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MOVEMENT AND MINDFULNESS IN THE KINDERGARTEN CLASSROOM

by

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

Hamline University

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CHAPTER ONE

INTRODUCTION

In my five years of teaching, I have taught in three schools with three vastly different settings. In my first school, many of the students were living below the poverty line, many were homeless, and many had gone through unimaginable circumstances already in their young lives. At my second school, the majority of my students were refugees that were new to the United States from the Middle East or Eastern Africa. While learning academics, these students were also learning English through full immersion. In my current school, many of my students are fortunate enough to have never experienced extreme poverty or life as a refugee. However, many of these students are met with unrealistic expectations, even at the age of five, with parents often asking me when their child can be assessed for the Gifted and Talented Program.

Despite the differences in my school settings, I have noticed one thing that is consistent among my young students. When students enter school in kindergarten, they are expected to learn how to navigate the academic and social world for the first time – learning how to read, write, and be a kind friend. At school, students are over-stimulated and exhausted by the end of the day, as they spend the entire day participating in rigorous academic tasks, and only a short, fifteen-minute session of free play time at the end of the day. As a result, I notice many students experience difficulty focusing and are restless and distracted from several hours of sitting. In my experiences, between the trauma that many students endure in their home lives and the high expectations and demands of school, more students are faced with mental health issues and exhibit behavioral concerns. My observations of my students in all three of my school settings have led me

to my research question: *How will intentional movement and mindfulness opportunities in a kindergarten classroom impact the classroom environment, student behavior, and student achievement?*

Rationale

Kindergarten is a year of many transitions. For some students, this is their very first time in school. They may be used to daily naps, only having to share their parents' attention with their siblings and being able to play and run around for a large portion of the day. By the end of kindergarten, students are expected to know how to read, to understand and retell stories (Minnesota Department of Education, 2010, pp. 14-15), how to count to 100, how to solve story problems using numbers up to twenty (Minnesota Department of Education, 2007, pp. 3-4), and how to write words and sentences to express their thoughts and ideas (Minnesota Department of Education, 2010, pp. 26-27), among many other academic goals. In addition to academics, the school I teach at has identified many social-emotional goals for students. Examples of social emotional skills in kindergarten are that students should be able to share with their classmates, respectfully problem solve disagreements with classmates, be responsible for their actions and follow rules, share their teacher's attention with twenty other children, and to maintain stamina with focusing their attention for long periods of time.

With all that is demanded of students academically, less time is spent for students to be able to move, to play, to be creative, and to focus on their social-emotional needs. The reality of kindergarten today is that kindergarteners experience more pressure and stress to excel and less time and resources to learn how to cope with those stressors. In fact, McEwen and Wingfield (2003) discovered that "Chronic stress is a very real issue at

schools for both staff and students” (as cited in Jensen, 2008, p. 411). They stated that “Homeostasis is no longer a guaranteed ‘set point’” and discuss that there can be a revised metabolic state seen in students called “allostasis” which is “an adjusted new baseline for stress that is evident in the brains of those with anxiety and stress disorders” (McEwen & Wingfield, 2003 as cited in Jensen, 2008, p. 411). According to McEwen and Wingfield (2003), this allostatic baseline is becoming more common and has “serious health, learning, and behavior risks” which “affects attendance, memory, social skills, and cognition” (as cited in Jensen, 2008, p. 411). All of these above stated risks and effects of chronic stress play important roles in the classroom and can be huge determining factors in how successfully students are able to function in the classroom. It is clear that if this is becoming a new norm in many schools, that something must be done to help students overcome these struggles and to help them become more successful.

Context

The benefits of yoga and mindfulness are numerous, but many known benefits include increased relaxation during stressful situations, decreased depression and negativity, and improved energy (“Benefits of Yoga”, 2016). Additionally, a study done by the University of Illinois found that participants were able to better focus, “processed information more quickly”, and “held more pieces of information whenever they were practicing their breathing exercises” (as cited in “Benefits of Yoga”, 2016). My interest in yoga and mindfulness in the classroom stems from my own yoga practice, which has caused me to experience many of these benefits first-hand. About three years ago, my best friend convinced me to sign up for a free week of yoga at a local yoga studio. Prior to this, I had watched her quickly become obsessed with yoga and had listened to her

excitedly describe how much it has enriched her life and improved her physical health. Although I could see how happy she was and could sense the change in her levels of stress and anxiety, I was skeptical for myself. Reluctantly I signed up for my free week, feeling bored of my current exercise routine, fully expecting that I would attend class a few times during my week and then move on. To my surprise, I fell in love with yoga during that very first class. Throughout my free week I attended every single day, sometimes even going twice in one day. I was hooked on the challenge it required of both my mind and my body and left me feeling refreshed when class let out.

When my free week ended, there was no hesitation in signing up for an unlimited membership and I was even able to convince a few more of my friends to try a free week and one of them to also sign up for an unlimited membership. Since that point, I started regularly attending class 5-6 times per week. At around the same time that I was beginning to regularly practice yoga, I was beginning my first teaching job. The same summer that I signed up for an unlimited membership, I also signed a contract to teach first grade at a charter school in the Twin Cities. This small K-5 school has one teacher per grade level, 98% of the students qualify for Free and Reduced Lunch, and 15% of students are homeless. That fall, I also found out the school was considered underachieving and had just received “priority” status from the Minnesota Department of Education. To say I had my work cut out for me was an understatement. In that first year of teaching I learned a lot about the demands of being teacher and about the hardships that many of these young students endure on a daily basis. Many of my students were living with mental health issues, which presented itself as behavior problems at school.

One of the things that helped me remain calm and helped manage my stress throughout my two years at this school was a regular yoga practice after school.

After two years, I learned that the school I was teaching at was going through some financial troubles and still had not made sufficient progress to start to move away from being at a “priority” status. With fear that the doors would be closing, I decided to look for a new job. My job hunt that summer led me to a new urban charter school, which was only beginning its second year of school. The director and founder of the school opened the school with her twin daughters, adopted from Ethiopia, in mind. This charter school was opened because the founder thought that minority students in many mainstream public schools were not being appropriately served. She wanted to open a school where minority students, including her own two daughters, would be able to reach their greatest potential and receive a quality education. Similar to my previous school, 91% of these students qualified for Free and Reduced Lunch. In addition to living below the poverty line, about 90% of these students were refugee students from the Middle East or Eastern African countries and over 60% of the school is learning English as a second language. Being in its early stages with many new-to-country students, this school was also considered an underachieving school on standardized state assessments. Despite knowing that I would be faced with many unique challenges teaching at this school, I felt inspired by the social justice mission established by the school’s founder and director. My thoughts about a potentially stressful year were also confirmed when in my interview, the director asked me how I manage highly stressful situations. When I answered her question with, “Yoga” she excitedly responded, “Oh, good!” Once again, my predictions of a challenging year were confirmed as the school year started. I quickly learned about

all the challenges that come with a brand-new school and about the trauma and mental health that my young students were suffering from as their families navigated learning a new language, living in poverty, and living in a new country. Once again yoga was a constant in my life that allowed for stress management and self-care.

With similar financial troubles to my first school and leadership changes causing delays in teacher contracts, once again I decided to leave my job and begin the job search. That spring I accepted a position at my current school, in a large public school district in the west metro as a kindergarten teacher. The demographics, state standardized test scores, and level of stability of the district at my new school were vastly different than my two previous teaching jobs. Considering how different this school was compared to my two previous schools, I went into the new school year with the assumption that there would be far fewer mental health issues and behavior problems. The majority of these students were fortunate enough to be living in upper-middle-class or wealthy homes and most had not experienced traumas such as not having enough food, not needing to establish a new life as a refugee in a new country, or not needing to move from one homeless shelter to another.

