email contacts obtained from the principal afforded me the ability to reach teachers who implement the additional daily physical activity time beyond the state-mandated 30 minutes. Conversations with both the principal and teachers led to a formation of a focus group of educational stakeholders. I described the purpose of the study and issued an invitation for their participation. Upon agreement of participation from the teachers, the principal, and the educational stakeholders identified as members of the focus group, I asked them to sign an informed consent form indicating their understanding of their role in the research

Procedures

The study began after Liberty University's Institutional Review Board (IRB) was approved the completed research proposal (see Appendix A for IRB assent form). I followed

appropriate procedures to obtain permission from the superintendent of participating district to conduct research within the district's schools (see Appendix B for district consent form). When I had secured approval from both the IRB and the district office, I contacted the principal of the elementary school to obtain permission to reach out to teachers for participation in the research study (see Appendix C for principal consent form). With permission obtained from the principal, I contacted teachers for participation in the research study (see Appendix D for participant consent form). After identifying volunteers, I asked all to sign informed consent forms to indicate that they understood the purpose of the study and their rights as a participant in the study (see Appendix E for informed consent form). The principal then assisted me in identifying educational stakeholders of children in grades 3, 4, and 5 who have additional physical activity time, and distributed an informational letter asking if these stakeholders were willing to participate in a focus group for an on-site interview (see Appendix F for assent form). Next, I sent letters of consent to those willing educational stakeholders to sign (see Appendix G for the stakeholder consent form).

I developed interview questions (see Appendix H) and piloted them with teachers not participating in the study as an assessment of interview question clarity and quality. After piloting the questions, I scheduled the interviews with the teachers who agreed to be participants. In addition to the teachers' interviews, I scheduled the focus group interview of the willing educational stakeholders (see Appendix I). I conducted the interviews with the teachers individually and audio recorded each. I completed the interviews at the participants' school. I interviewed the principal after the teachers and the focus group of educational stakeholders (see Appendix J).

Following the interviews and the focus group, I composed notes about aspects of those

experiences that were not captured through the audio recordings. These experiences noted included quotes that were well-said sentences or phrases that illustrated an important point of view. Additionally, I marked with initials of the speaker next to quotes that were especially enlightening or eloquently expressed, which allowed me to more easily detect the statement in the audio recording. I noted during the interviews non-verbal cues from participants that included head nodding, laughter, discomfort, and pauses. Non-verbal cues can mean different things with different people; therefore, any non-verbal cues were noted, yet I refrained from assumptions about what they mean. I then transcribed the audio recordings of the interviews and the focus group. I checked the transcript for accuracy via replaying the audio files. The reduction of potential bias in the data collection and analysis procedures through bracketing of opinions outside of the data provided the means to evaluate and reflect on biases and preconceptions so data was not misinterpreted.

The Researcher's Role

I am currently a first-grade teacher, and I have spent my 28-year career in an early childhood school setting. I am a solid believer that children need unstructured free time in their school day. As an early childhood educator, I feel it is part of my commitment to my students to ensure they are getting everything they need while under my care, specifically safeguarding unstructured free time that often may be sacrificed because of increasing academic requirements for young children that can result from the implementation of academic learning standards.

National Board Certification is a very respected professional certification in education. To obtain certification I had to provide both an accurate and detailed identification and description of students' social and emotional development that I observed during dramatic play. I also had to provide detailed descriptions and rationale of strategies that would support and

extend cognitive development during play. These standards that were met during certification represent a consensus among educators that embody what accomplished, effective teachers should know and be able to do to improve student learning and achievement. To continue to meet those standards of the certification I received, I must ensure that play time for students is not restricted nor completely ignored to meet academic standards.

The elementary school, with grades K-5, from which participants were drawn from were in a neighboring county. I have no direct connections with the teachers, administrators, or parents who participated in the study. I was the human instrument during the process of data collection for this research. In addition, the worldview resulting from my diverse roles as an educator, mentor, mother, wife, and Christian impacted my interpretation of the results.

Data Collection

I contacted educators, principal, and educational stakeholders in an elementary school in rural western North Carolina to gauge their willingness and to obtain their permission to provide their perceptions of how additional physical activity implemented into the school day above the state-mandated time of 30 minutes may influence student cognitive development. A variety of data collection methods to obtain sources of evidence can be used in case studies (Yin, 2009). Multiple methods were used to collect data for this study including interviews, focus groups, and documentation analysis. All research material, video recordings, audio recordings, interview and focus group transcriptions, and documentation analyses were stored on the researcher's external hard drive and locked in a safe when not in use. Data triangulation was used as the data from the interviews with the principal, the individual teachers, and the focus group were obtained. Both individual and group interview approaches yielded data that complemented each other, thereby making the data more valid.

Interviews

Interviews are the most important and essential source of case study information (Yin, 2009). Before beginning interviews with the selected participants in the elementary school, I piloted interview questions with educators who were not participating in the research. Dikko (2016) wrote that when an interview is used as the research instrument, piloting the questions helps with (a) highlighting ambiguities and difficult and unnecessary questions and discard or modify same; (b) recording the time taken to complete the interview to determine whether it is reasonable; (c) determining whether each question elicits an adequate response; (d) establishing whether replies can be properly interpreted in relation to the information required; (e) determining whether the researcher has incorporated all the questions necessary to measure all concepts; and (f) allowing the researcher to practice and perfect interviewing techniques. Following the pilot interviews, I began interviewing the selected participants to acquire an understanding of their specific experiences on an individual level. The interviews consisted of open-ended questions to gain thick, rich information by encouraging educators to communicate in-depth stories of their experiences with the implementation of additional physical activity (Creswell, 2013; Patton, 2001; Schwandt, 2015).

Structured questions used as a starting point for interviews with the participants.

1. Tell me about yourself.
2. More specifically, tell me about your teaching background and experience.

Open-ended interview questions for educators.

1. How would you describe the impact of incorporating additional daily physical activity on your teaching?

2. Why do you feel the way you do about the impact of incorporating additional daily physical activity?
3. How are your students impacted academically by incorporating additional daily physical activity into the school day?
4. How are your students impacted socially by incorporating additional daily physical activity into the school day?
5. How are you your students impacted physically by incorporating additional daily physical activity into the school day?
6. How have your understandings, opinions, and experiences with respect to recess changed over the years?
7. What would you say to someone if you were asked for your feedback on incorporating additional daily physical activity time into the school day?
8. Where do you hope school systems will go from here in terms of increased focus on academics and time provided for recess?

Follow-up questions.

1. What do you mean by. . .?
2. Would you please tell me more about that?
3. How do you feel about. . .?
4. What has led to your conclusions about. . .?

I asked the principal of the school similar questions as the educators of the school. The following questions were presented to the principal.

Structured questions used as a starting point for interview with the principal:

1. Tell me about yourself and the path you took to becoming principal at the school where

we are today?

2. Is there anything else about your educational background and experience you would like to share?

Open ended interview questions for the principal.

1. How would you describe the impact of incorporating additional daily physical activity on your school?
2. Why do you feel the way you do about the impact of incorporating additional daily physical activity?
3. How are your students impacted academically by incorporating additional daily physical activity into the school day?
4. How are your students impacted socially by incorporating additional daily physical activity into the school day?
5. How are you your students impacted physically by incorporating additional daily physical activity into the school day?
6. How have your understandings, opinions, and experiences with respect to recess changed over the years?
7. What would you say to someone if you were asked for your feedback on incorporating additional daily physical activity time into the school day?
8. Where do you hope school systems will go from here in terms of increased focus on academics and time provided for recess?

Follow-up questions.

1. What do you mean by...?
2. Would you please tell me more about that?

3. How do you feel about...?

4. What has led to your conclusions about...?

The purpose of the questioning is to gain knowledge about the participants' direct experiences with the implementation of additional daily physical time in the school day beyond the state-mandated 30 minutes. Questions 1 and 2 were included to make the participant feel comfortable and to get the conversation started. Question 3 was asked to gain an understanding of the participants' views of the influence of additional physical activity on students' cognitive development as play can provide a significant role in the learning process and students' current development level (Rushton, 2011; Wu, 2015). Questions 4 and 5 were designed to gain a greater understanding of specific understandings and beliefs that educators have in relation to the additional benefits of physical activity (Brusseau, 2015; Chang & Coward, 2015; Lynch & Simpson, 2010; Poitras, Stimec, & Hill, 2013).

In recent decades, the role of recess during the school day has been called into question. While providing free time for students during their school day has been a part of the school schedule for many years, the availability of this free time has changed (London, Westrich, Stokes-Guinan, & McLaughlin, 2015; Ramstetter, Murray, & Garner, 2010). Question 6 was included as an avenue to gain information about the participants' perceptions of the transformation in recess for students. The issue of whether recess adds worth to the educational setting and wellbeing of students is of critical importance. To ensure best practices are being utilized, school policies should be based on scientific research (Bornstein & Wiener, 2014), thus questions 7 and 8 are included to gain understanding of educators' feedback on the value of recess in the schools and impacting policy in the future in schools. Follow up questions allowed for explanations of data gathered during the interviews and provided a pathway to pursue

avenues that were not expected for gathering additional information.

Document Analysis

Documents are used to substantiate, and supplement evidence collected after the individual interviews. Yin (2009) stated, “documentary information is likely to relevant to every case study topic” (p.101). Important documents that were included and analyzed for this study were school mission/philosophy statements, student/teacher handbooks, discipline/relational codes, memos, promotional materials distributed to new students and visitors, and the school newsletters/bulletins. These documents were used to corroborate and supplement evidence from the interviews. Class schedules verified that additional physical activity was provided to students daily. Yin (2009) listed inferences from documents being an important part of collecting case study evidence. Inferences led to new questions about additional daily physical activity. These artifacts provided insights into the principles and philosophies that gave direction to the school life and activities and provided background knowledge for the researcher, adding to the thick, rich data collection. Supplementary photographs of areas provided for the daily additional recess time offered rich information for data collection and interpretation of the educators’ interviews (Yin, 2009). Such artifacts and documents provided a broader perspective for the researcher before conducting the focus group interviews (Yin, 2014).

Focus Groups

Focus groups are a counterpart to the individual interview (Yin, 2014). A group of educational stakeholders at the elementary school were interviewed for moderating a discussion (Yin, 2014) about the impact of extended play on cognitive development. Willing stakeholders were invited to participate in a focus group at a central location within the school grounds to discuss viewpoints and understanding of additional daily physical activity incorporated into the

school day. Utilizing the focus group interview helped to minimize reflexivity or influence between the researcher and a single interviewee (Yin, 2014). This focus group provided the time and opportunity to explore more in-depth concepts as the participants interacted with each other. This focus group provided the researcher with the opportunity to interact with more than one participant in a single setting. I audio-recorded and transcribed the focus group interview.

The following structured questions served as a starting point for the discussion among the focus group participants:

1. Please share with the group your name and your affiliation with the school.
2. Please share experiences that your student has had with additional daily physical activity incorporated into their school day.
3. Describe the impact of those learning experiences.
4. What does recess look like to your student?
5. What else that you would like to share about your student's experiences with the implementation of daily physical activity?

In addition, follow-up questions included:

1. What do you mean by...?
2. Would you please tell me more about that?
3. How do you feel about...?
4. What has led to your conclusions about...?

The focus group questions were designed to obtain information about the perceptions of the same experiences of the students with the goal being to gain richer, deeper information because of the interactions that occur among the participants. As with the interview questions, follow-up probes allowed the researcher the opportunity to seek clarification during the

discussion when needed (Yin, 2009).

Data Analysis

Upon completion of the individual interviews, I began to analyze the data. The participant interviews were digitally recorded, and I transcribed the audio recordings verbatim. Yin (2009) defined data analysis as a central piece of the case study that “consists of examining, categorizing, tabulating, testing, or otherwise recombining evidence, to draw empirically based conclusions” (p. 126). Yin (2009) explained that the data analysis relies “on an investigator’s own style of rigorous empirical thinking, along with the sufficient presentation of evidence and careful consideration of alternative interpretations” (p. 127). While listening to the recordings, I read the transcripts several times to weigh the significance of each statement (Moustakas, 1994) notating, or memoing, any thoughts or impressions I had (Creswell, 2013). I employed the use of memoing, artifact analysis, bracketing, and theoretical propositions for the analysis of the data that was collected in this study.

Memoing

When reading the transcripts of the interviews and focus group for the first time, I used memoing to record preliminary feelings and ideas about what was appearing in the data (Patton, 2001). This allowed for an emergence of a large-scale understanding of the data. I reviewed the interview transcripts after transcription for accuracy.

Documentation Analysis

As I analyzed the documents obtained, I was bearing in mind the themes that emerged from the interviews and focus group (Creswell, 2013; Patton, 2001). Characteristics of the documents identified the means in which additional daily physical activity was encouraged within the school curriculum. I scrutinized data about the various documents to look for themes

in relation to how the teachers' experiences, the principal's viewpoints, and the educational stakeholders' experiences with the implementation of daily physical activity supported students' cognitive development. Through this analysis, I worked toward data triangulation as the documents were linked with the information obtained from other data collection sources (Patton, 2001).

Bracketing

I used bracketing as a method to set aside personal experiences and preconceived notions. Bracketing helped reduce the potentially biased preconceptions that could possibly discredit the research findings and process. I started a bracketing journal at the beginning of the research process.

Theoretical Propositions

Yin (2009) recommended beginning the data analysis with one of four strategies: relying on theoretical propositions, developing a case description, using both qualitative and quantitative data, and examining rival explanations. The data analysis of this research built on the theoretical framework of Piaget's (1962) cognitive development theory; therefore, the researcher used the strategy of relying on theoretical propositions. Yin (2009) suggested "relying on theoretical propositions" as the most favored of four general strategies (p. 130). This strategy helped to focus on specific data in the study. Through focus group interviews, individual interviews, and documentation, I gained insight on how the teachers, principal, and educational stakeholders reflected on the implementation of additional physical activity impacts cognitive development in their students.

Trustworthiness

Trustworthiness typically references the level to which a study is authentic and can be

validated (Creswell, 2013). I took steps to establish credibility, dependability, transferability and confirmability of the study. To ensure trustworthiness in this study, I used data triangulation, an audit trail, clear and pure note taking, and meticulous documentation of the analysis of the data.

Credibility

Credibility refers to the accuracy with which the researcher interprets meaning from the data gathered from the participants in the study (Creswell, 2013). The researcher is as important as the research itself in establishing the credibility of a study (Schwandt, 2015). Credibility was accomplished through triangulation of data collection from different sources (interviews, focus groups, artifact analysis). Member checks were used as I gave the participants opportunity to review the transcripts of their individual interviews or the focus group interviews. I also gave them the opportunity to review the findings to ensure that the researcher had accurately reflected their thoughts and feelings. Providing this opportunity increased the credibility of the study as it confirmed interpretations of the data being grounded on how the participants meant to share their experiences. This additionally provided the opportunity for revisions and/or additions to the overall research (Patton, 2001; Stake, 1995).

Credibility can be increased when a researcher utilizes a reflective log. Therefore, I used a reflective log of personal thoughts, feelings, and emotions aided in not permitting personal experiences to impact the interpretation of the data, which is important in qualitative research (Creswell, 2013; Patton, 2001). Finally, this reflexivity allowed the examination of the researcher's own biases and assumptions that could have been transferred to the study.

Dependability and Confirmability

Dependability was achieved through the formation of an audit trail that contained details about the documentation of the study. The trail included the consideration of reliability, which is

realized through close observation of the research process. Accordingly, I described the research process in this study in detail. The researcher has an obligation to design and carry out the study using logical methods, ensure all findings are traceable, and to document the study clearly, which allows for the research to be replicated in other setting or contexts (Creswell, 2013; Schwandt, 2015). I maintained a memo log during the study to increase dependability by chronicling a detailed description of the entire research process.

Confirmability relates to whether results from a study could be substantiated by other individuals. This comprises taking steps to guarantee that findings are based on data and its interpretation, instead of being based on researcher biases or other factors connected to the specific researcher (Schwandt, 2015). The previously discussed strategies of triangulation and member checking improved the confirmability of the study.

Transferability

Transferability was established using rich descriptive data during the study to increase other researchers' ability to understand the results and determine the transferability of the findings (Creswell, 2013). I kept a reflective log, documenting personal feelings, thoughts, and emotions throughout the study. In addition, I kept a memo log to document everything that happened in the process of conducting the research. In a case study, the focus is on the in-depth and detailed description.

