

Physical Activity in Schools: It's Not Just for the Gym and Recess. Introducing Physical Activity into the Academic Classroom to Improve Student Engagement and Performance

by

Mark Robert Ellner

B.S.E, Kansas University, 1997
M.S., Kansas State University, 2014

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

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Abstract

The time that students are asked to sit in classrooms each day can exceed eight hours. With a higher emphasis on academic outcomes, due to legislation such as No Child Left Behind and Common Core, both of which put a high priority on the results of standardized tests, curricula not deemed traditionally academic such as art and physical education are often pushed to the side (Stevens-Smith, 2016; Donnelly & Lambourne, 2011). While little evidence suggests that increased academic time leads to improved test scores, what is known is that increased academic time leads to less physical activity during a student's education experience (Pangrazi, Beighle & Pangrazi, 2009; Blakemore, 2003).

Current research suggests that there are multiple positive results that can be attributed to physical activity being incorporated into a student's academic experience. Hanaford (2005), found through brain scans that children learn best when active because of the neurons that facilitate learning and retention being stimulated. Stevens-Smith (2016) stated, "While children are physically moving, they are developing neurological foundations that assist with problem solving, language development, and creativity" (p. 723).

This study looks to explore how physical activity within the classroom academic setting impacts student engagement. Through classroom observations and focus group interviews with upper elementary teachers from a midwestern elementary school, the results of this study will provide how students react to specific types of physical activities in terms of curriculum engagement, classroom behavior, and academic performance. The use of grounded theory as a theoretical framework will allow for this study to develop new theory to learn what and how physical activities used are the most effective at increasing student engagement.

Through the extensive coding and analysis, 13 concepts were developed and further analyzed to create four main categories. Those categories led to the main storyline of this study. While the original focus of this study was to look at specific physical activities present in the classrooms, what was found was that a broader and more natural approach to introducing physical activity into the academic learning environment was most effective for the teachers in this study. This study revealed that through the use of a constant natural freedom of movement theory, teachers are able to effectively enhance student engagement through the use of physical activity as a teaching strategy within the academic learning environment. The study also presented that while a number of barriers are prohibitive to using physical activity in the academic learning environment, the teachers have an overwhelmingly positive perception of physical activity as a student engagement strategy. The teachers believe that the incorporation of physical activity into the classroom allows for individual learning opportunities and increased student engagement, which ultimately leads to a love of learning.

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Approved by:

Major Professor
Todd Goodson

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Dedication

To my wife and kids,

Thanks for always reminding me what is important!!!!

Chapter 1 - Introduction

Personal Story

Waiting at the bus stop, he can't wait for what's ahead of him. This is a day he has been looking forward to for a long time. For as long as he can remember, Miles has watched his big brother and sister get on the yellow bus and leave for school. He imagines a place of fun and excitement, full of exploring new worlds and meeting new friends. His dad has told him this day would be coming and how special it would be. Miles' first day of school was going to be great. This day was great, and Miles did have fun. But what Miles did not understand was that he had just entered into a world where his constant need to move and physically engage with learning would be frowned upon. No longer was it acceptable to pick up an object to explore it. Moving around the room to discover something interesting now resulted in a warning and then loss of recess. What Miles would come to understand was that his chair would be the focal point of his education. If he stayed in it and was quiet, he was praised. Get out of the chair to move and he was reprimanded. This cocoon of space, the size of his hard, straight-backed chair, would now be Miles' learning environment.

"Don't touch that." "Sit in your chair until it's time to line up." "Quit wiggling your legs." These are comments I remember well as an elementary student. I was the type of child who moved. I still move and cannot sit still for long amounts of time. As with most children, my most basic instinct as a kid was to physically explore my surroundings to learn. When I was little, I was always told by adults that I couldn't sit still, as if that was a bad thing. Teachers would forgo discussing my academics at parent teacher conferences and focus on my constant talking and moving. It was not discussed why I was anxious to move, but what could be done to stop me from doing so. As I went through elementary and into secondary education, like a lot of

children, I slowly but surely conformed my learning into the “box” presented by teachers, a standard, sedentary learning style. Often, my mind would wander, thinking of playing at recess or what I was going to do when school let out. I would not be listening or paying attention to what was being taught. But I found that if I was quiet and sat still, I was left alone, thought to be engaged in the learning experience. Fast forward 35 years, as I sit in a lecture-style class in a doctoral level program. My mind is still wandering to what I am going to do after class. And like in elementary and secondary school, I have remembered that if I sit in my chair and stay quiet, the teacher will assume I’m engaged and learning.

A Path to Physical Movement

As an elementary physical education teacher and athletic coach at all levels for more than 10 years, I have both studied and witnessed the power of movement. Whether it be in the gym or on a sports field, physical movement has demonstrated to be a critical part of leading a healthy lifestyle, both physically and emotionally. Creating physical movement opportunities for students and athletes provides countless benefits ranging from increased self-esteem to stronger and more physically able persons. These benefits have shown themselves throughout my teaching and coaching career through a number of examples.

One of the greatest examples of the power of physical movement in schools can be demonstrated by the use of Individualized Education Plans (IEPs) for behavior management. I cannot count the number of times that I as a physical education teacher was asked to sit in on meetings or provide feedback for IEPs that were directed at a student’s poor behavior and lack of attention in the classroom. Most commonly, the IEPs were regarded students with a form of Attention Deficit Disorder (ADD). Often, I would respond by stating that the student was succeeding in physical education class and exhibiting little to no abnormal behavior issues while

in the gym. The question then became, what is being done differently between the gym and the classroom?

Why are the same students who were struggling to succeed in the classroom because of their off task and often disrupting behavior performing at or above normal level during physical education class. The student is the same. The classroom teachers at the schools were excellent. And while I certainly believe I am an effective teacher, I could not take the credit for such a change. The answer to the question became clearer to me as I read more and more IEPs. The most notable difference between the gym environment and the classroom environment was that the students in the gym were physically active. Their learning opportunities were experienced through physical movement and physical exploration. Students in the gym were not asked to sit still for extended periods of time.

During my experience as an elementary physical education teacher, I had a front-row seat every day to see the power of physical movement during a thirty-minute class. Unfortunately, what I did not pay attention to was how I could introduce kinesthetic learning into the classroom. In fact, most of my experiences working together with classroom teachers was when I was asked to include more academic topics into the gym. It was a one-way street to help students prepare for state testing. As a physical education teacher, I was focused on providing quality physical activity opportunities for my students, while at the same time advocating for the importance of physical education as part of the total school curriculum.

Since conducting an action research project in the fall of 2013 to explore the use of stability balls as an alternative to traditional classroom seats, I have become increasingly interested in the use of physical movement as stimulus strategy in classroom settings to increase student engagement and as a way to reach students' individual learning preferences. The study

showed a clear connection between the constant physical movement allowed by sitting on a stability ball and the increase in student alertness during academic learning experiences.

Students using the stability balls showed an increase in energy, better posture, and less classroom disruptions compared to when they were sitting in traditional classroom chairs.

Throughout my doctoral program research, I have become an advocate for teaching to meet the individual needs and desires of students. One particular John Dewey quote has always remained with me. Dewey states, “What are we to do with this interest – are we to ignore it, or just excite and draw it out? Or shall we get hold of it and direct it to something ahead, something better” (1915/2012, p. 32). In other words, Dewey is proposing that teachers look at the individual interests of students as opportunities to increase and improve learning experiences that best relate to students’ needs. Recalling my earlier comments regarding learning how to sit still when in school, I believe that my interest or needs were not excited or drawn out. I suggest that education has taken the interest and need to be physically active and done the opposite of what Dewey suggests. The student who is sitting still, whether engaged or not, is much preferred to the student who is engaged while at the same time physically active.

Overview of Issues

Marginalization of Physical Education in Schools

The increased focus on standardized testing in core academic subjects has led to the decline, whether perceived or not of the importance of physical education courses. The declining and uncertain landscape to school budgets and the pressure to improve academic testing scores has promoted a marginalizing of noncore classes, with physical education being one of the hardest hit (Dinkel, Scheaffer, Snyder, Lee, 2017;Howie, Beets, & Pate, 2014; James, 2013). According to a literature review conducted by Laureano et al.,

Physical education programs are being marginalized across our country and throughout the world for a variety of reasons. Some of these reasons can be attributed to the financial strain many districts are facing in the overwhelming context of the Common Core Standards and new APPR guidelines (2015, p. 10).

Physical Education has become marginalized. Students now have fewer resources and less time to participate in physical activity during the school day. This marginal status has led to fewer teacher resources, inadequate scheduling, larger class sizes, and a lack of opportunities for professional development for physical education teachers (Beddoes, Prusak, & Hall, 2014).

Dangers of Sedentary Lifestyle

Children's environments have an extreme influence on their habits and attitudes including their daily physical activity. School, for example, is one environment where students spend six to eight hours a day and up to 70% of their time sitting (Hinckson et al., 2015). Prolonged sedentary experiences lead to a number of negative outcomes, such as back pain, restlessness, and reduced concentration and engagement (Dinkel, Schaffer, Snyder & Lee, 2017; Goh, 2017; Hinckson et al., 2015; Stevens-Smith, 2016,). Recent estimates suggest children spend six to eight hours per day in sedentary behaviors that results in an increased risk for obesity and other chronic health conditions (Dinkel, Schaffer, Snyder & Lee, 2017).

Need for Children and Adolescents to Be Physically Active

Per the Office of Disease Prevention and Health Promotion's 2008 Physical Activity Guidelines, it is recommended that children and adolescents should participate in at least 60 minutes of physical activity daily, with the majority of the 60 minutes including aerobic physical

activity. The Physical Activity Guidelines list the following significant benefits for youths who participate in physical activity:

- Improve cardiorespiratory fitness.
- Strengthened muscles and bones.
- Achievement/ maintenance of healthy weight.
- Reduce likelihood of developing risk factors for later diseases such as high blood cholesterol, high blood pressure, and type 2 diabetes, thus increasing the chances that youth will remain healthy as adults.
- Reduces symptoms of anxiety and depression.