The new reality of my current classroom is that students are met with very high, sometimes unrealistic, expectations. Students at my current school are fortunate enough to be surrounded by both teachers and parents who challenge them to excel and do their absolute best every day. With these expectations brings challenging demands for students' focus and attention throughout the school day. At just five and six years old, my kindergarteners are expected to sit with prolonged focus and be attentive listeners for the majority of the day, with only a 25-minute recess and 15 minutes of free play each day,

as well as 30 minutes of Physical Education twice per week. With only a short period to get up and move, explore, and play, my kindergarten students easily become overwhelmed from the high expectations of school and the hours of sitting still. I noticed that students are easily distracted, often stare into space and day dream, and fidget throughout the day. Many of my students were also showing signs of anxiety over test taking and worry about doing everything perfectly. If not done perfectly, this resulted in breaking down if they are unable to read or spell a word. My personal experience receiving the benefits of yoga, my experiences in my five years of teaching and my observations in my three different school settings have led me to research question: *How will intentional movement and mindfulness opportunities in a kindergarten classroom impact the classroom environment, student behavior, and student achievement?*

Summary

In my five years of teaching, I have seen that many students experience different forms of mental health concerns, difficulty focusing, limited opportunities for movement, and insufficient emphasis on providing students with tools to help them cope with the demands of life and school. The demands and expectations required of kindergarten students causes inattentiveness, distractibility, and restlessness. My own experience with a regular yoga practice has provided me with an outlet for stress relief and given me an enjoyable form of exercise. The benefits that I have received from yoga make me wonder: *How will intentional movement and mindfulness opportunities in a kindergarten classroom impact the classroom environment, student behavior, and student achievement?*

In Chapter Two, I will outline research on how movement and mindfulness impact the brain, classroom environment, mental health, and student learning. I will also research elementary schools and classrooms that have implemented regular movement and mindfulness into their classrooms. Additionally, I will research the results programs that have been used in schools to increase movement and teach mindfulness to determine components that are most beneficial to students which I could use as inspiration to create a resource for my own and other kindergarten classrooms.

CHAPTER TWO

LITERATURE REVIEW

Introduction

In my five years of teaching, I have taught at three schools, each very different from one another. Despite the vast differences among the demographics at each of these schools, I have seen some commonalities among many students. Regardless of socio-economic status, location, age, or ethnicity, my experience has shown me that many students experience difficult situations in life that can cause trauma, mental health issues, and/or stress. At the schools I've taught at, I have also seen that many students are not learning how to manage those issues, which can present as problems in the classroom. Additionally, in my personal life, I have found yoga to be a wonderful stress reliever, which led me to wonder if yoga could also benefit students at school.

In this chapter, I will be synthesizing the research of many experts to help answer my research question: *How will intentional movement and mindfulness opportunities in a kindergarten classroom impact the classroom environment, student behavior, and student achievement?* The research in this chapter will discuss the connection of movement and mindfulness to learning and how they affect the brain. Research on how the classroom environment can be affected by a regular practice of movement and mindfulness will also be analyzed. In relation to classroom environment, the areas specifically focused on will be self-regulation, emotion regulation, focus, perseverance, and positive relationship building and how opportunities for children to foster these skills can make for a more cooperative and productive learning environment. In addition to effects on the classroom environment, the research in this chapter will discuss the effects to student achievement

to determine the potential academic benefits of skills learned from yoga and mindfulness to help improve assessment results. Next, I will look at some examples of schools and classrooms that have already implemented yoga, movement, and mindfulness practices in their classrooms and will highlight the benefits and results those schools and teachers saw from their experiences. Finally, I will also highlight some of the strategies that can be used to implement movement and mindfulness in the classroom and some of the programs and curriculums that schools and classrooms can use. This chapter will conclude with a summary of the important findings from the related research.

The Brain, Movement and Mindfulness

To discuss movement and mindfulness in the education world without connecting it to brain research would be leaving out crucial information that impacts teachers' and students' success. Current research on the brain and education is revealing that the two are more strongly connected than was one assumed in previous decades. Jensen (2008) defined brain-based education as “the engagement of strategies based on principles derived from an understanding of the brain” and justified it as being “about the professionalism of knowing why one strategy is used instead of another” (p. 410). The following sections will describe various aspects of brain research and how it relates to student learning and teaching.

Neurogenesis. One such brain-based strategy that teachers can and should be using is the inclusion of movement in their classrooms. According to Kempermann, Wiskott, and Gage (2004), “The human brain can and does grow new neurons” and those new neurons are “highly correlated with memory, mood and learning” (as cited in Jensen,

2008, p. 411). One way to enhance this process of growing new neurons in our brains is through exercise (Jensen, 2008). Conyers and Wilson (2015) also found that:

Exercise has been shown to enhance both neurogenesis (the creation of new brain cells in regions of the brain associated with higher-order thinking and recall) and experience dependent synaptogenesis (the formation of synaptic connection between neurons in response to learning and sensory input from the environment). Specifically, physical activity appears to stimulate the production of a protein called brain-derived neurotrophic factor (BDNF), which helps neurons and synapses grow. (p. 40)

This BDNF protein “supports the survival of existing neurons, encourages the growth of new neurons, and is important for long-term memory formation” (Sousa, 2011, p. 40). By including exercise in the classroom and combining it with academic content, teachers are helping students create new neurons, improve their memory, and make connections that help them better learn content and concepts.

Stress in schools. Additionally, stress in schools is another issue that can be addressed through movement and mindfulness. With the demands being placed on students and teachers today, stress is becoming a common feeling in many schools and classrooms and is an issue that affects attendance, memory, social skills, and cognition (Jensen, 2008, p. 411). Because of the stress that many teachers feel due to high-stakes testing, many schools are choosing to remove time for play, recess, and/or physical education from daily and weekly schedules. However, that time provided for exercise can help reduce feelings of stress and exercise is “strongly correlated with increased brain mass, better cognition, mood regulation, and new cell production” (Jensen, 2008, p. 412).

In addition, Conyers and Wilson stated that “a positive learning environment is more conducive to learning than an atmosphere characterized by stress and negativity (2015, p. 41). They added that “physical activity is known to boost mood and support a positive outlook that is conducive to learning gains” (Conyers & Wilson, 2015, p. 41). While it would be nearly impossible to remove all stress from teachers and students, research shows that the current situation can be greatly improved if there was allotted time in the schedule for movement.

For those teachers still concerned about the amount of time taken away from direct instruction of content during breaks for exercise, Conyers and Wilson described a 2010 report done by the Centers for Disease Control that summarizes 50 studies involving physical education, active play during recess, physical activity breaks in the class, and after-school sports (2015). These studies found there to be a positive association with these various forms of physical activity and academic performance. These studies also “found no negative consequences for making physical activity a regular part of the school day” (as cited in Conyers & Wilson, 2015, p. 39). With no negative consequences and many known benefits to students’ wellbeing, allowing movement in the classroom is a worthwhile investment in students health and learning.

Connection to emotions. Another way that brain research is connected to student learning is through our emotions. Sousa (2011) stated that “emotions alert the brain’s attention systems, and experiences involving emotions are most likely to be remembered” (p. 40). Therefore, not only does exercise help promote memory, but students will also “remember more of the curriculum content when it is linked with activities that evoke emotions” (Sousa, 2011, p. 40), supporting the idea that skills that support social growth

and teachers being mindful of classroom environment factors into student learning (Sousa, 2011, p. 43).

Yoga Effects to Classroom Environment and Student Well-being

There are several factors that influence the classroom environment, including factors such as student behavior, students' mental health, students' self-regulation and emotional management skills, and the students' overall general well-being. This section of my research review will describe the connections teachers and researchers have found between yoga, movement, and mindfulness and the classroom environment.

Skills associated with positive classroom environment. As was mentioned in the previous section, the classroom environment has a very important impact on student learning. Harper, Rossi, Kim, and Swanson (2016) stated that elementary students are faced with daily stressors in their home lives that are brought into the classroom “which impact learning, behaviors, and overall academic performance (p. 149). To combat this issue, many teachers and schools have decided to add yoga to their classrooms to help foster self-regulation and emotional wellbeing in students due to success seen in research with adults (Shapiro et al., 2014, p. 2)

Some of the several skills and strategies associated with classroom environment and students' wellbeing that can be fostered through movement and mindfulness are: self-regulation, emotion regulation, focus, perseverance, and positive relationship building. As defined by Posner and Rothbart (2000) and Calkins and Fox (2002), self-regulation “refers to the process of modulating systems of emotion, attention and behavior in response to a given contextual situation or demand (as cited in Razza, Bergen-Cico, & Raymond, 2015, p. 373). It can also be referred to as “the goal-directed modulation of

thought, action, and emotion” (Shapiro et al., 2014, p. 1) and includes several skills such as sustained attention, delay of gratification and inhibitory control (Razza et al., 2015, p. 372).