Ethical Considerations

Ethical considerations for this case study research started with IRB approval from Liberty University and from the proposed elementary school site preceding the data collection process. To ensure the privacy of all participants in the research study, I used pseudonyms for all participants and locations, with no identifying information being included to ensure that

participants remained anonymous. Interview transcripts and any materials related to data collection were kept in a locked and confidential location. Only the researcher and dissertation committee members had access to the data. Written permission was obtained from the necessary district administrator and school administrator. All participants provided their consent to participate prior to me beginning the study. Participation was completely voluntary, and educators, principal, and educational stakeholders had complete understanding of the study. All participants were informed that they would be audio recorded during both the interviews and the focus group. Furthermore, all participants were informed they had the choice to leave the study at any time if they determined they no longer wished to contribute for any reason. All participants were treated with respect and appreciation (Creswell, 2013). As the researcher, I had no previous existing relationships with the participants; therefore, there was no conflict.

Summary

The purpose of this qualitative case study was to provide an in-depth understanding of the viewpoints of educators, principal, and educational stakeholders of students who have additional daily physical activity incorporated into the school day above the state-mandated 30 minutes in a rural elementary school located in Western North Carolina. This chapter conveyed information comprising of the description of the case study design to be used to gain an in-depth analysis with rich data. The selection procedure for participants was via email invitation. Individual interviews, documentation and artifact analysis, and focus groups were used in the study. Trustworthiness was ensured through data triangulation, an audit trail, genuine note taking, and diligent documentation of the analysis of the data.

CHAPTER FOUR: FINDINGS

Overview

The purpose of Chapter Four is to present the findings of the principal interview, teacher interviews, and parent focus group to provide an in-depth understanding of the viewpoints pertaining to the incorporation of additional daily physical activity into the school day above the state-mandated 30 minutes. The data collection and data analysis methods, which took place over a five-month period, were previously described in Chapter Three. This chapter provides a detailed narrative about individual participants, using pseudonyms, and how the themes were developed. Additionally, in chapter four I present and describe the themes uncovered by research and the research questions used to guide this research. Themes that emerged through the analysis of the data include:

- Physical activity provides a stimulus for the brain and the opportunity for refocus and recharge before additional cognitive activities occur.
- Incorporating activity promotes addressing the whole child's needs.
- Physical activity outside of the classroom promotes problem solving both in social and emotional contexts and assists in building personal relationships.
- Behavioral issues in some instances can be alleviated and in other cases reduced with the released energy that takes place during recess.

The central research question guiding this study was: What are the lived experiences regarding extended play for teachers, students, and educational stakeholders who attend a rural elementary school in Western North Carolina that has implemented additional daily physical activity into the school day beyond the state-mandated time of 30 minutes? The themes that emerged answered the research questions of this qualitative case study, which are:

RQ1: What is the impact of additional daily physical activity implemented in the school day on student cognitive development in grades 3, 4, and 5?

RQ2: Why has additional daily physical activity time been incorporated into the school day in grades 3, 4, and 5?

RQ3: What is the impact of extended play for students in grades 3, 4, and 5 beyond cognitive impact?

Participants

Participants for this study were recruited from one school in one county in the western region of North Carolina. The study included the principal of the elementary school, 11 participants who teach in third, fourth, and fifth grades in that county's public schools, and five parents who were members of a focus group. Nine of the teachers were female, with the remaining two being male. The educational stakeholders, all female, included five parents of students who have attended Cane Hill Elementary School since kindergarten. Each of the participants involved in the interviews and focus group are described, using pseudonyms, in more detail in the following narratives.

Principal

Angela. Angela is a Caucasian female in her early 40s. She became principal of Cane Hill Elementary at the beginning of the 2017-2018 school year; therefore, she is relatively new in her position at the school. Previously Angela had been assistant principal for 3 years at a different elementary school located within the same county. She received her graduate degree in education in executive leadership. Angela's mom was a kindergarten teacher for 35 years and Angela always swore she would not make education her life vocation until her junior year in high school. It was at that point in her life that the teachers she had for her classes influenced her

to pursue education. She received a teaching fellow scholarship, and within her college education classes she discovered her love for children and knew she was on the correct path. She decided later in life to return to school and get her Master's in administration because she loved not only helping the students but also helping the teachers. She is passionate about being an instructional leader.

Angela is an active principal in the school. She can be observed in the car lines each morning greeting every child who is dropped off. Morning announcements include her voice over the intercom encouraging students to have a positive day. She conducts one-on-one conferences with every child in the school to provide the opportunity for all students to brag about themselves and the things they feel they are successful in doing. She has implemented the "7 Habits of Highly Effective People" by Stephen Covey (2004) in the school.

Fifth Grade Teachers

The fifth-grade teachers at Cane Hill Elementary consist of a team of four teachers. Their classrooms are clustered at the end of the hall. Access to each other's classroom is easily obtained and while I was in the school observing, I could see them visiting their colleagues' classrooms briefly throughout the day. I was able to conduct interviews with three of the four teachers. The fourth teacher was involved in a meeting with a visitor and unable to be interviewed. The team consists of all female teachers and I was able to conduct the interviews in each teacher's classroom. Student work was displayed in the hall and the teachers' classroom doors each had inspiration and motivational quotes for the students.

Robbins. Robbins is a Caucasian female in her early 30s who has been teaching 5 years. She teaches math to two of the fifth-grade classes in the school and then teaches science to her homeroom students for the last hour of the day. The fifth-grade teachers share math and ELA

teaching responsibilities. All five of her teaching years have been in a school that implements *Sharpening the Saw* time and believes the fresh air impact and being outside positively impacts students.

Haynes. Haynes is a Caucasian female in her 40s who has recently returned to the classroom full time after 19 years. The previous 8 years she has served as a tutor and had been a stay-at-home mom. Before tutoring and being a stay-at-home mom, Haynes was a teacher for 7 years. She has her Master's in school administration. She feels like the physical component of the child is just as important as the intellectual part. "And the physical part, they need that time, because you're not teaching just one area of their brain. You are teaching the whole child" (Haynes, personal communication, October 2018).

Thomas. Thomas is a Caucasian female in her 50s with 10 years of teaching experience. This is her first year at Cane Hill Elementary. At the previous school where she taught, she personally made recess happen every day, although it was not scheduled every day like it is at Cane Hill Elementary. She stated that research shows that pushing academics more does not necessarily mean they are going to do better when you take out the physical component.

Fourth Grade Teachers

The fourth-grade teacher team consists of four female teachers and I was able to conduct interviews with each teacher. The interviews were conducted within each teacher's classroom while their class was at their designated special of the day. The fourth-grade classrooms were at the beginning of the hall in the school and were all together. Proximity of all the classrooms being next door and directly across the hall led to easy collaboration among the teachers. I observed all the fourth-grade teachers moving in and out of each other's rooms throughout the day. While conducting one of the interviews, a colleague of the interviewee entered the

classroom with familiarity and retrieved papers she needed. The hallways displayed student work and the classroom doors were adorned welcomingly for the students.

Davidson. Davidson is a Caucasian female in her 20s who has 7 years of teaching in second, third, and fourth grades. She also has her master's degree as an Education and Reading Specialist. Davidson feels recess time is essential and enjoys seeing her students' interactions with each other outside of the academic setting.

Bafford. Bafford is a Caucasian female in her 30s who has 16 years of varied experience in education. She has served as a kindergarten teacher and has taught in third and fourth grades. Bafford has also served as a lead teacher and a principal. She is the wife of a physical education teacher, which she feels contributes to her belief that students having physical activity time is very important. Bafford stated that regardless of the grade level, physical breaks are important for the students.

Brown. Brown is a Caucasian female in her 20s who has been teaching for 3 years. She graduated in the northern part of the United States and moved to western North Carolina to start her teaching career. She had originally planned to start her career in first grade filling in as interim, but a fourth-grade position became available and she has been in this position for 3 years. She serves as the primary math teacher for the fourth-grade students. As listed on her personal website, she has the following expectations for her students: no bullying, be respectful, listen, be safe, follow Covey's 7 habits, and have fun.

Cunningham. Cunningham is a Caucasian female in her 20s with 3 years of teaching experience, all of which are in fourth grade. She teaches math, science and social studies while another fourth-grade teacher teaches reading to her homeroom students. Cunningham enjoys

working with numbers and incorporating art into lessons. She strives to provide students with opportunities to express their creativity through projects and different assignments.

Third Grade Teachers

The third-grade teaching team consists of two females and two males. I was able to conduct interviews with all third-grade teachers. Third grade is located at the end of the hall that also houses the second-grade classrooms. These classrooms are arranged like previously described fourth and fifth grades. Also as previously noted, the arrangement promotes collaboration among the teachers. Hallways displayed student work and each entrance into the classrooms was welcoming and decorated.

Moore. Moore is a Caucasian male in his 50s and has been teaching for 7 years. He lists his classroom mission on his website with the following: Commence our daily journey with an infectious positive attitude, become amazing scholars and leaders, be recognized as leaders wherever we go, continually put forth our best effort, challenge our brains every day, always be respectful of others and get things done. Moore feels that daily physical activity helps students stay more focused and helps reduce the occurrences of impulsive behaviors that negatively impact student learning.

Padget. Padget is a Caucasian male in his 60s and has taught first, second, third, and fifth grades. He holds both a K-6 elementary license and K-12 ESL licensure. Padget feels most of his students are hyperactive or very social, so anytime that movement or physical breaks can be incorporated into the students' school day, he feels they are much more productive and successful in their academic work.

Green. Green is a Caucasian female in her 40s and is in her 6th year of teaching. She feels the *Sharpening the Saw* time provided students the opportunity to recharge and refocus

which improves academic ability and performance. Green often takes her students for a brisk walk or slow jog outside before a test.

Mack. Mack is a Caucasian female in her 60s and this is her 24th year teaching. She has taught grades kindergarten through eighth grades. She also has experience teaching in five different states that include Pennsylvania, New Jersey, Georgia, Florida, and now North Carolina.

Educational Stakeholders Focus Group

The group of educational stakeholders consisted of five female parents who had a combined total of seven students at Cane Hill Elementary. All seven of the students have attended Cane Hill Elementary since kindergarten. Two of the students were third graders, two fourth graders, a fifth grader, and a kindergarten student. Four of the parents were white Caucasian females and one was Hispanic. This educational stakeholder's group did not appear to have personal relationships with each other. It was a very quiet and reserved group of parents.

Results

The purpose of this study is to describe how the principal, teachers, and educational stakeholders view the implementation of additional physical activity time above the state-mandated 30 minutes. Participants for this study were selected through purposeful criterion based on their relevant experience with additional physical activity being provided to students under their responsibility. Participants signed the informed consent documents at the time of their interviews. The data in this study was first collected through the interview of the principal of the school, then individual teacher interviews, followed by an educational stakeholder focus group. Transcriptions of the interviews and focus group allowed the data to be analyzed and coded by hand. This information was supplemented by my own personal notes and observations

from time spent within the school setting. All interviews took place within the school setting. The principal and I sat down at a large table in her office for her interview. The teachers' interviews took place in their individual classrooms. The focus group was held in a conference room located off the main office. Each participant was given the opportunity to review the transcript of his or her individual interview and provide feedback with changes if needed. No changes were required. Data analysis for this study was conducted for the purpose of interpreting the information and developing relevant themes (Schwandt, 2015). Throughout the course of analysis of the data, several consistent themes emerged.

Theme Development

This research was conducted to determine how the principal, teachers, and educational stakeholders view the implementation of additional physical activity time above the state-mandated 30 minutes. Throughout the data collection process, the participants were asked to complete a semi-structured interview. Codes were developed from the principal interview, the 11 teacher interview transcripts, the focus group of educational stakeholders' session, and the researcher's classroom and field observations. Analysis, as Stake (1995) recommended, is a direct interpretation of the data. Clustering of codes was modified by rethinking, triangulated by multiple methods, and deliberate search for disconfirming evidence. I transcribed each interview and focus group session and read the transcripts numerous times to determine codes and common ideas. I then listed each interview question separately and summarized each participant's answer in one document to unambiguously evaluate responses.

As the information from the data collection was coded, it was clustered into themes. Four themes emerged, including brain stimulus, whole child's needs, problem solving, and the release of energy. The central question and research questions that guided this research were:

CQ: What are the lived experiences regarding extended play for the principal, teachers, students, and educational stakeholders who attend a rural elementary school in western North Carolina that has implemented additional daily physical activity into the school day beyond the state-mandated time of 30 minutes?

RQ1: What is the impact of additional daily physical activity implemented in the school day on student cognitive development in grades 3, 4, and 5?

RQ2: Why has additional daily physical activity time been incorporated into the school day in grades 3, 4, and 5?

RQ3: What is the impact of extended play for students in grades 3, 4, and 5 beyond cognitive development?

Examples of participant statements related to codes and themes are presented in Table 1.

Table 1

Codes Related to Themes

Themes	Codes	Participant Quotes
Physical activity provides a stimulus for the brain and the opportunity for refocus and recharge before additional cognitive activities occur.	Focus Brain break Engagement	After recess, they're able to focus more on academics. Additional daily physical activity helps the students stay more focused, energized, and more productive. Engaging the body, engages the brain. Engaging them in physical activity helps to wake the brain, so that they can be more successful.
Incorporating activity promotes addressing the whole child's needs.	Social development Emotional development Well-rounded students Whole child	Students get to socialize outside the classroom. It's important to spend time together in a setting that's not within a classroom We're just not teaching the academic part of their brain; we're teaching the whole child.
Physical activity outside of the classroom promotes problem solving both in social and emotional contexts and assists in building of personal relationships.	Social skills Relationships Team builder Problem solver/solving	They have to be problem solvers socially and emotionally. It's great for them to socialize outside the classroom. Outdoor play gets them up and moving and gets them working as a team.
Behavioral issues in some instances can be alleviated and in other cases help reduce behavioral issues are reduced with the released energy that takes place during recess.	Stimulates Switching gears Energy release	Being outside stimulates kids and also helps kids focus more. It's kind of just like I think their time to release.

Theme 1: Physical Activity Provides Brain Breaks

All participants recognized that recess is an integral part of the school day. Several consistent responses indicated physical activity provides a stimulus for the brain and the opportunity for refocus and recharge before additional cognitive activities occur. The break improves academic ability and performance. Green, a third-grade teacher, stated, "We often take

a brisk walk or slow jog outside before a big test.” The participants talked at length of the increase of rigor in academics for the students and how students need the break to help with refocusing in the classroom. One fifth grade teacher noted:

The rigor has grown exponentially. Like the things we really expect kids to dive into the classroom. It’s awesome the things that students are capable of, but when we’re in the classroom, it is like on to the next, on to the next, on to the next. We don’t waste a minute.

The principal stated in her interview,

I do think it stimulates kids and also helps focus kids more. We do a lot of activity kind of things as our activating strategy, just to get them up and moving and get them active. . . . Some kids for us, is that they didn’t sleep the night before, so to get them awake and get them movement. So, I do think it does help with academics as well as getting those wiggles out for focusing.

Additional daily physical activity helps students stay more focused, energized, and more productive. The reason for this is that daily physical activity acts as a stimulus for the brain. A stimulated brain is a brain that is ready to learn according to Moore in his interview. A fifth-grade teacher explained the refocusing in this way:

I know as an adult, when I’m kind of stumped on a problem or something that’s happening, and I just take a step away from it for a little bit and clear my head and then revisit it, that is so impactful in the way that we problem solve. And so I think a lot can be said for students when they just take a step away from the classroom. For behavior, for academics, like just taking the time away and revisiting it, coming back later in the day. I think it’s so helpful for kids too.

Several teachers spoke to the issue of students having focusing problems and needing the opportunities for movement. Third grade teachers spoke of students needing movement throughout the lessons in order to maintain focus. “Opportunities for movement through the lesson or they can’t, they won’t sit still” (Padget, third grade). Engaging the body, engages the brain. Engaging the students in physical activity helps to wake the brain, so they can be more successful in the classroom. Moore related the brain breaks in this way:

They need the brain break so you have to be able to say you have to do this for this amount of time, we have to accomplish our tasks, and then we will have a break. So that’s kind of a fine line between they need a break, but you also have to be productive, especially within that core time.

Several teachers related personally to their own need for a break. They shared the following personal narratives. “I know, even when I’m home working, I have to get up. I have to... I can’t just stay for an extended period of time. Only because I feel like I need to move a little bit” (Padget, personal communication). Furthermore, Robbins stated:

If I haven’t sharpened my own saw, and I haven’t taken care of myself, and I haven’t stepped away from my job, then I’m not going to be the best teacher possible. And so I think it’s a little hypocritical to expect that students aren’t given that opportunity. Because I know I need it as an adult, and so they definitely need it, as 10-year-olds.
(personal communication)

This theme was also evident in the educational stakeholders focus group. One parent commented, “It allows my daughter time to recharge so that she can be more receptive to learning in the classroom.” Another parent of a fifth grader commented, “It definitely gives them a refreshing break from class time, and they love the opportunity to exercise.”