Kroll, Malmgren, Olsson, Linden, & Nilsson (2015) conclude, “Given the large shift toward lower levels of physical activity in children, increasing youth activity levels is a priority, and the school environment should be considered an important arena for promoting physical activity” (p. 712).

Statement of Problems

The amount of time that students are asked to sit in classrooms each day can exceed eight hours. With a higher emphasis on academic outcomes due to legislation such as No Child Left Behind and Common Core, both of which put a high priority on the results of standardized tests curricula not deemed to be traditionally academic, such as art and physical education, are often pushed to the side (Donnelly & Lambourne, 2011; Stevens-Smith, 2016). According to The Institute of Medicine’s Committee on Accelerating Progress in Obesity Prevention (2012), the United States is experiencing an overweight and obesity epidemic, and physical activity is on a societal decline. The committee states,

Because recommended levels of physical activity still are not being met, low levels of or decreases in physical activity among adults or children and adolescents can reasonably be attributed to decreases in active transportation (walking or biking), decreases in the availability of physical education classes, and increased and heavy use of television and other electronic media. In current work and school environments, physical activity is not given priority.

(Glickman, Parker, & Sim, 2012)

The committee continues that,

The substantial and long-term human and societal costs of obesity, the great difficulty of treating this problem once it has developed, and the relatively slow progress made thus far in turning the national obesity numbers around underline the urgent need to develop a plan for accelerating progress in obesity prevention.

(Glickman, Parker, & Sim, 2012)

While this study's focus is on the use of physical movement to engage students in classroom settings, the above statements provide an additional meaningful argument for increased physical activity throughout the school day. Despite the lack of priority that physical activity has within the overall school curriculum, schools still account for much of a student's daily physical activity (Orlowski, Lorson, Lyon, & Minoughan, 2013). Orlowski, Lorson, Lyon, and Minoughan (2013) suggest, "School-based physical activity programs provide opportunity for, and important messaging about, physical activity. (Movement) opportunities in school are provided to students

through physical education and recess; however, additional opportunities for physical activity are needed throughout the school day” (p. 47).

Educators spend countless hours planning new and exciting techniques and curriculum to teach and prepare students to learn. One technique that teachers will have a significant impact on learning engagement is the use of physical activity. The benefits of physical activities are not limited to students’ physical health. “In addition to the potential health benefits, classroom-based physical activity is an instructional tool teachers can use to improve mood, energy level, and student learning” (Orlowski, Lorson, Lyon, & Minoughan, 2013, p. 47). Research has begun to look at introducing movement into the classroom, and “evidence clearly shows that that there is a marked improvement in student’s behavior, focus, and overall academic performance” (Erwin & Fedewa, 2011, p. 397). It is the intention of this study to provide teachers with a framework of physical activities that can be used in academic learning experiences and the outcomes they provide based on gender, subject being taught, and time of day.

Research Questions

A pilot study (Ellner, 2017) used to develop research questions for this study provided evidence that the use of physical movement in a classroom setting increased the level of student engagement during academic learning experiences. Data for this pilot study was developed through video observation of a first grade classroom in a Midwestern town during a three-week period. The video observations began on the second day of the school year. The classroom consisted of twenty-one students. There were ten boys and eleven girls. There were no specific diversity statistics available. The primary data collection method used consisted of anecdotal notes and field notes. The observations took place during the first fifty minutes of the students’ school day. Each day, data was collected based on the types of seating options used, their

movements, their focus in class, their on-task behavior, and in-seat time. Data was also collected on the teaching styles used, the amount of discipline or corrections that the teacher used, the length of seated time, and all observable physical activity. This type of data collection allowed me to look at the visible behaviors, as well as to also gain perspectives about what the students enjoyed or disliked during the time observed. In addition to field notes, snapshots of the video were taken to describe specific behaviors and/or changes that occurred during the observation period. To analyze the data collected from the video observation, coding of field notes was used to develop themes.

Though limited to a single classroom during a particular time of day, the study suggests improved student behavior and engagement outcomes from the use of physical activity within the classroom setting. There was also clear evidence that prolonged amounts of sedentary time in the classroom would lead to students becoming increasingly fidgety and getting off task. This led to an increase in teacher reprimands to students (Ellner, 2017). In the study, I compared this phenomenon to watching a balloon being blown up bigger and bigger until it pops. Students were typically seated in a tight group in front of the teacher on the floor. As time elapsed, the students, both by their sitting posture and closeness to each other, would begin to spread out. It would happen slowly over an extended amount of time, but I repeatedly observed this pattern by the students. Students would begin to unfold their legs and become fidgety. They would then spread out physically from one another. This led to classroom disruptions and students being off task (Ellner, 2017).

Observations also showed that even the smallest type of physical activity used by the teacher during extended times of students sitting on the floor in front of the teacher would refocus the students. Activities such as teacher led hand movements to simulate stretching out

words, students putting their hands on their head and on their mouth to think about an idea, and teacher-led movements to practice spelling words, all resulted in increased student engagement and on-task behavior. To positively impact students, it is critical to find ways to engage everyone based on their individual needs and interest (Ellner, 2017). One of the most effective physical activities observed was when the teacher had a number of manipulatives set up throughout the classroom for student to explore as they walked in. The activities included Play-Doh, Legos, and Lincoln Logs. When the students came into the classroom, they immediately began playing at the different stations. There was no observable off-task behavior during this entire activity. There was some chatter between students but not a high level or enough to cause them to disrupt others. After about four minutes, the teacher turned on music, which signaled it was time for the students to begin putting away the manipulatives. As the students were putting them away, they began moving their bodies to the beat of the music. The clean up was done quickly and quietly. It was followed by the students moving to the carpet near the teacher and sitting quietly (Ellner, 2017).

The study provided four themes that were used to develop the research questions for this paper. The themes are, the type of purposeful physical activity used, seating options and their impact on focus, behavior during prolonged amounts of sedentary time, and behavior during and immediately following physical activity (Ellner, 2017). Along with the pilot study's limitations of time and line of sight because of the use of video observation, the themes show a clear need for further research to explore the types of physical activities used in classroom to engage students and to discover the outcomes of using specific types of physical activities in elementary classroom settings.

The following questions will guide the research and data analysis for this study.

1. How do upper elementary classroom teachers use physical activity during academic experiences to enhance learning engagement?
2. How do upper elementary classroom teachers and students perceive the impact of physical activity when it's used as a technique to enhance engagement during academic learning experiences?
3. What physical activities provide the opportunities for enhanced student engagement in an academic setting from the perspectives of teachers, students and administrators?
4. What are the observable outcomes produced by using specific physical activities as a part of the academic learning experience?

These questions will provide a basis to develop new theory regarding specific physical activity experienced in the classroom setting and the physical activity's ability to engage students in the learning process.

Definition of Terms

1. *Upper Elementary* – Classrooms in fourth and sixth grades.
2. *Physical Activity* – Any observable activity in which the student is engaged physically within a classroom setting to increase student behavior and engagement (Goh, 2017; Martin & Murtagh, 2017; Stevens-Smith, 2016).
3. *Kinesthetic Learning* – Any learning that takes place while the participants are actively doing something (Beaudoin & Johnston, 2011; Dixon, 2012).
4. *Traditional Learning* – Learning that is experienced sitting still at a desk while the teacher conducts a lecture. Typically, this type of learning consists of mostly memorization and is directed from the teacher's point of view.

5. *Academic Learning Experience* – Learning that occurs within the classroom setting regarding core curriculum content, i.e. math, reading and science. Art and music settings will be excluded from this study because of their inherent use of physical activity to perform subject tasks.
6. *Learning Engagement* – The degree of interest, inquiry and active participation that students display during a learning opportunity (Dixon, 2012; Stevens-Smith, 2016).
7. *Administrators* – Educational stakeholders at the school, district and state levels who consider student success based on data from standardized test scores.
8. *Gender* – For the purposes of this study, gender will be defined biologically as either male or female.
9. *Subjects* – The core academic area that is being taught.
 - a. *Math* – The content area consisting of mathematic concepts (i.e. addition, subtraction, multiplication, algebra, etc.).
 - b. *Language and Literacy* - The content area consisting of reading fundamentals (i.e. literacy, comprehension, research, writing skills, etc.).
 - c. *Science* – The content area consisting of subjects in the field of science (i.e. biology, astronomy, chemistry, etc.).

Significance of Study

Children spend close to eight hours a day in school. During this time, they are asked to be seated or physically inactive up to 70% of the time (Hinckson et al., 2015). Along with a continuing decrease in time devoted recess and physical education, opportunities for school-age children to be physically active on a daily basis are now becoming increasingly rare.

At the same time, studies have shown a strong connection between physical activity and brain development, along with many other health and academic benefits to children who are physically active. (Kroll et al., 2015; Stevens-Smith, 2016).

While research, primarily focused on outcome based research, has shown a positive relationship between physical activity and student engagement, a more in-depth study is needed to provide a detailed look at teacher and student perspectives. This qualitative study will look at how teachers implement physical activity into elementary classrooms to increase student engagement, improve the learning experience, and ultimately improve academic performance. This study seeks to extend the body of research regarding the impact physical activity has on student engagement in the classroom setting by exploring what is being done in the classrooms and how students react to the use of physical activity in academic settings.

The use of grounded theory as a theoretical framework will allow for this study to develop new theory to provide teachers with a taxonomy of what specific types of physical activities are the most effective at increasing student engagement. Additionally, this study will analyze how physical activity impacts the learning experience by triangulating the needs and desires of teachers, students and administrators.

Methodology

This qualitative research project is intended to explore physical movements used in classroom settings and their effectiveness to engage students in academic learning settings. Strauss & Corbin (1990) suggest, “Qualitative methods can be used to uncover and understand what lies behind any phenomenon about which little is known” (p. 19). This study aligns with qualitative methods in that it is focused on the phenomenon of physical movement and its impact on student engagement in academic learning experiences. To this point, the majority of research

has focused on outcomes of physical movement in general and quantitative terms. This study is interested in looking at specific physical movements used to develop theory of their impact on student engagement.