Emotional regulation is another skill that can be fostered through yoga and mindfulness. In relation to mindful practices, emotional regulation refers to the ability to be aware of and reflective of one’s own experiences and respond in a nonreactive and nonjudgmental way. Shapiro et al. (2014) said that “Contemplative practices may promote a more balanced approach to one’s daily life, so that events are less likely to capture one’s attention and elicit an emotional reaction automatically” (p. 22). They also said that contemplative practices “may also afford children a better ability to use their top-down control skills to consider the multiple options for responding in a given situation, allowing children to respond flexibly and adaptively in the face of emotional events” (Shapiro et al., 2014, p. 22). This is a valuable skill for children to learn as many children face stressful situations in their home lives and experience stressors with academics or classmates in school. In addition, emotional regulation is a necessary skill to help children “maintain attention and motivation in the face of emotional ups and downs (e.g., excitements over an upcoming event or anger at a classmate over a dispute during recess)” (Shapiro et al., 2014, pp. 21-22). Managing all of the many stressors and emotions that can come up during a typical school day is essential for students to be able to help them focus their attention on their academic work and work well with peers.

As was mentioned above, focus is another critical skill for students to have in school as they are faced with many challenges and distractions throughout the school day. Focus can be defined as “one’s ability to sustain attention and concentration” and can be

“best viewed as an interaction between the individual and the environment since the act of focusing involves electing to attend to some aspects of the environment and block or ignoring others” (Finnan, 2015b, p. 28) Related to the challenges and distractions students encounter on a typical school day, is the need to be able to persevere through difficult situations. Perseverance “refers to one’s tendency to stay with tasks even when they are initially difficult” (Finnan, 2015b, p. 28). Finally, the fostering of positive relationship building is an important aspect of non-academic learning and classroom environment and is “closely tied to having a sense of belonging” and “includes our belief that we are valuable to others and that we are able to make and contribute to relationships with others” (Finnan, 2015b, p. 29). Skills such as these are all important factors of a peaceful, productive, and cooperative learning environment and all of these skills that can be fostered through the integration of movement, yoga, and mindfulness in the classroom.

Attitudes in the classroom. One of the reasons many teachers have chosen to include yoga and mindfulness in their classrooms and why teachers might choose to make those decisions in the future are some of the social emotional attitudes that children can learn through yoga. At Montgomery Elementary School (researchers used pseudonym), teachers and students noticed the skills and attitudes that students were learning in their 40-minute yoga sessions were connected to “increased focus and concentration, self-awareness and perseverance, and calm and cooperative behavior” (Finnan, 2015b, p. 38). They also noticed that students were able to recover from conflict more easily and quickly, that students were able to regain attention through movement opportunities, and that students were more aware of the mental effort required to focus and are willing and able to practice improving their ability to sustain focus and attention

while ignoring other distractions (Finnan, 2015b, p. 39). Students at Montgomery Elementary School, and many others, have shown significant evidence that yoga and mindfulness can make lasting impacts on students' attitudes toward learning and their success in the classroom. Many other classrooms and schools, mentioned in the following sections, have also seen impressive benefits of yoga and mindfulness.

Learning-specific benefits of yoga. Chelsea Jackson, a third-grade teacher at a Title I school in Atlanta, began practicing yoga herself outside of school to help with her own stress management, fitness, attitude, and self-confidence. Based on her positive experience from the benefits she saw from yoga in herself, she thought that yoga may be something that would also benefit her students. She noticed that many of her students had difficulty focusing and had behavioral issues that were interrupting learning. After she introduced yoga to her students, the effects she saw in her classroom were better than she had expected (Williamson, 2013, p. 35). Her positive experience caused Jackson to pursue a doctorate in education and study the integration of yoga in the classroom. Some of the benefits of yoga in the classroom that she advocated for are: "Fewer fights and arguments among students; Better student decision-making; Increased self-awareness and self-esteem; Improved concentration and retention; and More efficient use of class time" (Williamson, 2013, p. 36).

Evidence of these findings mentioned by Jackson can be seen from a pilot program done at Cass Street School. Susan Solvang, the executive director of K-12 Yoga in Milwaukee, brought yoga instructors into the Cass Street School for two classes per week teaching yoga to over 350 students in grades kindergarten through eighth grade. During these yoga sessions, the instructors taught students mindful breathing, basic yoga

poses, and modeled calm and respectful behavior to students. After the first year using the program, Cass Street School used the U.S. Department of Education's Positive Behavioral Interventions and Supports to calculate the number of disruptive incidents happening in the school. The year before yoga instruction was introduced, they reported 225 classroom disruptions, 320 disorderly conducts, and 150 fights. During the pilot program, those numbers were reduced to 110 classroom disruptions, 40 disorderly conducts, and 52 fights. Solvang also said she noticed that students had started to be more mindful of their volume and tone of voice when speaking and that students were able to change reactive behavior into creative solutions (Williamson, 2013, pp. 36-37). Teachers such as Jackson, Solvang, and those at Montgomery Elementary and Cass Street School all saw positive changes to the school and classroom environment after yoga and mindfulness were implemented into their daily and weekly schedules, which show evidence that other classrooms could also benefit from the addition of movement and mindfulness.

Yoga Effects to Student Achievement

Based on my experience, pressure to increase standardized test scores is a feeling familiar to many classroom teachers. While for some teachers, this may have them feeling like there is little room left in their daily and weekly schedules to incorporate non-academic activities, others have turned to activities such as movement and mindfulness in hopes that it will help provide students with some of the necessary tools needed to help them persevere through the challenges and struggles of focusing on difficult academics for extended periods of time (Finnan, 2015b; Razza et al., 2013; Williamson, 2013; Mulrine et al., 2008). In this section, I will describe some schools and classrooms that

have used yoga and mindfulness with the goal of increasing test scores and improving student achievement.

Yoga storytime. With already busy schedules, teachers may find it difficult to justify adding yoga or mindfulness to their classrooms. However, there are several strategies available to teachers that allow them to incorporate yoga and mindfulness into academic portions of the day, without having to remove important content from their learning day. One such strategy is to include yoga and movement with storytime.

Scherrer (2018), noted that:

By including yoga in storytime programs, we can help children learn how to move in a variety of ways without having to think about it. This automatic movement makes the brain more efficient allowing children to focus more of their energy on learning and other things (such as letters and numbers) that they will need to become school ready. (p. 45)

Scherrer (2018) also provided basic guidelines on ways to plan for a yoga storytime session. She said that yoga storytime and traditional storytime are very similar, but that with yoga storytime, the reader makes intentional choices to engage students physically and emotionally (p. 45). During yoga storytime, a session would typically last about 30 to 45 minutes and would include materials such as songs, books, storytelling, music, rhymes, and digital tools, and would incorporate yoga poses and movements with those materials. At the end of the session, similar to savasana, or “corpse pose”, during a traditional yoga flow sequence, the reader should plan for a few moments of quiet rest time, with the length of time being a variable dependent on the age of the children involved in the session. By including this quiet rest time for a few moments at the end,

students will also be practicing self-regulation skills (Scherrer, 2018, p. 45) which are crucial to their success in school.

When considering materials to use, teachers can use books that they would already normally use in their daily literacy block or they can choose books that have more obvious themes such as themes of movement, books where the main character does many actions that could be acted out by students, books with animals that could be adapted into yoga poses (such as downward facing dog or cobra pose), books about nature that could correlate to yoga poses (such as tree pose or mountain pose), or books about yoga (Scherrer, 2018, p. 46). The opportunities to combine yoga with storytime routines are endless.