Theme 2: Physical Activity Addresses the Whole Child

Addressing the whole child was a theme that all the participants reiterated throughout the interviews. As part of the seven daily habits, the focus is on all areas. “Living a life in balance means taking the necessary time to renew yourself” (Covey, 1989). As Robbins stated:

I think it’s just an incredible time of the day. I think what you gain, it’s almost kind of like short-term sacrifice for long-term gain. You’re sacrificing 30 minutes of instructional time every day, but what you gain in the long run, it’s like, well-rounded students who have had the time to socialize at school, who have had that piece of the day that they really look forward to on the playground with their friends. And I think it just contributes to well-rounded students.

The participants said they felt schools are not just teaching the academic part of students’ brains, that schools are also addressing the whole child and their socio, emotional development. We’re not just teaching the academic part of their brain, we’re teaching the whole child and their socio, emotional development, and whatever stage they’re at. I really believe the unstructured play time leads them to the development in that area and it has an impact on what we see in the classroom. (Haynes, personal communication)

Moore, a teacher in third grade, stated:

The educating of our students is not just about them staying in their seats, paying attention and finishing assignments. In order for there to be true learning, I believe the student has to want to be in class. The additional daily physical activity is something the students look forward to. This change in attitudes helps with classroom behaviors, attendance, focus, energy and productivity. We always hear about educating the whole child, the additional daily activity we provide our students is a step in that direction.

When participants spoke of the time out of their instructional time, Thomas responded: You just have to make the time. I understand the push for time, because there is so much and it's so overwhelming. You only have them for that short period of time during the day, but you have to make time for that ... like I said, that component of the child is just as important as the intellectual part, and the physical part, and they need that time because you're not teaching just one area of their brain. You're teaching the whole child.

The extra daily physical exercise time provides the students with time to engage beyond academics. They can interact and speak and listen about non-academic things. Haynes stated that students that are hesitant to participate in class are provided with a different outlet, "This is not an academic setting at recess, so they get to thrive in other ways."

Educational stakeholders group spoke to *Sharpen the Saw* time making a significant difference in their home lives, relating that their students implement life lessons from this time to home. A parent of two girls, one in third grade and the other in kindergarten, was very passionate in her response:

Sharpen the Saw time has helped my girls gain hands on experience, applying timeless principle that have gave them greater productivity, improved communications and strength. They also apply those habits at home, trying their best every day. They have learned to set goals and as a parent it has helped me learn that taking time away from work in the short term, we will actually be more productive in the long term.

Theme 3: Physical Activity Promotes Problem Solving

Students solving problems independently is a goal that teachers have for their students. Many of the participants noted that their respective students gained this valuable skill through recess. "I think it gives them that unstructured time where they have to be the problem solvers

socially and emotionally, and that they don't get in a structured setting like a classroom, where there's a teacher right there at every moment" (Haynes, personal communication). Other teachers in their interviews echoed each other's perspective on problem solving capabilities being refined during their play time. Thomas' response to students as problem solvers saying,

You have to be creative and decide what you're doing, you have to make up your own games in that way, and then you have to decide the rules. You have to agree to them.

When problems occur, how are you going to handle them? And they have to do just that. And they're willing to do that if you would just let them. They get to build their relationships; they get to be people in their little society.

Cunningham, fourth grade noted:

Because a lot of what we try to do is independent (in classroom setting), it's a great time for them to learn how to solve problems on their own and just get along with their peers, because when we're in class, it's pretty academic focused. On the playground they are getting to be social. They're getting to hang out with their friends and talk and problem solve when issues arise.

Davidson, another fourth-grade teacher echoed her peers in saying:

It's really good for their social development because it is a time for them to interact, they problem solve, they get to know each other. Sometimes it's good, sometimes it's bad, but most of the time it's an opportunity for them to grow as people. Most of the time they can figure it out on their own.

Moore, third-grade teacher, sees problem solving occurring because of the recess affording students more opportunities to interact with each other. "The increased interactions increase the potential for situations to arise in which students have to learn to solve problems or

disagreements in a calm and reasonable manner.” The educational stakeholders’ group did not specifically mention the term problem solving in their discussion; however, they did allude that their students enjoyed playing with their friends and even though the sometimes did not get along, they still had fun.

Theme 4: Physical Activity Provides Opportunity for Released Energy.

The teachers spoke of the energy that their students have and exhibit in their classrooms.

Cunningham commented:

I think it’s very critical for kids to have that break so that they can get some of their energy out. I did enjoy it (recess) a lot more last year when it was more towards the middle of the day, so they got the break in the middle of the day and then were able to come back in and learn some more.” (personal communication)

The principal said she could observe students “switching gears, getting excess energy out” when she watches the students play during their *Sharpen the Saw* time.

It’s revitalizing. I get excited for science when we’re able to come back in from recess and we’ve all had time to just like step away and clear our heads for a little bit. And then we’re back in and we’re ready to hit it hard for the next hour. (Robbins, personal communication)

Thomas, fifth grade teacher, responded:

It’s just giving the students time to talk, play, release energy that they don’t really get to do in the classroom. And so, when they get to do that then we can come in here and settle down, and they realize we can work on our job here because you have that time out and about unstructured.

Without the release of energy, there are often repercussions, Bradley, a fourth-grade teacher said:

To me it's very important, and I feel without that physical (break), a lot of our kids have some behavior problems, that as long as they're getting to move around, they don't have. The times have changed throughout the years, the previous years I have had more time, less time, if they have P.E., then they have recess. But I've always made time for recess even if it is indoors. No matter what position I have held, I've always felt recess was important.

Brown, another fourth-grade teacher stated, "It's a good chance to have them go and be free and go run and yell as loud as they want to yell, and so it's good for me to be able to see that too."

Moore, a third-grade teacher, spoke to impulsive behaviors. "The physical activity helps reduce the occurrence of impulsive behaviors that negatively impact learning. The additional physical activity boosts energy levels and focus in students' learning leading to more productive and successful learners."

Even if outdoors recess isn't a possibility, the students still need the time to release energy. Third-grade teachers spoke of students doing exercises to online videos. "We do a whole group physical activity and those are the days that I have less problems because they are moving around even if we're in the classroom" (Green, personal communication). A parent of both a third and fourth grader responded, "Play always helps my boys to get their energy out and it helps them refocus on schoolwork." She also went on to comment, that she allows her boys to play before she starts them on their homework because they "are ready to work and do much better."

Document Analysis

A significant document collected during data gathering was Franklin Covey's (1989) materials that explained the Leader in Me (LiM) program that is implemented in Cane Hill Elementary. There are banners that hang on the walls in the foyer of the school that proclaim Cane Hill Elementary is a Lighthouse school. The LiM is included in the student handbook that is provided to all families at the beginning of the school year. These documents directly answered the research question of why additional daily physical has been incorporated into the school day at Cane Hill Elementary. The LiM program is an evidence-based, comprehensive school improvement model—developed in partnership with educators—that empowers students with the leadership and life-skills they need to thrive in the 21st century (Covey, 1989). The student handbook Cane Hill Elementary provides to all parents contains the following paragraph in bold print:

Cane Hill Elementary is a *Leader in Me* School where students will discover and practice a set of leadership and life skills from Stephen Covey's book *The 7 Habits of Highly Effective People*. Incorporating the *Leader in Me* practices within our school's environment and curriculum will help our students become even more ready to succeed in the 21st Century, with critical skills and characteristics such as: trustworthiness, a strong work ethic, motivation, academic achievement and valuing diversity in a global market. By developing the WHOLE CHILD – socially, emotionally, academically and ethically, we will foster a school climate that promotes everyday greatness!

Leader in Me is a whole-school improvement model designed to create change across a wide variety of areas. The habits encompassed in the Leader in Me are listed as follows in the

student handbook for both parents and students. These habits are also displayed on a tree mural in the hallway so that students are reminded of them daily.

Habit 1: Be proactive (You're in charge). I am a responsible person. I take initiative. I choose my actions, attitudes, and moods. I do not blame others for my wrong actions. I do the right thing without being asked, even when no one is looking.

Habit 2: Begin with the end in mind (Have a plan). I plan ahead and set goals. I do things that have meaning and make a difference. I am an important part of my classroom and contribute to my school's mission and vision. I look for ways to be a good citizen.

Habit 3: Put first things first (Work first, then play). I spend my time on things that are most important. This means I say no to things I know I should not do. I set priorities, make a schedule, and follow my plan. I am disciplined and organized.

Habit 4: Think win-win (Everyone can win). I balance courage for getting what I want with consideration for what others want. I make deposits in others' Emotional Bank Accounts. When conflicts arise, I look for third alternatives.

Habit 5: Seek first to understand, then to be understood (Listen before you talk). I listen to other people's ideas and feelings. I try to see things from their viewpoints. I listen to others without interrupting. I am confident in voicing my ideas. I look people in the eyes when talking.

Habit 6: Synergize (Together is better). I value other people's strengths and learn from them. I get along well with others, even people who are different from me. I work well in groups. I seek out other people's ideas to solve problems because I know that by teaming with others, we can create better solutions than anyone of us can alone. I am humble.

Habit 7: Sharpen the saw (Balance feels best). I take care of my body by eating right,

exercising and getting sleep. I spend time with family and friends. I learn in lots of ways and lots of places, not just at school. I find meaningful ways to help others.

Habit 7 encompasses why Cane Hill Elementary has an additional daily physical activity built into their schedule. Habit 7 is taking time to *Sharpen the Saw* and in this case, the students themselves are the “saw.” It is the habit of sharpening the saw that makes all the other habits possible. By sharpening a saw, one is kept renewed and can contribute to practice the other six habits. Without this renewal, the body becomes weak, the mind mechanical, the emotions raw and the spirit insensitive. To sharpen the saw means renewing ourselves, in all four aspects of our natures:

- Physical - exercise, nutrition, stress management;
- Mental - reading, visualizing, planning, writing;
- Social/Emotional - service, empathy, synergy, security;
- Spiritual - spiritual reading, study, and meditation; To exercise in all these necessary dimensions, we must be proactive (Covey, 2004).

In addition to students, parents are also very much aware of the impact of *Sharpen the Saw* time.

In the focus group session, one parent commented:

The seventh habit is helping them to take the initiative to have a balance in their lives.

They are having fun at recess by playing and talking with their friends out in nature.

They feel motivated to learn, read and write. This is giving them the tools to take care of their body health with exercises and play.

Cane Hill Elementary is designed with three main hallways that contain classrooms.

Visitors must stop and obtain a pass that is displayed before entering the hallways that house the classrooms. The secretary releases the locks on the doors that permit admittance both into the

school and through the second set of doors that leads to the main section of the school. Third and second grades share a hallway and fourth and fifth share another. Kindergarten and first grade share the third hall. The cafeteria is located at the end of the school beyond the kindergarten and first grade hallway. Computer lab, media center, and cultural arts classrooms are located at the opposite end of the school, beyond the second and third grade classrooms.

Walls within the school were painted with various murals and quotations that support the LiM program that support the implementation of extended play in the school. Student work can be found outside of every classroom showcasing students' learning on both cork strips and adherence to the walls. The doors to the classroom also display welcoming messages for the student as well as identifying the teacher and grade level of the classroom. The following images reflect the school lobby, hallways, and the playground equipment and soccer fields that are referenced during the interviews the school principal, teachers, and educational stakeholders conducted with the researcher.



Figure 1. School lobby. This is the lobby of the school where parents can often be seen waiting for their students. Other special visitors also wait in this area. The Growing Leaders theme is evident throughout the school.



Figure 2. 7 Habits Tree. This large tree is painted in the main hallway that all students in the school utilize. All students walk pass this tree several times a day. It encompasses all the seven habits of the LiM program at Cane Hill Elementary.

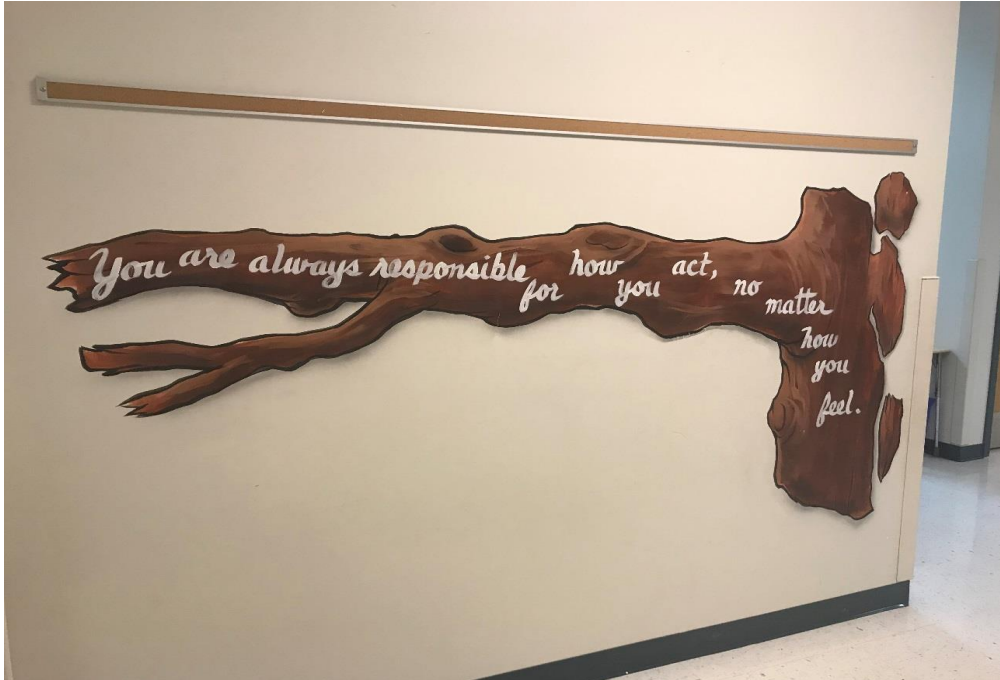


Figure 3. Tree branch 1. This tree branch is one example of the several branches that have been painted on the walls in the hallways of the school.

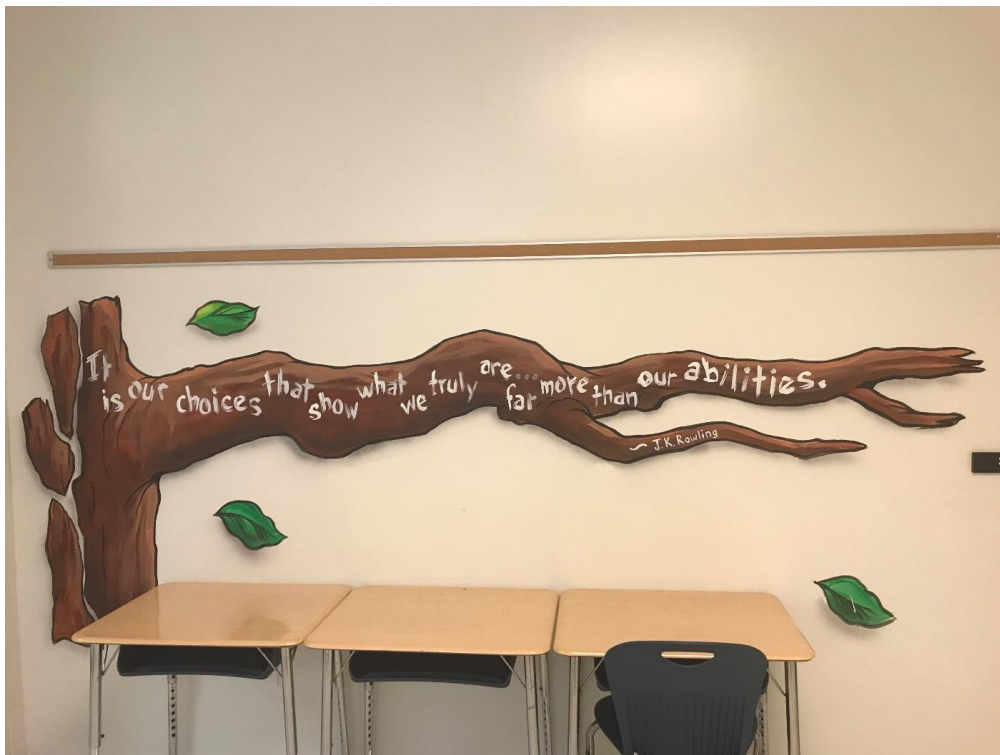


Figure 4. Tree branch 2. Another example of a tree branch painted on the walls in a hallway within Cane Hill Elementary. Each branch throughout the school contains different quotes by different authors.



Figure 5. Log display. This log is displayed over the hall where all students walk every day. The students will see this several times throughout the school day.



Figure 6. Playground. This is one picture of the playground area that students use daily. Located beyond the playground equipment, is flat areas for students to run and exercise.



Figure 7. Soccer field. This is a picture of the soccer field that students use during their extended play time.