To most effectively gather data, multiple strategies will be used. Focus groups, classroom observations and field notes will be the primary forms of data collection for this study. I will conduct a minimum of two focus groups. Focus groups promote an engaging atmosphere that allows for interactive discussion and encourages in depth perspectives from people in their own words (Cyr, 2017; Greenbaum, 1998; Vaughn, Schumm, & Sinagub, 1996). I will use one focus groups of three elementary classroom teachers each to inquire about their perceptions of physical movement being used in the classroom, what types of physical movement strategies they use in their classrooms, and their assessment of the effectiveness to engage students when using particular physical activities.

Classroom observations and the use of field notes will provide insight and depth into what has been discovered through focus group discussions. Classroom observation opportunities will focus on the classroom setting, the observable physical movement strategies used by teachers, and the behavioral results of specific physical movements. Field notes will provide insight and clarity into what has been observed. They will also assist in creating more detailed field notes during data analysis.

Limitations of Study

The goal of this study is to increase teacher knowledge on the best practices to include effective physical movement into the academic learning experience. While striving to improve the discussion, this study has limitations. The first limitation of this study will be its scope. The study will focus on a limited number of classrooms within a single school building. This study is

also limited in that it is focused only on upper elementary aged students. Physical activity potentially impacts primary elementary grades as well as secondary students' learning experiences. Further research will need to be conducted to explore the possible differences physical movement experiences have on students of all grade levels within classroom settings.

Organization of Study

Chapter One introduces the study and the issues teachers and students because face of a lack of physical movement for long periods of time in classroom settings. The chapter includes a personal story that describes experiences I have had in education, both as a student and a teacher, that have led me to this study. It also includes an overview of the issues, a statement of problems, definition of terms and the limitations of the study.

Chapter Two presents a review of research literature on physical movement in education, and more specifically in the classroom setting. The review gives a historical perspective of the body-mind connection as well as presents themes including the importance of physical movement, brain development, student engagement, and kinesthetic learning.

Chapter Three describes the methodology of the study. There is a focus on the use of qualitative research and grounded theory to execute the research. The chapter also presents research questions, research procedures, the selection of and description of site, selection of participants, and the researcher roles. The chapter concludes with the procedures for data collection and data analysis.

Chapter 2 - Literature Review

Literature relating to physical activity in the classroom and student engagement encompasses a broad scope of research topics. The goal of this study is to explore the types of physical activities used in elementary schools and their impact on student engagement during academic learning experiences. I reviewed literature relating to both the past and current perspectives on and uses of physical activities in academic settings and in students' daily lives to gain a better understanding of how physical activity in the classroom has been perceived, how it has been used in the classroom, and the outcomes of its use

This chapter is divided into five sections. The first section reviews a historical perspective of the body and mind, focusing on the educational philosophies of Jean Jaque Rousseau and John Dewey. The second section looks at literature relating to the need for and benefits from physical activity in the classroom setting. This section is broken into three subsections. One subsection will review the dangers of obesity and a sedentary lifestyle. Another subsection discusses the importance of physical activity and the marginalization of physical education. The last subsection presents research on the benefits of physical activity on brain development and student engagement. The third section of this chapter will review four different types of popular physical movement sources currently used in classrooms. It will focus on kinesthetic learning, brain breaks, alternative seating and yoga. The fourth section will provide a background on focus groups, which will be one of the primary forms of data collection for this study. The final section will provide a theoretical framework for the study by reviewing literature on grounded theory.

A Historical Perspective of Body and Mind

The dangers of an only academic curriculum separating the mind and body have been emphasized by educational philosophers throughout the history of education. This section will focus on the readings of two philosophers: Jean-Jaques Rousseau and John Dewey. Both educational philosophers promoted the idea that the mind and body must be used and practiced together, rather than apart. They also warned against the dangers that result from education focused primarily on the mind while the body sits idle.

Rousseau argued against this practice more than 200 years ago in his writing of *Emile or On Education*. He stated

It is a most pitiable error to imagine that the exercise of the body is harmful to the operations of the mind, as if these two activities ought not to move together in harmony and that the one ought not always direct the other. (Rousseau, 1979, p. 118)

His belief that a person cannot develop one without the other emphasizes the need to establish curriculum that engages all areas of the child. Rousseau's theme of body and mind as connected builds throughout his discussions of how Emile is taught. He emphasizes real life physical outside in nature experience as the ideal teacher. The use of life and movement as an experiment provides children with a valuable lesson about their surroundings and their relationship to them. Rousseau states, "Since man's first natural movements are, therefore, to measure himself against everything surrounding him and to experience in each object he perceives all the qualities which can be sensed and related to him. (1979, p. 125)

Rousseau is intent on teaching Emile through the use of senses and experiences. He engages those senses to explore and problem solve. He states, "The goal is less to teach him a

truth than to show him how he must always go about discovering the truth” (Rousseau, 1979, p. 205). By using senses as a true learning method strategy, Rousseau engages the body and mind to most effectively educate Emile.

Dewey (1916) proposed that a sedentary style of teaching in which the teacher lectures and students receive information passively does not work and wonders why it continued. He states,

Why is it, in spite of the fact that teaching by pouring in, learning by a passive absorption, are universally condemned, that they are still so entrenched in practice? That education is not an affair of “telling” and being told, but an active and constructive process, is a principle almost as generally violated in practice as conceded in theory. (p. 34)

Dewey (1916) argued that the “pupil” had come to represent one that absorbs knowledge, not one that has learning experiences. The result is the separation of body and mind within education. Dewey stated, “It would be impossible to state adequately the evil results which have flowed from this dualism of mind and body” (1916, p. 110). He continues that,

For the pupil has a body, and brings it to school along with his mind. And the body is, of necessity, a wellspring of energy; it has to do something. But its activities, not being utilized in occupation with things which yield significant results, have to be frowned upon. (1916, p. 110)

He continues to discuss the results that come from putting a priority on students' silence and stillness while neglecting the body.

Physically active children become restless and unruly: the more quiescent, so-called conscientious ones spend what energy they have in the negative task of keeping their instincts and active tendencies suppressed, instead of in a positive one of constructive planning and execution; they are thus educated not into responsibility for the significant and graceful use of bodily powers, but into an enforced duty not to give them free play. (1916, p. 110)

In other words, Dewey promotes physical movements' effect on student engagement, and its importance in creating positive and meaningful learning experiences within an educational setting. Dewey (1916) proposes that focusing only on the mind during education experiences and expecting the "pupil" to sit idly by while information is delivered verbally not only promotes negative behavior, but it also hampers a student's ability to learn effectively.

Need for Physical Activity in the Classroom

Dangers of Obesity and Sedentary Lifestyle

Literature suggests that obesity is a growing concern for children and adults. The risks from obesity can be connected to both poor health and academic levels (Goh, 2017; Phillips, Meister, Johns, Bears & Ham, 2016). According to the Center for Disease Control and Prevention (CDC), "Childhood obesity is a serious problem in the United States putting children and adolescents at risk for poor health. Obesity prevalence among children and adolescents is still too high" (Centers for Disease Control and Prevention. (2018, June). Retrieved May 2018, from <https://www.cdc.gov/>). The CDC uses the following method to define obesity,

Body mass index (BMI) is a measure used to determine childhood overweight and obesity. Overweight is defined as a BMI at or above the 85th percentile and below the 95th percentile for children and teens of the same age and sex. Obesity is defined as a BMI at or above the 95th percentile for children and teens of the same age and sex (Centers for Disease Control and Prevention. (2018, June). Retrieved May, 2018, from <https://www.cdc.gov/>).

Obesity can lead to further health complications such as heart disease, cancer, diabetes and additional weight related health problems (Goh, 2017; Phillips, Meister, Johns, Bears, & Ham, 2016). According to a brief put together by the National Center for Health Statistics (NCHS), “In 2015–2016, the prevalence of obesity was 39.8% in adults and 18.5% in youth” (Hales, Carroll, Fryar, Ogden, 2017). These rates are higher than the goals set by the Healthy People 2020 initiative. Lu and Montague (2015) report that obese children have a higher probability of becoming obese adults. This cycle of obesity perpetuates an unhealthy lifestyle leading to lifelong health risks.

While there is a direct correlation between obesity and poor health, studies have also found an academic impact. Donnelly and Lamborne (2011) reported that youth considered obese by the CDC BMI standards scored lower on core academic tests compared to youth with a favorable BMI score. One study found that those students with higher levels of cardiovascular fitness scored higher on standardized tests over an extended period of time than those students classified as having lower levels of cardiovascular fitness. The study also reported that those students who changed from normal to obese levels within a one-year period showed a decline in academic achievement during that time frame (Suchert, Hanewinkel, & Isensee, 2016).

Literature explains that school classrooms have the opportunity to positively impact levels of student activity. One of the largest national public health concerns is children living a sedentary lifestyle. Physical inactivity, along with an increase in high-caloric diets, are among of the leading causes of obesity in America (Goh, 2017; Lu & Montague, 2015; Phillips et al., 2016). Students are sitting between 50% and 70% of their school day (Goh, 2017). Some estimates have shown that students are displaying sedentary behaviors for up to eight hours a day (Dinkel et al., 2017). Because the school day greatly influences how much physical activity a youth has daily, increased sedentary time during the school day may have negative implications on student health (Dinkel et al.,2017; Goh, 2017).

A 2018 annual study developed by the Physical Activity Council reporting on sports, fitness and recreation participation in the United States concluded that the levels of physical activity continue to trend downward. The Council reported that “Just over a quarter of the US population ages 6 and over, 82.4 million people, did not participate in even the lowest caloric burning activity in 2017” (2018, p. 10). The 2016 update to the “Shape of the Nation” report provided that inactive students have lower levels of cardiorespiratory and muscular fitness when compared to those students who participate in regular physical activity.

Importance of Physical Activity

The importance of physical activity in the classroom is not a singular issue. Benefits are widespread throughout the entire learning process for both the teacher and the student. Creating and adding movement interventions into the classroom has the ability to improve all aspects of the classroom environment. Challenges exist that may hinder the prospect of physical activity in the classroom, but benefits often outweigh the risks (Donnelly & Lambourne, 2011; Goh, 2017; Martin & Murtagh, 2017).