Yoga and physical education. Another way to include yoga into the academic day is to collaborate with the physical education teacher. Nelson (2003) said that she got inspiration to implement yoga into her physical education classroom from a yoga session at a convention that she attended. With her fourth-grade class in mind, she said, “I realized yoga could be a powerful tool for my 4th graders to use in relieving stress and improving their ability to focus on tasks” (Nelson, 2003, p. 26). She first introduced yoga in her physical education class in the five weeks leading up to state standardized testing with the goal of helping students relieve their anxiety before they took this very important test.

She and other classroom teachers felt that her “experimental yoga unit” paid off. Teachers noticed that students had decreased test anxiety because they were able to utilize the strategies they learned during yoga and were better able to focus during the test. They also noticed that students were able to use some of the breathing exercises that

they had learned to help them calm their bodies (Nelson, 2003, p. 28). These goals and observations made by the teachers in the school can also be supported by research on the brain. In a study done by the University of Illinois, they reported that 9- and 10-year old students “performed better on reading, comprehension, spelling, and math tests when they had 20 minutes of physical activity immediately before testing (CSBA & California Project LEAN, 2010 as cited in Conyers & Wilson, 2015, p. 39). Additionally, researchers in North Carolina looking at on-task and off-task behavior of students found that on-task behavior was more focused after participating in 10-minute physical activity breaks (Conyers & Wilson, 2015).

As part of the collaboration that took place between Nelson, the physical education teacher, and the other classroom teachers in her school, the physical education teacher worked with the classroom teachers to help them incorporate yoga into their classrooms during academic portions of the day. The classroom teachers were able to lead the students in some of the yoga poses they had learned (which they did especially before testing) and Nelson encouraged teachers to include yoga into classroom conversations, to include the topic in shared reading and writing experiences, and teachers added yoga themes and poses to their “Message of the Day” that students would read in the morning at the start of the school day (Nelson, 2003). This collaboration provided many creative outlets for students to practice yoga and breathing to help them become successful throughout the school day. Their experience can provide other teachers and schools inspiration in creative ways to use yoga and mindfulness in their own classrooms.

Montgomery Elementary School. At the Montgomery Elementary School (researchers used pseudonym; described in further detail in the following section), the school's teachers and principals felt pressure to raise students' test scores after being ranked as an "at risk" school based on standardized test scores. Over the course of a four-year study observing one second grade, one third grade, and one fourth grade classroom, this school decided to add yoga into their weekly schedule with the goal of providing students with nonacademic skills and strategies that would be essential to their school and daily life success (Finnan, 2015a).

Observations and interviews done throughout and after the study indicated that all involved: students, administrators, and teachers, saw positive results. Students said that they were able to use skills learned during their 40-minute weekly yoga sessions in many ways in their classrooms. Some of the ways students mentioned using yoga in school was to help them calm their mind and body, to help them remember things before a test, to help them use their breath to improve focus and attention, to help them follow classroom rules such as not blurting, and to help them persevere through academic struggles and challenges. The incorporation of weekly yoga was justified by administrators as well when they saw impressive changes to their students' test scores by the end of the four-year study. In 2008, before the addition of yoga, the school was given an "at risk" rating. By the 2012-2013 school year, test scores at Montgomery Elementary had risen significantly to the point where the school now had a rating of "average" (Finnan, 2015a). This school shows positive evidence that although a designated time for movement does eliminate some time that could be spent on direct content instruction, that it can still provide powerful benefits to students' academic achievement.

Examples of Yoga and Mindfulness in Schools and Classrooms

In addition to the schools and classrooms already listed in this chapter, several other schools and classrooms have begun to implement movement and mindfulness into their daily and weekly schedules. The reasons for implementation, level of implementation, the level of experience and training that those leading movement and mindfulness sessions have varies among schools and classrooms, but many classrooms found similar results and expressed positivity towards including some degree of movement and mindfulness in the classroom for various reasons.

Montgomery Elementary School. The Montgomery Elementary School (researchers used pseudonym) made the decision to add yoga into their weekly schedule for numerous reasons, including student behavior and academics. Montgomery Elementary is a high poverty, Title I, urban school in southeastern United States. The principal and teachers of Montgomery Elementary noticed emotion regulation problems with students, behavioral outbursts in class were high, and the students' academics were suffering. In 2008, before the school decided to add yoga to their weekly schedule, the school received a rating of "at risk" due to low test scores on standardized assessments (Finnan, 2015b, p. 41). With these problems in mind, the principal and teachers knew that something must change to improve their school. In an interview, the principal of Montgomery Elementary explained why, despite low test scores, he was willing to trade valuable academic time for yoga. He said:

If a kid doesn't know how to do a math problem, we teach them the math problem. If a kid doesn't know how to respond when they feel angry, we typically

don't teach them; we just say go home; you're suspended for a few days because you can't be angry here. (Finnan, 2015b, p. 40).

He felt that giving students the opportunity to “be by themselves and think about their thoughts and think about their bodies” would be helpful when he knew that his students are “faced with lives that are normally chaotic and school that might be stressful because a lot of the work is difficult work, and they might be below grade level” (Finnan, 2015b, p. 40).

With hopes to help students manage their stress and emotions and to raise test scores, the school decided that every student would receive 40 minutes of yoga once per week. The study that was conducted by Finnan (2014) focused on three classrooms over the course of four years: one second grade classroom, one third grade classroom, and one fourth grade classroom. The second-grade classroom followed a fast-paced schedule with no “down-time”, 90 minutes of reading instruction and 60 minutes of math instruction each day. The teacher always taught reading after yoga on the day her class had yoga each week and she always participated in the yoga instruction with her students. The third-grade classroom was an Academy class, which only had students who were significantly below grade level. These Academy students were in school one hour longer each day than non-Academy students, the classes followed a fast-paced schedule, and the class sizes were kept small. This third-grade teacher felt that because the students in this class were so far below grade level, that yoga was especially important for them to be able develop confidence in themselves and for them to see themselves as valuable and worthy. Finally, the fourth-grade classroom, which was also an Academy classroom with students receiving an additional hour of school, also participated in the study. This

teacher maintained a more relaxed pace to his schedule than the second and third grade teachers, but his students successfully moved from below grade level to at or above grade level by the end of the study (Finnan, 2015b, pp. 31-32).

The yoga instruction that students received was mostly from volunteer yoga instructors who used curriculum from YogaKidz that focused on lesson themes related to physical, emotional, and mental fitness. The 40-minute yoga instruction format typically began with an introduction to the lesson's theme, a series of yoga poses, and a relaxation period where the lesson's theme would be repeated (Finnan, 2015b, p. 34). Examples of themes related to physical, emotional, and mental fitness were focus, perseverance, self-awareness, confidence, acceptance of self and others, and peaceful interactions.

Additionally, classroom teachers were provided with "yoga snacks" from the YogaKidz curriculum, which were short yoga lessons that allowed for the classroom teacher to tie the themes from yoga into the classroom (Finnan, 2015b, p. 34).

Positive results were seen by research observers, school staff, and students. Observers of the yoga session said that they noticed that during the actual yoga flows, students were able to utilize the focus and concentration strategies, such as finding a "drishti" or focal point, to help them balance through difficult postures. The classroom teachers also said that they used the "yoga snacks" to help "focus children before tests, to regain children's attention, or to provide an opportunity to move around" (Finnan, 2015b, p. 39). Students and teachers also said that they noticed "how attitudes and skills related to increased focus and concentration, self-awareness and perseverance, and calm and cooperative behavior were applied to the academic classroom" (Finnan, 2015b, p. 38). Additionally, the fourth-grade teacher noticed "that they don't sulk as much anymore

when they're in trouble, they don't see it as a personal thing, where [it's] me against them, and they can really recover a lot easier" (Finnan, 2015b, p. 39). Finally, related to their goal of yoga helping to improve student focus, teachers noticed that "for many children who were easily distracted, knowing that they could focus was an important first step to being engaged in learning" (Finnan, 2015b, p. 39). Distractions can be frequent occurrences in a normal classroom, as can be disagreements with peers. Yoga and mindfulness are both positive strategies that can help students overcome some of those challenges.