Additional documents that were obtained included teacher and classroom schedules that included the daily *Sharpen the Saw* time that is provided to students beyond the state-mandated 30 minutes of physical activity. Further documents included room assignment maps, email addresses, master schedule, information on school-based health services, and flyers that are available for parents to pick up that tell about Cane Hill Elementary and all the services provided to their students.

Research Questions Responses

The purpose of the study is to understand how a specific group of people described their own experiences with a common phenomenon. As a result, the case study method was best suited for this study (Creswell, 2013).

Central Question

The central question that guided this research asked, what are the lived experiences regarding extended play for the principal, teachers, and educational stakeholders of students who attend a rural elementary school in Western North Carolina that has implemented additional daily physical activity into the school day beyond the state-mandated time of 30 minutes? The participants described their experiences in many ways; however, overall the descriptions of extended play were predominantly positive. Many participants shared that they would like to have more play incorporated into the school if there were not so many time constraints within their schedules. In addition, the participants shared that the extended play provides them with many of the same benefits that the students receive.

Research Question 1

The first research question addressed by this study asked, what is the impact of additional daily physical activity implemented in the school day on student cognitive development in grades 3, 4, and 5? This question was answered by the first theme, physical activity provides brain breaks. Several participants stated that giving the students a break provides a stimulus for the brain and allows the opportunity for refocus and recharging. A parent in the focus group interview shared that her daughter, that is in third grade, needed the opportunity to play interactive games like tag and that she felt her daughter was more receptive to learning because of the extended play.

Theme four, physical activity provides opportunity for released energy, also provided answers for the research question. A parent of a third and fourth grade students added that her children love playing soccer during their *Sharpen the Saw* time. She stated playing soccer helped her son get out the energy to refocus on schoolwork.

Research Question 2

The second research question addressed by this study asked, why has additional daily physical activity time been incorporated in the school day in grades 3, 4, and 5? Each theme provided details that answered this question as well as the documents obtained during the research study. The principal, teachers and educational stakeholders were all strongly committed to the incorporation of additional daily physical activity time being provided for the students.

Theme 1. Physical activity provides brain breaks. This theme addresses the research question. When specifically asked why you allow your students to have extended play every day, the principal replied, “Well, first of all, I think the kids need it because we are asking so much of them. School is so much more structured that it was years ago and so much more strenuous. These kids, we’re asking them for a lot for seven hours during the day. So, I think they need that 30-minute break to really release themselves and to be themselves and to be kids.”

Theme 2. Physical activity addresses the whole child. This theme addresses the research question from the perspective that the whole child must be taken care of. The principal shared that 80% of the students that attend her school live in poverty and have mental health issues as well. She feels, “Activity is really good for our kids to be able to just be themselves outside of the classroom.” The principal went on to state, “These kids need all the social skills they can get. A lot of times the situations that (the students) are thrown in at home doesn’t allow them to have the best social cues and so I think anything we can help with helps.” Several participants during their interviews reiterated that providing physical activity helps address the whole child. Robbins, a fifth-grade teacher, spoke to the conversations that the extended play allowed her to have with the students:

I find myself during that time, if there's an issue or something that happened during the day, being able to pull the student over to the side and talk to them about something that happened, or something that they said, or something that's going on at home.

Theme 3. Physical activity promotes problem solving. This theme addresses the research question as well. Frequently, participants referred to the problem-solving aspect of providing extended play to students. Haynes, a fifth-grade teacher, stated:

I think they need the unstructured time when it's not all laid out for them. The students have to be creative and decide what they are doing. You (student) have to make up your (student) own games in that what, and then you (student) have to decide the rules. You (student) have to agree to them. When problems occur, how are you (student) going to handle them? And they have to just do all that. And they're naturally willing to do that if you would just let them.

Theme 4. Physical activity provides opportunity for released energy. This theme addresses the research question along with themes one, two, and three. Thomas, a fifth-grade teacher, referred to the extended play benefit in this way.

For me, it's just giving students time to talk, play, release energy that they don't really get to do in the classroom. And so, when they get to that then we can come in here and settle down, and they realize now we can work on our job here because you have that time out and about unstructured.

The additional documents collected from the principal and school secretary also addressed this research question. Cane Hill Elementary has implemented the *Leader in Me* (LiM) program. *Leader in Me* provides elementary schools with a model and process that addresses common challenges unique to students during their elementary school years. The

seventh habit, *Sharpen Your Saw*, refers to delegating 30 minutes to an hour a day to sharpen your metaphorical saw, and as a result student will be more productive during the remaining hours at school. The seventh habit is the foundation and reason that Cane Hill Elementary has a 30-minute recess incorporated into their daily school schedule for every grade.

Covey (2004) began his chapter on Habit 7 with a story that encapsulates the importance of the seventh habit: Suppose you were to come upon someone in the woods working feverishly to saw down a tree.

“What are you doing?” you ask.

“Can’t you see?” comes the impatient reply. “I’m sawing down this tree.”

“You look exhausted!” you exclaim. “How long have you been at it?”

“Over five hours,” he returns, “and I’m beat! This is hard work.”

“Well, why don’t you take a break for a few minutes and sharpen that saw?” you inquire.

“I’m sure it would go a lot faster.”

“I don’t have time to sharpen the saw,” the man says emphatically. “I’m too busy sawing!” (p. 287)

Research Question 3

The third question guiding this study asked, what is the impact of extended play for students in grades 3, 4, and 5 beyond cognitive impact? This question was answered by Theme 2, physical activity addresses the whole child. While all of the participants in this study seemed to describe their experiences and their students’ experiences with extended play being important in releasing energy and giving them a break from academics, it was also evident that beyond those things, extended play was important because it addresses the whole child and what the whole child needs during the school day. Haynes, in her interview, reiterated the whole child

impact:

We're not just teaching the academic part of their brain, we're teaching the whole child and their socio, emotional development and whatever stage they're at. I really believe the unstructured play time leads them to the development in that area.

In addition to Theme 2 addressing the third research question, Theme 3 does as well.

Theme 3, physical activity promotes problem solving, addresses this question. Many participants shared that they were happy with the amount of problem solving they witnessed occurring on the playground during the *Sharpen the Saw*.

Summary

Elementary teachers in third, fourth, and fifth grades, the principal of Cane Hill Elementary, and a parent focus group in western North Carolina described their experiences and viewpoints with extended play that is provided beyond the mandated 30 minutes of physical activity time. This case study examined the participants' in-depth viewpoints of *Sharpen the Saw* time at their school. The study relied on triangulation of data through various data collection methods, included semi-structured interviews with teachers and the principal, focus groups, and artifact analysis. Each interview and the focus group session were digitally recorded and transcribed. The transcriptions were read numerous times and coded. Each code was examined and clustered into themes. Artifact analysis occurred through a systematic evaluation. School documents were examined and interpreted in order to elicit meaning and gain understanding.

Chapter Four presented the results of this study by answering the research questions with the four themes that emerged through the analysis of the data. Research Question 1 asked, what

is the impact of additional daily physical activity implemented in the school day on student cognitive development in grades 3, 4, and 5? All participants in the research felt that the *Sharpen the Saw* time contributed to the improvement of cognitive development in the students. Theme 1, physical activity provides brain breaks, and Theme 4, physical activity provides the opportunity for released energy, each addressed this research question.

Research Question 2 asked, why has additional daily physical activity time been incorporated into the school day in grades 3, 4, and 5? All themes supported the additional daily physical activity time: physical activity provides brain breaks, physical activity addresses the whole child, physical activity promotes problem solving and physical activity provides opportunities for released energy. In addition to those themes providing justification for the extended play, the implementation of the Leader in Me program also supplied the justification for the extended play. Students are provided the *Sharpen the Saw* time each day to ensure they each have the opportunity for rejuvenation during school hours of their physical, social and emotional, mental and spiritual sides.

Research Question 3 asked, what is the impact of extended play for students in grades 3, 4, and 5 beyond cognitive impact? Participants referenced that extended play addressed the whole child and the whole child needs. Additionally, they felt that extended play promoted problem solving skills among students that they may not have the opportunity for inside the classroom.

Overall, participants described their viewpoints about extended play in their school positively. All supported keeping the time in the school day despite pressures associated with testing and time on task. Several stated that perhaps the only change would be to incorporate even more extended play time during the school day.

CHAPTER FIVE: CONCLUSION

Overview

This purpose of this study was to determine how the principal, teachers, and educational stakeholders view the implementation of additional physical activity time above the state-mandated 30 minutes. This chapter summarizes the findings of the research and provides a discussion of how this study relates to prior research and the theoretical framework. Following this discussion is an explanation of the implications related to the empirical, theoretical, and practical significance of this research. Finally, this chapter presents the delimitations and limitations of this study as well as recommendations for future research.

Summary of Findings

This study was conducted in order to provide in-depth information on participants' viewpoints in relation to extended play time provided to students, in addition to the mandated physical activity time in a rural western North Carolina elementary school. A qualitative study was conducted using a case study approach. The case study approach provides an in-depth examination of data to address the research questions. "As a research method, the case study is used in many situations, to contribute to our knowledge of individual, group, organizational, social, political, and related phenomena" (Yin, 2009, p. 4). By choosing a qualitative design, the researcher was provided the opportunity to explore the perceptions held by the principal, educators, and educational stakeholders about the additional daily physical activity time provided in their school setting, examine this contemporary phenomenon in depth and in a real-world context, assess numerous points of data, and contribute to the knowledge of the existing literature on the topic and to others interested in the topic (Yin, 2009).

Participants were recruited from one public school system within western North Carolina.

A total of 17 volunteers participated in the study. To establish triangulation of data, data collection methods included semi-structured interviews, focus group and artifact analysis.

Since this study used numerous perspectives and subjective observations, the ontological and epistemological assumptions guided the data analysis process. Some level of researcher bias is customary in qualitative studies; therefore, the axiological assumption was also present (Creswell, 2013). Each interview and focus group session were digitally recorded and transcribed. To begin the data analysis process, I repeatedly reviewed the transcriptions and made notations. Codes were created based on notes for the interviews and focus group. In order to answer the research questions that guided the study, those codes were analyzed and then clustered into themes. Four themes emerged from the data analysis. These four themes were: physical activity provides brain breaks, physical activity addresses the whole child, physical activity promotes problem solving, and physical activity provides opportunities for released energy. An explanation and summary of the findings for each of the research questions follows.

The first research question answered by this research asked the participants for their viewpoint on the impact of additional daily physical activity implemented in the school day on student cognitive development. It was primarily answered by the theme of physical activity provides brain breaks. Specifically, participants used descriptors such as focused, recharged, engaging the body engages the brain, energized, and productive.

The second research question guiding this research on why additional daily physical activity time has been incorporated into the school day was answered through the collection of documents and the analysis of those documents. Many comments focused on the seven habits established by Covey (2004). The seventh habit that had been incorporated into the school *Sharpen the Saw* provided both the reasoning and justification of additional daily activity being

provided to the students.

The third research question that guided this study asked the participants to describe the impact of extended play beyond cognitive development. The theme most closely related to this question was physical activity addresses the whole child. All participants had positive attitudes toward the impact that extended play has on addressing the needs of the whole child.

Discussion

The purpose of this case study was to provide in-depth viewpoint of the principal, teachers, and educational stakeholders on additional play time incorporated into the school day, beyond the state-mandated physical activity time. An elementary school in rural western North Carolina was studied for this case study. The following sections summarize the findings and discuss how the information answered the research questions. Theoretical, empirical, and practical information shed light on previous literature discussed in the areas of play time in schools. Discussion is included on the various implications, delimitations, and limitations used in the process of this study. This case study led to recommendations for future research in the area of implementing extended play in schools. This chapter concludes with the most important findings and thoughts on the findings of this case study.

Theoretical

Constructivist concepts of learning have their historical roots in the work of Dewey (1984), Bruner (1961), Vygotsky (1962), and Piaget (1980). Recess affords time for the brain to recuperate between complex cognitive tasks and decreases fidgety, off-task behaviors (Jarrett & Waite-Stupiansky, 2009). The focus on children's ability to meet the cognitive, physical, and social demands of school success continues to be at the forefront in education (Davies, Janus, Duku, & Gaskin, 2016). Through the additional viewpoints of educators and educational

stakeholders, this research was conducted to gain an in-depth understanding of how extended play beyond the state-mandated time for physical activity may impact student cognitive development (Kolb & Kolb, 2010; Peterson, Forsyth, & McIntyre, 2015).

Throughout the development of this research, the principal, teachers, and educational stakeholders shared their viewpoints about the impact that extended play has on their students in many areas (Council on School Health, 2013; Gray & MacBlain, 2015; Ramstetter & Murray, 2017; Wilson, 2001). Several participants stated that even as adults they need a break in their day and therefore feel like their students deserve breaks from academics as well. The overall belief among the participants was that providing students with an additional time to *Sharpen the Saw* during the day has many positive advantages to the students in the classroom as well as in life. Those advantages include providing brain breaks, addressing the whole child, promoting problem solving, and providing the opportunity to release pent up energy.

Empirical

Previous research into free play or recess time for students has focused primarily on quantitative measures. Examples include the analysis of free time in relation to relationships between playground areas and physical activity levels, differences in physical activities based on the season of the year, activity levels based on gender, physical activity levels in relation to peer relationship, and measurements of school physical environments and their effects on play (Brusseau, 2015; Haapala et al., 2014; Ickes, Erwin, & Beighle, 2013; Martin, Bremner, Salmon, Rosenberg, & Giles-Corti, 2012).

The empirical significance of this study sought to provide an in-depth understanding of the principal's, teachers' and educational stakeholders' viewpoints on how extended play incorporated into the school day above the state-mandated 30 minutes in an elementary school

located in rural western North Carolina may influence students' cognitive development.

Educational Policies Impact. The current leadership at Cane Creek Elementary is the reason for the incorporation of extended play in the school day. The impact of educational policies (NCLB, 2012, Knowles, Parnell, Stratton, & Ridgers, 2013 and Alexander, Barnett & Fitzpatrick, 2016) has greatly reduced recess in schools. The principal however at Cane Creek Elementary goes beyond the what the educational policies dictate and believes in providing extended play beyond what the state mandates. During her interview, she was fully committed to her school and staff providing what the whole child needs. This case study showed how implementing extended play into the school day provided students with brain breaks that allowed students the opportunity to recharge and refocus when returning to class. Through extended play students were more likely to gain problem-solving skills when social issues arose. And finally, through extended play the opportunity to release energy was afforded to students. After sitting and focusing on academics, being given the opportunity to play allows students to talk, play, and release energy that they are unable to do within the classroom setting.

Physical Benefits of Recess. Tomporowski et al. (2008) and Slater et al. (2012) suggest that physical activity enhances cognitive ability through improving classroom memory, concentration and overall classroom behavior apparent in the study's first theme of its findings as the teachers coincide to the fact that the 30 minutes of extended play afforded learners with the opportunity to refocus and recharge before resuming the routine cognitive activities of class. The routine of classroom teaching can be exhausting for children as it involves constant brain work and the whole process of sitting in class is habitually monotonous to young children. The inclusion of extended play time as part of the curriculum of school learning understandably becomes an integral part of enlivening their minds. Both teachers and parents stated in their

interviews that students need to release their energy and that most students use their time to run and be active.

Cognitive Benefits of Recess. These findings are comprehensible under the fact that extended play time improves the students' attention capacities which clearly have interplay with their cognitive abilities. Slater et al., (2012) found that physical activity is linked to overall improvement in academic achievement. This current study supports that research in that the principal, teachers and educational stakeholders all stated that they felt physical activity provides the opportunity for refocus and recharge for the students. Brez and Sheets (2019) research shows that allowing mental breaks improved cognitive skills. One teacher interviewed stated that she always had students take a small break before administering a test. This break may involve a short walk around the school, in the hallway or a wiggle break that involves watching a video exercise.

Social and Emotional Benefits of Recess. Previous research has confirmed that opportunities provided to students to establish social bonds at school support social and emotional feelings in students (McNamara, Colley & Franklin, 2015 and Carlson, Tirt, Bender & Benson, 2011). The participants in this research stated that many times they found behavioral issues were helped with extended play. Students were able to talk with friends without worry. Teachers also stated occurrences when they had the opportunity to speak with students about home situations that were affecting the students or personal issues between students within the classroom.

These concepts are significant and may help inform the policy makers of the benefits of incorporating additional time for daily physical activity within the school day, resulting in providing research-based evidence to continue providing the additional play time. In other

scenarios, this research may provide the substantiation to establish the addition of play time into the school day in schools that otherwise did not offer the additional time to their students.

Implications

Through this study I gained an in-depth understanding of the impact of extended play in a rural elementary school in Western North Carolina. The principal, 11 teachers, and a focus group of educational stakeholders all shared their viewpoints through a variety of interactions including interviews, focus group, and artifact review. The information gained from these interactions was analyzed to uncover themes. I found that the extended play contributes to students in areas of providing brain breaks, addressing the whole child's needs, promoting problem solving, and providing the opportunity for energy release. These findings were consistent with prior research studies and enhance the existing literature by including a group of participants that incorporate a daily 30-minute recess period regardless of whether PE is provided. Participants with these parameters were previously not included in research. These findings included theoretical, empirical, and practical implications.

