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HOW DOES THE AMOUNT OF RECESS IMPACT STUDENT BEHAVIOR IN THE KINDERGARTEN CLASSROOM?

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HOW DOES THE AMOUNT OF RECESS IMPACT STUDENT BEHAVIOR IN THE
KINDERGARTEN CLASSROOM?

by

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A capstone submitted in partial fulfillment of the
requirements for the degree of Master of Arts in Literacy Education

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“Play is often talked about as if it were a relief from serious learning. But for children, play is serious learning. Play is really the work of childhood.”
–Fred Rogers

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CHAPTER ONE

Introduction

Overview

Many teachers across the world would agree that there has been a major shift in children's play in the last few decades. The mall Santa would concur that instead of Hoola hoops, BMX bikes, roller blades, Cabbage Patch Kids, and Transformer Action Figures, today's youth are now asking for a Nintendo Wii, iPad, smartphone, Xbox 360, and of course the Minecraft games to go with their PlayStation. When students report on what they did over the weekend, it is rare that anyone simply answers, "I played outside."

When I was growing up and my parents talked about their childhood, they would tell us that the family rule was simply to be home by the time the street lights came on. In those times, parents did not worry too much about where their children were or what they were up to, knowing that they would be outside climbing trees, building forts, or at the baseball field with the neighbor kids. Whether we like it or not, the way that children play has massively shifted from outdoor and active to indoor and passive. In the classroom, I see students who crave movement but have little opportunity for it due to the structure and rigor of the kindergarten school day and in turn, I observe a lot of negative behavioral issues occur. This has inspired my research question: How does the amount of recess impact student behavior in the kindergarten classroom? In this chapter, I will

outline the ways in which movement has evolved over the years, share how movement has shaped my personal life, and discuss my professional observation of unstructured movement in the classroom. All of these aspects have led to my curiosity of how recess and behavior are connected.

The Evolution of Movement

In addition to what children are playing with, the demands on student learning has only increased over the years. The face of kindergarten has changed dramatically. In recent years, many schools nation-wide have decided not to offer a half-day kindergarten option to incoming families. The rationale is that there is simply not enough time for the students to learn all that is required by the end of the nine months if students do not attend a full school day. In the eight years I have been teaching, I have experienced the increase in what is now deemed necessary for a six-year-old to have mastered by the time they move on to first grade. Although I do my best to balance the academic requirements with the social, emotional, and behavioral lessons needing to be integrated into the school day, I find myself wondering how we can continue this ever-increasing trend of more rigorous academics and less time to play, and at what cost to the whole child.

I am a firm believer that for kids, play is learning. My kindergarteners should be blowing bubbles, not filling them in. Children need time outside to rest, play, move, think, imagine, create and socialize. Recess provides time to develop valuable communication skills like negotiation and problem-solving as well as social coping skills such as perseverance and self-control, all of which are characteristics employers will be looking for when they enter work field in twenty years. Being active helps to lower the risk of childhood obesity, which is currently on the rise. When we limit the amount of

time they are allowed outside for recess, we are not only damaging their social development, but their physical and cognitive development as well. Although I have taught only at schools that have had recess, the amount of recesses in a day as well as the duration of each recess has declined as the years have gone by.

I would like to know more about the reasons recess is crucial to the development of a young child and the benefits seen inside of the classroom as a result of recess. I understand that my students are growing up in a world that doesn't allow them to be a child for very long, where the temptations to skip imaginative free play are overwhelming. My wish for each of them is that they are able to experience all the wonder childhood has to offer for as long as possible, and that receiving permission to simply be a kid outside each day will lead to a successful school experience. I believe that giving my students enough time outside each day to develop their mind, body, and spirit will enhance their behavior inside of the classroom walls. This belief has led me to my essential question: How does the amount of recess impact student behavior in the kindergarten classroom?

How Movement Has Shaped My Life

I grew up with parents that my friends would refer to as "old school". They believed that unless lightning was flashing across the sky, we should be outside. Even in the rain, we were told to get out and explore. I remember putting on grubby old jeans and shirts, making our way to the still pool of opaque water that had collected where the land dipped between my neighbor's house and my own. My sisters and I would take turns splashing, belly sliding, and kicking water at each other, never caring if that murky water splashed into our wide grins. Sometimes the neighbor boy would see us out there and

join in. We would go into the house hours later, grass in our hair, stains on our pants, dripping and smelling like a wet dog. And we loved it.

My mom was often outside with us, teaching the neighbor kids the various chants of jump rope or acting as pitcher for a friendly game of softball. My dad was known for being the quarterback of both teams, dragging us around the yard in a sled, or leading the hike along a rocky path through the woods. Our imaginations ran as free and fast as our skinny legs across the wide open land, taking in all the magic of childhood.

Since my parents also didn't believe in paying for cable television or internet until I was in high school, I never had an argument for staying inside; there was not much to do. It also helped that I came from a big family. With four sisters and a handful of neighbors, we always had enough players for a game of kickball, cops and robbers, or water balloon wars. Unless the wind chill was well below zero, we were outside waiting on the driveway for the school bus to pick us up in the morning, playing as many games of four square as we could before the flashing lights beckoned us. I would anxiously await the morning recess bell to sound so I could continue the game on the recess blacktop.

My family took a vacation together each summer when I was growing up, and with seven people, driving was more cost effective than flying to our destinations. We were campers, not the big, luxurious RV "campers", but the sleep in a tent, cook over the campfire campers. The extent of the technology allowed on our trip was a Nintendo Gameboy with Mario as the only game option, so needless to say, we spent all of our time exploring the outdoors. We would go on long hikes, play tag in an open field, wade

into the nearby stream, and climb as high into the campsite trees as the branches would allow.

Even as I became a teenager, my parents pushed us out the door as much as possible. We would play night games like Kick the Can or Ghost in the Graveyard as soon as the sun went down, with the understanding that the neighborhood yards were all fair turf as long as we didn't destroy anything. We would jump on the neighbor's trampoline and swim in our pool all summer long. My gang of friends and I even developed a weekly tradition of meeting in the morning to rollerblade on the bike paths lining the city, often ending at the beach for some swimming. Although I did have a car when I got my drivers license, it was shared between my older sister and I and it was made clear by my parents that it was only to be used to go places that were too far away for walking or biking.

Unstructured Movement in the Classroom

I recall having three recesses a day when I was attending elementary school in the 90's; one thirty-minute recess paired with lunch, and two fifteen-minute recesses to break up the morning and afternoon. When I began my teaching career, I was fortunate enough to find a job in a small, farming community in Northeast Wisconsin. The district had a cozy feel with only one elementary, one middle, and one high school. Although we practiced the Common Core State Standards, it was nice to have so many other decisions made by a select handful of people. My students had a thirty-minute lunch recess and an additional twenty-minute recess in the morning or afternoon, depending on which half of the day was longer.

The district in which I am currently teaching kindergarten has the kids outside for one twenty-five minute recess a day. That amount gets shortened even more when you factor in the time it takes a class full of five-year-olds to get all of their snow gear on and off. When I think back on all the different classes of students I've had over the years, I can't help but notice that it is increasingly difficult to keep students focused and on task as well as their bodies in control. I wonder if this inability to practice self-control and stay engaged is directly related to the decline in movement opportunities throughout the school day.

In addition, I am saddened by the observation that children are not wired the same as when I was young. Although they are excited to go outside, I constantly hear complaints about there being nothing to do, it is too hot or too cold, they have nobody to play with, or that they'd rather stand and wait to go back inside than play for a few more minutes. I have seen student's inability to play cooperatively, problem-solve, talk through their disagreements, or move forward without adult intervention. I have had students who impulsively resort to making threats of violence if something doesn't go their way. Why? Is it because they haven't enough unstructured free play to develop these crucial social skills? As a child, I would come home from school and throw my backpack in my room but leave my shoes on, saying a quick hello to my mother as I ran back outside until the sun went down or I was called in for dinner. Now when I ask my students what they do when they get home, most of their responses involve some form of technology.

When instructing, I can see that after ten minutes, the students are fidgeting and needing a change. Although we do frequent "brain breaks," I know that young children

are not developmentally capable of focusing for a long period of time. As their immature bodies begins to lose control, teachers see an increase in negative behavior, simply because they need a channel to release their energy. Again I wonder, how does the amount of recess impact student behavior in the kindergarten classroom?

Conclusion

Recess in elementary school has become a hot topic recently. For a number of years, the trend was to reduce or eliminate recess in hopes of providing more opportunities for learning and hence, better scores on tests. In addition, the recess that was still in place was becoming more structured in an effort to have less behavior problems during that time. In recent days, many schools are now dabbling with the idea of inserting even more recess into the school day after finding that recess can improve children's social health, physical health, and behavior. "Google" has been named one of the best environments in the world to work, all because the employees have the freedom to play all day at work, therefore producing incredible results. If educators want school to be the best environment to learn, shouldn't we take a lesson from Google?

If we as educators are to give our young students the best possible chance at retaining what they've learned, being attentive and active participants in their learning, and keeping negative behaviors at a minimum, then recess must be a necessary part of the school day, as sacred and protected in the schedule as the reading block. The purpose of recess is to engage in physical activities, give students a break from academics, and allows time for the development of social skills needed to be successful in life.

In Chapter Two, I discuss what the literature has shown about the correlation between recess and behavior. I will give the medical understanding of why there is a

developmental need for young children to move, discuss the many benefits of recess time, take a look at what recess is like in other affluent countries around the world, and spend time dissecting the trends happening in the United States in regard to recess in elementary schools.

CHAPTER TWO

Literature Review

Introduction

In Chapter One, I discussed the evolution of movement in children due to societal changes. I shared my personal experience with how unstructured movement has shaped my life as well as what I've seen in my own classroom since beginning my teaching career. I want to learn more about whether recess is crucial to the development of a young child and how the amount of recess impacts the behavior of primary students. This has led me to my essential question: How does the amount of recess impact student behavior in the kindergarten classroom?

In the first section of Chapter Two, entitled *The Developmental Need to Move*, I share what current research says about the many health benefits associated with recess as well as the contributing factors and changes in our society that demand even more attention be put on movement at a young age. In the next section of Chapter Two, titled *Many Benefits of Recess*, I share what research says about play being a child's version of work, neurodevelopment occurring at a young age, the affective outcomes of recess, and why recess is a time to build social and physical competence. The next section of Chapter Two, *International Norms*, discusses what recess and play look like in other countries around the world. I discuss the benefits of unstructured play and why some

countries believe in less restrictions at recess. Lastly, I will talk about the current trends in the United States and the reasoning behind these trends. I will present research on the reasons for a decrease in recess time allocated during the school day as well as the arguments for an increase in recess time. I will also discuss both the short term and long term effects of decreasing recess.

Developmental Need to Move

The body of a five-year-old is not built to sit and remain attentive for long or even moderate amounts of time. Students in the primary grades do not have bodies or minds that are mature enough for long periods of academic work. There is a saying that is common among occupational therapists that if you want children to sit still, you have to let them move. In 2011, Loren Shlaes, a pediatric occupational therapist specializing in school-based issues stated, “The vestibular nerve serves to tell the body how upright, aroused, and present to be in direct response to movement. The only way to activate the vestibular nerve is to move. When children are fidgeting, they are unconsciously attempting to activate the nerve to improve their ability to sit up and focus.” As adults, we have movement options constantly available to us. We can choose to doodle, get up and stretch our legs, or walk to the bathroom at any point during our work day. It only makes sense that we give children the same options to enhance their school experience.

The National Association for the Education for Young Children points out that motor skills, including spatial awareness, do not develop or mature on their own. Adults need to provide opportunities for children to practice these growing skills. By doing so, we are helping foster their self-esteem. “Children who feel good about their movement abilities are less likely to become sedentary later in life” (Pita, 2011, p. 1). As educators

of students who are only five and six years old, it is our duty to help children progress toward maturing those basic motor skills, master spatial awareness, and continue to enjoy movement.

Changes in society. Although parents and grandparents can recall fond memories of playing outside until the street lights came on, few children participate in this routine these days. Even the children who live within walking or biking distance of a school are instead dropped off and picked up by parents. This is because of barriers such as safety concerns, busy streets, or weather conditions, in addition to the time and convenience of a car ride (Heelan et al., 2008, p. 37). Evenings are now filled with countless activities, whether it be girl scouts, soccer practice, piano lessons, or cheerleading. I am confident that the elder generation looks at our lifestyle and shake their heads in dismay.