Montgomery Elementary teachers and students saw how much students' focus and concentration improved through yoga, but they also saw improved behavior and academics. Before they had started incorporating yoga into their weekly schedule, this school was at an "at-risk" rating. By 2012 (four years later), the school had moved from "at-risk" to "average" (Finnan, 2015b, p. 41). Along with improved test scores, following yoga instruction the administration noted decreased discipline referrals, suspensions, and expulsions. In the first year of the study, discipline referrals decreased by 50% with suspensions also decreasing. Researchers also noticed that this trend continued in the following years of the study (Finnan, 2015b, p. 41). After beginning to incorporate yoga and mindfulness into their school routine, teachers and students saw amazing benefits to classroom environment, student focus, student behavior, and academic achievement. This small change to their week is something that can be replicated in many other schools to help students become more successful in their academic and social-emotional lives.

Preschool classroom. To determine the feasibility and effectiveness of mindfulness-based yoga in a preschool classroom, a study by Razza, Bergen-Cico, and

Raymond (2013) was done to determine if yoga that was integrated into an academic curriculum for 3-5-year-old children could improve students' self-regulation (p. 374).

Razza et al. (2013) documented the results from two classrooms, the intervention classroom of 18 preschool students and a control classroom with 16 students. The control classroom teacher did not have any background in yoga, but the intervention classroom teacher had completed a 200-hour YogaKids training and implemented a modified version of their curriculum into her daily academic schedule (Razza et al., 2013, p. 375).

Over the course of the study, the students in the intervention classroom received about 40 hours of mindful yoga over 25 weeks. Throughout the intervention, the amount of time engaging in mindful yoga activities increased from just 10 minutes in the fall to about 30 minutes in the spring. Examples of activities included engaging in breathing exercises and sun salutations during morning circle time, yoga poses connected to literacy activities in the afternoon, and breathing exercises during transitions (Razza et al., 2013, p. 375).

At the beginning of the study, all students completed a pretest as well as a posttest at the end. Part of the assessment also included parent questionnaires to rate their child's self-regulation. At school, the students' self-regulation was directly assessed through various assessments which took about 20 minutes for each individual student (Razza et al., 2013, p. 376). The results of the assessments showed that scores for self-regulation (focused attention) were higher for students in the intervention group, students in the intervention group made "significant improvements in inhibitory control over time and maintained average levels of focused attention compared to control children who demonstrated declines in attention over time" (Razza et al., 2013, p. 378). Results also

showed that students who began with the lowest levels of competence in inhibitory control and delay of gratification were the students who made the most significant improvements by the end of the study (Razza et al., p. 378). This study, in comparison to Montgomery Elementary (described above), shows that students' age should not be a contributing factor in a teacher's decision on whether or not to add yoga and mindfulness to their classroom. These preschool students had similarly positive benefits from yoga and mindfulness as the second through fourth grade students at Montgomery Elementary, which shows that all students, regardless of age, can participate in yoga and mindfulness and receive positive benefits.

Title I third grade classroom. Chelsea Jackson is a third-grade teacher in a Title I school in Atlanta. She noticed that many of her students were experiencing difficulty paying attention in class and that many behavioral issues were interrupting learning. To add to her stress, she taught in a school where she felt increasing pressure to improve test scores, which she and other teachers felt left little time for creativity in the classroom (Williamson, 2013, p. 35). To improve her own stress management, fitness, attitude, and self-confidence, Jackson decided to begin her own personal yoga practice. After experiencing these benefits herself, she began to wonder if her students would be able to receive the same help from yoga as she did.

She acted on that question by deciding to start simply and removed some of the distractions from her classroom (such as by covering the windows) and showed her students how to use their breath to help them focus and how to do a few simple yoga poses using the knowledge she had gained from her own yoga practice. To her surprise, she felt "the effects were better than she hoped" (Williamson, 2013, p. 35). She noticed

that students' attention spans increased, that they were improving at resolving their own conflicts, and that her lessons went more smoothly. Her students seemed to notice the difference in their bodies and their ability to concentrate as well, even asking for "a few minutes for breath" before beginning standardized testing (Williamson, 2013, p. 35). Not only did Jackson and her students feel the difference that breath and yoga made for them, but the rest of the school and the administration noticed it as well. After she began incorporating breath and yoga in her classroom, her students' test scores were among the highest in the school (Williamson, 2013, p. 35).

Classroom with energetic students. Ms. Kau noticed that most of her students were full of energy and knew that many of them were also diagnosed with ADHD. Due to all the energy that her students had, she noticed that her students were experiencing difficulty concentrating and paying attention to lessons and needed an outlet to help with impulse control (Mulrine, Prater, & Jenkins, 2008, p. 16). Feeling the pressure that is familiar to so many teachers to find ways to meet the diverse needs of all students in her classroom, she read an article connecting regular movement to increased concentration and impulse control (Mulrine et al. 2008, p. 16). This article gave her the idea to think creatively and find ways to incorporate regular movement into her daily schedule. A few ways she added movement was through exercises at classroom transitions, lesson energizers, and structured movement games at recess (Mulrine et al., 2008, p. 16). From her efforts to incorporate movement into her daily schedule she saw the importance and the benefits of regular movement for her students:

Establishing a classroom environment that encourages beneficial movement throughout the school day—during content lessons, transitions, and via

specialized games for recess and indoor rainy-day activities—can improve results for students with ADHD, help reduce problematic classroom behavior, and better focus students’ attention on content instruction. (Mulrine et al., 2008, p. 16)

As Ms. Kau noticed, the more we ask students to sit still and focus, the more difficult it can be for them to concentrate for extended periods of time and the more energized they will become. Ms. Kau showed that there are many easy ways to add movement into a daily classroom schedule, without interrupting student learning, but are still impactful in improving students’ attention and focus skills.

Connection to Research Question

In many of the above listed examples of schools, the school staff noticed that students were experiencing problems with emotional regulation, had frequent behavioral outbursts, had poor self-regulation, and their academics were suffering (Finnan, 2015b; Razza et al. 2013; Williamson, 2013; Mulrine et al. 2008). These same issues that those teachers and administrators noticed are similar problems to those that I have also noticed. These concerns, along with my personal experience with yoga, led me to my research question: *How will intentional movement and mindfulness opportunities in a kindergarten classroom impact the classroom environment, student behavior, and student achievement?* The many amazing improvements that these schools saw, such as stress and emotional management, improved test scores, improved focus and concentration, increased self-awareness, the development of attitudes such as perseverance, and more calm and cooperative behavior (Finnan, 2015b; Razza et al. 2013; Williamson, 2013; Mulrine et al. 2008), led me to believe that yoga and mindfulness could be a positive solution with many benefits for the students in my own classroom.

Yoga and Mindfulness Programs and Curriculums

Current research on movement and mindfulness for children has been largely focused on ways to make strategies and activities that were primarily intended for adults to be more acceptable and appropriate for children. To solve this problem, several strategies have been modified to make them more suitable for children and countless programs have been created. This section of my literature review will highlight some of the many programs and strategies that can be used with young children and students.

Little Flower Yoga. Little Flower Yoga has a program called “The School Yoga Project” which is a 30-week curriculum that is intended for PK-12 schools. Their program is based on five key elements that are taught in each session in combination with life skills that are applicable to students’ daily lives. The five key elements that are incorporated into every session are: connect, breathe, move, focus, and relax. Objectives throughout this 30-week curriculum are focused on developing learning in physical, mental, emotional, and social areas. This program also offers professional development for school staff and teachers (“The School Yoga Project”, 2018).

Yoga 4 Classrooms. Yoga 4 Classrooms is a curriculum that focuses on the social, emotional and physical wellness needs of students, as well as learning readiness and positive classroom and school environment. This program provides implementation training and resources to teachers that will allow them to meet the improvement goals of their classroom and school and give them the tools necessary to build peaceful and productive learning environments (“Yoga 4 Classrooms”, 2018).

Yoga Ed. Yoga Ed. is a program for students in PK-12. Teachers and schools who choose to use this program have the choice to either enroll in Teacher Training to

lead yoga in their own classrooms or can choose to purchase a membership for their online classes that students can view and follow along with. Teachers can also choose the type of yoga that works best in their classroom, either chair yoga or mat yoga. Yoga Ed.'s goals for students, teachers, and schools are for the yoga program to be fun and to promote emotional, mental, physical, and academic improvement ("YOGA ed.", 2018).