Theoretical Implications

Piaget, Vygotsky, and Erikson's theories all serve past, present, and future educators with the means to begin to understand the way children develop and learn. These theorists discerned variances and similarities while studying this phenomenon. All three theorists emphasized the significance of cognitive development during the early childhood years.

From a Piagetian point of view, play could be regarded as a cognitive behavior. As a constructivist, Piaget (1962) believed learning is developmental and children progress through developmental stages as they grow. This view of learning suggests students should be provided with opportunities for concrete, contextually meaningful experiences. By using the Piagetian

point of view, this study helped me understand how the principal's, teachers', and educational stakeholders' viewpoints of play could help impact other schools in providing additional extended play for students

The findings of the research indicate that extended play beyond the state-mandated guidelines provides valuable opportunities for students in several areas: providing brain breaks, addressing the whole child, promoting problem solving, and providing opportunities for released energy. These opportunities are valuable to students in that the contributions of extended play have been shown to increase cognition, cooperation between students, and overall positive impact on academics as Fedewa and Ahn (2011) indicated a connection between academic achievement and physical activity.

The study also enlightens extended play not only benefits cognitively but also contributes to the social development of children as it can be construed from the studies by Stapp and Karr (2018); and Haynes, one of the research participants. In the processes of play, children are introduced to many social phenomena. As eluded to earlier, it is through the process of play time that children engage and are able to make friends outside class, learn each other's emotions, cooperate, learn to resolve problems and negotiate, the skills which may barely be learned from the academic routines of classroom teaching.

Empirical Implications

Previous studies indicated that recess has been eliminated altogether or greatly reduced in school due to various reasons that include increased testing, bullying, injuries on playgrounds, and disruptions of work patterns, to list just a few (Adams, 2011; Alexander, Barnett, & Fitzpatrick, 2016; Knowles, Parnell, Stratton, & Ridgers, 2013; McNamara, Colley, & Franklin, 2017). Additionally, as previous studies had focused on measuring the quantitative nature of the

benefits of recess (Black, Menzel, & Bungum, 2014; Brusseau, 2015; Erwin et al., 2012), this study sought to provide an additional dimension by adding the element of extended play into the school day beyond the state required guidelines.

Empirically, this study filled a gap in the literature presently available by providing a look into the viewpoints of a group of people who had been absent from the research. Previous research has included schools that have recess 20 minutes per day, schools that have recess on days when PE is not offered to students, or populations of students who have had access to random recess periods throughout the school week. Past research also examined how the extended play within the school environment impacted students.

Implications of this current research are that students need extended play incorporated into their daily school schedule. Extended play should be valued as important as academic studies that students have in their schedules. The findings of this study corroborated much of the previous research in several ways, indicating that the principal, teachers and educational stakeholders share many of the same insights and concerns as those in prior studies which include concerns about school academics and test scores are becoming the focus in schools instead of addressing the whole child and their needs. Implications from this research are that extended play within the school day contributes to academic positively and to students' entire well-being and social skills.

Practical Implications

In this study, I examined the in-depth viewpoints of the principal, teachers, and educational stakeholders to gain an understanding of how extended play beyond the state-mandated guidelines impact students in a rural elementary school in western North Carolina. By analyzing the transcriptions of the interviews and artifacts collected, I was able to develop

themes that emerged through the analysis. Through these themes, I found several practical implications that could be used for the purpose of implementing additional play time for students during the school day. These implications impact several stakeholders in the educational process, including the principal, teachers and parents.

The individual interview with the principal indicated that the *Sharpen the Saw* time affords students the opportunities to develop socialization skills among their peers (Jarrett et al., 1998; Wood, 2014). The principal also was committed in her belief that this extended play incorporated into the school day assists her students with energy release and the ability of “switching gears,” two aspects that she feels contribute to both the physical and mental health of the students. An implication from this study is for this school administrator to share her experiences with the implementation of extended play in the school day. This information could be shared at the district level and with other principals both in her county and surrounding counties that want to understand how administration can support extended play in their daily school schedule. The support of the administration for the extended play in Cane Hill Elementary school is a valuable resource for teachers and educational stakeholders.

The teachers interviewed in this study consistently confirmed many of the findings of previous research. As previously mentioned, research indicates that students need a break from the academic setting in order to recharge and refocus (Elkind, 2012; McNamara et al., 2017). Overwhelmingly, the participants agreed that students returned from extended play ready to focus on academics and were less fidgety in the classrooms. A practical recommendation from this information is for teachers to provide breaks for students during academic sittings. This readiness could help students with the comprehension and ability to recall the information that they are being taught during their academic sessions.

Current focus for schools is that the whole child's needs should be addressed. Fung and Cheng (2012) found that play is valued by teachers, but teachers found it problematic to implement within the school because of time limitations. The strain on teachers to provide positive testing data has caused some teachers to adjust their teaching methods and as a result require that more time during the school day be spent on teacher directed activities, which reduces or limits play (Jung & Jin, 2014). A practical implication to meet the whole child is the benefit of extended play. Extended play can assist schools in doing what is in the best interest for the whole child. Short term sacrifice of academic focus time leads to long term gain in benefits to the students.

As schools implement programs and policies for their students, parents or caregivers are often asked to provide input into those decisions. Fantuzzo and McWayne (2002) found that for schools to have an effective home-school partnership, there must be information exchanges between the home and school about the students' peer interactions. This successful relationship has been established at Cane Hill Elementary School. A practical implication of parents being involved is the knowledge that the educational stakeholders can bring to the table in discussions about what they want for their students. The information provided in this study could offer parents practical knowledge when advocating for new playground equipment or ensuring that *Sharpen the Saw* time remains implemented in their child's school day. Parent involvement is vital to children's successful transition in their educational journey (Yamamoto & Li, 2012). The educational stakeholders in this study frequently shared the importance for their students to have a break from class, opportunity to recharge, and a time to interact with their friends. Educational stakeholders have this information available to provide to the district office if there was the risk that extended play could be removed from their student's school day. This

information could also be available for educational stakeholders to provide to other school districts in the event that they had to move their students to another school location.

A final implication from this research is that all of the participants understand and have stated the positive effects of extended play being included within the school day and are able to communicate to other principals, teachers, and educational stakeholders the importance of this valuable asset to be included. Extended play should be viewed as a vital piece of the school day, not simply play time.

Delimitations and Limitations

A delimitation of this study was the selection of the participants. In order to participate in this study, potential participants had to be teaching in a school that had extended play for their students beyond the state's mandated 30 minutes of physical activity each day. Participants of the focus group were required to have students attend the elementary school that had extend play for their students. Because participants in the teacher group were required to be teachers, they had to be over 18 years old with at least a 4-year college degree. I obtained permission to conduct research in one school; therefore, participants were required to work in the school from which permission had been obtained. Throughout the school in third, fourth, and fifth grade, only one potential participant was excluded. This fifth-grade teacher was unable to be interviewed on the days I was in the school doing interviews and collecting artifacts.

As a qualitative study, this research has limitations (Creswell, 2013; Moustakas, 1994; Patton, 2001). I chose to use a case study for this research. By design, qualitative studies often use smaller sample sizes than quantitative studies; therefore, a smaller sample size was appropriate and data saturation was achieved after 11 interviews with teachers, one interview

with the principal, and a focus group of parents. There was a lack of diversity in the participant group. This study was conducted within one elementary school; therefore, all the teachers and principals were employees of the same school system suggesting the possibility of similar experiences. Though their ages and years of experience were varied, all but two participants in this study were female. The members of the parent focus group also lacked diversity in that all their children had only attended Cane Hill Elementary, consequently the parents did not have any experience with their children not having extended play time during school hours. All the parents in the focus group were females.

Because this was a qualitative study, I served as the human instrument for data collection as well as data analysis. This direct involvement in all aspects of the study could lead to research bias. Although I do not work in the same public-school system or have personal connections with any of the participants, I do personally believe in providing extended play for students and do so within my school schedule and with my students. To reduce research bias, I wrote in my journal when I left the elementary school and between interviews with the teachers.

Recommendations for Future Research

In consideration of the study findings, I noted several recommendations for future research. One of the major limitations of this study was the focus on one elementary school system in western North Carolina. Additional research that expands schools that have included extended play beyond the state-mandated physical activity time of 30 minutes could add to the findings. This could also be expanded to elementary school in other states.

Future studies could explore the effect of the time of extended play placement in the school schedule on students' academics and energy levels. Studies could explore schools where extended play is offered before lunch, incorporated into the lunch time frame, in the afternoon or

at other various times in the day. The fourth-grade teachers spoke in their interviews about the placement of the extended play in their grade-specific school schedule. They all commented that the extended play was scheduled for their students at the end of the school day. Because of this placement in their schedule, they unanimously felt like the students did not receive any academic benefit from extended play time. In previous years, their extended play, known at Cane Hill Elementary as *Sharpen the Saw* time, was at a different time in the school day. Each teacher spoke to the benefits being greater for their students when it occurred earlier in the day.

This study could be replicated with a more diverse sampling, drawing from a more diverse demographic set. Cane Hill Elementary incorporates the extended play into their daily school schedule because of their adoption of the LiM model. Extended play is one of the seven habits that Cane Hill Elementary follows and promotes within every classroom. Further research of additional elementary schools that also implement the LiM model and their participants' viewpoints of the extended play could add to this field of research.

Future studies could include teachers and parents of students in grades K-2. The teachers and parents of these students were not included in the current study. Students in the lower elementary grades do not currently participate in the same format of standardized testing that upper grade level students do, however, the effect that extended play may have on their classroom performance and behavior would be worth investigation and exploration.

Future research is needed pertaining to the relationship between administration and teachers who incorporate extended play in the school daily schedule. In this study, the school principal had selected the LiM program and teachers did not have a choice of excluding extended play in their schedule. Future research on this topic might include quantitative inquiry which could include a large sampling, and/or qualitative research, such as a multiple case study or a

phenomenology on this topic in order to explore this dynamic at a deeper level. A multiple case study could illustrate the differences between teacher choice in scheduling in different schools.

Several teachers also noted that the relationships between themselves and the students are developed and nurtured during extended play. Future studies could focus on relationship development that may occur outside of academic settings between students and teachers.

Summary

“If you just think about sunlight, being outside, fresh air alone, if you don’t have that time structured into your schedule... we are in this building for eight hours straight ... also, I know as an adult when I’m kind of stumped on a problem or on something that’s happening, and I just take a step away from it for a little bit and clear my head and then revisit it, that is so impactful in the way that we problem solve. And so I think a lot can be said for students when they just take a step away from the classroom. For behavior, for academics, like just taking the time away and then revisiting it, coming back in later in the day” (Robbins, Fifth grade teacher).

Through the analysis of the data, four themes were identified that answered the questions this research sought to find. These themes were: physical activity provides brain breaks, physical activity addresses the whole child, physical activity promotes problem solving, and physical activity provides opportunities for released energy. The principal, teachers, and educational stakeholders all conveyed overall positive experiences with extended play being implemented in the school day beyond what the state mandates.

Findings indicate that the principal, teachers, and educational stakeholders of Cane Hill Elementary, in rural western North Carolina, value *Sharpen the Saw* time as an indispensable component of the students’ educational experience. The participants provided insight of what

extended play means for their students in many different aspects of their lives. They conveyed that *Sharpen the Saw* time gives students the opportunity to spend time away from academics and the classroom environment.

This study's findings offered several implications. It added to the available literature regarding the extended play beyond state-mandated guidelines that had not been included in previous recess studies on recess in the school day. Practical implications offered information that could help other schools and administrations justify adding extended play for their students during the school day.

There were a few delimitations that may have excluded some potential participants for the research study. Furthermore, the sample size and lack of diversity were limitations in this study. These delimitations and limitations afford opportunities for future research.

References

- Adams, C. (2011). Recess makes kids smarter: The benefits of recess are clear. Why are so many schools cutting back? *Instructor*, *120*(5), 55–59.
- Alexander, S. A., Barnett, T. A., & Fitzpatrick, C. (2016). Are inequalities produced through the differential access to play opportunities at school? A call to level the playing field. *Canadian Journal of Public Health*, *107*(6), 583–585. doi:10.17269/CJP.107.5471
- Alcott, A. B. (1836). *Conversations with children on the Gospels*. Boston: James Munroe & Co.
- Almakhan, K., & Manshuk, K. (2014). Primary school children cognitive processes development research. *Creative Education*, *5*(4), 155–163. doi:10.4236/ce.2014.54024
- American Heart Association. (2012). Overweight in children. Retrieved from http://www.heart.org/HEARTORG/GettingHealthy/Overweight-in-Children_UCM_304054_Article.jsp
- Ardoy, D. N., Fernandez-Rodriguez, J. M., Jimenez-Pavon, D., Castillo, R., Ruiz, J. R., & Ortega, F. B. (2013). A Physical Education trial improves adolescents' cognitive performance and academic achievement: The EDUFIT study. *Medicine & Science in Sports*, *24*(1), 52–61. doi:10.1111/sms.12093
- Avery, M., & Brandt, J. (2010). How active are your students? Increasing physical activity in schools. *Strategies*, *24*(1), 34. doi:10.1080/08924562.2010.10590912
- Bagwell, C. L., & Schmidt, M. E. (2011). *Friendships in childhood and adolescence*. New York, NY: Guilford Press.
- Ballou, D., & Springer, M. G. (2015). Using student test scores to measure teacher performance. *Educational Researcher*, *44*(2), 77–86. doi:10.3102/0013189X15574904

- Bandura, A. (1969). Social-learning theory of identificatory processes. In D. Goslin (Ed.), *Handbook of socialization theory and research* (pp. 213-262). Boston, MA: Houghton Mifflin.
- Banner, A. C. B. (2005). A comparative study of the perceptions of elementary school administrators, teachers, and students regarding recess and free play in the public school. East Tennessee State University. ProQuest Dissertations and Theses, Retrieved from <http://search.proquest.com.jproxy.lib.ecu.edu/docview/304994884?accountid=10639>
- Barrios, L. C., Jones, S. E., & Gallagher, S. S. (2007). Legal liability: The consequences of school injury. *Journal of school health, 77*(5), 273-279.
- Bauman, A. E., Reis, R. S., Sallis, J. F., Wells, J. C., Loos, R. J., Martin, B. W., & Lancet Physical Activity Series Working Group. (2012). Correlates of physical activity: Why are some people physically active and others not? *The Lancet, 380*(9838), 258-271. doi:10.1016/S0140-6736(12)60735-1
- Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The Qualitative Report, 13*(4), 544-559.
- Beighle, A., & Morrow, J. R. (2014). Promoting physical activity: Addressing barriers and moving forward. *The Journal of Physical Education, Recreation & Dance, 85*(7), 23–26.
- Berlyne, L. (1966). Curiosity and exploration. *Science, 153*(3731), 25–33. doi:10.1126/science.153.3731.25
- Bernard, H. R. (2002). *Research methods in anthropology: Qualitative and quantitative approaches* (3rd ed.). Walnut Creek, CA: Alta Mira Press.