Over the last couple of decades there has been a change in parenting, with the role of play changing as our societal values shift. According to Jessica Schroeder, Doctor of Psychology, “It is apparent that we are moving toward becoming a society which values increased drive, recognition, material possessions, and financial ‘successes,’ while negating the potential value of play, recreation, and relaxation may have in supporting these values” (Schroeder, 2010, p. 4). We have gone from the hands-off parents who could be thought of as letting the child raise themselves to the helicopter parents of today who are involved in each and every aspect of their child’s life, even the parts that do not require adult assistance.

An article written by Hara Estroff Marano in Psychology Today details how parental hyper-concern is doing more damage than good. Marano makes the case that we are raising a nation of wimps:

Perhaps its today's playground, all-rubber-cushioned surface where kids used to skin their knees. And... wait a minute... those aren't little kids playing. Their mommies – and especially their daddies – are in there with them, coplaying or play-by-play coaching. Few take it half-easy on the perimeter benches, as parents used to do, letting the kids figure things out for themselves. (Marano, 2004, p. 1)

We are living in a society that is so hypersensitive that we have over-corrected the problems, and in doing so, prevented our children from learning life lessons on their own. When I was growing up, trophies were awarded to the team that won; in some districts now, for fear of damaging self-esteem, they are given out merely for participation. I grew up with the possibility of receiving an “F” on an assignment, meaning I failed the assignment. Now, papers are marked “U” for unsatisfactory instead. We are so fearful of letting children feel any disappointment that we have gone overboard in safeguarding their feelings.

Overprotective parents. David Elkind, professor at Tufts University, advocates that in order for the whole child to develop, they need to feel bad sometimes. It is by learning through experience, even bad experiences, that we learn how to cope. “Messing up, however, even in the playground, is wildly out of style” (Marano, 2004, p. 1). Parents are going to extremes in order to take failure, discomfort, disappointment, and even play out of the equation in the name of protecting their child from ever feeling bad. By allowing very few challenges of their own, children are not learning how to adapt to the social situations life brings them, and are growing up psychologically fragile. According to the annual survey of counseling center directors, the severity of mental health problems has been rising since 1988. Up until 1996, the most common problems

were relationship issues. Issues, that one could speculate, might have been learned, practiced, and mastered out on the playground.

Child psychologist David Anderegg can attest to the plethora of parents who are hyper-attentive to their kids, reactive to every bump in the day, eager to solve their child's problems for them and then call it good parenting:

If you have an infant and the baby has gas, burping the baby is being a good parent. But when you have a 10-year-old with metaphoric gas, you don't burp him. You have to let him sit with it, try to figure out what to do about it. He then learns to tolerate moderate amounts of difficulty, and it's not the end of the world. (Marano, 2004, p. 3)

Although it is with the best of intentions, the dramatic and disturbing shift in favor of over-parenting may be damaging America's children in unanticipated ways (Pimentel, 2012, p. 948). The parents who still believe in letting their child stay alone for short periods of time, walk somewhere alone, or handle their own problems can no longer trust their own judgment for fear of accusations of neglect or being thought of as a bad parent. "There's a terrible irony here... by trying so hard to eliminate risk from our children's lives, we end up making them more anxious. We can also make them less safe and less successful in the long run because they don't get all the benefits that come from taking risks" (Pimentel, 2012, p. 949), says David Pimentel, Professor of Law. As an educator, I often compliment the parents who step back and let their child work through small problems on their own instead of creating dependent habits that lead to a child who is unable to do anything independently. I appreciate when adults trust their child enough to let them handle the issue and gain experience in a variety of skills by doing so.

Advances in technology. Another huge shift in society has been the advances made to technology. Not only are kids spending much of their time inside watching cable TV, playing their Wii, or locked in their room alone with their Nintendo Dual Screen (DS), the explosion of the cell phone has contributed to a permanent state of dependency on parents to solve problems instead of kids. Whenever the slightest difficulty arises, today's youth call their parents to ask for help or advice. They are not learning how to manage problems themselves. Clinical professor of psychiatry at Columbia University Michael Liebowitz explains how parents who allow their kids to find a way to deal with life's day-to-day stresses by themselves are helping them develop resilience and coping strategies. He advocates that parents should show their children that it is okay to take risks and learn that nothing terrible happens (Marano, 2004, p. 4).

Advances in technology have made it more attractive for kids to stay indoors. As a kid, I did not have cable television, internet, or a cell phone. There was so much more for me to do outside so that is where my time was spent, engaging in imaginative play of all forms with siblings and neighbors. Now as I drive through my neighborhood, only a stray child or two can be seen outdoors when I know there are many more children huddled away inside. When I take my class out for an extra recess, children are soon asking how long before we go back inside. They are not accustomed to spending their time with freedom to do as they please, and have not learned what it means to partake in imaginative and cooperative play. In discussing the decline of recess, Jacqueline Blackwell states:

I have noticed that no matter what time I drive or walk by elementary or middle schools throughout my county or state, I do not see or hear children and youth on

the playgrounds. The voices, laughter, screams, and running feet of children have faded into the playground surfaces and structures. I wondered whether recess had been forgotten, neglected, crossed off, or hidden as an integral component of the elementary and middle school curriculum. (Blackwell, 2004, p.268)

Sindelar & Zygmunt-Fillwalk (as cited in Schroeder, 2009) list additional reasons that children are missing from local playgrounds, including hectic work schedules, dual-income families, and increased extracurricular activities with children's outdoor play falling by 50% from 1991 to 1997.

Physical health benefits of recess. Childhood obesity is a growing concern in today's society and parents are listening to their pediatricians advocate the importance of recess in the health of a child. First lady Michelle Obama has been heading a campaign against childhood obesity, pushing for more physical activity during school hours. She has expressed her concern that we are currently on track to raise the most inactive generation yet (Cha, 2015, p. 1). Although many adults share her concern, little is being done to correct the problem.

Melinda Bossenmeyer Ed. D. talks about the importance of recess in her article *Why Recess Makes Kids Smarter*:

There are a number of health benefits of recess including exercise that helps to maintain a healthy weight, contributes to stronger muscles and bones, and helps control weight. Physical activity opportunities during recess contribute to the body's ability to fight disease, ward off colds, allergies, resulting in better school attendance. On its own, recess time can't reverse the childhood obesity trend, but

it can contribute to promoting the habit of an active lifestyle which is a critical component of good health. (Bossenmeyer, 2013, p. 1)

It seems that all listed health benefits are connected with a domino effect, promoting one positive result after another. This alone is a valid argument for keeping recess as an integral part of a child's day, but paired with the additional argument that it makes kids smarter, administrators should reconsider making it a priority in the schedule.

Mental health benefits of recess. Early Brain Development Specialist Deborah McNelis explains the benefits connected with physical activity on her Brain Insights webpage, where she passionately provides awareness, advice, and resources related to how critical the early years are in child development:

When children move, various brain areas are activated and essential connections for a wide range of abilities are created. As a result of repeating these activities, the connections become stronger. The opportunity for this to occur is exactly what play and movement activities provide. (McNelis, 2012)

Interestingly, however, although the awareness of the many benefits of movement is growing, the amount of time provided for children to play has remained the same or even decreased over the years. "Regardless of whether the relationship between physical activity and mental health is fully understood, previous research does conclude that physical activity does have beneficial effects on general mental health" (Tyson et. al., 2010, p. 493). One could speculate that with the increase in mental health issues among today's youth, any activity that would be beneficial to a child's mental state would be an activity worth implementing.

Many Benefits of Recess

In today's world of expanding technology, many children are growing up lacking basic social skills. Teenagers choose to text instead of engaging in a face-to-face conversation. They will send an email to avoid making a phone call. People walk down the sidewalk with their ear buds in and head down, avoiding eye contact and pretending not to see the people they pass. I find it so disheartening when I take a walk and have neighbors who don't wave as we pass by. In my opinion, this is all the more reason why social competency needs to be developed and fostered early in life before these socially flawed little people grow up to be awkward, antisocial adults.

Play is child's work. An anecdotal sense of decline in social competence and prosocial behaviors is evident in today's youth. It takes years of practice to become socially and emotionally competent and high-functioning in today's society. When students are out at recess, the unstructured environment allows the space and time needed to develop and practice skills such as communication, negotiation, cooperation, sharing, and problem-solving (Ramstetter, Murray, & Garner, 2010, p. 6). Recess might be considered a break from doing work for children, but the truth is, they are still doing work while outside.

According to Schroeder, "In a young child's world, play may be viewed as one of the most important activities or 'jobs,' as an essential component of healthy development" (Schroeder, 2009, p. 12). Play's function is not merely fun; it is necessary for enhancing cognitive development, an outlet for children to act out ideas and emotions, and improve understanding of the self in relationship with the surrounding environment (Schroeder, 2009, p. 13). During play, children are working to develop social-emotional

components of their personality that will be needed later in life. Role-playing is a crucial part of childhood, trying out various situations and gaging how to respond. Sometimes they will fail miserably, but they will learn to adapt and adjust their social behaviors to better meet the complex situations. Children are learning other coping skills, such as self-control and perseverance as they navigate through interactions with others. These skills are learned best through trial and error, rather than adult facilitation or interference.

Associate Professor of Curriculum and Instruction in Early Childhood Education
Christopher Brown writes about the decline in child's play in kindergarten:

As a parent, I have seen how student-led projects, sensory tables and dramatic play areas have been replaced with teacher-led instructional time, writing centers and sight word lists that children need to memorize. And as a researcher, I found, along with my colleague Yi Chin Lan, that early childhood teachers expect children to have academic knowledge, social skills, and the ability to control themselves when they enter kindergarten. (Brown, 2016)

This means that that not only are we affording kindergarteners the time to develop both academic and social skills simultaneously, but that we have raised the bar with expectations upon entering the school setting. If outside play is declining, then children are not getting the experience needed to develop social skills prior to coming to school.

A report summarizing the studies done in New York City and Los Angeles about standardized testing in kindergarten explain that, "Studies indicate that by age ten, children who had been in play-based kindergartens excel over others in reading, math, social and emotional learning, creativity, expression, industriousness, and imagination"

(Crisis in the Kindergarten, 2009). This illustrates, once again, that children learn more through play and exploration than by given direct instruction from adults.

Neurodevelopment. Adults, especially those who have chosen to work in fields concerning children, have all heard the importance of providing youth with a rich learning environment; we know the importance of setting the right foundation for lifelong learning and behavior, but what exactly does that entail? Gabbard and Rodrigues (2007) report that physical movement is an essential agent in providing the desired kind of environment to develop rich brains. Science is now able to provide the research to better understand critical periods, or “windows of opportunity” that may be most beneficial in early brain development.

Brain research in recent years has discovered how neural circuitry develops; each neuron links up with thousands of other neurons to form trillions of connections (Gabbard & Rodrigues, 2007). In the past, it was believed that the wiring of our brains was predetermined, much like our genetics. The current view is that while some circuits may be prewired, other basic pathways have been left unprogrammed, waiting for connections to be made. These connections are dependent upon the stimulation from the environment we are exposed to and the experiences we are a part of in our primary years, completing the circuits and synaptic connections in the brain. “Connections that are not made by activity, or are weak, are ‘pruned away,’ much like the pruning of dead or weak branches of a tree. If the neurons are used, they become integrated into the circuitry of the brain” (Gabbard & Rodriguez, 2007). This is a strong message for those that work with children; critical periods in the development of the brain have been identified in which experience may be most effective in forging connections. During these critical

periods, also referred to as “windows of opportunity”, nature allows experience to have the greatest effect. If a child misses an opportunity, the child will not be impaired, but the brain may not develop its circuitry to its full potential for a specific function (Gabbard & Rodriguez, 2007).

What does this mean for the importance of recess in the primary grades argument? For gross-motor skill development, the window of opportunity begins to narrow around age five. Finer muscle control and timing begins to close around age nine (Gabbard & Rodriguez, 2007). If primary students are not allowed recess or are not given the recommended time outside each day, then we are preventing their brain from making the necessary connections and develop to their full potential before the windows of opportunity close.