Goh (2017) discusses that, although there are a number of opportunities to promote and execute physical activities during the school day, there is often a disconnect from movement in the academic core classes such as math and reading. Challenges arise because physical activity often is not seen as supporting the academic outcomes, nor does it ease the responsibilities and pressures that go along with the use of standardized achievement tests. Goh (2017) argues that, “[A]lthough significant challenges do currently exist, children’s needs and potentially significant rewards are also present if classroom teachers can be recruited as allies in the interventions to increase student physical activity” (p. 1382). In other words, he believes that teachers have the ability to improve students both academically and physically by implementing physical activity into their classroom environment. Lack of movement can lead to a number of negative factors. Sedentary lifestyles are one of the key issues in child obesity, leading to a number of health issues such as heart disease and diabetes (Stevens-Smith, 2016). Studies also show that extended amounts of time sitting can lead to off-task behaviors, restlessness and lack of focus (Stevens-Smith, 2016).

On the other hand, during one study, “[A] positive association was found between physical activity and cognitive function including perceptual skills, intelligence quotient, academic achievement, verbal tests, mathematics tests, developmental level, and academic readiness in school-age children (age 4–18 years)” (Donnelly & Lambourne, 2011, p. 37). This study is backed by others such as Mahar et al. (2006) that discussed that children often are more engaged, have better behavior, and perform as well or better scholastically after participation in physical activity through recess or physical education. In a systematic literature review of studies conducted by Rasberry et al., it was found that “classroom physical activity breaks do not appear to have a negative relationship with academic performance” (2011, p. 18). The authors of

this review also found that the vast majority of studies provide evidence that breaks for physical activity during the school day may benefit all areas of the student learning experience, including both the psychomotor and the cognitive domains.

A study by Kall et al., stated, “[O]ur findings should persuade decision-makers and school personnel that increasing curricular physical activity may enhance rather than impede children’s academic achievement” (2015, p. 711). The authors also recommend that schools should and provide opportunities to introduce physical activity into the school day. They argue that the current downward trends in physical activity levels both inside and outside of school makes the increase in physical activity during the school day a priority.

Another study looking at both teachers’ and students’ perceptions of movement integration into the classroom “supports the contention that pedagogies can be modified by teachers and teacher educators to include movement integration in the classroom as an approach to improve students’ overall health and well being” (Martin & Murtagh, 2017, p. 227). Students in the study reported increased enjoyment in the program, teachers found improved teaching and learning experiences.

Literature overwhelmingly supports the use of physical activity in the classroom as an intervention to improve and enhance the total learning experience of both students and teachers (Donnelly & Lambourne, 2011; Martin & Murtagh, 2017). At worst, studies found that movement had zero observable or assessable negative impact on student learning, behavior or engagement (Goh 2017; Stevens-Smith, 2016). One review of literature conducted by Lees and Hopkins found support to the theories that, “aerobic physical activity (APA) and curricular time need not be a trade-off, that there is a synergistic effect between APA and academic performance” (2013, p. 3). The authors further discussed that teachers and schools do not have

to worry about class time spent doing physical activity having a negative effect on academic achievement in class.

Analysis of the literature on physical activity supports that opportunities of movement within the classroom provide positive benefits to the educational experience, and schools and teachers should promote such opportunities.

Marginalization of Physical Education

A report developed by the Voices for Healthy Kids in 2016, showed a lack of cohesion at the national level in regard to physical education standards and regulations in public schools. The report found that only two states meet the recommended times for weekly physical education. Although the State of Kansas requires schools to offer physical education, it does not require students to take physical education classes in any grades. Additionally, no requirement for a minimum amount of time spent in recess or physical education exists. There are also no regulations requiring physical fitness assessments (Voices for Health Kids, 2016).

With time devoted to physical activity in an organized class setting declining, the need to promote physical activity within an academic classroom setting has become increasingly important. Even with the reduction of formal physical education time, students still engage in most of their daily physical activity at school. Using physical activity as a way to engage students in an academic learning setting is one way to combat time taken away from formal physical education.

Brain Development

Literature on the effect of physical activity on brain activity is becoming increasingly prominent. Studies are going beyond just what is visibly observable and looking at how the brain is stimulated and developed by physical activity. Stevens-Smith states, “The bottom line is

that when movement opportunities are provided for children, they do not just develop the physical component of the child, but the cognitive component as well” (2016, p. 7). The author presents a direct correlation between movement and stimulation of the neurons in the brain. This stimulation assists in the ability to learn and retain information (Stevens-Smith, 2016). Stevens-Smith continues that “The more active their bodies are, the more active their brains will become, and physical engagement is a facilitator for that development. The brain is involved in everything a person does, and to ignore it would be irresponsible” (2016, p. 7).

Hanaford (2005) found through brain scans that children learn best when active because the neurons that facilitate learning and retention are stimulated. Stevens-Smith (2016) stated, “While children are physically moving they are developing neurological foundations that assist with problem solving, language development, and creativity” (p. 723). Creating opportunities for physical movement can have important effects on brain development. Research shows that the same parts of the brain are used when processing learning and movement. The evidence suggests that physical activity levels are directly influence the structure of the brain and its ability to function cognitively, such as cell and neuron development (Kall et al., 2015; Stevens-Smith, 2016).

Dr. John Ratey is a prominent doctor and proponent of physical activity and its impact on brain development. He describes exercise as the equivalent of a little bit of Prozac and Ritalin because it elevates the levels of neurotransmitters glutamate, serotonin, norepinephrine and dopamine in the brain (2008). These neurotransmitters are targeted to improve mental health. Ratey’s book, *Spark*, is one of the leading publications on positive effects of physical activity on brain development. He compares the brain to Play-Doh in that it is flexible and adaptable. Another area of the brain that Ratey contends is directly correlated to physical activity is a group

of proteins called brain-derived neurotrophic factor (BDNF). BDNF are neurotrophins that build and organize brain cells. Ratey equates that BDNF to fertilizer for the brain. He refers to studies showing evidence that exercise increases BDNF. He argues that participating in physical activity prior to learning prepares the brain to be more receptive to learning experiences. He concludes that exercise cannot automatically make children smarter by increasing BDNF, but it does prepare the brain for learning.

Literature sets the stage for a positive relationship between physical activity and brain development. Physical activity increases oxygen to the brain and increases brain activity. By introducing physical activity into a classroom setting, studies suggest that students will have improved opportunities to learn and retain information (Stevens-Smith, 2016).

Student Engagement

Teachers often struggle with student engagement in the classroom. Extensive amounts of time sitting and focusing on core academics can lead to off-task behaviors and student restlessness that interrupts the learning experience (Goh, 2017; Stevens-Smith, 2016). Little evidence suggests that increased academic time leads to improved test scores; what is known is that increased academic time leads to less physical activity during a student's education experience (Pangrazi, Beighle, & Pangrazi, 2009). Teachers understand that students learn better and have higher academic achievement when on task. Evidence of increasing on-task behavior through the use of brain breaks, energizers or other types of physical activity interventions will hopefully motivate teachers to introduce such activities into their classrooms (Mahar, 2011).

One study showed a decreased amount of on-task behavior during a baseline period of observation in which students were seated for an extended period of time. In contrast, the study showed a 5% improvement of on-task behavior when a physical activity intervention was

introduced into the classroom (Goh, 2017). The author argued that considering students do not achieve a significant amount of physical activity during a school day, the introduction of a physical activity program into a classroom would be a great resource to teachers to help increase students' opportunities to be physically active. Goh (2017) concluded that adding as little as one physical activity daily into the classroom setting can significantly improve student engagement and thus increase academic achievement.

Another study conducted with fourth and fifth grade students introduced exercise breaks into the classroom. Results showed increased on-task behavior for 20 minutes after the exercise break (Howie, Beets, & Pate, 2014). This study also looked at the effects on high-academic-risk and low-academic-risk students, as well as how the duration of the physical activity affected the increase in on-task behavior. Increased on-task behavior occurred after five, 10, and 20 minute long exercise breaks. It was also observed that both high risk and low risk academic students also increased their on-task time. The authors concluded that while teachers may fear an increase of off-task behavior as a result of physical activity breaks, evidence strongly suggests that on-task behavior improves with brief, high-intensity exercise breaks.

Student engagement is a critical component to learning. Unengaged students struggle to focus on the learning experience. They also have greater opportunity to interrupt others and take away from teacher-student interaction. Physical activity is a strong intervention that has been shown to improve student engagement and on-task behaviors. "It is hoped that behavior change through the usage of in-class physical activity will enhance learning by increasing TOT (Time on Task) during subsequent academic instruction" stated Grieco et al. (2016, p. 102).

Types of Physical Activities Used in Classroom Settings

Kinesthetic Learning

Kinesthetic learning occurs by incorporating touch and movement into the learning experience. The use of kinesthetic learning introduces purposeful movement into the classroom lesson to teach academic concepts. Kinesthetic lessons provide opportunities to increase student interest and motivation, thus increasing student engagement (Beaudoin & Johnston, 2011; Dixon, 2012). Kinesthetic learning goes beyond just moving while learning. It engages students physically in experiencing the concepts being taught (Lengel & Kuczala, 2010). Student learning styles have a significant impact on student motivation and academic success. As physical education and music time is reduced, teachers must find a way to meet the student needs and interests. Kinesthetic learning provides another style of teaching that addresses various learning styles (Dixon, 2012; Humphries, Binder, & Edwards, 2011). Kinesthetic learning experiences can range from forming the body into the shapes of letters while learning the alphabet to walking around the edge of the classroom while learning perimeter and area.

Integrated lessons that combine physical education, music, and the classroom incorporates kinesthetic learning into the school day. Creating a learning experience through the use of physical activity and movement often allows students to release stress and energy in a positive way, and allows students to interact with each other and express their feelings (Humphries et al., 2011). Humphries et al. (2011) provide an example of integrated learning when teaching about Colonial America. They suggest songs, dances and games as a way to introduce the time period and the community life. This type of lesson would address many standards of the classroom, physical education, and music curriculums.