- Bergen, D. (2002). The role of pretend play in children's cognitive development. *Early Childhood Research & Practice, 4*(1), 1–8. Retrieved from <http://ecrp.uiuc.edu/v4n1/bergen.html>
- Black, I. E., Menzel, N. N., & Bungum, T. J. (2014). The relationship among playground areas and physical activity levels in children. *Journal of Pediatric Health Care, 29*(2), 156–168. doi.org/10.1016/j.pedhc.2014.10.001
- Blad, E. (2015). Withholding recess as discipline in decline. *Education Week, 34*(27), 1–14.
- Bloom S. E, Iwata B. A, Fritz J. N, Roscoe E. M, & Carreau A. B. (2011). Classroom application of a trial-based functional analysis. *Journal of Applied Behavior Analysis. 44*(1), 19–31. doi:10.1901/jaba.2011.44-19
- Bornstein, B. H., & Wiener, R. L. (2014). *Justice, Conflict and Wellbeing*. New York: Springer.
- Bornstein, D. (2011). *Hard times for recess*. Retrieved from <http://playworks.org/media/news/hard-times-recess>
- Bossenmeyer, M. (2014). Favorite subject at school? Recess, of course. *Playground Magazine, 13*(4), 12–16.
- Bovaird, J. A., Geisinger, K. F., & Buckendahl, C. W. (2011). *High-stakes testing in education: Science and practice in K-12 settings*. Washington, D.C: American Psychological Association. doi:10.1037/12330-000
- Brez, C., & Sheets, V. (2017). Classroom benefits of recess. *Learning Environmental Research, 20*(3), 433–445. doi: 10.1007/s10984-017-9237-x
- Brown, P., Sutterby, J., & Thornton, C. (2014). *Dramatic play in outdoor play environments*. Retrieved from <https://www.ptotoday.com/pto-today-articles/article/79-dramatic-play-in-outdoor-play-environments>

- Bruner, J. S. (1961). The act of discovery. *Harvard Educational Review*, 31(1), 21-32.
- Brusseu, T. A. (2015). The intricacies of children's physical activity. *Journal of Human Kinetics*, 47(1), 269–275. doi: 10.1515/hukin-2015-0082
- Bryan, C. L., & Solmon, M. A. (2012). Student motivation in physical education and engagement in physical activity. *Journal of Sport Behavior*, 35(3), 267-285.
- Burkhalter, T. M., & Hillman, C. H. (2011). A narrative review of physical activity, nutrition, and obesity to cognition and scholastic performance across the human lifespan. *Advances in Nutrition*, 2(2), 201–206. doi:10.3945/an.111.000331
- Burriss, K., & Tsao, L.-L. (2002). Review of research: How much do we know about the importance of play in child development? *Childhood Education*, 78(4), 230–233. doi:10.1080/00094056.2002.10522188
- Carlson, J. S., Tired, H. B., Bender, S. L., & Benson, L. (2011). The influence of group training in the incredible year's teacher classroom management program on preschool teachers' classroom management strategies. *Journal of Applied School Psychology*, 27(2), 134–154. doi: 10.1080/15377903.2011.565277
- Centers for Disease Control and Prevention. (2010). Recess periods (Appendix 7). *Promoting better health for young people through physical activity and sports*. Retrieved from <http://www.thenewpe.com/advocacy/promotingPA.pdf>
- Centers for Disease Control and Prevention. (2011). *Obesity and extreme obesity rates decline among low-income preschool children*. Retrieved from <http://www.cdc.gov/obesity/data/childhood.html>
- Chang, R., & Coward, F. L. (2015). More recess time, please! *Phi Delta Kappan*, 97(3), 14–17. doi:10.1177/0031721715614822

- Cherry, K. (2017). How social learning theory works. Associated Press. Retrieved from www.verywellmind.com/social-learning-theory-2795074
- Chin, J. J., & Ludwig, D. (2013). Increasing children's physical activity during school periods. *American Journal of Public Health, 103*(7), 1229–1234. doi:10.2105/AJPH.2012.301132
- Chudacoff, H. P. (2007). *Children at play: An American history*. New York: NYU Press
- Cobb-Clark, D. A., & Jha, N. (2016). Educational achievement and the allocation of school resources. *The Australian Economic Review, 49*(3), 251–271. doi:10.1111/1467-8462.12159
- Cooper, B. R., Moore, J. E., Powers, C. J., Cleveland, M., & Greenberg, M. T. (2014). Patterns of early reading and social skills associated with academic success in elementary school. *Early Education and Development, 25*(8), 1248–1264. doi:10.1080/10409289.2014.932236
- Council on School Health (2013, January). Policy Statement: The crucial role of recess in school. *Pediatrics, 131*(1), 183–188.
- Covey, S. R. (1989). *The 7 habits of highly effective people*. Melbourne: Business Library.
- Covey, S. R. (2004). *The 7 habits of highly effective people: Restoring the character ethic*. New York: Free Press.
- Craig, S. G., Imberman, S. A., & Perdue, A. (2013). Does it pay to get an A? School resource allocations in response to accountability ratings. *Journal of Urban Economics, 73*(1), 30–42. doi:10.1016/j.jue.2012.07.002
- Crain, W. (2011). *Theories of development: Concepts and applications* (6th ed). New Jersey: Pearson, Prentice Hall.

- Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research* (2nd ed.). Thousand Oaks, CA: Sage.
- Daniels, M. (2018, April 5). Arizona governor signs law requiring more recess. AP News. Retrieved from <https://www.apnews.com/aaa90812e28f4c60b8867edfa6fa229e>
- Dasen, P. R. (1984). The value of play. *World Health*, 2, 11-14.
- Davies, S., Janus, M., Duku, E., & Gaskin, A. (2016). Using the early development instrument to examine cognitive and non-cognitive school readiness and elementary student achievement. *Early Childhood Research Quarterly*, 35, 63–75. doi:10.1016/j.ecresq.2015.10.002
- Dealey, R. P. (2017). Play in schools: An investigation of school social workers' perceptions experiences. *School Social Work Journal*, 42(1), 1–15.
- De Hann, A. K., Elbers, E., & Leseman, P. P. (2014). Teacher and child-managed academic activities in preschool and kindergarten and their influence on children's gains in emergent academic skills. *Journal of Research in Childhood Education*, 28(1), 43–58. doi.org/10.1080/02568543.2013.851750
- Delidou, E., Matsouka, Q., & Nikolaidis, C. (2015). Influence of school playground size and equipment on the physical activity of students during recess. *European Physical Education Review*, 22(2), 215–224. doi:10.1177/1356336X15598790

- Del Prette, Z. A., Del Prette, A., De Oliveira, L. A., Gresham, F. M. & Vance, M. J. (2012). Role of social performance in predicting learning problems: Prediction of risk using logistic regression analysis. *School Psychology International*, 33(6), 615–630.
doi:10.1177/0020715211430373
- Dempster, F. N. (1988). The spacing effect: A case study in the failure to apply the results of psychological research. *American Psychologist*, 43(8), 627. doi:10.1037/0003-066X.43.8.627
- Denham, S. A., & Weissberg, R. P. (2004). Social-emotional learning in early childhood: What we know and where to go from here. In: E. Chesebrough, P. King, T. P. Gullotta, & M. Bloom (Eds.), *A blueprint for the promotion of prosocial behavior in early childhood* (pp. 13–50). New York: Kluwer Academic/Plenum.
- Deruy, E. (2016, September 13). Learning through play. *The Atlantic*. Retrieved from <https://www.theatlantic.com/education/archive/2016/09/learning-through-play/499703/>
- Dewey, J. (1984). *The later works of John Dewey 1929: The quest for certainty* (Vol. 4). Carbondale, IL: SIU Press.
- Dewey, J. (1997). Experience and education. *The Kappa Delta Pi Lecture Series*. Retrieved from <https://archive.org/details/ExperienceAndEducation>
- Dickey, K., Castle, K., & Pryor, K. (2016). Reclaiming play in schools. *Childhood Education*, 92(2), 111–117. doi:10.1080/00094056.2016.1150742
- Dikko, M. (2016). Establishing construct validity and reliability: Pilot testing of a qualitative interview for research in Takaful (Islamic Insurance). *The Qualitative Report*, 21(3), 521–528.

- Dills, A., Morgan, H., & Rotthoff, K. (2011). Recess, physical education, and elementary school student outcomes. *Economics of Education Review*, *30*(5), 889–900.
doi:10.1016/j.econedurev.2011.04.011
- Dinkel, D., Dev, D., Guo, Y., Hulse, E., Rida, Z., Sedani, A., & Coyle, B. (2018). Improving the physical activity and outdoor play environment of family childcare homes in Nebraska through do nutrition and physical activity self-assessment for child care. *Journal of Physical Activity and Health*, *15*, 730–736. doi:10.1123/jpah.2017-0411
- Donaldson, O. (2013). The Importance of Original Play in Human Development. Retrieved from <http://www.originalplay.com/develop.htm>
- Donnelly, J. E., & Lambourne, K. (2011). Classroom-based physical activity, cognition, and academic achievement. *Preventive Medicine*, *52*(Suppl 1), S36–S42.
doi:10.1016/j.ypmed.2011.01.021
- Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: a meta-analysis of school-based universal interventions. *Child Development*, *82*(1), 405–432. doi:10.1111/j.1467-8624.2010.01564.x
- Eden, D. (2010.). *Terence McKenna's time wave theory*. Retrieved from <http://www.mondovista.com/timewavex.html>
- Education Commission on the States. (2004). *No Child Left Behind database*. Retrieved from <http://nclb2.ecs.org>
- Efrat, M. W. (2013). Exploring effective strategies for increasing the amount of moderate-to-vigorous physical activity children accumulate during recess: A quasi-experimental intervention study. *Journal of School health*, *83*(4), 265-272. doi:10.1111/josh.12026

- Elkind, D. (2012). *Learning through play*. Retrieved from <http://www.communityplaythings.com/resources/articles/valueofplay/learningthroughplay.html>
- Erikson, E. H. (1959). *Identity and the life cycle*. New York: International Universities Press.
- Erwin, H., Abel, A., Beighle, A., Noland, M. P., Worley, B., & Riggs, R. (2012). The contribution of recess to children's school-day physical activity. *Journal of Physical Activity and Health, 9*(3), 442–448.
- Evans, J., & Pellegrini. (1997). Surplus energy theory: An enduring but inadequate justification for school break-time. *Educational Review, 49*(3), 229-236.
doi:10.1080/0013191970490302
- Fantuzzo, J., & McWayne, C. (2002). The relationship between peer-play interactions in the family context and dimensions of school readiness for low-income preschool children. *Journal of Educational Psychology, 94*(1), 79–87. doi: 10.1037/0022-0663.94.1.79
- Farmer, T. W., Petrin, R. A., Robertson, D. L., Fraser, M. W., Hall, C. M., Day, S. H., & Dadisman, K. (2010). Peer relations of bullies, bully-victims, and victims: The two social worlds of bullying in second-grade classrooms. *The Elementary School Journal, 110*(3), 364–392. doi:10.1086/648983
- Faught, E. L., Ekwaru, J. P., Gleddie, D., Storey, K. E., Asbridge, M., & Veugelers, P. (2017). The combined impact of diet, physical activity, sleep and screen time on academic achievement: A prospective study of elementary school students in Nova Scotia, Canada. *International Journal of Behavioral Nutrition and Physical Activity, 14*(1), 29.
doi:10.1186/s12966-017-0476-0

- Fedewa, A. L. & Ahn, S. (2011). The effects of physical activity and physical fitness on children's achievement and cognitive outcomes: A meta-analysis. *Exercise and Sport*, 82(3), 521–535. doi:10.1080/02701367.2011.10599785
- Fedewa, A. L., Ahn S., Erwin, H. E., & Davis M. C. (2015). A randomized controlled design investigating the effects of classroom-based physical activity on children's fluid intelligence and achievement. *School Psychology*, 36(2), 135–153. doi:10.1177/0143034314565424
- Felmlee, D., & Eder, D. (1983). Contextual effects in the classroom: The impact of ability groups on student attention. *Sociology of Education*, 56(2), 77-87. doi:10.2307/2112656
- Fiorelli, J. A., & Russ, S. W. (2012). Pretend play, coping, and subjective well-being in children: A follow-up study. *American Journal of Play*, 5(1), 81-103. doi:10.1037/e700772011-001
- Foote, C., Bray, M. A., Kehle, T. J., VanHeest, J. L., Gelbar, N. W., Byer-Alcorace, G., Maykel, C., & DeBiase, E. (2017). Interdependent group contingency to promote physical activity in children. *Canadian Journal of School Psychology*, 32(2), 144–161. doi:10.1177/0829573516644901
- Freud, A. (1946). *The ego and the mechanisms of defense*. New York: International Universities Press.
- Fung, C., & Cheng, D. (2012). Consensus or dissensus? Stakeholders' view on the role of play in learning. *Early Years: An International Journal of Research and Development*, 32(1), 17–33. doi:10.1080/09575146.2011.599794
- Fusch, P. I., & Ness, L. R. (2015). Are we there yet? Data saturation in qualitative research. *The Qualitative Report*, 20(9), 1408–1416.

- Gehris, J. S., Gooze, R. A., & Whitaker, R. C. (2015). Teachers' perceptions about children's movement and learning in early childhood education programmes. *Child Care Health Dev*, 41(1), 122–131. doi:10.1111/cch.12136
- Gill, T. (2004, September 19). Bred in captivity. *The Guardian*. Retrieved from www.theguardian.com/society/2004/sep/20/childprotection
- Gray, C., & MacBlain, S. (2015). *Learning theories in childhood*. London: Sage.
- Gross, M. K., & Buchanan, A. M. (2011). Integrating global games in the elementary physical education curriculum. *Strategies*, 25(1), 8-12. doi:10.1080/08924562.2011.10592126
- Haapala, H. L., Hirvensalo, M. H., Laine, K., Laakso, L., Hakonen, H., Kankaanpää, A., Lintunen, T., & Tammelin, T. H. (2014). Recess physical activity and school-related social factors in Finnish primary and lower secondary schools: Cross-sectional associations. *BMC Public Health*, 14, 1114–1122.
- Hall, S., Rumney, L., Holler, J., & Kidd, E. (2013). Associations among play, gesture and early spoken language acquisition. *First Language*, 33(3), 294–312.
doi:10.1177/0142723713487618
- Hatcher, B., Nunner, J., & Paulsel, J. (2012). Kindergarten readiness and preschools: Teachers' and parents' beliefs within and across programs. *Early Childhood Research and Practice*, 14(2), 1–17.
- Halperin, J. M., Berwid, O. G., & O'Neil, A. (2014). Healthy body, healthy mind? The effectiveness of physical activity to treat ADHD in children. *Children Adolescent Psychiatric Clinics of North America*, 23(4), 899–936. doi.org/10.1016/j.chc.2014.05.005

- Henley, J., McBride, J., Milligan, J., & Nicholas, J. (2007). Robbing elementary students of their childhood: The perils of No Child Left Behind. *Education Academic Search Premier*, *128*(1), 56–63.
- Hoffmann, J., & Russ, S. (2012). Pretend play, creativity, and emotion regulation in children. *Psychology of Aesthetics, Creativity, and the Arts*, *6*(2), 175–184. doi:10.1037/a0026299
- Holmes, R. M. (2012). The outdoor recess activities of children at an urban school, longitudinal and intraperiod patterns. *American Journal of Play*, *4*, 327–390.
- Holmes, R. M., Pellegrini, A. D., Schmidt, S. L. (2006). The effects of different recess timing regimens on preschoolers' classroom attention. *Early Child Development and Care*, *176*(7), 735-743. doi:10.1080/03004430500207179
- Hughes, F. P. (2003). Spontaneous play in the 21st century. In O. N. Saracho & B. Spodek (Eds.), *Contemporary perspectives on play in early childhood education* (pp. 21-39). Greenwich, CT: Information Age.
- Hupp, S. D. A., LeBlanc, M., Jewell, J. D., & Warnes, E. (2009). History and overview. In: J. L. Matson (Ed.), *Social behavior and skills in children* (pp.1–21). New York: Springer.
- Hyndman, B., Telford, A., Finch, C. F., & Benson, A. C. (2012). Moving physical activity beyond the school classroom: A social-ecological insight for teachers of the facilitators and barriers to students' non-curricular physical activity. *Australian Journal of Teacher Education*, *37*(2), 1. doi:10.14221/ajte.2012v37n2.2
- Hyvonen, P. T. (2011). Play in the school context? The perspectives of Finnish teachers. *Australian Journal of Teacher Education*, *36*(8), 65-83. doi:10.14221/ajte.2011v36n8.5

- Ickes, M. J., Erwin, H., & Beighle, A. (2013). Systematic review of recess interventions to increase physical activity. *Journal of Physical Activity and Health, 10*(6), 910–926. doi:10.1123/jpah.10.6.910
- Isenberg, J. & Quisenberry, N. (2002). A Position Paper of the Association for Childhood Education International Play: Essential for all children. *Childhood Education, 79*(1), 33–39. doi:10.1080/00094056.2002.10522763
- Jarrett, O., & Waite-Stupiansky, S. (2009). Recess—it's indispensable! *Young Children, 64*(5), 66–69.
- Jarrett, O. S. (2013, November). A research-based case for recess. *US Play Coalition: Value of Play*, 1-6. Retrieved from https://www.playworks.org/wp-content/uploads/2017/09/US-play-coalition_Research-based-case-for-recess.pdf
- Jarrett, O. S., Maxwell, D. M., Dickerson, C., Hope, P., Davies, G., & Yetley, A. (1998). Impact of recess on classroom behavior: Group effects and individual differences. *The Journal of Educational Research, 92*(2), 121–126.
- Jensen, E. (2005). *Teaching with the brain in mind* (2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.
- Jung, E., & Jin, B. (2014). Future professionals' perceptions of play in early childhood classrooms. *Journal of Research in Childhood Education, 28*(3), 358-376. doi:10.1080/02568543.2014.913277