Gabbard and Rodriguez (2007) recommend that children are provided with lots of sensory-motor experiences, particularly of the visual-motor origin. Activities such as kicking and catching would be examples of activities in which visual information are used alongside fine- and gross-motor movements. In addition, they recommend a variety of gross-motor activities that involve postural control, coordination, and locomotion, such as crawling, creeping, body rolling, and jumping. What time of the school day allows for these recommended activities? Physical Education class might incorporate some of these, but free play at recess is undoubtedly when children partake in all of the listed activities without prompting. These activities increase blood flow to the brain, providing the brain with glucose and in turn, energy, enhancing neuronal connectivity during the optimal windows of opportunity (Gabbard & Rodriguez, 2007).

Sergio Pellis, a researcher at the University of Lethbridge in Alberta, Canada, further explains, “The function of play is to build pro-social brains, social brains that know how to interact with others in positive ways (Hamilton, 2014, p.1) Play prepares a brain for life by wiring the brain’s executive control center, which controls emotions, making plans and solving problems. Pellis explains that key component in producing this sort of brain development is free play, void of both adults and rule books. “Whether it’s rough-and-tumble play or two kids deciding to build a sand castle together, the kids themselves have to negotiate, well, what are we going to do in this game? What are the rules we are going to follow?” (Hamilton, 2014, p.1) As children navigate complex interactions with others, the brain is building new circuits in the prefrontal cortex.

Greenspan’s developmental milestones [See Appendix I] detail how role play supports and enhances core processes such as self-regulation, the formation and enhancement of interpersonal relationships, boundary definition, and the ability to differentiate experiences and “build bridges between them” (Greenspan, 1997).

Building social and physical competence. Children develop and practice social and physical competence during recess. Melinda Bossenmeyer explains:

During recess children gain skills in conflict resolution by playing with their peers, learning how to share, take turns, being a leader, as well as collaborating and negotiating around games and rules. Recess also offers one of the few times that children have unstructured opportunities to self select friends and playmates, test relationships, learn social appropriateness, and learn to generally ‘play nice’. (Bossenmeyer, 2013)

A child's social development occurs through interaction with others. The school setting provides ideal opportunity for this social development. Children can practice skills at recess that are usually not possible within the classroom walls. Many of the skills that children practice through play become the skills needed to live and work in a social setting later in life (Haugjord, 2005). Children gain social competency and confidence by being given ample opportunities to develop their social skills.

Physical competence is also gained out at recess. Experts note that play experiences, especially those that occur outdoors, give children the opportunity to experience sheer physical movement. It allows kids to learn what their bodies are capable of and how to control them (Haugjord, 2005). Research also shows that if children are not active at school, during recess or physical education classes, they tend to be less active at home as well, which is why it is imperative that schools continue to work at ways to keep kids active during recess breaks (Haugjord, 2005).

Affective outcomes. For many children, recess is the only time of day where they can freely interact with their peers. Classrooms do not foster much interaction and with a growing world of technology, a good number of children lock themselves inside after school to interact only with their computer game or television. According to research done for the Educational Resource Information Center, Olga Jarrett (2002) found that recess provides an open setting in which students organize their own games, decide on rules and determine which team goes first; children must work to resolve conflicts in order keep the game going. The open format of recess also allows for adults to observe how students interact with one another, their tendency to bully or fight, and their

leadership and social behaviors. This can give teachers a clue about where or when intervention is needed.

Barbara Carlson, president and cofounder of Putting Families First, explains that children are even struggling to play neighborhood games because they've never done it on their own. "They've been told by their coaches where on the field to stand, told by their parents what color socks to wear, told by the referees who's won and what's fair. Kids are losing leadership skills" (Marano, 2004). Children are not getting the benefits out of play as they once did. From a very young age, play helps children learn how to interact with others and practice self-control. Child psychologist David Elkind talks about how the side effects of play are not often talked about. Against popular belief that only academic activities promote a sharp brain, it's in play that cognitive agility really develops. Studies have shown that social engagement helps to improve intellectual skills, fostering decision-making, memory and thinking, and speed of mental processing. (Marano, 2004). It is through free play that children develop respect for rules, gain self-discipline and form an appreciation for other people's beliefs, cultures, and customs. The human brain is meant to deal with social problems, and by giving students an opportunity to exercise their brain out on the playground, they can develop the skills needed throughout life.

International Norms

It is common knowledge that Finland dramatically outranks the United States on the PISA, which begs the question, what is Finland doing right? It cannot be narrowed down to just one factor, but a contributing factor to student success would be the amount of time Finnish students are allowed to play. The average recess time is a mere 27

minutes in the United States, compared to 75 minutes in Finland, with teachers giving the students a fifteen minute break after every lesson (Dalporto, 2016). In a documentary titled *Where to Invade Next*, Michael Moore investigates ways to bring back the benefits of America from decades ago. On the education front, he discovers that younger students in Finland only go to school for 20 hours a week, allowing them ample time to be outside, explore the environment, and learn through experience. Finland's students have the shortest school days and school years in the western world, and we can conclude, they do better by going to school LESS. When they needed to re-do the playground, the architects talked to and listened to the kids. Finnish principal Leena Liusvaara put it simply:

Your brain has to relax every now and then. If you just constantly work, work, work, then you stop learning...when do they have their time to play and socialize with their friends and grow as human beings? There's so much more life around than just school. I want the children to play. (Moore, 2015)

According to the American Association for the Child's Right to Play, 40% of school districts around the United States have reduced their recess time since the start of No Child Left Behind. This is atrocious when you think about how today's youth are being stripped of their right to a childhood.

Recess in Other Countries. A survey designed to explore the nature of activities and length of recess around the globe yielded interesting results. In the European countries of Austria, Finland, Germany, Hungary, Lithuania, and Russia, elementary schools generally have forty-five minutes of class separated by at least ten minute recesses throughout the day. "Interestingly, in Lithuania, the length of recess increases by

five minutes after each period to provide more time for relaxation as the day progresses and the children become more tired” (Szecsi, 2006). Elementary schools in Bolivia, Cuba, Ecuador, Panama, and Peru have recess every two hours, including two fifteen-minute breaks and a longer lunch break (Szecsi, 2006).

Photographer James Mollison traveled to 17 countries on four continents to document what recess looked like around the world. He found that in 15 of the 17 countries visited, recess was always in the mid-morning and again at lunchtime (Cha, 2015). In Japan, children are given a 10-15 minute break for every hour of instruction, reflecting the fact that attention spans begin to wane after 40-50 minutes (Ramstetter, Murray, & Garner, 2010). In China, instead of morning recess, there is a morning exercise break where a sound system gives instruction for stretching exercises, ten minutes of running, and later an eye exercise break in which children move their eyes to the music (Cha, 2015). In Shanghai, educational policy is reinforced so that each elementary level course should only last for 35 minutes because they believe children are too young to sustain concentration and motivation for longer than that (Chang & Coward, 2015). Children in Taiwan have a 10-20 minute break between each of their four morning classes and three to five afternoon classes (Blackwell, 2004). French kids experience climbing frames and slides using their own initiative with no teacher interaction (Goodale, 1998). British primary schoolchildren have three recesses per day; fifteen minutes in the morning and afternoon and a dinner play period of 80-90 minutes (Pellegrini & Smith, 1993).

Unstructured play. A recent story on Dateline centered on Denmark’s forest kindergarten, where Jonah Laigaard has run a program for seventeen years where kids are

encouraged to explore and learn through hands-on experience. He explains that he watches from a distance, saying, “The children here learn to take small risks when they’re very young and as they grow in confidence, they take bigger risks” (de Jong & Roberts, 2016). Laigaard uses the interest and activity of the children as constant real-life teachable moments. Instead of correcting dangerous choices, he gently intervenes with guidance. In Denmark, the emphasis is placed on helping to nurture the whole person develop their natural abilities, not feeding specific knowledge. By stepping back and out of the way, Jonah is fostering his children’s power of observation, physical strength, balance and coordination, compassion, and ability to cooperate without specifically teaching any of it. Most adults have a natural instinct to jump in and prevent a spill or slip from happening, but we could all take a lesson from the Danish forest kindergartens and allow children to overcome problems on their own, learning for themselves (de Jong & Roberts, 2016).

Adults have become more and more concerned with not only obesity in our youth, but issues such as exclusion and bullying have become a major concern as well. To help with these issues, some schools have advocated for a recess in which children’s physical activity level is increased. “Note that this is in direct conflict with the notion of recess as a supervised but unstructured break for the child, as a time for the child to select between sedentary, physical, creative, or social activities” (Ramstetter, Murray, & Garner, 2010). The benefits of increased group participation must be weighed against the social and emotional risks taken when eliminating unstructured recess. When structured activities are promoted and participation is required, students lose the chance to create their own

games and physical activities of their choice. Instead, games and boundaries can be painted on the ground in hopes that children will choose to play them on their own.

The key, kinesiology professor Debbie Rhea explains, is “unstructured play” in which children are allowed to run, play, and make up their own games while adults stay on the sidelines and make sure everyone is safe. Recess should take place outdoors because fresh air, natural light, and vivid colors all have a big impact on the brain and its function (Pawlowski, 2016).

Less restrictions. All countries involved in the survey reported that activities during recess were free play with little to no teacher interaction. Students were allowed to do whatever they wanted as long as they were not hurting anyone. “Not even weather seems to be a restrictive factor for outdoor recess. For example, in Finland, children spend the recess outdoor until the temperature drops to -4 Fahrenheit. In Panama, where the weather is always hot, children play outdoors all year long” (Szecsi, 2006). In Norway, children are expected to go out and play no matter what the weather. The playground even has trees that children are free to climb as well as rocks and sticks with which to build. Children are taught to resolve disputes among themselves with little monitoring by teachers. In Kenya, the school Mollison observed did not have a proper playground, so at recess the kids just spilled out onto the street, charging around, playing and arguing (Cha, 2015).

By taking adult interaction and structured activities out of the recess regiment, these countries are giving their children a more authentic and fruitful experience in which they can develop and learn independent from adults. Students are forming intellectual constructs and cognitive understanding through hands-on experiences, learning through

exploration in the unstructured environment recess provides (Ramstetter, Murray, & Garner, 2010). Even though they are not sitting in a desk working, learning is still happening while students are enjoying recess.

The Swanson School in Auckland, New Zealand practices a nonconventional approach to recess and has received national attention because of the radical decision to get rid of their recess rules. Surprisingly, along with the rules leaving, so did most of the behavior issues. Principal Bruce McLachlan reports seeing more independence, improved creativity, healthy risk-taking, less falling, better coordination, and improved attention (Hanscom, 2015). There are four key ingredients that he claims are necessary for this improvement. 1. Space- where students may explore, climb, extend boundaries, practicing their creativity and independence through play. 2. Trust- having adults present but in the background of the play environment, in order for children to come up with their own ideas and problem solve independently. 3. Time- children need ample time to move their body, tinker, work through emotions, and dive into their imaginations. 4. Loose Parts- including objects such as wooden planks, tires, old hoses, etc. for students to use as they please in their imaginary world, letting the environment inspire the child (Strauss, 2015).

Recent Trends in Recess

In order to accommodate for the ever-increasing academic demands placed on students or perhaps in part to avoid the inevitable scraped knees, teasing, and bullying, many schools have chosen to take recess out of the daily schedule or dramatically reduce recess time. Many believe that recess is waste of time better spent on academics.

Recently, many districts are fighting back and reinstating recess in defense of the social, emotional, physical, and cognitive benefits it affords students on a daily basis.

Reasons for decrease in recess. There has been an abundance of rumors recently about schools cutting recess, and although this may be true for select districts, surveys indicate that most students still receive some form of recess during their school day. The U.S. Department of Education survey shows that 88 percent of elementary schools give first graders daily recess and 83 percent of schools have recess through sixth grade every day (as cited by Bossenmeyer, 2012). However, although recess itself is not being cut, the minutes have been dramatically trimmed. Since No Child Left Behind began in 2001, recess minutes have gone from 37 down to an average of 24-27 in only seven short years (Bossenmeyer, 2012). School districts have felt pressure from international competitors to increase the academic rigor in order to meet the demand for better results on state exams. Many believe that in order to accomplish this, more time needs to be spent in the classroom and recess is the undeserving player cut from the team.

A study performed by Bridging the Gap and reported on the Center for Disease Control website found that 60% of districts across 50 states had no policy regarding daily recess for elementary school students and only 22% of districts required daily recess for their students (CDC, 2014). It is suggested that one action to help implement strategies to improve recess would be for districts to be provided with training and technical assistance for revising district wellness and recess policies that align with national recommendations (CDC, 2014).