Studies show that students who participate in kinesthetic lessons that include movement and/or kinesthetic teaching aids are more focused, have better attitudes, and perform better academically than those who are taught traditionally (Beaudoin & Johnston, 2011). Through a study to see how kinesthetic learning impacted the effectiveness of teaching algebra content, Beaudoin and Johnston (2011) found that intended movement had a positive effect on student outcomes. One way they introduced kinesthetic learning into the algebra lesson was by having students physically hold a paper parabola. Beaudoin and Johnston (2011) state, “Students who held and moved the paper parabola to demonstrate the transformations of the graph had a better understanding of quadratic function shifts than those students who only practiced the problems on a worksheet” (p. 91). The authors suggest the positive results of purposeful physical activity, such as the parabola example, should encourage math teachers to incorporate their styles of teaching to meet the needs of all students.

Dixon (2012) concludes that kinesthetic learning aids in both cognition and retention of academic content. She further suggests that students learning through movement of their bodies to represent the material are given an extra piece to use in both their learning and understanding of what is being taught. Studies show that kinesthetic learning does not need to be a trade-off for traditional curriculum time. They can work together to effectively improve the learning experience and the academic outcomes. The overriding consensus about kinesthetic learning is that teachers should be encouraged to introduce it into the regular classroom as an alternative to traditional teaching to reach and engage students of all learning styles.

Alternative Seating

From the time students arrive at school, they are introduced to a traditional seating style that promotes a sedentary experience. Breithecher (2006) suggests this process starts early on in

elementary school. “From their first year in elementary school on, children are exposed to sedentary strain under adverse ergonomic conditions. The most dangerous form of sitting, however, is sitting still and for long periods of time” (Briethecher, 2006, p. 1). Briethecher also suggests a reduction in brain activity when sitting for long periods of time with little body movement, as is done in classroom settings.

The practice of sitting still is often used as a student-organizing or student-control strategy. Kennedy (2017) counters this argument. “Limiting students’ seating choices may make it easier for some teachers to control the classroom environment, but it also may create obstacles for students trying to learn” (p.1). Harvey & Kenyon (2013) assert, “Research suggests sitting in fixed-type tables and chairs could affect the development of musculoskeletal disorders, poor posture, back pain, neck pain, and other health-related concerns” (p. 3). Schilling & Schwartz (2004) state, “Studies on classroom seating suggest that sustained sitting in regular classroom chairs is unhealthy for children’s bodies, particularly their backs” (p. 424). Kennedy continues that flexibility in school design should not be something that is just said, but something actually looked at as an important aspect to student success (2017).

Research shows evidence that alternative seating choices, especially those that provide the opportunity to physically move, benefit student behavior, motivation and engagement (Harvey & Kenyon, 2013; Kennedy, 2017; Meed, Scibora, Gardner, & Dunn, 2016). In looking at the various choices for alternative seating, Kennedy (2017) states,

Among the choices: wobble stools and exercise balls that enable students to move and expend energy more freely than more rigid chairs. Sofas, lounge chairs, soft cushions or pillows, yoga mats or beanbag chairs where students can relax and focus on individual

activities; and standing desks or tables, provide students a change of pace as they stand while they work on lessons (p. 1).

One popular seating alternative being widely used is a stability ball. Stability balls improve focus and on task-behaviors for students with autism within a classroom setting. “Therapy balls, because they are a type of dynamic seating, may provide children with ASD an opportunity to both actively move and maintain a healthy, safe, and productive posture” (Schilling & Schwartz, 2004, p. 424).

Alternative seating that allows for physical movement within the learning environment provides opportunities to meet the needs of individual students encourages postural change. These opportunities have the ability to increase blood flow and muscle stimulation leading to better engagement and student focus (Harvey & Kenyon 2013; Kennedy, 2017; Schilling & Schwartz, 2004). Up until now, most evidence of stability ball benefits has been anecdotal. That evidence clearly shows though that there is a marked improvement in students’ behavior, focus and overall academic performance (Erwin & Fedewa, 2011).

Yoga

Yoga as a means to increase student concentration and to reduce anxiety and stressors is being increasingly used within classroom environments (Finnan, 2014; Williamson 2013). “Yoga is a holistic system of practices that, in its traditional form, includes multiple techniques, including physical postures/exercises, breathing exercises, deep relaxation techniques, and meditation/mindfulness practices” (Khalsa & Butzer, 2016, p. 46). Yoga can also be “described as a discipline for focusing and connecting mind, body, and spirit” (Williamson, 2013, p. 36). In relationship to this study, the descriptions offer evidence that yoga provides opportunities to address the needs of the whole student, including the body and mind. As proposed throughout

the literature, more and more studies find that students' academic performances are affected by student health and well-being. Yoga is a promising activity that classroom teachers can use to increase student engagement.

One study that used yoga as an intervention to increase students mindfulness showed positive results. "The students who received the intervention demonstrated significantly greater improvement in psychosocial and emotional quality of life compared with their peers who received standard care" (Banzzo, Anderson, Hylton, & Gustat, 2018, p. 86). The study also demonstrated that teachers found the use of yoga in the classroom had many benefits and that teachers began using yoga frequently.

A qualitative study presented the "findings from a 4-year ethnographic study of a yoga program that was part of every child's weekly schedule in an urban high-poverty Title I elementary school" (Finnan, 2014, p. 27). This study showed significant benefits from the addition of a weekly 40-minute yoga experience. Finnan (2014) reported that many students enjoyed the challenge of, and gained confidence from, learning difficult yoga positions. The author also found that even when students struggled or wanted to give up, positive reinforcement from the yoga instructors provided opportunities to develop positive personal relationships. Finnan (2014) noted that, "Students and classroom teachers described how attitudes and skills related to increased focus and concentration, self-awareness and perseverance, and calm and cooperative behavior were applied in the academic classroom" (p. 38). The study concluded that the lessons learned throughout the yoga experiences carried over to the academic learning experiences (Finnan, 2014).

The practice of yoga has been shown to provide many benefits both physically and mentally to children and adolescents (Khalso & Butzer, 2016). Studies also point to connections

between student physical and mental health and academic performance (Finnan, 2014, Banzo, Anderson, Hylton, & Gustat, 2018). Yoga is a growing intervention within classroom settings that provides both physical and mental activities to improve student behavior and increase student academic performances. The physical components to yoga provide positive interventions for students to increase physical activity time within the academic classroom setting. Khalso and Butzer (2016) conclude that,

The physical postures/exercises, breath regulation, and relaxation techniques practiced in yoga may be especially relevant in supporting contemplative/meditative/mindfulness practice in youth, who exhibit high levels of psychophysiological energy and arousal and are not accustomed to sitting in the stillness required for formal meditation for long periods of time. (p. 46)

Literature supports the notion that yoga positively influences students' physical and mental well-being. The evidence suggests that the use of yoga within the academic classroom setting hold benefits for enhancing student performance (Banzo, Anderson, Hylton, & Gustat, 2018; Finnan, 2014; Khalsa & Butzer, 2016).

Focus Groups

The focus group methodology was first used by Robert Merton and Paul Lazarfield to gain a better understanding of peoples' view of World War II. Originally it was used primarily in the social sciences. Since the 1980s, it has become popular across disciplines in qualitative research (Liamputtong, 2011).

Focus groups separate themselves from other qualitative interview methods in that they promote group discussion. They differ from informal small-group interviews in that they are

better organized and are analyzed through transcriptions of the interviews (Vaughn, Schumm, & Sinagub, 1996). A typical focus group gathers 6-8 people with similar experiences and concerns in order to discuss specific issues in a comfortable setting that is designed to promote a dynamic discussion for one to two hours (Liamputtong, 2011). A moderator leads the group discussion by using pre-planned questions but may change directions as the discussion evolves (Vaughn, Schumm, & Sinagub, 1996). In this study, focus groups will be comprised of upper elementary classroom teachers from a midwestern school who have experience working to improve student engagement and concerns on how to most effectively do so.

Focus groups create social interactions with groups of people. They provide participants the opportunity to view emotional reactions to their own words and to the words of other participants. The greatest benefits of focus groups result from the open and candid conversations that they produce. They promote participation from all involved and put the power in the hands of the group rather than the researcher. Participants drive the direction of the conversation and have the opportunity to lead it to other areas of interest or concern. Focus groups explore how people think and what is important to them. They provide insights into participants' understanding and how they react to others. Through this process, focus groups provide multi-faceted data to reach the goals of a study (Brotherson, 1994; Cry, 2017; Morgan, 1993). This qualitative method also provides the advantage of efficiency. The ability to pool a significant amount of data from group interactions within a limited amount of time and in an engaging setting, allows the researcher to gain the most with the least amount of direct face-to-face time (Fansworth & Boon, 2010).

The success of focus groups rests mainly on the ability to provide a safe environment in which participants feel comfortable expressing their thoughts. The experience needs to feel

judgment free, with participants having no fear of being ridiculed or having negative consequences result from what is expressed (Cyr, 2017; Jayanthi, & Nelson, 2002; Liamputtong, 2011). Researchers can take different roles when conducting focus groups. One is being directive, where the researcher controls the conversation and is a significant participant in the group. The other option is a passive approach where the researcher probes the group with limited questions but works to keep discussion going toward its unknown outcome (Morgan, 1993). To make the focus group experiences feel the most welcoming and open, I will employ the passive role. This will allow for the participants to control the direction of the discussion and feel like they have to opportunity to express what they want me to hear and not what I specifically want to hear. This style also matches most with the exploratory and phenomenological nature of my study in that it will produce more natural occurring responses.

Liamputton (2011), addresses multiple concerns when using focus groups. First, he discusses that focus groups may offer a shallower understanding of issues being discussed compared to one-on-one interviews. He also expresses concern that some participants may not take an active role the discussion, while some dominant personalities may control the group (2011). Cyr adds that the social dynamic of the group may add pressure to conform to one opinion, and in doing so suppress real thoughts (2017). These concerns all have the opportunity to create a bias for the data collected. These concerns enforce the need to provide a safe and inviting environment for the participants. They also strengthen the choice to use a passive-style approach by the researcher. This approach will allow the research to facilitate open conversation rather than be concerned with driving the discussion in a specific direction.