- Kantomaa, M. T., Stamatakiss, E., Kankaanpaa, A., Kaakinen, M., Taanila, A., Ahonen, T., Jarvelin, M., & Tammelin, T. (2013). Physical activity and obesity mediate the association between childhood motor function and adolescents' academic achievement. *Proceedings of the National Academy of Science of the United States of America*, 110(5), 1917–1922. doi: 10.1073/pnas.1214574110
- Kelly, E., & Hagerty, E. (2010). *A qualitative phenomenological study of factors teachers believe contribute to a school's standardized testing performance*. Retrieved from <http://gradworks.umi.com/34/59/3459313.html>
- Kemple, K. M, Oh, J., Kenney, E., & Smith-Bonahue, T. (2016). The power of outdoor play and play in natural environments. *Childhood Education*, 92(6), 446–454. doi:10.1080/00094056.2016.1251793
- Kennedy, M. (2013, January 6). Doctors group voices support for school recess. *American School & University*. Retrieved from <https://www.asumag.com/playgrounds/doctors-group-voices-support-school-recess>
- Khan, N. A., & Hillman, C. H. (2014). The relation of childhood physical activity and aerobic fitness to brain function and cognition. *Pediatric Exercise Science*, 26(2), 138–146. doi:10.1123/pes.2013-0125
- Knowles, A. R., Parnell, D., Stratton, G., & Ridgers, N. D. (2013). Learning from the experts: Exploring playground experience and activities while using a write and draw technique. *Journal of Physical Activity and Health*, 10(3), 406–415. doi:10.1123/jpah.10.3.406
- Kohler, M., Kilgo, J., & Christensen, L. M. (2012). What is the value of play? *Childhood Education*, 88(3), 407–412. doi:10.1080/00094056.2012.741494

- Kolb, A. Y., & Kolb, D. A. (2010). Learning to play, playing to learn: A case study of a ludic learning space. *Journal of Organizational Change Management*, 23(1), 26-50. doi:10.1108/09534811011017199
- Lauer, L. M. (2011). Play deprivation: Is it happening in your school setting? Retrieved from <https://files.eric.ed.gov/fulltext/ED524739.pdf>
- Lefler, L. (2012). *School's out: The loss of recess in America*. Retrieved from <http://leahlefler.hubpages.com/hub/Schools-Out-The-Loss-of-Recess-in-America>
- Liakopoulou, M. (2011). The professional competence of teachers: Which qualities, attitudes, skills and knowledge contribute to a teacher's effectiveness? *International Journal of Humanities and Social Science*, 1(21), 66-78.
- Lieberman, M. D. (2013). *Social: Why our brains are wired to connect*. New York: Crown.
- Linker, J. M., & David, S. L. (2017). Prevention, recognition, and treatment of common recess injuries. *A Journal for Physical and Sport Educators*, 30(4), 17-27. doi:10.1080/08924562.2017.1320247
- Ljung-Djärf, A., & Olander, M. H. (2013). Using learning study to understand preschoolers' learning: Challenges and possibilities. *International Journal of Early Childhood*, 45(1), 77-100.
- Locke, J. (2004). *Theory of knowledge*. Retrieved from http://www.nwlink.com/~donclark/history_knowledge/locke.html
- London, R. A., Westrich, L., Stokes-Guinan, K., & McLaughlin, M. (2015). Playing fair: The contribution of high-functioning recess to overall school climate in low-income elementary schools. *Journal of School Health*, 85(1), 53-60. doi:10.1111/josh.12216

- Lounsbery, M., McKenzie, T. L., Morrow, J. R., Monnat, S. M., & Holt, K. A. (2013). District and school physical education policies: Implications for physical education and recess time. *Annals of Behavioral Medicine, 45*(1), 131–141. doi:10.1007/s12160-012-9427-9
- Luna, B. (2009). Developmental changes in cognitive control through adolescence. *Advance Child Development Behavior, 37*, 233–278. doi:10.1016/S0065-2407(09)03706-9
- Lynch, S. A., & Simpson, C. G. (2010). Social skills: Laying the foundation for success. *Dimensions of Early Childhood, 38*(2), 3–12.
- Marchetti, R., Forte, R., Borzacchini, M., Vazou, S., Tomporowski, P., & Pesce, C. (2015). Physical and motor fitness, sport skills and executive function in adolescents: a moderated prediction model. *Psychology, 6*(14), 1915–1929. doi:10.4236/psych.2015.614189
- Martin, K., Bremner, A., Salmon, J., Rosenberg, M., & Giles-Corti, B. (2012). School and individual-level characteristics are associated with children's moderate to vigorous-intensity physical activity during school recess. *Australian and New Zealand Journal of Public Health, 36*(5), 469–477. doi:10.1111/j.1753-6405.2012.00914.x
- Massey, W. V., Stellino, M. B., Mullen, S. P., Claassen, J., & Wilkison, M. (2018). Development of the great recess framework – observational tool to measure contextual and behavioral components of elementary school recess. *BMC Public Health, 18*(1), 394–405. doi:10.1186/s12889-018-5295-y
- McConnell, P., & Wendel, J. (2010). Solving the child obesity problem: How schools can be part of the solution. *ICAN: Infant, Child, & Adolescent Nutrition, 2*(4), 232-236. doi:10.1177/1941406410377719

- McKenna, T. (1998). *Interview from Hawaii*. Retrieved from <http://www.youtube.com/watch?v=IkAVnG-Jya8>
- McKenzie, T. L., & Lounsbury, M. A. (2013). Physical education teacher effectiveness in a public health context. *Research Quarterly for Exercise and Sport*, 84(4), 419–430. doi:10.1080/02701367.2013.844025
- McLeod, S. A. (2013). *Erik Erikson, psychosocial stages*. Retrieved from <http://www.simplypsychology.org/Erik-Erikson.html>
- McLeod, S. A. (2015). *Jean Piaget*. Retrieved from www.simplypsychology.org/piaget.html
- McNamara, L., Colley, P., & Franklin, N. (2017). Social recess, social connectedness and health: A Canadian perspective. *Health Promotion International*, 32(2), 392–402. doi:10.1093/heapro/dav102
- Medcalf, R., Marshall, J., Hardman, K., & Visser, J. (2011). Experiences and perceptions of physical education. *Emotional and Behavioural Difficulties*, 16(2), 189–206. doi:10.1080/13632752.2011.569409
- Meredith, S. (2010). *Serious play matters*. Retrieved from <http://seriousplaymatters.blogspot.com/2010/04/why-we-play-classical-theories-ofplay.html>
- Michigan Association for the Education of the Young Children. (2015). *Teach early childhood*. Retrieved from <http://www.miaeyc.org/>
- Milteer, R. M., Ginsburg, K. R., & Mulligan, D. A. (2012). The importance of play in promoting healthy child development and maintaining strong parent-child bond: Focus on children in poverty. *Pediatrics*, 129(1), e204-e213. doi:10.1542/peds.2011-2953

- Mooses, K., Pihu, M., Riso, E., Hannus, A., Kaasik, P., & Kull, M. (2017). Physical education increases daily moderate to vigorous physical activity and reduces sedentary time. *Journal of School Health, 87*(8). 602–607. doi:10.1111/josh.12530
- Moustakas, C., (1994). *Phenomenological research methods*. Thousand Oaks, CA: Sage.
- Moyer, T. M. (2014). *The impact of recess on elementary school academics and behavior* (Doctoral dissertation). Retrieved from ProQuest. (UMI 3638252).
- Mulrine, A. (2000, May 1). What's your favorite class? *US News & World Report, 12*(17), 50.
- Murray, R., & Ramstetter, C. (2013). The crucial role of recess in school. *Pediatrics, 131*(1), 183–188. doi:10.1542/peds.2012-2993
- Murphy, M. H., Carlin, C., Woods, C., Nevill, A., MacDonncha, C., Ferguson, K., & Murphy, N. (2018). Active students are healthier and happier than their inactive peers: the results of a large representative cross-sectional study of university students in Ireland. *Journal of Physical Activity and Health, 15*(10), 737–746. doi: 10.1123/jpah.2017-0432
- National Association of Elementary School Principals (2017). 5 strategies for recess planning. Retrieved from <https://www.naesp.org>
- National Center for Education Statistics. (2010). *Documentation for the 2007-08 schools and staffing survey*. Retrieved from http://nces.ed.gov/pubs2010/2010332_1.pdf
- National Association of State Boards of Education. (2012). NASBE releases two critical new school health policy guides. Retrieved from <http://www.nasbe.org/>
- The national conference of state legislatures and the hill - briefing*. (2016). Washington: Federal Information & News Dispatch, Inc. Retrieved from ProQuest Central; Social Science Premium Collection Retrieved from <http://ezproxy.liberty.edu/login?url=https://search-proquest-com.ezproxy.liberty.edu/docview/1838253485?accountid=12085>

- National Association for Sport and Physical Education (2011). National guidelines. Retrieved from <http://www.aahperd.org/naspe/standards/nationalGuidelines>
- National Playing Fields Association, Playlink, & Children's Play Council (2000). *Play theories*. Retrieved from <http://www.mapalim.com/Playwork%20e.../files/play%20theories.doc>
- Nelson, A. R. (2016). The Elementary and Secondary Education Act at fifty: A changing federal role in American education. *History of Education Quarterly*, 56(2), 358-361.
doi:10.1111/hoeq.12186
- Nemours Foundation (2012). *Overweight and obesity*. Retrieved from http://kidshealth.org/parent/general/body/overweight_obesity.html
- Nicholson, J., Bauer, A., & Woolley, R. (2016). Inserting child-initiated play into an American urban school district after a decade of scripted curricula: Complexities and progress. *American Journal of Play*, 23(2), 228–271.
- Nitecki, E., & Chung, M. (2013). What is not covered by the standards: How to support emergent literacy in preschool classrooms. *The Language and Literacy Spectrum*, 23, 46–56.
- North Carolina State Board of Education. (2014). *Policy number HRS-E-000*. Retrieved from <http://www.dpi.state.nc.us/>
- No Child Left Behind (NCLB) Act of 2001, Pub. L. No. 107-110, § 115, Stat. 1425 (2002).
- Obama, P. B. (2016). EVERY STUDENT SUCCEEDS ACT.
- Olusegun, S. (2015). Constructivism learning theory: A paradigm for teaching and learning. *IOSR Journal of Research & Method in Education*, 5(6), 66–70. doi:10.9790/7388-05616670

- Organization for Economic Cooperation and Development (OECD). (2013). *Country note: United States. Program for International Student Assessment (PISA) results from 2012*. Paris, France: Author. www.oecd.org/pisa/keyfindings/PISA2012-results-US.pdf
- Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2013). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health, 42*(5), 533–544. doi 10.1007/s10488-013-0528-y
- Parrish, A. M., Iverson, D., Russell, K., & Yeatman, H. (2012). Psychosocial barriers to playground activity levels. *British Journal of School Nursing, 7*(3), 131–137.
- Parrish, A., Yeatman, H., Iverson, D., & Russell, K. (2012). Using interviews and peer pairs to better understand how school environments affect young children's playground physical activity levels: A qualitative study. *Health Education Research, 27*(2), 269–280. doi:10.1093/her/cyr049
- Parrish, A., Okely, A. D., Stanley, R. M., & Ridgers, N. D. (2013). The effect of school recess interventions on physical activity: A systematic review. *Sports Medicine, 43*(4), 287–299. doi:10.1007/s40279-013-0024-2
- Patton, M. Q. (2001). *Qualitative research and evaluation methods* (3rd ed.). Saint Paul, MN: SAGE.
- Pawlowski, C. K., Tjørnhøj-Thomsen, T., Schipperijn, J., & Troelsen, J. (2014). Barriers for recess physical activity: A gender specific qualitative focus group exploration. *BMC Public Health, 14*(639), 1–10. doi:10.1186/1471-2458-14-639
- Pellegrini, A. D. (1995). *School recess and playground behavior: Educational and developmental roles*. Albany, NY: State University of New York Press.

- Pellegrini, A. D., & Bjorklund, D. F. (1997). The role of recess in children's cognitive performance. *Educational Psychologist*, 32(1), 35-40. doi:10.1207/s15326985ep3201_3
- Pellegrini, A. D., & Bohn, C. M. (2005). The role of recess in children's cognitive performance and school adjustment. *Educational Researcher*, 43(1), 13-19.
doi:10.3102/0013189X034001013
- Pellegrini, A. D. and Davis, P. D. (1993), Relations between children's playground and classroom behaviour. *British Journal of Educational Psychology*, 63(1), 88-95.
doi:10.1111/j.2044-8279.1993.tb01043.x
- Peltokorpi, E. L., Määttä, K., & Uusiautti, S. (2011). When a child's emotional coping fails. *Problems of Education in the 21st Century*, 36, 37-50.
- Peterson, S. S., Forsyth, D., & McIntyre, L. J. (2015). Balancing play-based learning with curricular mandates: Considering the view of Northern Canadian teachers and early childhood educators. *Canadian Children*, 40(3), 40-47. doi:10.18357/jcs.v40i3.15168
- Piaget, J. (1962). *Play, dreams, and imitation in childhood*. New York: Norton.
- Piaget, J. (1964). Part I: Cognitive development in children: Piaget development and learning. *Journal of research in science teaching*, 2(3), 176-186.
doi:10.1002/tea.3660020306
- Piaget, J. (1969). *The psychology of the child*. France, Paris: Presses Universitaires de France.
- Piaget, J. (1980). *Adaptation and intelligence: Organic selection and phenocopy*. Chicago, IL: University of Chicago Press. Play Board. (2014). *Research*. Retrieved from <http://playboard.org/play-advocacy/research/>
- Play Works. (2015a). *Bring back recess*. Retrieved from <http://www.playworks.org/make-recess-count/resources/time-restore-recess>

- Play Works. (2015b). *Child's play: The work of childhood*. Retrieved from http://psyed.org/r/lsdev/ply/plyd/ply_types.html
- Poitras, J., Stimec, A., & Hill, K. (2013). Fostering student engagement in negotiation role plays. *Negotiation Journal*, 29(4), 439–462. doi:10.1111/nejo.12036
- Position Statement: Recess and the Importance of Play. (n.d.). Retrieved from <http://www.naecs-sde.org/>
- Powell, E., Woodfield, L. A., & Nevill, A. A. (2016). Children's physical activity levels during primary school break times: A quantitative and qualitative research design. *European Physical Education Review*, 22(1), 82–98. doi: 10.1177/1356336X15591135
- Psimopoulos, C. (2013). Winning the game of policy at the state and federal levels: First we need to know how to play. *Strategies*, 26, 45–46. doi:10.1080/08924562.2012.750999
- Quraishi, M. T., & Shirotriya, A. K. (2013). In the nation's good: Acceptance of right to play. *Journal of Physical Education and Sports Sciences*, 1(1), 23–27.
- Ramstetter, C., & Murray, R. (2017). Time to play: Recognizing the benefits of recess. *American Educator*, 41(1), 17–24.
- Ramstetter, C. L., Murray, R., & Garner, A. S. (2010). The crucial role of recess in schools. *Journal of School Health*, 80(11), 517–526.
- Reilly, K. (2017, October 23). Is recess important for kids or a waste of time? Here's what the research says. *Time*. Retrieved from <https://time.com/4982061/recess-benefits-research-debate/>
- Rhea, D. (2016). Recess: The forgotten classroom. *Instructional Leader*, 29(1), 5–9.