Parents, teachers, and administrators all worry about a child's safety and supervision at recess. I can say from personal experience that we often tell parents that

we didn't see it happen because there's no way you can keep your eyes on every kid out on the playground at once. "Some schools have chosen to ban games or activities deemed unsafe and, in some cases, to discontinue recess altogether in light of the many issues connected with child safety" (Ramstetter, Murray, & Garner, 2010). Many understaffed urban schools have eliminated recess time altogether because of growing concern over neighborhood violence (Goodale, 1998). In May of 2008, a school in Minneapolis went so far as to instill a "zero tolerance on touching" policy, forbidding all student contact, including high-fives, chasing, teasing, and play fighting (Schroeder, 2010). The district has since lifted this policy after strong backlash from the public. Although liability of injury should continue to be monitored, there are measures that can be taken to address safety concerns while still allowing recess activities to occur.

Some districts have given up recess because of staffing limitations. It is typical for recess to be monitored by teachers, community volunteers and parents, but when the district cannot afford paid monitors and there is a shortage of volunteers, cuts are made and recess suffers. Further claims made by those who oppose recess include the argument that recess detracts from instructional time in an already long school day as well as disrupt children's sustained work patterns. They contend that recess encourages aggression and antisocial behavior (Pellegrini & Smith, 1993).

When graduate student Jessica Schroeder collected anecdotal notes during the research stage of her capstone on whether people were aware of the changes occurring to recess for K-6 students, she discovered that most people (a) had a disconnect between their own experiences of recesses and the changing trend happenings; (b) showed a passive understanding of the change given the societal pressures for testing; or (c)

expressed a passive disapproval followed by a “but what can we do” response (Schroeder, 2010). It appears that the public is willing to accept the changes without regard for the mental, physical, and emotional health implications that will affect our youth.

Reasons for increase in recess. The Association for Childhood Education International (ACEI), the National Association of Early Childhood Specialists in State Departments of Education (NAECS/SDE), and the National Association of Elementary School Principals (NAESP) are just a few of the national organizations emphasizing the importance of free play through recess breaks (Norvell, Ratcliff, & Hunt, 2009). Although guidelines have been made known for years, administrators and politicians choose to overlook such research and guidelines. Therefore, teachers have an ethical and moral obligation to become knowledgeable regarding research focusing on the importance of recess so they can become active participants of the parent/teacher associations in their school. School boards and elected officials will typically listen to groups of parents who are vocal about their desires (Norvell, Ratcliff, & Hunt, 2009). An online poll done by Parent Soup asked parents to respond to the question, “Do you think recess should be eliminated in elementary schools?” The responses numbered over 1500 votes with 3 percent answering yes and an overwhelming 97 percent answering no (Cromwell, 2009).

A big story in recent news was the Texas school who began giving their children four recess breaks a day, with parents and teachers reporting that the results have been positive. An article found on TODAY Parents tells about how Eagle Mountain Elementary in Fort Worth, Texas has been giving their kindergarten and first grader

students two 15-minute recess breaks each morning and two 15-minute breaks in the afternoon. Although it was a big risk, they are convinced that this risk has paid off beautifully. At first, teachers were worried about losing the classroom time and being able to cover all the material they needed with what was left, but five months later, the teachers' fears have been relieved, and they report that the kids are actually learning more because they're better able to focus in class, pay attention without fidgeting, follow directions, and try to solve problems on their own. There are also less disciplinary issues (Pawlowski, 2016).

Parents are also noticing a positive change in their children. One parent told TODAY Parents that her six-year-old daughter has become more independent, writes with more detail and creativity, as well as has made new friends during the outside free time (Pawlowski, 2016). Behind this school's change in recess policy is a new program called LiiNK, created by kinesiology professor Debbie Rhea and inspired by Finland's education system. "You start putting 15 minutes of what I call reboot into these kids every so often and it gives the platform for them to be able to function at their best level," she explains (Pawlowski, 2016). Again and again, studies are confirming that recess offers important cognitive, social, emotional, and physical benefits. The program, which started in two private schools two years ago, is set to expand even more with schools in Texas, Oklahoma, Minnesota, and Utah scheduled to try it and schools in California and Pennsylvania expressing interest as well. (Pawlowski, 2016).

Short term effects. Global changes in play have shifted toward uniformity because of increased emphasis on safety, concerns over liability, and decreased tolerance for bullying have inspired something called "right answer fixation". Zygmunt-Fillwalk

defines “right answer fixation” as a propensity to impose a judgement or assumption onto play, suggesting there is a “correct” way to play (as cited in Schroeder, 2010). When children believe there is a right way to play, it undermines the child’s ability to learn a variety of social skills with friends in an unstructured learning setting, limits creativity and expression, and diminishes the chances of children solving problems independently (Schroeder, 2010).

Another short-term effect of not having enough recess time is a decrease in the student’s natural desire to learn, because they are given no break from learning. Recess is a break from the school day and a time away from the cognitive tasks given in the classroom. Scheduled periods of physical activity and play allows students the necessary unstructured time to rest, move, socialize, play, and imagine (Ramstetter, Murray, & Garner, 2010). In addition, inattentiveness tends to diminish if recess is provided; children are better able to attend to their activities after given a break from learning.

There has also been an increase of teaching what was previously naturally encountered. Social skills need to be taught because they are no longer experienced with the frequency and duration in unstructured, free play situations, which once occurred during recess (Schroeder, 2010). There is an increased number of children who are unable to utilize the unstructured time of recess for free play because they are in need of training in appropriate social skills, such as negotiation, self-regulation, and problem-solving (Schroeder, 2010). Children engaged in free play receive frequent opportunities to practice such skills. When children’s opportunities for play are reduced at school, they are not recovered after school.

In order for children to be at their optimal cognitive processing potential, the Immaturity Hypothesis states that a period of interruption is necessary for development. These interruptions are intended to be unstructured breaks, not just moving from one academic task to the next. These breaks alleviate stress and distractions that interfere with cognitive processing (Ramstetter, Murray, & Garner, 2010). Adults allow themselves a break from the work when they feel themselves becoming stressed. We get up and take a walk, chat with a coworker in the next cubicle, take an early lunch, or jump on our smartphone for a few minutes to unwind. And yet, many institutions expect students who are a fraction of our age to sit and perform during long periods of concentrated instruction with no break in sight.

Pellegrini, Huberty, and Jones performed a study in which the recess time for kindergarteners at a public elementary school in the southeastern United States was manipulated and observed. Pre-recess behavior was observed as the kindergarteners chose a center tasks to complete. Two days a week the children went to recess at 10:00am (short deprivation) and twice a week they would go to recess at 10:30am (long deprivation). This experiment occurred over two months of time and observations were recorded by four observers who did not know the purpose of the study, for the twenty minutes of recess tasks, twenty minutes of recess, and twenty minutes of post recess tasks. They found that children were less attentive during the long, compared to the short, confinement period. “Postrecess analyses suggest that providing a break from seat work maximizes attention” (Pellegrini, Huberty, & Jones, 1995). Teachers have found this to be true as well, which is why most classrooms exhibit some kind of ‘movement break’ around the appropriate time the attention span of that age group begins to wear off.

Regardless of whether students are actually physically moving their bodies or talking with friends during recess, “any type of activity at recess benefited cognition afterward” (Ramstetter, Murray, & Garner, 2010).

Long term effects. Physical inactivity has been a concern for decades; childhood obesity has tripled since 1970 and is accompanied by health problems such as high blood pressure and high cholesterol (Jarrett, 2002). The vigorous physical activity occurring during recess is even higher than that of physical education classes, although the National Association for Sport and Physical Education recommend both Phy Ed class and recess.

It has been suggested that an increase in the diagnosis of Attention Deficit Hyperactivity Disorder (ADHD) is linked to the decline in recess, because children no longer have enough opportunity to play (Ridgway, Northup, Pellegrin, LaRue, & Hightshoe, 2003). Interestingly, in a study done the results appear similar for both students diagnosed with ADHD and those nominated as typical peers; there was a progressive increase in inappropriate behavior when no recess was provided.

Another overlooked long term effect of not having recess is that by taking away recess from the front end of development, it shows up elsewhere. Regimented childhood arranged and monitored activities have created young adults who crave time to explore themselves. A popular trend now is to take a period in college or afterward to legitimately experiment, or be children (Marano, 2004). In addition, marriage is effected by the lack of unstructured play in the early years. Psychologist Bernardo Carducci, professor at Indiana University Southeast, speaks about how marriage is effected by the lack of play during childhood. “The precursor to marriage is dating, and the precursor to dating is playing,” says Carducci, “The less time children spend in free play, the less

socially competent they'll be as adults. It's in play that we learn to give and take, the fundamental rhythm of all relationships. We learn how to read the feelings of others and how to negotiate conflicts" (Marano, 2004). There is now a developmental lag in social patterns displayed later in life because play has been taken out of childhood.

Conclusion

After a thorough study of literature related to recess in the elementary school setting, it can be concluded that children need a break from their daily routines at school. Recess is a necessary component of a child's day, providing positive physical, mental, social and emotional health benefits. Many other countries around the world are ahead of the game in terms of giving their youth what their bodies need in order to promote optimal learning. Recess provides an opportunity for children to learn essential skills that will be necessary in the work world and relationships of their future. Through play, children can learn the social skills needed to be high functioning and instrumental in our society. Based upon this research evidence, recess should be present in all elementary settings. Parents, teachers, and administrators have a responsibility to become knowledgeable about and advocate the importance of unstructured play. In order to provide optimal learning experience, young children need to be given a break from the cognitive functions and work done in the classroom.

In Chapter Three, I explain in detail my action research project, including the research paradigm that will be used, the setting where the research takes place and the participants involved in my study. I discuss the methods used to collect data, give a short explanation of each data collection technique, identify the variables, tools used, and ethics of the project.

CHAPTER THREE

Methods

Introduction

In previous chapters I have described the many benefits of an unstructured, outdoor recess that encompasses the development of the whole child. I have noted the research previously done to support the importance of recess as well as state the reasons why a decrease in recess has been seen in recent years. I have explained what I have seen in my own kindergarten classroom in relation to children and the need for movement. This has led to my essential question: How does the amount of recess impact student behavior in the kindergarten classroom? The literature review shows that although there is growing awareness of the need for recess, little is being done to implement the national recess recommendations in the nation's elementary schools. In chapter three, I will introduce the method I used in order to answer my essential question, including the setting of the action research and a description of the participants involved in the study. I will also explain the research paradigm that was used to conduct research, how the data was collected, and the procedures.

Research Paradigm

After careful consideration of my research question, I chose to use a mixed method research design. Cresswell (2014) states that quantitative research is the chosen

method for researchers who want to test a theory and qualitative research is best when a concept or phenomenon needs to be better understood (p.4). My objective is to test how the amount of recess effects behavior of students in a kindergarten classroom, so the mixed method design best fits the intentions of my study. I used the concurrent transformative strategy, which means I collected both quantitative and qualitative data at the same time using a theoretical lens as an overarching perspective (Cresswell, 2016, p.16). I focused my research on the students needing frequent redirection and seeking lots of movement. The behaviors are measureable and will reflect whether the intervention is effective.

The qualitative components of this research were collected from an open-ended survey question collected from coworkers teaching primary grades, reflections from other kindergarten teachers, anecdotal notes, and an interview with the building principal. The quantitative component of this research was the performance data and observational data collected before and after a recess break. There are both statistical and text analysis and interpretations across databases.

Setting

School setting. The school where the project took place is located in a suburban setting with a population of 60,000. The public elementary school has 800 K-3 students and 8 kindergarten classrooms. The school is staffed with one principal, a behavior specialist, and a continuous improvement coach, who are all adamant about building positive relationships with both staff and students. Our demographics include 27.3% of students eligible for free or reduced lunch. 11.4% of our population are English Language Learners, 2.5% receive GT services, and 11.7% are in the special education program.

The student body is 67.7% White, 12.5% Asian, 12.1% Black, 5.7% Hispanic, and 2% Native American.

The kindergarten students at this school get 25 minutes of outdoor recess per day, which includes the time it takes to get on and take off clothing. Kindergarten recess occurs immediately before or after lunch, depending on the instructional schedule of that particular classroom. Kindergarten students do not attend physical education class. Record was made of any change to regular outdoor recess, such as indoor recess due to unfavorable weather, to see if there were any correlation with behaviors.