Mindful Schools. Mindful Schools is a program that offers training to teachers wishing to implement mindfulness in their classrooms. This program offers a variety of courses to teachers to help them develop their own mindfulness practice as well as courses to help them teach mindfulness to students using their K-12 curriculum. The goal of this program is that teachers and students develop a practice of mindfulness that can be integrated in short periods throughout the school day ("Mindfulness for Your Students...", 2018).

The Calm School. The Calm School Initiative is a program that provides all K-12 teachers free access to a normally paid subscription to the mindfulness app Calm. The Calm School Initiative hopes to offer free tools and resources to teachers that help them teach young children how to practice mindfulness every day. This app provides teachers with free, unlimited access to their library of meditation exercises, mindfulness exercises, and Calm Kids ("The Calm Schools Initiative", 2018)

Mindful Life. Mindful Life is a program that trains schools, teachers, camps, youth sports teams, and after school programs in brain-based mindfulness. Mindful Life is developed from brain research to provide teachers with an age- and developmentally-appropriate curriculum to help them teach students ways to build skills to manage stress and to help them focus better ("Teachers, Parents & Coaches...", 2015).

Conclusion. The programs listed above are just some of the many programs available to schools and teachers. There are numerous others available as well, with varying levels of supports, goals, and implementation suggestions. In the project that I created (described in more detail in Chapter Three), I used resources from Little Flower Yoga (“The Yoga School Project”, 2018) and Yoga 4 Classrooms (“Yoga 4 Classrooms”, 2018) to help plan activities and yoga sequences to be used by students participating in my project.

Summary

In Chapter Two, I analyzed and synthesized the research related to my question: *How will intentional movement and mindfulness opportunities in a kindergarten classroom impact the classroom environment, student behavior, and student achievement?* In this chapter, I discussed the brain research and its connections to student learning. This section included the role of neurogenesis and the connection to stress and emotions to the brain and student learning. After discussing brain research, the following section discussed how movement and mindfulness can impact the classroom environment. Provided were definitions of some of the skills related to classroom environment such as self-regulation, emotion regulation, focus, perseverance, and positive relationship building. Additionally, examples from other schools that saw improved attitudes in students and increased focus and concentration from yoga and mindfulness practices were described. Following the effects to classroom environment, I focused on how movement and mindfulness can be used as one strategy to help improve academic performance. Next, a few example schools that have chosen to implement yoga and mindfulness into the daily or weekly schedules were described and the results they

saw were highlighted. Finally, in the last section of this chapter, the research discussed several programs and curriculums that exist that schools could choose to use to bring yoga, movement, and mindfulness to the classroom.

In the following chapter, Chapter Three, I will provide a detailed explanation of the project that I created based on the research from Chapter Two. Chapter Three will begin with an introduction to my project and how it related to my research question my rationale behind the design of my unit in yoga and mindfulness project, and an overview of the project. Following the introduction and overview, there will be a description of the intended audience and the setting of my unit at the time of creation of this project. Finally, I will provide a description of the research-based curriculum design framework that I used to create my project, a detailed description of my project, and a timeline for project implementation.

CHAPTER THREE

PROJECT DESCRIPTION

Introduction

Emotional regulation, self-regulation, stress management, and low self-confidence are issues that I have seen with the students I have taught in my five years of teaching. I have taught at three vastly different schools in the first five years of my teaching career, but I have seen that issues such as these are something that many students, regardless of age, location, socio-economic status, and ethnicity, have in common. In my personal life, I have found yoga to be a helpful tool to help with things like stress and confidence. The benefits that I saw in myself led me to believe that my students may also be able to benefit from yoga and mindfulness practices in the classroom.

The literature review in Chapter Two led me to see that a significant amount of research has been done on the topic of movement and mindfulness in schools and that many schools are seeing positive results from implementing movement and mindfulness strategies on a regular basis. The literature review has also led me to believe that there is room for additional research to be done on the topic and that there is also room for creativity in the way teachers use movement and mindfulness in their classrooms. Based on these findings, I return to my research question: *How will intentional movement and mindfulness opportunities in a kindergarten classroom impact the classroom environment, student behavior, and student achievement?* To answer this question, I created a unit to provide kindergarten teachers with strategies, routines, and activities that will help them implement movement and mindfulness into their daily classroom schedules. In the following sections of this chapter, I will provide an overview of the

curriculum I designed, a description of the intended audience, a description of the setting where curriculum implementation will take place, the research base used to help design the curriculum, a detailed description of the curriculum, and a timeline for curriculum implementation.

Overview

For my project, I created a research-based unit to answer my research question: *How will intentional movement and mindfulness opportunities in a kindergarten classroom impact the classroom environment, student behavior, and student achievement?* I chose to create a curriculum on this topic based on my own interest in the topic and based on discussions with other teachers. As a kindergarten teacher, I often hear other kindergarten teachers arguing for their students' need to play, to move, and to be kids. Based on my experience as a primary grade teacher over the past four years, I have noticed a general consensus among teachers of young children that academic, attention and focus expectations are so high and do not seem to be appropriate for early childhood development. In my classroom, I have also tried to provide time for short, occasional "movement breaks" to help with some of these high expectations and to allow students to have a few moments to relieve some stress, get up and move around, smile, have fun, and transition from one activity or lesson to the next. I have also heard many teachers talk about how they want to be able to provide more time for movement and play in the classroom and feel like they need more time to help students develop social-emotional skills. For these many reasons, I decided to create this resource with the goal of helping teachers understand the importance of providing time for movement and mindfulness in

the classroom and provide them with ideas for ways they can incorporate strategies to help their students practice these skills.

My unit begins by having students learn about their emotions and calm down strategies to use when they are upset. Then, they will learn about what movement, yoga and mindfulness are and how they benefit one's mind and body. Finally, the curriculum will end with themed storytime yoga. Movement, yoga and mindfulness activities start simple and short and gradually increase in length of time and complexity. There are also classroom routines, breathing exercises and connections to literature provided. Additionally, the curriculum allows students the opportunity to reflect and self-assess. My goal is that this curriculum helps students learn strategies to focus their attention and to help them regulate themselves and their emotions to provide for a more peaceful and productive classroom environment.

Intended Audience

I intend for this curriculum project to be used with kindergarten students and be led by kindergarten teachers, although it could be modified and adjusted to meet the needs of primary classroom students and teachers. At this point, there is a significant amount of research done on the effects of movement and mindfulness in the classroom and both are being more frequently added to classrooms. However, considering that this is still a fairly new topic, I think it will be a valuable resource for teachers who do not know much about the benefits of movement and mindfulness and do not know how to increase the amount of movement and mindfulness in their classrooms. I intend for this resource to be used as a guide for teachers who want to increase movement and mindfulness in their classrooms, but do not know where to start.

Setting

School district. The school district I am teaching in is a highly successful school district with a well-known reputation of high achievement. My school district is located in the western suburbs of the Twin Cities metro area. The community that makes up my school district's population includes eight west metro cities. There are thirteen schools in this district: one early learning school, eight elementary schools (with plans for ninth elementary to open in 2019), three middle schools and one high school. There are about 900 teachers and just over 12,000 students. This school district prides itself on excellence in academics, outstanding teachers, and a wide variety of services and programs to meet the unique needs of each individual student.

Building. The school where this unit will be implemented in is one of the eight elementary schools in the district. This elementary school serves students in grades kindergarten through fifth grade. According to the Minnesota Report Card (2018), in the 2017-2018 school there were in 570 students enrolled in this school with 40.41 total licensed teacher and support staff, with a student to staff ratio of 14 to 1.

According to the Minnesota Report Card for 2018, there were 71.16 total staff, with 37.91 of them being classroom teachers. Of the 37.91 classroom teachers, 13.8% of them have a Bachelor's Degree and 86.2% have a Master's Degree. The vast majority of teachers, 82.8%, have more than 10 years of experience and the remaining 17.2% have 3-10 years of experience.