Grounded Theory

Grounded theory is described by Strauss and Corbin (1990) as “One that is inductively derived from the study of phenomenon it represents” (p. 23). In other words, a theory is created based on data collection and analysis that relates to phenomena. Strauss and Corbin further their description stating, “one begins with an area of study and what is relevant to that area is allowed to emerge” (p. 23). Grounded theory can also be thought of as generating theory through research (Moghaddan, 2006). The grounded theory method is frequently used and is most effective within an area that has had little prior research conducted (Goulding, 1999; Moghaddan, 2006; Strauss & Corbin, 1990).

Grounded theory was developed by Barney Glaser and Anselm Strauss in 1967 to close the gap between theory and research, thus giving the researcher an increased ability to generate theory pertaining to area of interest (Glaser & Strauss, 1967). Howard-Payne (2016) described the theory in more depth,

This methodology was able to present a theory, which has its hypotheses and conceptualization derived from data that were gathered and are generated as the data are collected, coded, and analyzed (simultaneously) for the duration of the research process. This style of theory development, based on empirical investigation, would certify that the theory-product would be relevant to the phenomenon being studied. (p. 52)

Using grounded theory to investigate the phenomenon of physical movement in the classroom will allow the research to produce hypotheses not just by my own predictions, but rather by closely analyzing data as the research is taking place.

Glaser and Strauss (1967) produced four criteria of grounded theory that must be present:

1. Theory must closely fit the substantive area in which it will be used.
2. It must readably be understandable by the layman concerned with this area.
3. It must be sufficiently general to be applicable to a multitude of diverse daily situations with the substantive area.
4. It must allow the user partial control over the structure and process of daily situations as they change through time. (p. 237)

To effectively meet these criteria is not an easy task. Thus, grounded theory is constantly changing and a never-ending process. It requires the researcher to collect as much detailed data as possible and then to interact with that data as it is collected and as questions arise (Johnson & Christensen, 2014).

Throughout the years, Glaser and Strauss chose different paths, often contentiously, about how grounded theory should be conducted. Strauss united with Juliet Corbin to write their thoughts on grounded theory in the book, *Basics of Qualitative Research* (1990). This research will be following the school of Strauss and Corbin for many reasons. The main reason to choose the Strauss and Corbin school of thought is that Glaser advocated for objectivity and independence between the researcher and the study. This allows for the researcher to be a neutral observer of research (Howard-Payne, 2016). Strauss and Corbin, on the other hand, advocate for the researcher to be personally engaged with the research to better understand the phenomenon occurring during the data collection (Howard-Payne, 2016). Strauss and Corbin also allow for the data to guide the research procedures rather than using a prescribed framework that Glaser favors. Finally, Strauss and Corbin encourage the use of literature reviews, or at least partial ones, prior to the research (Howard-Payne, 2016). Through the initial phases of research,

I have used literature reviews to gain an understanding of current and historical thoughts on my topic. Throughout the research, I will use focus groups and field notes to further verify and interpret data collected.

The use of open coding and simultaneous analyzing is a critical aspect of grounded theory. Coding procedures provided by Strauss and Corbin (1990) will direct the analysis of my data collection. Strauss and Corbin (1990) outlined why the analytic procedures of grounded theory are designed. They

- Build rather than only test theory.
- Give the research process the rigor necessary to make the theory “good” science.
- Help the analyst to break through the biases and assumptions brought to, and that can develop during, the research process.
- Provide the grounding, build the density, and develop the sensitivity and integration needed to generate a rich, tightly woven, explanatory theory that closely approximates the reality it represents. (p. 57)

Further discussion of how coding and analyzing will be effectively used during the research project takes place during the data analysis section of this paper in Chapter 3.

Chapter 3 - Methodology

According to Strauss and Corbin (1990), “By the term qualitative research we mean any kind of research that produces findings not arrived at by means of statistical procedures or other means of qualification” (p. 17). Strauss and Corbin (1990) deduce that qualitative research can include personal stories, behaviors, social movements, and interactional relationships. From early on in my time as a graduate student, I knew my research desires leaned toward a qualitative style. My early work with phenomenological research experiences led me to always look for the story or the events behind the cause of an action or behavior. It was not enough to simply look at lived experiences as cause and effect. Husserl, the originator of phenomenology, proposes that meanings of the experience will be better clarified by looking back at the analytical data and reflecting upon the connections between the intentions and fulfillments of the experiences. These reflections further make the meanings more intelligible and certain (1977). This study is intended to go beyond a superficial look at the results of using physical movement in academic classrooms through quantitative research procedures. “Qualitative methods can be used to uncover and understand what lies behind any phenomenon about which little is known” (Strauss & Corbin, p. 19). The use of qualitative research matches with my desire to explore the individual physical movements used in classrooms and their effectiveness to improve student engagement.

This study is designed to explore types of physical movements used by teachers during classroom academic experiences within elementary schools in relation to their impact on student engagement. I will focus my research on strategies teachers use to include movement into their classroom and their perception of the effectiveness of physical movement to improve student engagement. The study will also focus on how students react to physical movement during

academic experiences, as well as how students perceive the effect of physical activity on their ability to be actively engaged. To designate what physical movements are used and what movements are most effective in engaging students, this study will use a qualitative method of research.

A pilot study exploring physical movement in the classroom led to a narrower research focus to the following questions.

Research Questions

1. How do upper elementary classroom teachers use physical activity during academic experiences to enhance learning engagement?
2. How do upper elementary classroom teachers and students perceive the impact of physical activity when it is used as a technique to enhance engagement during academic learning experiences?
3. What physical activities provide the opportunities for enhanced student engagement in an academic setting from the perspectives of teachers, students and administrators?
4. What are the observable outcomes produced by using specific physical activities as a part of the academic learning experience?

Grounded Theory

To best meet the needs of my research, I will use the grounded theory framework of data analysis to develop a theory of the most effective physical movement activities to engage students in academic learning. Grounded theory aligns well with my study of physical movement in the classroom. While many prior studies have explored the outcomes of physical

movement in the classroom, little is known about which specific physical movement activities affect student engagement during academic learning experiences.

Research Procedures

This study will be designed to explore physical movements used in multiple elementary classroom settings to analyze what physical movements engage students most effectively during academic learning experiences. My focus will be on the elementary classroom teachers' perceptions of the use of physical movement within the classroom setting to improve student engagement, as well as what kind of physical activities are used in their classes. To discover the different physical movements used and the effectiveness of those activities on engagement, my qualitative study will use teacher focus groups, individual interviews, observations, and field notes.

Prior to this study, a pilot study was conducted to explore uses of physical movement in a first-grade elementary classroom and to observe behaviors that resulted. Through the pilot study, the need for a more in-depth look at the types of physical movements used as well as their effectiveness on improving students' engagement became evident. Interview questions and observation procedures developed from the study will address the following research questions.

1. How do upper elementary classroom teachers use physical activity during academic experiences to enhance learning engagement?
2. How do upper elementary classroom teachers and students perceive the impact of physical activity when it is used as a technique to enhance engagement during academic learning experiences?

3. What physical activities provide the opportunities for enhanced student engagement in an academic setting from the perspectives of teachers, students and administrators?
4. What are the observable outcomes produced by using specific physical activities as a part of the academic learning experience?

Selection of Site

In this study, I want to explore physical movement perceptions, activities and effectiveness on engagement of elementary students between the ages of nine and twelve years old. The site selected for this study is a pre-kindergarten through sixth grade elementary school. The school is one of nine elementary schools within the public-school district that also has two middle schools for grades seven and eight, a ninth grade center, and a high school for grades 10 through 12. The selected school is within 15 miles of a major university, which will allow me to be close to the building and will provide for convenient access to both the students and the teachers for focus group interviews and classroom observations.

Truman Elementary School

Truman Elementary is within an urban Class 6A school district, housing students in grades Pre-K through 6. As of September 2017, the school's enrollment was 344 students. The school houses 38 preschoolers, 46 kindergartners, 43 first graders, 44 second graders, 48 third graders, 46 fourth graders, 40 fifth graders, and 39 sixth graders. All grade levels are comprised of two teachers and two classrooms. Specialized teachers lead physical education, music, art, and library sciences housed within the school building. Special education and gifted programs are also available to qualifying students. Of the students at Elementary School A, 22%

participate in special education programs. Counseling and social worker opportunities are also provided by the school.

Truman Elementary School is a Title 1 school, meaning federal tax dollars are sent to the district and then to Elementary School A in the form of teacher services in reading. The school has two Title 1 teachers. In Elementary School A, 37% of students receive free or reduced lunch. The school is fairly equal in gender with 47% of the students being female and 53% being male. Truman has a predominately white population with 69% of the students identifying as white compared to the city in which the school is located, this school would be considered diverse. Of the remainders, 15% of the students are Hispanic, 7% are African American, 7% identify as two or more races, and 2% identify as “other.”

Based on testing from fall of 2016 through spring of 2017, 48% of Truman Elementary students meet growth projections in math; 49% of the students meet growth projections in reading. The growth projections are based on the 2015 NWEA norms study, where 50% represents typical, expected growth for students within one grade level.

Truman Elementary School is a part of a Midwestern city with a population of 55,000. This number includes students at a large state university and soldiers and their families from an army post living in the city. The city has a population of 83% white; African Americans, Hispanics, and Asians each make up 5%. According to the Bureau of Labor Statistics, as of January 2018, the city has an unemployment rate of 2.9% compared to the national rate of 4.1%.

Selection of Participants

To most effectively gauge perceptions of physical movement and its effectiveness towards engagement in an elementary setting, I am seeking a wide variety of students and teachers to interview and observe. To gain access to students and teachers, I have worked with

the principal at Truman Elementary School and administrators at the district level. At a fall 2018 Truman Elementary faculty meeting, I presented my proposed research. Through this presentation, I recruited volunteers who will participate in focus groups, sit for individual interviews, and allow for classroom observations.