Kindergarten classroom setting. The research took place in my classroom with a class of 21 students. There are thirteen boys and eight girls. During the course of collecting the baseline data, I had two new students, both male, join our classroom. I have two students, both male, on Individualized Education Plans (IEPs). Two students are receiving speech therapy services. Three students are receiving ELL services. The instructional schedule includes 20 minutes of morning meeting, 45 minutes of guided math followed by 20 minutes of phonics, 25 minutes of lunch paired with 25 minutes of recess, 10 minutes of a read-aloud, 35 minutes of writing, 10 minutes of snack, 40 minutes of specialist, 15 minutes of core reading, 60 minutes of targeted reading, 25 minutes of science/social studies on alternating weeks, and 20 minutes of play time. It must be noted that the specialist time is done with a single teacher who comes into the classroom to do art, music, science, and physical education activities.

The physical classroom is larger than that of an average classroom because it is specifically for kindergarten. It has a carpet area and a tile area where four student tables are located. Two additional tables are present for small group work with the teacher.

There is also a bathroom inside of the classroom. The room has a small window which provides natural light. The classroom has one large whiteboard, a smartboard with a ceiling-mounted projector, VCR, DVD player, teacher laptop, teacher iPad, and a cart of student iPad minis. There are cupboards, two sinks, and counters. The classroom door remains open unless an activity is particularly noisy or there is a behavior disturbance occurring in the hall.

Participants

The subjects for my study were all of the students in my 2016-17 kindergarten classroom. All students were able to participate after parents gave consent. There are 21 students all five or six years olds, with more boys than girls. Ethnicities included 13 Caucasian, 2 Black, 1 Indian, 1 Mexican, and 4 Asian students.

Methods

In the previous section I gave information about the setting and participants of this study in order to give the reader background knowledge that will assist in understanding the whole picture of my action research. Below I will detail how data was collected during this research.

Action research. Action research, according to Geoffrey E. Mills, is conducted by teachers on children in their care in their own classroom. Action research is used to effect positive change in the specific school environment that was studied (Mills, 2014, p.9).

Exploratory mixed methods. For my study, I used a mixed-method design. This means that my data collection involved both qualitative data sources and quantitative sources (Mills, 2014, p.83). The qualitative data was collected through a voluntary

educator survey, kindergarten teacher reflections, and an interview with the building principal, while the quantitative data was collected through a tally chart documenting specific target behaviors.

This study involved a non-random group of students, my entire kindergarten class. Pre and post data is compared from my student participants. The data collection consists of a teacher survey, kindergarten teacher reflections, a principal interview, anecdotal notes, and a tally sheet of five target variables. I established a baseline by collecting observation of these variables for two weeks before implementing any intervention (additional recess). The dependent variables are also the behaviors I hoped to see reduced include the number of times students are off task, inappropriate vocalization, out of seat, fidgeting, and displaying movement seeking behaviors.

I began the third week of September, giving the students time to adjust to school and learn the procedures and expectations. During this time a description of the project and a letter of consent was sent home for parents to give permission that their child be allowed to be a part of the study. Samples of the letter can be found in Appendix A. All forms were returned and those students are the ones who were able to participate. I then asked fellow kindergarten, first, second, and third grade educators to complete a short survey related to the impact recess has on behavior in the classroom. My study took place over the course of four weeks. I began collecting baseline data for two weeks via tally sheet and took anecdotal notes of my student's overall classroom behavior for the ten minutes before and ten minutes after their one daily lunch/recess, with no change to the amount of recess provided. The following week included two recesses a day (the normal mid-day 25-minute recess as well as a 15-minute morning recess), with the

following week, students getting three recesses a day (a morning recess, mid-day recess, and a 15-minute afternoon recess).

Data collection technique 1: kindergarten teacher reflections

The first set of data compiled is a collection of thoughts from two co-workers. It was important to hear from others who are in the same situation that I am in, teaching full day kindergarten and struggling to find the balance between academic demands and allowing our students to just be five. After gathering thoughts from co-workers, I will make connections and identify similarities between their reflections and my opinions on recess as it relates to behavior.

Data collection technique 2: educator survey

An online survey was taken by coworkers who teach kindergarten, 1st grade, 2nd grade, and 3rd grade in order to evaluate their opinion on the impact recess has on classroom behavior and to also explore the idea that older students need less recess than younger students. This survey had one open-ended question to fulfill the qualitative data collection. After compiling the data, I highlight the major findings and draw conclusions about the results. I also make note of the data that I found most surprising as well as point out the common themes that emerged through the answers given by fellow educators.

Data collection technique 3: administrator interview

In order to gain the perspective of someone who has a wider view than that of the classroom teachers, the principal of my school was willing to share her perceptions of recess. A short collection of questions and answers are presented sharing the view from a principal's standpoint, adding to the qualitative collection of data. After presenting the

interview, I explain that this piece of data is important to show that although some educators feel that the administration is out of touch with reality, they are seeing a more complete picture than we are and show just as much concern for the well being of each student.

Data collection technique 4: observation

During the course of the study, I have taken what is referred to as “field notes” of the five behavioral variables listed above (Cresswell, 2014). According to Geoffrey E. Mills (2014), there are three types of observers: active participant observer, privileged, active observer, and passive observer (p.84). I acted as an active participant observer as I teach and observe students at the same time. These observations helped me to formatively assess how recess was impacting student behavior. I walk the reader through each of the five target behaviors and analyze the results collected during the initial, middle, and last week of the recess intervention.

Variables

The last section of my paper described the forms of data collection that I did during my action research. This section will tell about the variables involved in the study.

Independent variables. All classroom factors remained consistent throughout the course of the study. The physical space remained consistent as well as the instructional schedule and style remaining unchanged.

Dependent variables. The behaviors measured were the number of times students were off task, displayed inappropriate vocalization, got out of their seat, were fidgeting, or exhibited movement seeking behavior (see Appendix D).

Ethics

Participants of this study, including students and their families, remained anonymous. Names were not included to protect the rights of the participants. Consent from a guardian was granted before beginning the study. Students and families had the option to decline being a part of the study with no negative consequences.

Tools Used

Before beginning data collection, I obtained permission from the school principal, completed the Human Research Subject Protocol (nonexempt long form) and gave parents the permission letters to sign. A voluntary teacher survey was distributed to teachers in kindergarten, first, second, and third grade. The survey has one open-ended question which provides qualitative data. The educator survey can be seen in Appendix C of the capstone. I also asked the building principal to answer a few questions regarding her perceptions of recess. The interview questions can be seen in Appendix D. Data collection for the field notes involved a data tally sheet. I observed the target classroom behaviors during the ten minutes leading up to lunch and the ten minutes upon returning from recess. I recorded scores of the tallies at the conclusion of each day. The collection of baseline data can be seen in Appendix G of the capstone. The collection of intervention data can be seen in Appendix H.

Human Subjects Review

A human subject review was completed after my proposal was approved. I complete a Human Subjects Committee (HSC) non-exempt long form and submitted it to the Institutional Review Board (IRB) with a letter of consent from my school. I provided

information about the participants of my study and a description of my study, including the purpose, setting, and research methods.

Student and guardian consent. Students and guardians had to agree to be participants in human research. The consent form [See Appendix A] contained information about the study. Students and guardians were given the option to choose not to participate in the study.

Conclusion

In this chapter I have provided the paradigm of my action research, the research method, setting of the action research, participants involved in the study, procedures, and the tools used to answer my research question: How does the amount of recess impact student behavior in the kindergarten classroom? I conducted the data collection for a total of four weeks, one week of baseline data with only one 25-minute recess then adding shorter, additional recesses in the following weeks. In Chapter 4, I will present the results of my data collection, explore the findings of each of the four different data collection techniques in detail, and discuss how they relate back to my research question.

CHAPTER FOUR

Results

Introduction

In Chapter One, I described the many benefits of an unstructured, outdoor recess that encompasses the development of the whole child. I have explained what I have observed in my own kindergarten classroom in relation to children and the need for movement. Chapter Two detailed the research others have done on the importance of recess as well the reasons why there has been a decrease in recess in recent years. This has led to my essential question: How does the amount of recess impact student behavior in the kindergarten classroom? In Chapter Three, I introduced the method I used in order to answer my essential question, explained the research paradigm that was used to conduct research, how the data was collected, and the procedures.

In this chapter, I will present the findings of my action research study to answer my capstone question: How does the amount of recess impact student behavior in the kindergarten classroom? I will include feedback given from kindergarten teachers regarding their personal feelings, a reflection from the building principal, additional survey results from K-3 teachers on their perception of recess, and the behavior I observed within my own classroom during the three-week course of my action research.

Data Collection

The purpose of this study was to determine whether the amount of recess affects student behavior in the classroom. In order to accurately assess whether or not it does, I needed to collect data from those individuals who have worked with students and know how these students react to having no recess, one recess, or perhaps an extra recess during their school day. The next portion will give perspectives from kindergarten teachers.

Data collection technique 1: kindergarten teacher reflections. In order to observe what common themes emerged, I wanted to include the thoughts of others who are in the exact same situation as I am, dealing with the ever-increasing demands of a school day for a kindergarten student. I asked my co-workers to reflect on how they felt about the relationship between recess and behavior and then compile their thoughts on paper or in an email. I did not ask any specific questions, rather, I wanted their reflections to be natural.

As I read through their thoughts, there were many parallels with my own opinions. One co-worker who has been teaching kindergarten at my school for four years commented, “The academic expectation in Kindergarten has gone up every year but students still remain 5 and 6 years old. We cannot expect these little bodies to sit still all day without allowing time for free play and movement. They need to be able to be creative through play that is not teacher directed. Allowing students to have breaks keeps their minds engaged during the times we need them working on academic tasks. From what I’ve seen, when students are given breaks from academics to play, I have seen less

behaviors to address. Students are able to do what they want, but are learning important social and life skills along the way.”

Another co-worker who is in her third year of teaching stated, “In my experience, I notice a significant difference in student behavior on afternoons when they do not get to go outside for recess because of weather. It is apparent, by their shortened attention span and inability to practice self-control, that they need the physical space of the outdoors to run, jump, twirl, and climb. When students have to stay in for recess, I’ve noticed that they struggle to sit still for periods of time. It’s hard not to get frustrated as a teacher, because we have so much to get through, but I cannot blame them for having extra wiggles because they had no opportunity for gross motor movement.” Although both teachers are relatively new to the teaching field, their thoughts echo those of veteran teachers who know what their students need but are unable to give it to them.

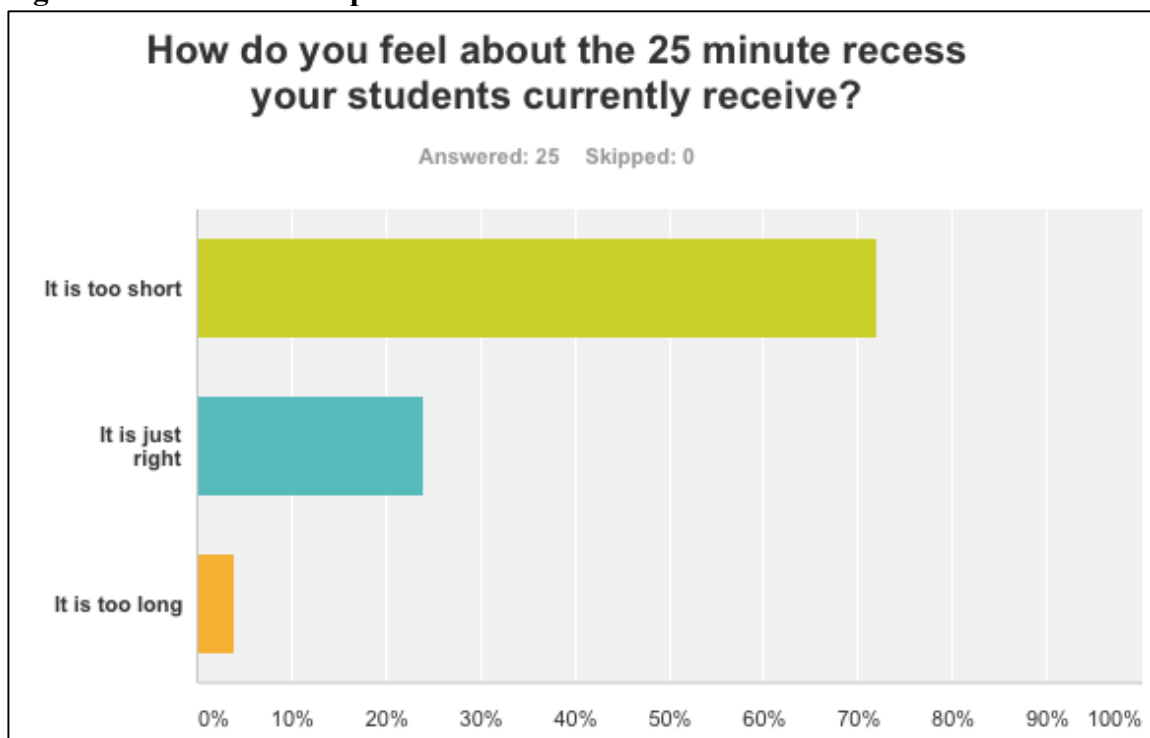
These thoughts line up with the research reported in the section titled Developmental Need to Move in Chapter Two, which supports the importance of movement to the healthy development of a young child. Occupational therapist Loren Shales (2011) argues that in order for students to learn how to sit still, they first have to develop the vestibular nerve, which can only be done through movement.