The student population of this school includes 73.2% White students, 7.9% with Two or More Races, 7.2% Hispanic, 5.8% Asian, and 5.8% Black/African American. About 18.5% of students qualify for Free/Reduced Lunch, 10.8% receive Special

Education services, 4.6% are English Learners, and 0.4% are Homeless (Minnesota Report Card, 2018). This school strives for providing an engaging, rigorous, and nurturing education experience for every student.

Kindergarten classroom. In the kindergarten classroom where this curriculum will be implemented there are 17 students. The students entering the classroom come from a wide range of backgrounds and educational experiences. Many have been in preschool-settings before beginning kindergarten, others have gone to daycare centers, and one has had neither preschool nor daycare. There are two students with an Individualized Education Program (IEP) for speech, six students who receive pull-out literacy intervention, two students who receives pull-out math intervention, two students who receive pull-out English Language instruction, and two students who have special education IEPs and diagnosis of Autism Spectrum Disorder. All Kindergarten students follow a weekly specialists schedule that includes 30 minutes of Art, Music, and Technology once per week for each subject and 30 minutes twice per week for Physical Education. All kindergarten students also have 30 minutes of recess before lunch every day and approximately 10-15 minutes of free-play at the end of the day.

Curriculum Design

This unit was created during the fall of 2018. At my school, students receive one hour of physical education (30 minutes on two separate days), but general education classroom teachers do not use any specific curriculum related to movement, yoga, or mindfulness. However, breaks for movement and intentional practice gaining skills such as focus or self-regulation are encouraged at all grade levels. Prior to implementing this unit, I provide my students with several breaks for movement throughout the day using

various resources such as GoNoodle.com or CosmicKids.com. I plan to implement this unit in future years and adjust it as needed based on my students each year.

This curriculum addresses many Physical Education Minnesota state standards. This curriculum will also provide lessons to be used with classroom read alouds, which can be used to help support many kindergarten English Language Arts standards. I used Understanding by Design framework by Wiggins and McTighe (1998) to plan and create my unit. The premise of Understanding by Design framework is that “One starts with the end—the desired results (goals or standards)—and then derives the curriculum from the evidence of learning (performances) called for by the standard and the teaching needed to equip students to perform (Wiggins & McTighe, 1998). The goal when using this curriculum design framework is that the teacher considers the question, “Given a task to be accomplished, how do we get there?” (Wiggins & McTighe, 1998), rather than beginning with a series of activities with the intention of determining how to best cover a topic.

While creating my unit, I began with my end goal for my students in mind. My goal is that students will be able to determine when and how to apply strategies to improve focus, regulate their body, and manage emotions. I also determined that by the end of the unit, my students should be skilled at recognizing and reflecting on their feelings and emotions, moments of frustration, and moments of distractedness. They should also be able to apply strategies they have learned when difficult moments arise. Additionally, my students should know how yoga and mindfulness can benefit their mind and body, the names of various yoga poses and breathing strategies, examples of specific

problems that may occur in our lives and multiple strategies to help focus and calm or regulate their body and mind.

Following Understanding by Design framework (Wiggins & McTighe, 1998), my next step was to determine acceptable assessment evidence of student learning to help me to determine if students have met the goals of the unit. Assessment evidence includes student self-evaluation before and after unit instruction occurs, student reflections after movement or mindfulness lessons or sessions, and classroom teacher observations on students' focus, self-regulation, and emotional management. Finally, after determining the essential question and goal of the unit, the understandings that students should have by the end of the end of the unit, and the assessment evidence, I used those goals and performance criteria to plan instruction and engaging learning activities.

Project Description

To answer my research question: *How will intentional movement and mindfulness opportunities in a kindergarten classroom impact the classroom environment, student behavior, and student achievement?* I created a yoga and mindfulness unit for kindergarten students. This unit contains ideas for routines that can be implemented in the classroom and six weeks of lesson plans, with two lessons per week. Prior to any instruction, the unit starts with a pre-assessment student reflection focusing on student emotions, distractibility, ability to focus, and calm down strategy use.

The first week of lessons (lessons 1 and 2) helps students identify and describe a variety of emotions and allows them practice in describing their own emotions. The second week (lessons 3 and 4) is focused on uncomfortable emotions and calm strategies that students can use when they are feeling upset. In week three (lessons 5 and 6),

students are formally introduced to yoga and learn how, why, and when people use yoga. They also continue to build their knowledge of yoga poses and breathing strategies. In the fourth week (lessons 7 and 8), students are formally introduced to mindfulness and its benefits. In week five (lesson 9 and 10), kindergarteners continue to learn about mindfulness and begin themed storytime yoga. The theme of storytime yoga in lesson 10 is perseverance. In the sixth and final week (lesson 11 and 12), themed storytime yoga continues. The themes during this week are determination and courage.

Throughout the unit, students are also asked to complete self-assessment reflections on the strategies they learned, how they feel when using the strategy, and when they could use that strategy in the future. At the end of the unit, students will complete the same self-assessment from the beginning of the unit, as a post-assessment. The design of this unit starts with more simple concepts, yoga poses, and breathing strategies and gradually increases in length of time and complexity, making it more accessible to all students.

Timeline

The curriculum that I created as part of my capstone project was created during the fall of 2018 with my current 2018-2019 school year kindergarteners in mind, with the intention of implementing this curriculum in the years to come. I created this curriculum with the intention of beginning within the first few weeks of school. The curriculum will provide lesson plans for 6 weeks of activities, with additional ideas on ways to continue incorporating movement and mindfulness throughout the rest of the school year. My research has shown me that movement and mindfulness is most effective when intermixed with academics throughout the day, rather than at just one specific time during

the week. For this reason, I designed my curriculum to allow for multiple moments to participate in movement and/or mindfulness throughout the day. Students will complete a self-assessment reflection survey at the beginning, and the end of the curriculum and will also complete periodic self-assessments or reflections immediately after movement and mindfulness sessions.

Summary

In Chapter Three, I provided an overview of the movement and mindfulness kindergarten unit that I will be creating to help answer my research question: *How will intentional movement and mindfulness opportunities in a kindergarten classroom impact the classroom environment, student behavior, and student achievement?* This chapter described the intended audience of this resource, the setting where the unit will be implemented, the curriculum design framework *Understanding by Design* (1998) that was used, a detailed description of the curriculum, and a timeline of the duration of the unit.

In the final chapter, Chapter Four, I will reflect on the capstone process and the curriculum I created for my project. I will revisit my research on this topic and further connect it to my project. I will also reflect on the process of writing and creating this paper and project. Finally, I will consider the implications of this curriculum for future use, including any limitations, as well as possible future steps that could be taken related to the project.

CHAPTER FOUR

CONCLUSION

Introduction

In my five years of teaching, I have taught at three different elementary schools, all with vastly different settings and demographics. Despite the differences, one thing that I have noticed as a similarity among students I have worked with is that many students experience difficulties in life and school, resulting in stress and/or mental health issues. These experiences can present themselves as difficulty focusing, being restless and distracted, or as behavioral outbursts. My experience has shown me that many students may be missing some of the necessary knowledge and skills used to help them navigate these tough life and school experiences and manage their stress and emotions.

Along with these conclusions from my teaching experience, my personal interest and practice of yoga as a tool used for self-care and stress relief, had me wondering if and how yoga could benefit my students. In my own life, yoga has been a constant that has helped me with the many stressors that are part of the teaching profession. It has also helped me remain calm and feel present. I had heard of several programs that bring yoga and mindfulness to the classroom and had done some very informal and brief yoga sessions with my students but wanted to learn more about how to intentionally incorporate yoga and mindfulness strategies into the classrooms. With these issues and inspirations in mind, I developed my research question: *How will intentional movement and mindfulness opportunities in a kindergarten classroom impact the classroom environment, student behavior, and student achievement?*

Key Research Findings

When beginning the research process, I started by identifying areas of the classroom that I felt could be impacted by students participating in yoga and mindfulness practices. The identified areas were classroom environment, behavior, and achievement. I felt that those areas of the classrooms are ones that could be most affected by outside circumstances affecting students at school. I also knew that I would need to research the ways that yoga and mindfulness could affect the brain and how that applies to student learning. Finally, I wanted to see how other schools have incorporated yoga and mindfulness into their classrooms, their level of success, and what programs were available to schools and teachers to help with implementation.