Researcher's Role

Through my time as both an elementary physical education teacher and a graduate student at Kansas State University, I have collaborated and connected with administrators, classroom teachers, specials teachers, university-level faculty, and experts in the field of exercise and health. These relationships have provided opportunities to gain perspective into how students learn in various settings and how students are engaged to learn most effectively.

My experience as a physical education teacher has provided a look into student engagement in both an active gymnasium setting as well as a classroom setting. I have reported on individual education plans for students with learning engagement challenges and have explored what those challenges are. As an elementary physical education teacher, I have been interested in the effects of movement, both physically and mentally, on students at all levels and in all settings. This study will allow me to examine what physical movements are used and which ones are most effective to improve student engagement in the classroom. This study will allow me to view physical movement and its uses from a classroom teacher's perspective.

My role in this study will be multifaceted. First, I will serve as a focus group moderator to gain insight into the teachers' perceptions, motivations, and uses of physical movement in the classroom. Next, I will act as a silent observer in classrooms, viewing student behaviors and engagement levels as well as their responses to all physical movement introduced within the academic learning experience. Finally, as an interviewer, my role will be to draw out further

information to explain and assist in interpreting what has been discussed in the focus groups in relation to what has been demonstrated during classroom observation.

Data Collection

“Qualitative data are words, typically collected using individual interviews, focus groups and observations involving field notes. Qualitative data can also be collected from existing text documents, including newspaper articles, legislative materials, charts or electronic medical records, or photographic material” (Southam-Gerow & Dorsey, 2014, p. 846). This study employed various qualitative data sources but primarily used focus groups, observations, and field notes. The amount of data needed was determined by the ability to effectively develop theory. Goulding (1998) states that, “Grounded theory has a built-in mandate to strive towards verification through the process of category ‘saturation’ which is achieved by staying in the field until no further evidence emerges” (p. 52).

Focus Groups

To create an open, welcoming atmosphere to discuss physical movement’s effect on classroom engagement, I used focus groups as one of my primary data collection sources. This study followed the exploratory approach to focus group research. This approach is looked at as prescientific. Its goal is to create ideas and to validate those ideas within the participant discussions (Vaughn, Schumm, & Sinagub, 1996). Vaughn, Schumm, and Sinagub suggest that, “This is particularly important in education and psychology because this approach can be used to collect descriptive information or pilot knowledge to explicate and better understand constructs and to generate hypotheses” (1996, p. 24). This type of approach will most effectively lead toward detailed descriptions of the physical movements used in the classroom and their ability to engage students in the learning experience.

Literature suggests the need to use more than one focus group. Multiple focus groups provide range and diversity to strengthen the data collected. The use of multiple focus groups also allows the research to confirm or question responses of others (Greenbaum, 1998; Vaughn, Schumm, Sinagub, 1996; Cyr, 2017). My study conducted two focus groups consisting of homogenous participants in the sense that they include only elementary classroom teachers from one school. The various levels they teach and their perceptions on the use of physical movement in the classroom provided diversity.

Location and setting had a major impact on creating positive interactions with the focus group participants. Having a convenient place to meet that is both comfortable and close to the participants increased participation. Other motivators such as providing food and non-alcoholic drinks, as well as incentives such as certificates of completion and gift certificates, dramatically increased willingness to get involved (Greenbaum, 1998; Vaughn, Schumm, Sinagub, 1996). To achieve optimal participation, I meetings were at Truman Elementary School. I provided each focus group multiple time options to allow them to select on that most conveniently meet participants schedules. Snacks and refreshments, and dinner if appropriate, were provided during the meetings. Participants were also be presented with a gift for taking part in the focus group. After concluding the group, I offered the participants the opportunity to receive updates on the research and further research.

Classroom Observations

Along with focus groups, classroom observations were one of my primary source of data collection. To most effectively discover the specific physical movements being used and the ability for those physical movements to engage students, I will spend time in the elementary classrooms of focus group participants. Johnson and Christensen (2014) describe observation as,

“the watching of behavior patterns of people in certain situations to obtain information about the phenomenon of interest” (p. 236). According to Wragg (2012), when choosing a classroom observation method, it is important that it should be appropriate for the purpose of its use and focused on what the research is about. My base method of observation was qualitative in nature and recorded through field notes. Following each observation session, the notes were reviewed for clarity and pertinence to the topic. When questions arise, individual interviews with teachers and the school principal will be conducted to gain a deeper understanding of the phenomenon observed. I focused my observations on two things, the physical movements used within the academic learning experiences and the student behaviors that both accompany them and follow the movements.

Wragg (2012) identifies four main points to focus on when acting as a qualitative observer in a classroom. First, the observer must make it clear to the teacher the purpose of the observation. The purpose of my observation was not to make personal value judgement of the teacher. It was to look at specific phenomenon objectively and record the outcomes. Second, the observer should take into account what effective learning experience is and recognize that there are differing views on it. Through literature reviews, focus group discussions and individual interviews, I developed a criterion for quality engagement in the classroom. The key to this criterion was that was based on a multitude of sources. Third is how the teacher and observer have conversations about effectiveness or quality. Conversations between myself and the teacher will be mostly in response to a need for clarification or verification. The teacher will lead and set the agenda for the courses. I will be a passive observer and not discuss teacher quality or effectiveness with the teacher. Fourth is the nature of the lesson record. How and when will the record be developed? The record of events during the observations will be

recorded as field notes as they happen within each observation setting. Following each session, additional notes or memos will be added when appropriate. I will conduct no less than 20 classroom observations.

Classroom observations hold advantages over tests, questionnaires, and other self-report data in that they allow for an outside observer to record actual behaviors and emotions rather than just outcomes of intended behaviors (Johnson & Christensen, 2014). This study is committed to going beyond superficial outcomes from the use of physical movement in academic learning experiences. The use of observations allowed for data that is connected to what happened during the engagement process and detail what type of physical activities are most effective in engaging students.

Field Notes

Field notes were an important aspect of the data collection to create depth of what was observed, both audibly and visually. Field notes “aid in constructing thick, rich descriptions of the study context, encounter, interview, focus group, and document’s valuable contextual data” (Phillippi & Lauderdale, 2018, p. 381). Field notes were used during the observations, focus group discussions, and individual interviews. During the observation portions of data collection, field notes were thoroughly and individually detailed to each classroom situation. Typed field notes were taken for all information pertaining to classroom environment, physical movement, student and teacher interactions, and behaviors. While I mostly stayed with my initial approach, I did adjust when needed based on the findings and the direction of the study. Field notes for focus groups and interviews were less detailed than those in observations, and these notes were used to remember important interactions and data as well as to assist in developing further questions and discussion direction. These notes taken during and following each interaction with focus groups

and interviewees allowed me to be seen as unobtrusive and stay as a participant in the conversation. Immediately following each field note writing experience, I took time to edit and add any needed information.

Data Analysis

The process of data analysis when using grounded theory begins in conjunction with the initial contact between the phenomenon being studied. The analysis continues throughout the development of a grounded theory (Johnson & Christensen, 2014; Strauss & Corbin, 1990; Oktay, 2012). Data analysis is done continuously during the data collection process. This is called the “constant comparative method” and it involves a constant back-and-forth between the data, the researcher, and any theory that may develop (Johnson & Christensen, 2014). To make this method most effective, the researcher must have theoretic sensitivity. Theoretic sensitivity means the researcher thinks about what data is important and pertinent to the study, understands the data, and gives meaning to the data (Johnson & Christensen, 2014; Strauss & Corbin, 1990). The ability to effectively use theoretic sensitivity comes both from reviewed literature and personal experiences. Though these are valuable sources to pull from, it is important to keep a balance between what is actually occurring in the data and what is created by the researcher (Strauss & Corbin, 1990).

Grounded theory provides a framework for data analysis through three major methods of coding. They are open coding, axial coding and selective coding. Throughout the coding process, the researcher is not required to adhere to one method only. It is common to move between coding methods even in a single coding session, especially between the open and axial coding methods. Throughout the coding process, questions must be asked to ensure coding

procedure flexibility. By asking questions, the researcher generates direction of the study to develop theory (Strauss & Corbin, 1990).

Coding Methods

Open coding is the initial process to analyzing data when using grounded theory. Open coding is, “The process of breaking down, examining, comparing, conceptualizing, and categorizing data” (Strauss & Corbin, 1990, p. 61). Typically done line by line of the field notes and transcripts, open coding begins the process of naming and categorizing phenomena as they are extracted from the data. Concept terms are given to describe events that are noticed from the data. It is best to do this type of coding quickly to prevent thinking too deeply about any one code or category at this point. The idea is to note everything that may lead to further questions down the road, even if they are not ultimately used (Oktay, 2012). During this process, the researcher codes anything of note even if it seems insignificant at the time (Oktay, 2012, Johnson & Christensen, 2014). Through open coding, the data is examined in detail allowing for the comparison of for similarities and differences as the phenomena is discovered. Questions are asked of the phenomena as they are pulled out, often leading to new discoveries (Strauss & Corbin, 1990).

Strauss and Corbin (1990) suggest first labeling concepts found in the data, then categorizing those concepts that pertain to a particular phenomenon. Names should be given to a category, “so that you can remember it, think about it, and most of all begin to develop it analytically” (Strauss & Corbin, 1990, p. 68). Within each category, the researcher will develop properties or characteristics that phenomenon have in common assign them a dimension or place along a continuum.

Axial coding is the detailed exploration into individual categories revealing a phenomenon's context, strategies, and consequences to give them depth and precision. This can also be described as showing how the phenomenon operates through its process (Johnson & Christensen, 2014; Oktay, 2012; Strauss & Corbin, 1990). Strauss and Corbin (1990) emphasize that, "Though open coding and axial coding are distinct analytic procedures, when the researcher is actually engaged in the analysis he or she alternates between the two modes" (p. 98).