Data collection technique 2: educator survey. A survey taken by educators provides background knowledge on personal feelings about how long recess is, reasons why students should have a recess during the day, and whether they have observed whether recess effects behavior in their own classroom. The feedback provided gives a more complete picture than my narrow view serving only kindergarten students.

Surveys are a quick way to gather information. They require very little time or effort from the population being asked to complete the survey, therefore promoting more participants being willing to complete one. I created my teacher survey using surveymonkey.com, which is a free website that is both creator and participant friendly.

Twenty-five coworkers completed the voluntary survey; seven kindergarten teachers, six 1st grade teachers, seven 2nd grade teachers, and five 3rd grade teachers. In response to the survey question, “Do you believe the amount of recess has an effect on student behavior?” the response was unanimous; 100% answered Yes.

Figure 1: Educator Perception On Amount of Recess



The question listed above, “How do you feel about the 25-minute recess your students currently receive?” also gave the option for teachers to comment on their answer. Eighteen educators, or 72% of those surveyed, answered that 25 minutes was too short, providing comments such as, “The more activity one has, the better the school

day!” and “I see so many behaviors in the afternoon and I can tell these kiddos just need to move their bodies more.” It can also be noted that many of the teachers who supported more recess during the day gave the preference that it should be divided into a mid-day recess and a short additional recess during the morning or afternoon, not a longer amount of time added to the 25-minute recess that currently exists.

The 24% who answered that this length was just right gave reasons such as, “Any longer and the students would get too wound up. Any shorter and the students would not have a chance to engage in appropriate social interaction and move their bodies.” The one teacher who answered that 25 minutes of recess was too long stated that her reasoning was due to there not being enough supervision on the playground.

Another one of the survey questions addressed the recent discussion in my district to make recess more adult-led with cooperative games and activities sometimes taking the place of unstructured play time. The majority, at 76%, of survey participants responded that they felt recess was a time for students to engage in unstructured free play, which corresponds with the section in the Chapter Two literature review on International Norms and Unstructured Play. In addition, when asked what the role of the adult supervisor should be at recess, seven participants responded that they should take a hands-off approach, only stepping in when safety was a concern. Eighteen answered that the adult should be somewhere between completely hands-off and hands-on adult-led activities. No participants answered that it should be mostly adult-led activities.

I ended the survey with an open-ended question, “In your opinion, what are the most important reasons for primary students to have recess during the day?” Many of the

responses listed were similar, so I have compiled the data into a chart to show the reasons given.

Figure 2: Reasons Primary Students Should Have Recess

Problem-solving skills and real-life situations	Build social skills	Release energy	Break for their brain	Creative play	Fresh air	Physical skills (balance, coordination, kinesthetic awareness)	Friendships	Learn natural consequences
5	15	14	9	5	6	6	7	1

One observation that stuck out while reviewing these numbers is the overwhelming amount of support for recess as a means of building social skills in addition to releasing energy. I will expand on this further in the next section regarding observation.

Data collection technique 3: administrator interview. My principal was immediately supportive of my intervention plan, even though it took away some instructional time for the kindergarteners. In addition to getting a feel for how K-3 teachers felt about the relationship between recess and behavior, I wanted to collect the thoughts from an administrator's perspective as well. Below are the questions I asked and the answers my principal gave.

Question 1: Do you believe the amount of recess a student gets has an effect on their behavior? If so, how?

Answer: I do believe that students benefit from recess, and if recess provides opportunities for movement (including an increased heart rate) and positive social interaction I think additional recess beyond the typical time spent in recess over the lunch hour is beneficial. When recess is a positive social experience and provides appropriate levels of exercise, I believe it can have a positive impact on learning. Many children

don't get enough movement throughout the day; others may find recess to be stressful related to worrisome social experiences. If we can rectify these concerns, recess can lead to improved academic, social, and emotional growth.

Question 2: If it were solely up to you, would you like to see more recess, less recess, or keep it the same? What is your main reason for feeling this way?

Answer: I would like to see more recess, accompanied by teaching and coaching so it is a positive experience for our students. More recess that includes students feeling isolated, frustrated, or without friends would not be positive for children. I am not suggesting completely structured recess, but a balance of free play and structured games in order to support exercise and the development of any lagging social skills.

Question 3: Has your opinion about recess changed at all between your role as a classroom teacher and your role as a principal?

Answer: I actually believe more in the value of recess now than when I was a teacher. I left the classroom in 2003, and I don't believe I was personally aware of the research related to exercise supporting academic learning and overall success at school.

One piece that was evident after hearing my principal's reflections was her obvious concern for those who are falling between the cracks in terms of having friends and feeling accepted. I can see why structured games and activities would help those students who have not acquired the skills needed to make friends. While free play might feel too intimidating, those students who feel isolated or alienated can be part of a team and potentially develop some friendships under the safety of a more structured outside experience.

In hearing my administrator's concerns about students who are not able to adapt to the social situations they are confronted with, I am reminded of the section in Chapter Two titled Overprotective Parents. Child psychologist David Andereg (2004) speaks of parents allowing their child to tolerate moderate amounts of difficulty so they can learn that nothing bad happens. I believe that we need to find a healthy balance of encouraging students who are psychologically fragile or socially immature to have experience taking risks and acquiring soft skills, but are also offered support as needed. Since an administrator can see the bigger picture, how all the pieces of a school function together, this was one factor that many classroom teachers overlooked.

Data collection technique 4: observation. Observation played a large role in formative data before and during my recess intervention. The timing of my action research occurred at the end of September, so although kindergarten students had been in school a few weeks, they were still learning procedures and classroom expectations. It may be noted that even early on in the school year, this group of students had no major behavior concerns. Therefore, the data collected was even more accurate because there were not large behavior incidents occurring and setting off the "bandwagon" effect where other students join in the undesired behavior. All behavior exhibited by students was authentic.

In order to determine whether the amount of recess effected student behavior with my own students, I needed to collect baseline data. I developed a chart on which I would tally five target behaviors for the 10 minutes before and 10 minutes following the mid-day recess. I collected data for two weeks with no change in the regular schedule. Students were not aware that they were being monitored for these behaviors.

In my anecdotal notes, I commented that when students are given the time to work on social skills on their own during free play, there is a decrease in behavior that spurs from negative peer interactions. Without that time to practice social norms outside, it can create behaviors inside because the student does not know how to compromise, ask for what they need, or use their words to name an issue, and instead respond with their body in an inappropriate manner.

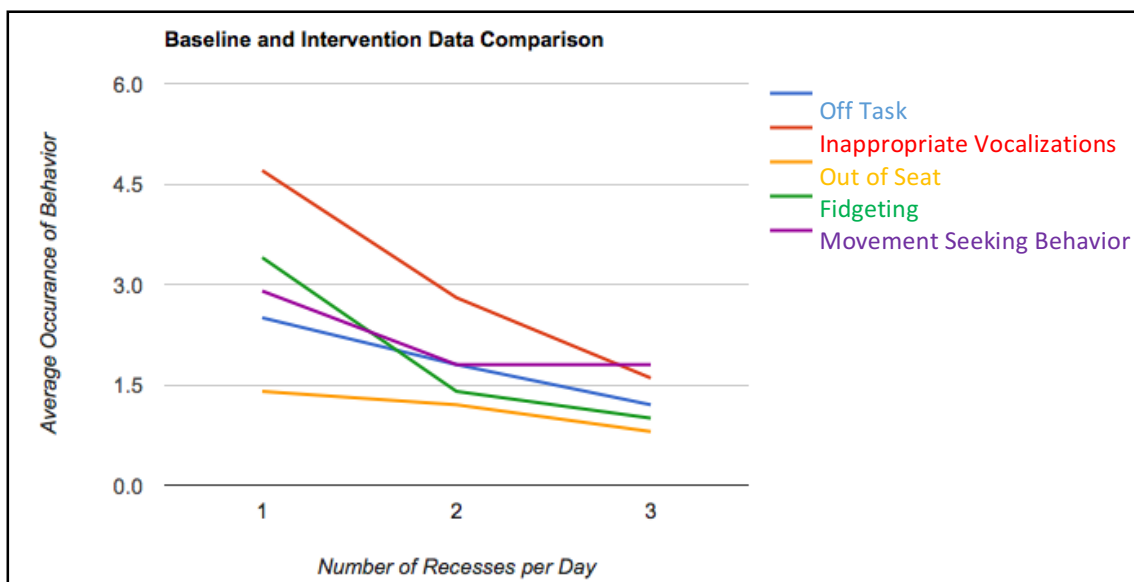
In the first couple weeks of kindergarten, there is a lot of trouble-shooting done by the teacher to prevent situations from escalating. There are students who immediately resort to pushing, shoving, hitting, or screaming to show their frustration with a situation instead of addressing it appropriately. Extra recess time allowed the students to have additional opportunities to work out problems on their own, practice negotiation skills and compromise, as well as develop respect for others. They spent their time outside forming new friendship and deepening the friendships they already had. When a disagreement did arise, they would attempt to work it out because they wanted to stay friends.

I noticed toward the end of my action research that students were taking the social skills learning on the playground and applying them inside the classroom walls. One student who was known for crying to get her way began to use her words and ask for what she wanted. Another student whose first instinct was to push or hit, could be seen practicing self-control in moments of frustration. Were they perfect? Of course not. But additional time outside working on becoming better friends to one another allowed them to carry over what they had learned and apply it to their work time in the classroom as well. These findings echo what Ramstetter, Murray, and Garner (2010) talk about in the

sectioned titled Play is Child's Work in the Chapter Two review of the literature. They insist that the unstructured space encourages students to build their communication, negotiation, cooperation, and problem-solving skills. In addition, in the section titled Building Social and Physical Competence, Bossenmeyer (2013) and Haugjord (2005) found that recess is the optimal time for students to learn how to resolve conflicts and practice necessary social skills.

The data collected through a tally chart shows a steady decrease in the target behaviors between the start and end of the research, as shown in Figure 2. The most dramatic shift was the decrease of inappropriate vocalizations, shown by the red line, decreasing from an average of 4.7 times during twenty minutes of observation a day to only 1.6 per day. Movement Seeking Behavior had a drop when one additional recess was added, but did not decrease further with the addition of a third recess.