- Ridgers, N. D., Salmon, J., Parrish, A., Stanley, R. M., & Okely, A. D. (2012). Physical activity during school recess, a systematic review. *American Journal of Preventive Medicine*, 43(3), 320–328. doi:10.1016/j.amepre.2012.05.019
- Ridgers, N. D., Stratton, G., & Fairclough, S. J. (2006). Physical activity levels of children during school playtime. *Sports Medicine*, 36(4), 359–371. doi:10.2165/00007256-200636040-00005
- Roskos, K., & Christie, J. (2011). The play-literacy nexus and the importance of evidence-based techniques in the classroom. *American Journal of Play*, 4(2), 204–224.
- Rushton, S. (2011). Neuroscience, early childhood education and play: We are doing it right! *Early Childhood Education Journal*, 39(2), 89–94. doi:10.1007/s10643-011-0447-z
- Sahlberg, P. (2014). *Finnish Lessons 2.0: What can the world learn from educational change in Finland?* New York, NY: Teachers College Press.
- Saracho, O. N., & Spodek, B. (1998). *Multiple perspectives on play in early childhood education*. New York: State University of New York Press.
- Schudel, M. (2001). No-fun zones: Schools take a recess timeout. *Technos: Quarterly for Education and Technology*, 10(4), 22-23.
- Schwandt, T. (2015). *The SAGE dictionary of qualitative inquiry* (4th ed.). Thousand Oaks, CA: SAGE Publications, Inc.
- Segalowit, S. J. (2016). Exercise and pediatric brain development: A call to action. *Pediatric Exercise Science*, 28(2), 217–225. doi.org/10.1123/pes.2016-0028
- Shapiro, T. M., Williams, K. M., & West, J. E. (2015). Cognitive function and human capital accumulation across the day: Evidence from randomized school schedules. *Economics*, 1-54. Retrieved from <http://scholarcommons.scu.edu/econ/19>

- Simon, J. B., & Childers, H. (2006). Principals' perceptions of school recess: Sources of information, benefits, and drawbacks. *Research in the Schools, 13*(2), 37.
- Sindelar, R. 2004. *Recess: Is it needed in the 21st century?* Retrieved August 16, 2006, from <http://ceep.crc.uiuc.edu/poptopics/recess.html>
- Singer, E. (2013). Play and playfulness, basic features of early childhood education. *European Early Childhood Education Research Journal, 21*(2), 172–184. doi: 10.1080/1350293X
- Slater, S. J., Nicholson, L., Chriqui, J., Turner, L., & Chaloupka, F. (2012). The impact of state laws and district policies on physical education and recess practices in a nationally representative sample of US public elementary schools. *Archives of Pediatric and Adolescent Medicine Journal, 166*(4), 311–316. doi:10.1001/archpediatrics.2011.1133
- Spradley, J. P. (1979). *The ethnographic interview*. New York: Holt, Rinehart & Winston.
- Stagnitti, K., Bailey, A., Stevenson, E. H., Reynolds, E., & Kidd, E. (2016). An investigation of play-based instruction on the development of play skills and oral language. *Journal of Early Childhood Research, 14*(4), 389–406. doi: 10.1177/1476718X15579741
- Stanley, R. M., Boshoff, K., & Dollman, J. (2012). Voices in the playground: A qualitative exploration of the barriers and facilitators of lunchtime play. *Journal of Science and Medicine in Sport, 15*(1), 44–51. doi: 10.1016/j.jsams.2011.08.002
- Stapp, A. C. & Karr, J. K. (2018). Effect of recess on fifth grade students' time on-task in an elementary classroom. *International Electronic Journal of Elementary Education, 10*(4), 449–456. doi:10.26822/iejee.2018438135
- Stake, R. E. (1995). *The art of case study research*. London: Sage.
- Starke, K. (2012). Encouraging creativity in children. *The Education Digest, 78*(4), 57–59.

- Stea, T. H., & Torstveit, M. K. (2014). Association of lifestyle habits and academic achievement in Norwegian adolescents: A cross-sectional study. *BMC Public Health, 14*(1), 829. doi:10.1186/1471-2458-14-829
- Steinberg, M. P., & Donaldson, M. L. (2016). The new educational accountability: Understanding the landscape of teacher evaluation in the post NCLB era. *Education Finance and Policy, 11*(3), 340–359. doi:10.1162/EDFP_a_00186
- Tao, T., Wang, L., Fan, C., & Gao, W. (2014). Development of self-control in children aged 3 to 9 years: Perspective from a dual-systems model. *Scientific Reports (Nature Publisher Group), 4*, 7272. doi:10.1038/srep07272
- ThinkQuest Library. (2013). *What were American elementary schools like in the 1700s?-- or in the 1800s?* Retrieved from <http://library.thinkquest.org/J002606/Timeline.html>
- Thompson, G. L., & Allen, T. G. (2012). Four effects of high-stakes testing movement on African American K-12 students. *The Journal of Negro Education, 81*(3), 218–227, 301-302. doi:10.7709/jnegroeducation.81.3.0218
- Tomprowski, P. D., Davis, C. L., Miller, P. H., & Naglieri, J. A. (2008). Exercise and children's intelligence, cognition, and academic achievement. *Educational Psychology Review, 20*(2), 111–131. doi:10.1007/s10648-007-9057-0
- Toppino, T. C., Kasserman, J. E., & Mracek, W. A. (1991). The effect of spacing repetitions on the recognition memory of young children and adults. *Journal of Experimental Child Psychology, 51*(1), 123-138. doi:10.1016/0022-0965(91)90079-8
- Tremblay, M. S., Barnes, J. D., & Bonne, J. C. (2014). Impact of the Active Healthy Kids Canada Report Card: A 10-year analysis. *Journal of Physical Activity and Health, 11*(Supp 1), S3-S20. doi:10.1123/jpah.2014-0167

- Tremblay, M. S., Gray, C. E., Akinroye, K., Harrington, D. M., Katzmarzyk, P. T., Lambert, E. V., Tomkinson, G. (2014). Physical activity of children: A global matrix of grades comparing 15 countries. *Journal of Physical Activity and Health, 11*(1), 113–125. doi:10.1123/jpah.2014-0177
- United States Department of Education. (2016). Retrieved from www.ed.gov/
- Varea, V. (2016). Exploring play in school recess and physical education classes. *European Physical Education Review, 24*(2), 194–208. doi: 10.1177/135633XI16679932
- Veiga, G., Leng, W. D., Cachucho, R., Ketelaar, L., Kok, J. N., Knobbe, A., Neto, C., & Rieffe, C. (2017). Social competence at the playground: Preschoolers during recess. *Infant Child Development., 26*(1): e1957. doi:10.1002/icd.1957
- Vygotsky, L. S. (1962). *Thought and language* (E. Hanfmann & G. Vakar, Trans.). Cambridge, MA: MIT Press.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Walker, T. D. (2014, June 30). How Finland keeps kids focused through free play. *The Atlantic*. Retrieved from https://www.theatlantic.com/education/archive/2014/06/how-finland-keeps-kids-focused/373544/?utm_medium=email&utm_source=nextdraft
- Walker, T. A. (2016). Recasting the vision for achieving equity: A historical analysis of testing and impediments to process-based accountability. *Education and Urban Society, 49*(3), 297–313. doi:10.1177/0013124516643761

- Wang, H., Li, T., Siahpush, M., Chen, L., & Huberty, J. (2017). Cost-effectiveness for recess to promote physical activity in children. *Journal of School Health, 87*(4), 278–285.
doi:10.1111/josh.12495
- Wilson, T. (2001). *History of physical education*. Retrieved from
<http://twilson44.tripod.com/toddwilson/id13.html>
- Wood, E. (2014). Free choice and free play in early childhood education: Troubling the discourse. *International Journal of Education, 22*(1), 4–18.
- Woods, A. M., Graber, K. C., Daum, D. N., & Gentry, C. (2015) Young school children's recess physical activity: movement patterns and preferences. *Journal of Teaching in Physical Education, 34*(3), 496–516. doi.org/10.1123/jtpe.2014-0048
- Wu, S. (2015). What can Chinese and German children tell us about their learning and play in kindergarten? *Journal of Research in Childhood Education, 29*(3), 338–351.
doi:10.1080/02568543.2015.1042125
- Yamamoto, Y., & Li, J. (2012). What makes a high-quality preschool? Similarities and differences between Chinese immigrant and European American parents' views. *Early Childhood Research Quarterly, 27*(2), 306–315. doi:10.1016/j.ecresq.2011.09.005
- Yawkey, T. D., & Pellegrini, A. D. (1984). *Child's play: Developmental and applied*. Mahwah, NJ: Lawrence Erlbaum.
- Yin, R. (2014). *Case study research: Design and methods* (5th ed.). Thousand Oaks, CA: Sage Publications.
- Yin, R. K. (2009). *Case study research: Design and methods* (4th ed.). Thousand Oaks, CA: Sage Publications.

Yin, R. K. (2012). *Applications of case study research* (3rd ed.). Washington DC: SAGE Publications, Inc

Zimmerman, S., Kramer, K., & Trowbridge, M. J. (2013). Overcoming legal liability concerns for school-based physical activity promotion. *American Journal of Public Health, 103*(11), 1962–1968. doi:10.2105/AJPH.2013.301319

Appendices

Appendix A: IRB Approval

LIBERTY UNIVERSITY

INSTITUTIONAL REVIEW BOARD

September 14, 2018

Frances Eugenia Phipps

IRB Approval 3466.091418: A Case Study on the Implementation of Additional Daily Physical Activity Beyond the State Required Guidelines

Dear Frances Eugenia Phipps,

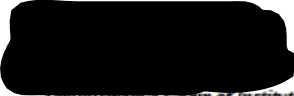
We are pleased to inform you that your study has been approved by the Liberty University IRB. This approval is extended to you for one year from the date provided above with your protocol number. If data collection proceeds past one year or if you make changes in the methodology as it pertains to human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

Your study falls under the expedited review category (45 CFR 46.110), which is applicable to specific, minimal risk studies and minor changes to approved studies for the following reason(s):

6. Collection of data from voice, video, digital, or image recordings made for research purposes.

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

Sincerely,



Administrative Chair of Institutional Research
The Graduate School

LIBERTY
UNIVERSITY
Liberty University | Training Champions for Christ since 1971

Appendix B: Letter to Superintendent

Dear _____,

Thank you for taking the time to read this email. My name is Genie Phipps, and I am currently conducting research in North Carolina for my dissertation as part of the requirement for my EdD program at Liberty University. My research focuses on teachers who incorporate additional physical activity time beyond the required 30 minutes into their daily schedule. The purpose of the study is to explore how teachers feel this extended play impacts student cognition.

I am writing to request permission to contact the principal at _____ (school name) to request her permission to interview teachers within your school district. Should you allow me to contact the principal, I will contact her via email.

I ask that you please send the attached letter of your consent on your district's letterhead, so that I can use the data collected to support my writing and research. I appreciate your consideration of joining me in this effort to conduct research. I will not begin data collection until August or September of this year. Please feel free to contact me with any thoughts, questions or concerns regarding my research or the data collection process.

Regards,
Genie Phipps
fhipps@liberty.edu
828-289-8573

Appendix C: Letter to Administrator/Principal

Dear _____,

Thank you for taking the time to read this email. My name is Genie Phipps, and I am currently conducting research in North Carolina for my dissertation as part of the requirement for my EdD program through Liberty University. My research focuses on teachers who incorporate additional physical activity time beyond the required 30 minutes into their daily schedule and exploring their thoughts on how that extended play impacts student cognition.

I am writing to request permission to interview teachers within your school district. Should you allow me to conduct interviews with your teachers, I will access their email addresses from your district website.

I ask the you please send the attached letter of your consent on your district's letterhead, so that I can use the data collected to support my writing and research. I appreciate your consideration of joining me in this effort to conduct research. Please feel free to contact me with any questions regarding my research or the data collection process.

Regards,
Genie Phipps
fhipps@liberty.edu
828-289-8573

Appendix D: Letter to Teachers

Dear Teachers,

My name is Genie Phipps, and I am an educator in Polk County, North Carolina. I am currently a student at Liberty University and completing my dissertation as part of the requirements for my EdD. My research focuses on additional time for physical activity beyond the required time incorporated into the daily school schedule.

I am writing to invite you to be a part of my research. None of your information will be collected or shared in correlation with your name or school district. While this opportunity is strictly voluntary, your participation is greatly appreciated. Your responses are invaluable to my research.

Research Title:

A Case Study on the Implementation of Additional Daily Physical Beyond the State Required Guidelines

Purpose of the Study:

The purpose of this qualitative case study will be to provide an in-depth understanding of teachers' viewpoints pertaining to the incorporation of additional daily physical activity into the school day above the state-mandated 30 minutes.

Research Questions: The research will focus on three questions:

1. How does additional daily physical activity implemented in the school day influence student cognitive development in grades 3, 4, and 5?
2. Why has additional daily physical activity time been incorporated into the school day in grades 3, 4, and 5?
3. What is the impact of play students in grades 3, 4, and 5 beyond cognitive impact?

Thank you for your time,

Regards,

Genie Phipps
fhipps@liberty.edu
828-289-8573

Appendix E: Letter of Consent Form Letter Teacher

By signing this consent form, I:

- Voluntarily agree to participate in the study.
- May not personally benefit from this study, but the knowledge gained from the study may benefit others.
- Am free to refuse to participate and to withdraw from the research study at any time without prejudice to me.
- Understand that my participation and all documents obtained from the study will not be used in an evaluative manner.
- Acknowledge that records from this study will be kept safe and confidential, and if applicable, pseudonyms will be used in the final document.
- Agree to participate in audio-recorded interviews with the researcher.
- Agree to review the transcripts from the interviews for verification of accuracy, as well as contradictions, and to discuss these findings with the researcher.
- Understand there are no risks from this study other than low levels of stress during the interview.

If you have any questions regarding the research process or your participation in this study, please contact Genie Phipps at (828) 289-8573 or by email at fhipps@liberty.edu.

Check one box:

- I choose to voluntarily participate in the study and have read the above information.
- I choose to opt-out of the study.

Printed Name of Participant

Signature of Participant / Date

Signature of Researcher/ Date

Appendix F: Letter to Parents

Dear Parent (Guardian),

My name is Genie Phipps, and I am an educator in Polk County, North Carolina. I am currently a student at Liberty University and completing my dissertation as part of the requirements for my EdD. My research focuses on additional time for physical activity beyond the required time incorporated into the daily school schedule.

I am writing to invite you to be a part of my research. None of your information will be collected or shared in correlation with your name or school district. While this opportunity is strictly voluntary, your participation is greatly appreciated. Your responses are invaluable to my research.

Research Title:

A Case Study on the Implementation of Additional Daily Physical Beyond the State Required Guidelines

Purpose of the Study:

The purpose of this qualitative case study will be to provide an in-depth understanding of teachers' viewpoints pertaining to the incorporation of additional daily physical activity into the school day above the state-mandated 30 minutes.

Thank you for your time,

Regards,

Genie Phipps
fhipps@liberty.edu
828-289-8573

Appendix G: Letter of Consent Form Letter Parent

By signing this consent form, I:

- May not personally benefit from this study, but the knowledge gained from the study may benefit others.
- Am free to refuse to participate and to withdraw from the research study at any time without prejudice to me.
- Understand that my participation and all documents obtained from the study will not be used in an evaluative manner.
- Acknowledge that records from this study will be kept safe and confidential, and if applicable, pseudonyms will be used in the final document.
- Agree to participate in audio-recorded interviews with the researcher.
- Agree to review the transcripts from the interviews for verification of accuracy, as well as contradictions, and to discuss these findings with the researcher.
- Understand there are no risks from this study other than low levels of stress during the interview.

If you have any questions regarding the research process or your participation in this study, please contact Genie Phipps at (828) 289-8573 or by email at fhipps@liberty.edu.

Check one box:

- I choose to voluntarily participate in the study and have read the above information.
- I choose to opt-out of the study.

Printed Name of Participant

Signature of Participant / Date

Signature of Researcher/ Date

Appendix H: Interview Questions for Teachers

Structured questions used as a starting point for interviews with the participants

Tell me about yourself.

More specifically, tell me about your teaching background and experience.

Open Ended Interview Questions for Educators

2. How would you describe the impact of incorporating additional daily physical activity on your teaching?
3. Why do you feel the way you do about the impact of incorporating additional daily physical activity?
4. How are your students impacted academically by incorporating additional daily physical activity into the school day?
5. How are your students impacted socially by incorporating additional daily physical activity into the school day?
6. How are you your students impacted physically by incorporating additional daily physical activity into the school day?
7. How have your understandings, opinions and experiences with respect to recess changed over the years?
8. What would you say to someone if you were asked for your feedback on incorporating additional daily physical activity time into the school day?
9. Where do you hope school systems will go from here in terms of increased focus on academics and time provided for recess?

Follow Up Questions

1. What do you mean by...?

2. Would you please tell me more about that?
3. How do you feel about...?
4. What has led to your conclusions about...?

Appendix I: Focus Group Questions for Educational Stakeholders

The following structured questions served as a starting point for the discussion among the focus group participants:

1. Please share with the group your name and your affiliation with the school.
2. Please share experiences that your student has had with additional daily physical activity incorporated into their school day.
3. Describe the impact of those learning experiences.
4. What does recess look like to your student?
5. What else that you would like to share about your student's experiences with the implementation of daily physical activity?

In addition, possible follow-up questions will include:

1. What do you mean by...?
2. Would you please tell me more about that?
3. How do you feel about...?
4. What has led to your conclusions about...?

Appendix J: Principal Interview Questions

Structured questions used as a starting point for interview with the principal:

Tell me about yourself and the path you took to becoming principal at the school where we are today?

Is there anything else about your educational background and experience you would like to share?

Open Ended Interview Questions for the Principal

3. How would you describe the impact of incorporating additional daily physical activity on your school?
4. Why do you feel the way you do about the impact of incorporating additional daily physical activity?
5. How are your students impacted academically by incorporating additional daily physical activity into the school day?
6. How are your students impacted socially by incorporating additional daily physical activity into the school day?
7. How are you your students impacted physically by incorporating additional daily physical activity into the school day?
8. How have your understandings, opinions and experiences with respect to recess changed over the years?
9. What would you say to someone if you were asked for your feedback on incorporating additional daily physical activity time into the school day?
10. Where do you hope school systems will go from here in terms of increased focus on academics and time provided for recess?

Follow Up Questions

1. What do you mean by...?
2. Would you please tell me more about that?
3. How do you feel about...?
4. What has led to your conclusions about...?