One surprising finding from my research was the level of stress that has been found in many schools (McEwen & Wingfield, 2003 as cited in Jensen, 2008). This is something that I always hear teachers talking about, that I have felt myself, and that I have seen in my students, but I had not realized the extent of this problem. However, McEwen and Wingfield (2003) confirmed that chronic stress is a huge issue in schools and found that a revised metabolic state called “allostasis” is the new baseline state in brains with high levels of stress and anxiety (as cited in Jensen, 2008, p. 411). This increased level of stress seen in teachers and students confirmed my inclination that many students could be in need of learning skills and strategies to help manage their emotions and overcome challenges.

Another unexpected finding in my research was that including movement in the school day is actually a brain-based strategy that teachers should be doing in their classrooms (Jensen, 2008; Conyers & Wilson, 2015). One such example, which would be

addressed through this capstone project, is that exercise supports the process of growing new neurons, which helps with memory, mood, and learning (Jensen, 2008, p. 411). In addition to helping create new neurons, exercise has also been found to help reduce stress (Jensen, 2008), a chronic problem mentioned in the above paragraph. Lastly, movement in the classroom has been found to be positively associated with improved academic performance, despite worries that it would decrease time that could be spent on content learning and direct instruction (Conyers & Wilson, 2015).

After learning the many benefits of movement in the classroom, my research continued by narrowing down the type of exercise to yoga, as well as mindfulness, to see how it specifically helps students in the classroom. I discovered that yoga and mindfulness can be implemented to foster self-regulation (Razza, Bergen-Cico, & Raymond, 2015, p. 373), emotional regulation (Shapiro et al., 2014, p. 22), focus and perseverance (Finnan, 2015b, p. 38), cooperative behavior (Finnan, 2015b, p. 38) and positive relationship building (Finnan, 2015b, p. 29). My research also showed that several individual teachers and schools have been very successful in many aspects of student success by adding yoga and mindfulness to their daily or weekly schedules.

Finally, I wanted to learn about the resources and programs available to teachers and schools if they made the decision to add yoga and mindfulness to their day. Based on conversations that I have had others related to this topic, I have seen many express concerns over not knowing where to start, what to do, or how to fit this into their day. I discovered that there are countless programs available to educators that would help with this process. Some of these programs, such as Little Flower Yoga (“The Yoga School Project”, 2018), are more involved than others, with curriculums that span over the entire

school year and professional development for teachers. Other programs, such as The Calm School, simply provide tools and resources (both free or at an expense) that teachers can easily use in their classrooms as needed (“The Calm School Initiative”, 2018).

The Writing and Curriculum Creation Process

While I learned about how yoga and mindfulness can benefit students and teachers in the classroom, I also learned a lot about the writing process while creating this paper and my project. Some aspects of this assignment were easier, while others were very challenging. The narrative chapters of this paper were significantly easier and felt more natural than the research-heavy chapters. However, I felt the most satisfied and empowered after completing those more research-heavy chapters. I found that for the research portions of this paper, that organization was essential. Additionally, I had not been challenged with the task of independently creating an entire curriculum that spans over several weeks since I was an undergraduate student. Initially, this felt like a very daunting and overwhelming task. While creating the curriculum, keeping my essential question and end goal in mind the entire time was very important. I also found that it made the process go much smoother to begin with an outline of the curriculum, and then to create activities and lessons one week at a time. The outline that I began with was modified many times while creating the project, as the curriculum and lessons were shaping. At completion, I felt accomplished and proud of the work I had done, knowing that it was supported by research, believing that it would be engaging for students, and knowing that it could be a practical tool for kindergarten teachers to help address many issues that are seen in countless classrooms.

Implications

When considering future implications, I created the curriculum with the intention that it would start simple and gradually increase in complexity, both in content and in increased difficulty of yoga and mindfulness strategies. Knowing that the curriculum is designed in this manner, I feel confident that I would be able to successfully implement this curriculum with future kindergarten students with little difficulty. The progression of this project, as well the modifications that can be made to several of the strategies taught in the curriculum, also make it accessible to all students. Additionally, I foresee an implication of this curriculum being that all students will have more access to important opportunities for movement and will be able to build a toolbox for themselves full of strategies to help with focus, emotional management, and regulation.

The brain research on the topic of exercise and its importance in “neurogenesis (the creation of new brain cells in regions of the brain associated with higher-order thinking and recall)” (Conyers & Wilson, 2015, p. 40), led me to believe that educational policy should account for the need to provide students with several opportunities to move their bodies throughout the school day. While many schools do offer physical education classes and recess, not all do, and many do not offer it every day. However, research shows that exercise promotes new neuron creation and when the brain creates those new neurons, they are “highly correlated with memory, mood and learning” (Kempermann, Wiskott & Gage, 2004 as cited in Jensen, 2008, p. 411). This provides evidence that if policy required schools to provide opportunities for movement, that students could benefit emotionally and academically.

Limitations

While I believe that myself and many other kindergarten teachers would be able to successfully implement this curriculum with minimal difficulty, I do see some potential limitations. One of the biggest limitations I foresee is the lack of time in a teacher's already very busy and demanding classroom schedule. At my current school, whenever new strategies or resources are introduced during professional development sessions, the recurring question heard is, "How am I supposed to fit this in?". While this is a valid concern, the structure and content of many of these lessons make it easy for teachers to supplement time accounted for read-alouds or social-emotional learning with the lessons in this curriculum. Many of these lessons cover topics that tend to be addressed by social-emotional curriculums, several lessons cover Minnesota Kindergarten State Standards in English Language Arts and Physical Education, and the research provided in Chapter Two showed that providing students with opportunities for movement has no consequences to students learning and is instead positively associated with academic performance (as cited in Conyers & Wilson, 2015, p. 39).

Another possible limitation is that every classroom has students with different needs. While this curriculum addresses topics such as emotional management, focus, perseverance, and courage, that may not be applicable to all kindergarten classrooms. In this case, teacher discretion would be important and modification to some lessons may be necessary in order to fit the needs of that specific group of students. Finally, yoga and mindfulness are not familiar to everyone. I could see this being a limitation to teachers who are hesitant about trying something so foreign to them in their classrooms and could

see some initial uneasiness occurring in students who have not been exposed to yoga or mindfulness.

Future Plans

While researching yoga and mindfulness, the benefits that it can provide to a classroom, and the strategies that can be implemented in a classroom, I learned that there are numerous resources and programs available. Outside of teaching, I am a certified yoga sculpt instructor to adults, but learning about the many programs and professional development opportunities for yoga and mindfulness with children and schools, I have found unexpected interest in exploring certification in children's yoga. Additionally, I have very limited experience with mindfulness in my personal life. The knowledge I gained on mindfulness has sparked an interest in learning how to more fully include this in my personal life. It is a future goal of mine to learn about children's yoga and mindfulness, as well as mindfulness strategies for adults that I could use myself. I feel that having this knowledge of yoga and mindfulness would increase the levels of success I could see with students when implementing the curriculum.

Students' emotional wellbeing, ability to focus for extended periods of time, and emotional and stress management are topics that are brought up frequently among my kindergarten teammates. I am excited to share this resource with my colleagues and provide a different perspective and additional strategies to teachers who are experiencing problems in their classrooms. Our team meets weekly as a Professional Learning Community, where we discuss data and problem solve together. I plan to use this time to share my research findings and the curriculum that I created with my kindergarten teammates. This will be an ongoing resource to teachers and future students.

Conclusion

Chapter four provided a reflection on the capstone creation process, including key findings from my research, reflections and new learning on the writing and curriculum creation process, implications and limitations of the capstone project, and future plans for continued learning related to movement and mindfulness in the classroom. In this chapter, I also address how I plan to share my findings with others and add to the teaching profession.

With the conclusion of this project, I look forward to implementing this curriculum for years to come. Throughout this paper and project, I learned the importance of incorporating movement in the classroom and the necessity to provide students with tools to help them successfully manage difficult experiences in school and life. I am excited to begin tackling that challenge through the use of this curriculum. My hope is that I will provide students with some of the resources they need to be successful in many aspects of their lives and will instill a lasting passion for movement and mindfulness.

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