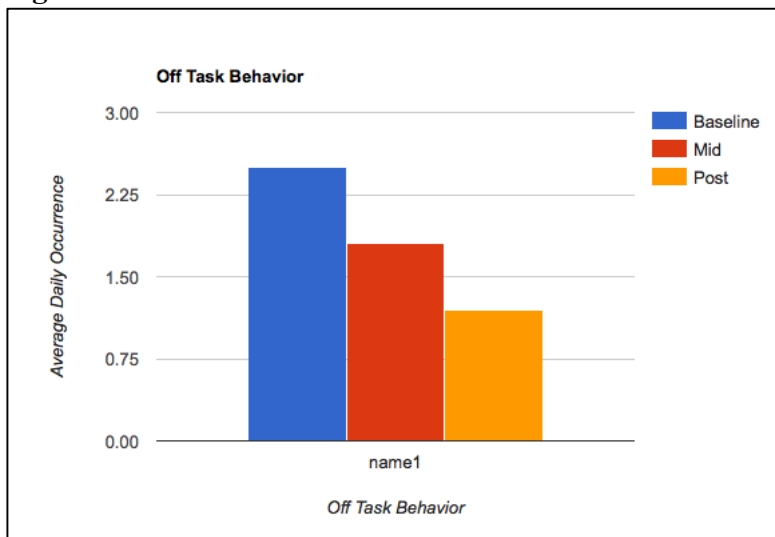
Figure 3: Baseline and Intervention Data Comparison of All Target Behaviors



In addition to showing all five target behaviors over the course of the four-week study, I will further illustrate the decrease in behaviors by comparing each specific

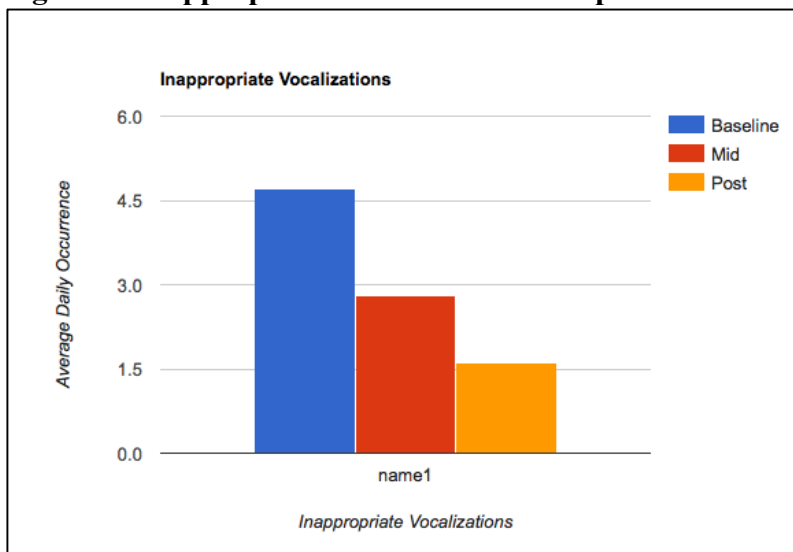
behavior with pre- and post-intervention data. To be clear, baseline data is the data compiled during the first two weeks with the normal mid-day recess and no change to the regular schedule, shown as the blue bar in Figure 3. The red bar, labeled “mid,” stands for the third week of the research, when the intervention of a short morning recess was added along with the mid-day recess. The orange bar, labeled “post,” illustrates the data from the final week of the intervention, when students were receiving a short morning recess, lunch recess, and an afternoon recess.

Figure 4: Off-Task Behavior



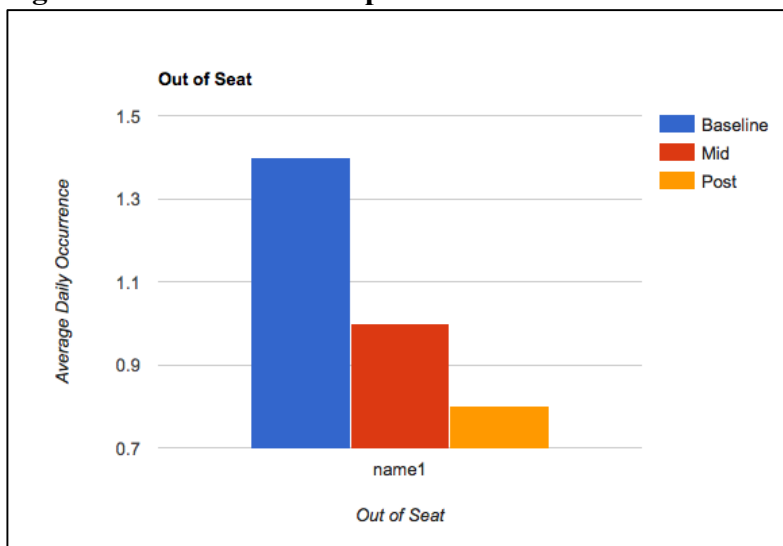
Off Task Behavior, defined as student engaging in any task other than the expected or assigned task, shows a steady decline over the course of the intervention. As many teachers speculated in the educator survey, after students were able to get energy out and give their mind a break from academics during their recess time, they were better able to focus and attend to their work when they were back in the classroom.

Figure 5: Inappropriate Vocalizations Comparison



Inappropriate Vocalizations, defined as any audible vocalization when the expectation is silence, shows the most improvement over the course of the intervention. The amount of students speaking or making noise out of turn was cut by almost a third between weeks 1 and 4. Students were able to yell, scream, whistle, and sing while outside, therefore showing better self-control with their voice inside.

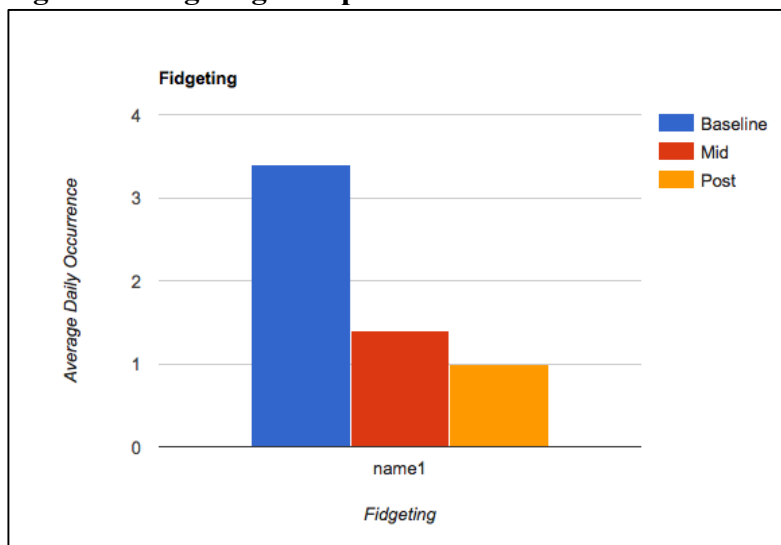
Figure 6: Out of Seat Comparison



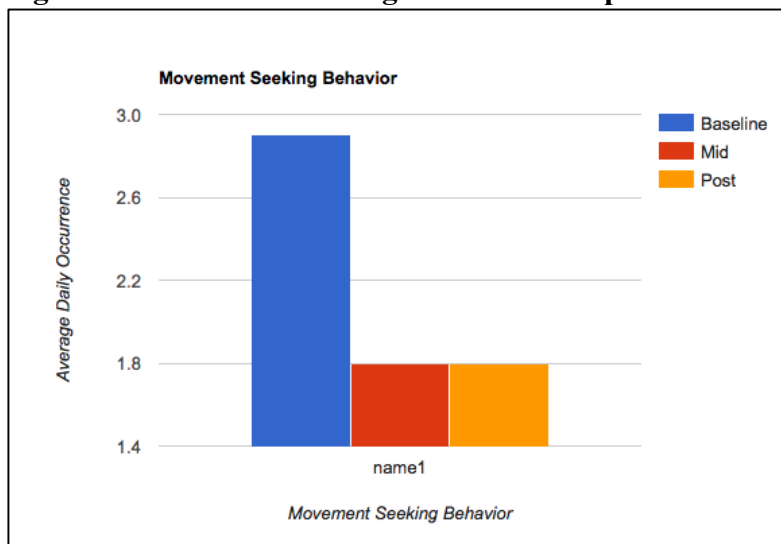
Out of Seat, defined as students leaving his or her seat without first gaining teacher permission, also shows a decrease over the course of the intervention. It may be

noted that of all five target behaviors, students getting out of their seat occurred significantly less frequently than the other behaviors even in the initial baseline data collection process. I also believe this behavior declined to .8 a day because students had been in school a little longer and were understanding the classroom expectations. We have a classroom rule that states “Raise your hand to speak or stand,” which is recited each morning. At the beginning of the research project, students were still getting the hang of all the rules and procedures. By the end of the research project, they had been in school almost an additional month, therefore understanding the expected behavior when it comes to leaving their seat.

Figure 7: Fidgeting Comparison



The data shows that fidgeting, defined as making a small movement such as moving restlessly, wriggle, squirm, or shuffle, was cut by over half from baseline data to mid-intervention data. After inappropriate vocalizations, fidgeting occurred more frequently during the initial weeks of data collection and shows the largest improvement between the start and end of the research.

Figure 8: Movement Seeking Behavior Comparison

There was a large drop in movement seeking behaviors, defined as rocking, bouncing, tapping, spinning, crawling, or chewing on a writing utensil. These behaviors were only displayed by a few students, and it can be noted that these were always the same students. It must also be noted that for one student in particular who displayed his movement seeking behavior in the form of chewing on his pencil, folder, iPad, or any material in front of him, we implemented an additional intervention to curb this behavior. After speaking with his parents at conferences, it was decided that his need for an increase of proprioceptive input to the mouth could be met with gum used as a tool. This could explain why there was no additional improvement between week 3 and 4.

These results support the themes explored in the chapter two literature review. Child psychologist David Elkind advocates for more play because the side effects of improved intellectual skills, mental processing, acquisition of soft skills, and control over their body (Marano, 2004). My results show that by allowing students to move more and develop these soft skills while out at recess, they were in turn better able to control their bodies inside the classroom.

Conclusion

The data I collected and explained in this chapter closely align with the literature presented in Chapter Two. The qualitative/quantitative question was designed to examine the connection between the amount of recess and student behavior. After data were coded and an interpretive analysis was conducted, a positive connection was found indicating that recess has a positive effect on classroom behavior. Results indicate that the long-term effects of providing recess may outweigh the short-term effects of reducing recess. Students were thrilled to be given additional recesses, although they were unaware of the reasons behind it.

It is hard to argue that additional recess minutes should not be added to the school day after seeing that all five target behaviors decreased in frequency over the course of the four-week intervention. The data collected is tangible evidence that students are able to display more self-control when given more opportunities for movement during the day. Students were also more successful at showing soft skills such as cooperation, problem-solving, negotiation, compromising, and forming new friendships. After practicing real life situations on the playground during creative play, students could then transfer the learned skills into their day to day dilemmas in the classroom, reducing the behavior that can emerge from frustration and lack of self-help skills.

In Chapter Five, I will reflect on my essential question: How does the amount of recess impact student behavior in the kindergarten classroom? I will discuss limitations of my study, review major points of the literature, give recommendations for change specific to educators, and reflect on improvements that could be made for future study.

CHAPTER 5

Conclusions

Introduction

The purpose of this capstone was to answer the question: How does the amount of recess impact student behavior in the kindergarten classroom? To answer this question, I reviewed the research done by others on the topic, detailed in Chapter Two, designed a plan for my action research, shared in Chapter Three, and explained the results of my data collection in Chapter Four. In this chapter, I will share my reflections. I will outline the major learnings through the literature review and connect it with my own data collection. I will name the limitations of the study and then take time to give recommendations for change.

Reflections of the Researcher

Although I am passionate about the subject of my capstone, I was beyond overwhelmed and intimidated by the daunting task of writing what has turned out to be the largest paper of my life. I wasn't sure that I was capable of completing such a task. I have learned much along the way, both about my research subject but also about myself as a student, researcher, and teacher.

I have learned about the scientific research process. I have taken small steps in order to accomplish one huge undertaking. By compartmentalizing the capstone, I was able to work away at pieces that were more manageable in my mind, producing each

section and ending up with a finished chapter. I can transfer this into the classroom by remembering that students need to have activities and expectations broken down into very manageable pieces instead of one intimidating task. I discovered that I actually enjoyed doing research, which I did not know about myself initially. I found that writing the literature review was the most enjoyable part of the capstone process for me, learning from others and discovering additional aspects of my research subject that I had not thought of before.

Although I may not be at a school district that allows more than one recess per day, I can remember how essential movement is to helping students in a variety of ways. Movement provides a break from academic learning, allows students to express themselves, work on social skills, and so many other benefits.

Limitations of the Study

The study yielded favorable results, but there are limitations to my results as well. The study was conducted in the Fall of 2016, and the timeframe was only four weeks long. Because many students were still learning the expectations of school for the very first time, it was hard to know whether some of the behaviors were due to a need for movement or purely students never being asked to control their bodies before. More time conducting the study, or conducting the study later in the school year when the initial expectations had been learned, would have been beneficial.

Connection to the Literature

I gained so much knowledge during the literature review portion of the capstone. I found myself drawn in to article after article, reading about the many reasons why recess is beneficial for students. When I attempted to find some evidence in the other

direction, it was near impossible. Although there are opinions as to why recess should be limited or cut, there is no clear evidence that can justify why recess is not good for children.

It would be impossible to summarize all that I learned to a few thoughts, but some major points to reiterate:

- For those who devalue recess because they feel play is a waste of time that could be more efficiently spent, there is no research evidence to support this. However, there are massive amounts of empirical support for the argument that recess is good for children, including physical, social, and academic benefits (Pellegrini, 2008, p.10).
- Children today can be thought of as over-monitored and over-sheltered. They are being robbed of the opportunity to develop important skills when adults jump in to troubleshoot at the first sign of a struggle (Marano, 2008, p.3).
- Physical activity is beneficial to the psychological and social realm, promoting brain structure, brain function, and cognition; if we want to boost academic success, they should have access to playgrounds (Kaplan, 2016).

The results of my action research also supported these major points. When students were able to have a break from their learning, they were able to come back with improved focus and greater stamina. Similar to how we can grow tired and no longer pay close attention on a long drive, but after a stop for a break, we return to the road with increased attention; students are also able to improve their academic work ethic after a quick break to re-fuel.

I often find that students come to school expecting me to help them with the most insignificant of problems. They have never been taught or told to think for themselves and work it out. Recess provides a chance for students to do this in a safe environment where they won't be judged for making mistakes.

Implications for Change

This research clearly demonstrates that student behavior benefits from additional recess minutes during the school day. In today's world of ever-increasing expectations and demands, I can appreciate how easy it is to say let's continue to do things the way we have always done it. However, if we are to grow with the times, then we must realize that our students are still kids underneath it all, and although we continue to expect more and more of them, we have to balance that by allowing extra time to engage in gross motor activities, imaginative play, and social situations.

Educator recommendations. After conducting my research, I can conclude that recess directly effects student behavior in the classroom. Therefore, educators need to keep that at the forefront of their mind each and every day. Instead of becoming frustrated or annoyed when students are displaying undesired behaviors such as being off-task, making inappropriate vocalizations, fidgeting, getting out of their seat, or displaying movement-seeking behaviors, let us instead turn to ourselves and ask what we can do to curb these behaviors. Perhaps there is flexibility in the schedule and a short additional recess can be added in. If not, perhaps more movement breaks can be incorporated during transition times. The task itself could include a movement aspect. These are all ways that we as educators can give students the movement they desire, and will be repaid by the attention and focus they give us during academic times.

Future Research

To gain even more of an understanding of how recess affects behavior in the classroom, there are additional ways that this study would be improved. First, the study could be conducted over a much longer amount of time, at least a few months. This would disperse all possible excuses for behavior, such as Daylight Savings Time, the excitement of holidays approaching, coming back from breaks, etc. In addition, I would recommend to begin the study later in the school year. Fall is hard enough for both teachers and kindergarteners, with students who have never been to school before attempting to learn all the routines and procedures of a full school day.

Another recommendation would be to take note of which time during the instruction schedule seems to be the most behavior-ridden, and then use that time as the observation. This way, the educator can see whether there is a substantial difference after the recess intervention is implemented.

Plan for Communicating Results

The results of my research have convinced me how crucial movement is, particularly unstructured recess, to the development of a child. I have been able to see the numerous benefits each child receives from additional recess minutes.

I plan to share this capstone with my building principal with the hope that perhaps there is a way to find an additional time slot for each grade level to utilize the playground each day. In addition, I will continue to give the students in my classroom added time outside whenever possible, including replacing the play time at the end of the day with an outdoor play time instead.

Conclusion

The literature detailed in this paper, along with my own collection of data, support the idea that the amount of recess does impact student behavior in the primary classroom. Writing this Capstone is something I am proud of, and although at times I felt as though the process would never end, I have gained invaluable lessons along the way. My passion for giving students what they need lead me to asking the question: How does the amount of recess impact student behavior in the primary classroom? Though this Capstone process I have learned the enormous benefits of recess. Students are receiving many health benefits, including physical, mental, and emotional components. Children are building friendships, social skills, and countless other qualities that will help them succeed later in life. In addition, students are allowed to just be children, enjoying the fresh air, creativity, and endless possibility that the great outdoors have to offer.

APPENDIX A

Sample Parent Consent Letter

Dear Parent or Guardian,

In addition to being your child's kindergarten teacher, I am also working on an advanced degree in literacy education at Hamline University, St. Paul, Minnesota. As part of my graduate work, I plan to conduct research in my classroom from September 19 - October 14, 2016. The purpose of this letter is to ask for your permission for your child to take part in my research. This research will be catalogued in Hamline's Bush Library Digital Commons, a searchable electronic repository and that it may be published or used in other ways.

I want to study how recess effects the behavior of kindergarteners. I plan to take observational notes with no changes made to the regular schedule of the day with one recess mid-day, then implement short, additional recesses in the morning and afternoon. I will use a tally sheet and take notes on student behavior.

There is little to no risk for your child to participate. All results will be confidential and anonymous. I will not record personal information on individual students such as names or characteristics. Participation is voluntary and you may decide at any time and without negative consequences that information about your child will not be included in the capstone.

I have received approval for my study from the School of Education at Hamline University and from the principal of our school.

If you agree that your child MAY participate, keep this page. Fill out the duplicate agreement to participate on page two and return to me in your child's folder or copy the form in an email to me no later than September 16. If you have any questions, please email or call me at school.

Sincerely,
Theresa Phillippo

Informed Consent to Participate in Action Research Study
Keep this full page for your records.

I have received your letter about the study you plan to conduct in which you will be observing students' behavior in the classroom. I understand there is little to no risk involved for my child, that his/her confidentiality will be protected, and that I may withdraw or my child may withdraw from the project at any time.

Parent/Guardian Signature

Date

Participant copy

Informed Consent to Participate in Action Research Study
RETURN this portion to Mrs. Phillippo

I have received your letter about the study you plan to conduct in which you will be observing students' behavior in the classroom. I understand there is little to no risk involved for my child, that his/her confidentiality will be protected, and that I may withdraw or my child may withdraw from the project at any time.

Parent/Guardian Signature

Date

Researcher copy

APPENDIX B

Sample Principal Consent Letter

Dear XXXX XXXXXX,

As you know, I am currently working on an advanced degree in literacy education at Hamline University, St. Paul, Minnesota. As part of my graduate work, I plan to conduct research in my classroom from September 19-October 14, 2016. The purpose of this letter is to ask for your permission to implement an action research plan in my classroom. This research will be catalogued in Hamline's Bush Library Digital Commons, a searchable electronic repository and that it may be published or used in other ways.

I want to study how the amount of recess effects the behavior of students. I plan to take observational notes with no changes made to the regular schedule of the day for two weeks. The next week I will then add a short fifteen-minute afternoon recess in addition to the mid-day recess, and the final week will have a short morning recess, regular mid-day recess, and short afternoon recess. I will use a tally sheet and take notes on student behavior.

Families will be informed and will be given a consent form for their child to participate as soon as the 2016-17 school year begins. All results will be confidential and anonymous. I will not record personal information on individual students such as names or characteristics. Participation is voluntary and families may decide at any time and without negative consequences that information about your child will not be included in the capstone.

I have received approval for my study from the School of Education at Hamline University.

If you give your permission for me to conduct this research in my classroom, please sign your name below.

Sincerely,
Theresa Phillippo

Informed Consent to Conduct Action Research Study

I have reviewed your letter about the study you plan to conduct in which you will be observing students' behavior in the classroom from September 19 - October 14, 2016 and give my permission to implement this research plan.

Principal Signature

Date

APPENDIX C

Educator Survey

Educator Survey

Directions: Please circle your answer below each question. Fill in your opinion for the final question.

1. What grade do you teach?

Kindergarten 1st Grade 2nd Grade 3rd Grade

2. Do you believe the amount of recess has an effect on student behavior?

Yes Unsure No

3. How do you feel about your student's 25 minutes of recess a day?

Too short Just right Too long

4. What is your belief about increasing the amount of recess provided throughout the school day?

I would support it Undecided I am against it

5. What are your thoughts on the format of recess?

Should be unstructured Undecided Should be adult-led

6. What is your belief about the role of the adult supervisors at recess?

Hands-off, only stepping in if safety is concerned In-between Hands-on, leading activities and solving any issues

7. In your opinion, what are the most important reasons for primary students to have recess during their school day?

APPENDIX D

Administrator Interview

Administrator Interview Questions

Question 1: Do you believe the amount of recess a student gets has an effect on their behavior? If so, how?

Question 2: If it were solely up to you, would you like to see more recess, less recess, or keep it the same? What is your main reason for feeling this way?

Question 3: Has your opinion about recess changed at all between your role as a classroom teacher and your role as a principal?

APPENDIX E
Data Collection Sheet

DATE	Total minutes of recess	Off task	Inappropriate vocalizations	Out of Seat	Fidgeting	Movement Seeking	Attendance #/19 students
9/19	25	2	5	1	3	4	19/19
9/20	25	4	6	2	5	3	19/19
9/21	25	3	4	2	6	2	19/19
9/22	25	1	3	1	2	4	19/19
9/23	25	2	6	3	3	3	20/20 (new student added)
9/26	25	3	7	1	2	2	20/20
9/27	25	2	5	1	3	2	20/20
9/28	25	2	4	0	3	2	21/21 (new student added)
9/29	25	4	4	1	4	3	21/21
9/30	25	2	3	2	3	4	21/21
10/3	40	2	5	0	2	1	19/21 two boys gone
10/4	40	1	3	1	1	3	21/21
10/5	40	2	2	1	2	2	20/21 one boy gone
10/6	40	3	1	2	1	1	20/21 one boy gone
10/7	40	1	3	1	1	2	20/21 one boy gone
10/10	55	1	2	1	2	3	21/21
10/11	55	1	2	1	1	1	21/21
10/12	55	2	1	1	1	2	21/21
10/13	55	1	2	0	1	2	21/21
10/14	55	1	1	1	0	1	19/21 one boy and one girl gone

APPENDIX F

Behavior Terms Defined

Behavior Term Definitions

Off Task: student engages in any task other than the expected or assigned task

Inappropriate Vocalizations: any audible vocalization when the expectation is silence

Out of Seat: student leaves his or her seat without first gaining teacher permission

Fidgeting: making small movements such as moving restlessly, wriggle, squirm, shuffle

Movement Seeking Behaviors: include rocking, bouncing, tapping, spinning, crawling, chewing on writing utensil

APPENDIX G

Baseline Data

Minutes of data collection	20/day
Total minutes of recess a day	25 minutes
Number of students present out of 19	19 on 4 days
Number of students present out of 20 (new student joined class)	20 on 3 days
Number of students present out of 21 (another new student joined)	21 on 3 days

Behaviors Tallied:

Off task (average)	2.5/day
Inappropriate vocalizations (average)	4.7/day
Out of seat (average)	1.4/day
Fidgeting (average)	3.4/day
Movement seeking behaviors (average)	2.9/day

APPENDIX H
Intervention Data

Minutes of data collection	20/day
Total minutes of recess per day	40 minutes
Number of students present out of 21	21 on 1 day
	20 on 3 days
	19 on 1 day

Behaviors Tallied:

Off task (average)	1.8/day
Inappropriate vocalizations (average)	2.8/day
Out of seat (average)	1/day
Fidgeting (average)	1.4/day
Movement seeking behaviors (average)	1.8/day

Minutes of data collection	20/day
Total minutes of recess per day	55 minutes
Number of students present out of 21	21 on 4 days 19 on 1 day

Behaviors Tallied:

Off task (average)	1.2/day
Inappropriate vocalizations (average)	1.6/day
Out of seat (average)	0.8/day
Fidgeting (average)	1/day
Movement seeking behaviors (average)	1.8/day

APPENDIX I

Greenspan's Developmental Milestones

Table 1

Greenspan's Six Milestones

<i>Developmental Milestone</i>	<i>Ability</i>
Self-Regulation and Interest In the World	The dual ability to take an interest in the sights, sounds, and sensations of the world and to calm oneself down.
Intimacy	The ability to engage in relationships with other people.
Two-Way Communication	The ability to engage in two-way communication.
Complex Communication	The ability to create complex gestures, to string together a series of actions into an elaborate and deliberate problem-solving sequence.
Emotional Ideas	The ability to create ideas.
Emotional Thinking	The ability to build bridges between ideas to make them reality-based and logical.

Source: (adapted from Greenspan, Wieder & Simons, 1998, p.3 and Chapter 4)

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