Through a "Paradigm Model," Strauss and Corbin (1990) relate subcategories to a category. This model enables the researcher to analyze systematically the data and relate the data collected to what is happening in the study. Below is a basic view of the model they provide.

(A) Causal Conditions > (B) Phenomenon > (C) Context > (D) Intervening Conditions > (E) Action and/or Interaction Strategies > (F) Consequences (p. 99)

An example of their model as related to this study could potentially look like the model below.

(A) Student in math class > (B) not paying attention > (C) for a long period of time > (D) because he has been sitting for a long period of time. > (E) The teacher has the students count to nine by making physical shapes with their body. > (F) The student's behavior indicates he is engaged in the activity.

This model example explains that while a student is unengaged if he is sitting for a long period time, once a specific physical activity (making shape with his body) is employed, the student engages in the *lesson*. Through axial coding, an example like this over and over will help develop the specific types of physical movement in the classroom and the effectiveness of those movements to engage students during academic learning experiences.

Axial coding, like open coding, relates categories and subcategories. Axial coding differs in that the procedure is more focused on discovering and relating categories through the use of the paradigm model. These categories can then be treated as hypotheses to be used during further data collection opportunities (Oktay, 2012; Strauss & Corbin, 1990). Axial coding is a major component to data analysis in grounded theory. It begins the testing process of theories, indicating which need further development and which can be discarded (Oktay, 2012, Strauss & Corbin, 1990).

Selective coding is when the refining of the data analysis begins for the researcher. During this process, the researcher develops a main story line derived from the data. The story line is a core category that has been produced by open and axial coding (Johnson & Christensen, 2014; Oktay, 2012; Strauss & Corbin, 1990). Once the core category is identified, the researcher can focus his analysis around that core and its relationships other categories. This also allows the researcher to stop coding for unrelated categories and concepts (Oktay, 2012). The researcher now can go back and use sample data collection to fill in gaps of the core category (Oktay, 2012; Strauss & Corbin, 1990). Strauss and Corbin (1990) identify five steps to accomplish selective coding:

1. Explicating the story line by formulating and committing to a story line.
2. Relating subsidiary categories around the core category by means of the paradigm as discussed with axial coding.
3. Relating categories at the dimensional level by constantly moving between asking questions and making comparisons.
4. Validating theory against the data by creating statements regarding category relationships under various conditions.

5. Fill in the gaps in categories for any missing details in the core category creating density and specificity.

The use of selective coding is a great help to the researcher in terms of keeping him focused and not overwhelmed. By developing a core category and then a story line, the researcher can view specific categories and their related subcategories thus begin creating theory (Okta, 2012; Strauss & Corbin, 1990).

Research Timeline

August

- Propose to Committee

October

- IRB Approved
- Set Up Meetings with Potential Teachers to Observe and Include in Focus Group Discussions
- Finalize List Teachers to Work with in Study

November

- Conduct First Focus Group Meetings
- Begin Observations
- Continue Observations
- First Focus Group

December/January

- Second Focus Group (January)
- Conduct Final Observations
- Individual Interviews
- Analyze Data
- Write

February

- Continue Writing

March

- Finish Writing
- Edit
- Turn into Committee

April

- Defend

Trustworthiness

Qualitative research embraces the standards of quality using terms such as trustworthiness or validity (Morrow, 2015). Many strategies will be put in place within this study to secure trustworthiness throughout the research and data analysis process. The primary strategies will include triangulation of perspectives and multiple data collection methods.

Triangulation is a validation strategy that refers to collecting data from multiple sources and through multiple methods. (Johnson & Christensen, 2014). This study explored from the perspectives of the key stakeholders. The stakeholders include students, teachers, and administration. Students were observed within various classroom and academic settings. Data was collected through open observation field notes. Teachers were both observed and interviewed through focus groups. Administrators provided data by allowing the review of relevant school records and the analyzation of school priorities.

Throughout the data collection and analyzing process, I was open about my past experiences with physical activity and children as a physical education teacher, a coach, and a college instructor. This secured the transparency and knowledge of my positionality about the pertinent topics that will arise applicable to the study.

Summary

Through a qualitative study, I used a grounded theory method to create theory around the ability of physical movement to engage students in academic learning experiences. Data was collected through the use of a focus group comprised of elementary classroom teachers of varying levels from Truman Elementary School. The focus group sessions were recorded with an iPhone app named Voice Recorder and transcribed using the website Transcribe. Data was

also collected through classroom observations by taking field notes relating to student engagement and physical movements in the classroom. As data was being collected, the researcher used grounded theory methods of coding to create concepts and categories related to physical movement and student engagement in academic learning experiences. The methods were used to generate theory regarding the most effective physical movements and their uses to produce student engagement.

Chapter 4 - Presentation of Data

This chapter provides data obtained through the use of three different sources from November 2018 to January 2019. The data was gathered through multiple classroom observations in three different classrooms. Observations lasted from 30 to 90 minutes each. The observations were taken during different times of the day and during different academic subjects. Detailed field notes were taken pertaining to classroom atmosphere and description, physical activity strategies used, and student reaction to physically active and non-active academic experiences.

After two days of classroom observations, I conducted my first of two focus groups with the three teachers of whose classes I observed. The first focus group was 90 minutes long and conducted in the Truman Elementary conference room. The first focus group was followed by four weeks of classroom observations. The second focus group was conducted at the beginning of January in the classroom of a participating teacher. It coincided with the teachers' return to school following the winter break. After the second focus group, additional classroom observations took place. The final source of data came from individual teacher and principal interviews. Each individual interview took place at the interviewee's desk and lasted one hour. All focus group and individual interviews were immediately transcribed using the transcription website [transcribe.wreally.com](https://www.transcribe.wreally.com). Once transcribed through the website, I listened to the recordings of each interview to make edits and to review the content of what was discussed.

This chapter introduces data relating to the participants and their classrooms, the details of the focus groups and individual interviews and the findings and artifacts discovered through field notes taken during classroom observations. The data will be presented chronologically as it was collected. This will allow me to tell the story of my discovery that will lead to the analysis

and theme development of my research. All data presented will use pseudonyms for both names of participants and the school.

Description of the Classroom and Initial Field Notes

Entering Truman Elementary School to begin collecting data for my had me full of hope to, excitement and intrigue to learn what is happening in actual classroom settings. I would be observing two sixth grade classrooms and one fourth grade classroom. Walking up the stairs to the third floor, I had a lot of questions to answer. But even more than that, I was looking to see where the data would take me. While in each class, I made sure to sit at a position in the room that allowed me to see the whole class, but one that also kept me out of the way. The following descriptions are data from my initial field notes in each of the three classrooms.

Wendy Greg

I entered Wendy's classroom for the first time Thursday at 1:00 p.m. and stayed for 45 minutes. Wendy, who has taught for nine years, teaches a fourth-grade class of 11 girls and 14 boys. Students are seated around the room at different reading areas. Wendy's class looks like a very typical elementary classroom. Desks and traditional blue chairs are grouped into sets of six to nine. There are four groups of desks. At first glance, students are sitting on their knees, leaning back on two legs of the chairs, slumping over the tables, and standing at their desks. Not one student is sitting with both feet on the floor and back straight. The class has a relaxed and comfortable feeling to it. The room is organized and neat, an air of freedom lingers regarding where things are and how students are seated throughout the classroom.

Cabinets and hooks for student coats and book bags line the north wall. Windows span the length of the south wall, allowing natural light to fill the room. The window covers are about halfway up the windows allowing for the room to be well lighted. A low cabinet with a counter

stretches the south wall underneath the windows. There is an iPad cart along the south wall with enough iPads for each student in the class. The teacher's desk is in the south west corner of the room. The northeast corner of the room has two shelving units full of books, creating a small library area. The west wall is designated as the front of the room. A projector sits at the whiteboard on this wall. The teacher displays the daily schedule and class information on the whiteboard. Classroom décor includes pictures, artwork and posters on all four walls of the room. The posters are educational, motivational and sporty. The teacher has a bulletin board by her desk dedicated to picture of her family.

The classroom has multiple seating options for the students. There are a few traditional desks facing multiple directions around the outer section of the room. A director's chair sits in front of the teacher's desk. The area by the library has a crib mattress on the floor with multiple pillows around it. Pillows are also behind the library shelves for students to sit on.



At 1:05 p.m. students begin math class with a flash card review game. Students sit at their desks. The teacher walks around to different students and has a

Figure 1 Reading area in Wendy's Classroom.

competition between two to see who can answer the equation on the flash card first. Both students are standing when they answer. The winning student stays with the teacher and advances to compete with another student in the class. The non-winning student sits down. This continues for 10 minutes. The two students competing are actively involved in the game and are paying attention. The other students not directly involved with each contest are initially on task and engaged in the activity, but they quickly lose interest and become off task as the game progresses. When the contest takes place close to where they are seated, they quickly become reengaged in the game.

At 1:15 p.m. the teacher ends the game and puts the students into groups of three to work on math facts using flash cards. The students test each other taking turns asking questions. The students are free to pick their own groups. As Wendy calls a student's name, they pick two partners. The groups are allowed to sit where ever they would like in the room. The mattress is the first area picked, followed by behind the library shelves. Only one group of students sits at the traditional desk and chairs.

Sally Westwood

At 1:35 p.m., I began taking my first field notes in Sally's class to get a sense of how her classroom worked. This observation lasted 45 minutes. As I walked into Sally's classroom on my first day of observations, I noticed it had a different feel than many elementary classrooms I had been in before. This was not the neatly organized and orderly room with students sitting at their desks working quietly. My initial impression of this classroom with 25 sixth graders, was a picture of chaos, cramped into a cluttered room of desks and chairs.

When the observation began, students were transitioning into the room from another class. As students entered, they went to their desks to get finished homework to turn in.

Students then began working on math assignments on both worksheets and iPads. Students were spread throughout the room sitting in various areas and on various types of seating. Sally moved around the room talking with and checking on students. When she was seated or standing at her desk, students freely walked up to her to ask questions. Throughout the room, students were quietly talking with each other as they worked on their assignments. The students appeared to be on task and engaged in their learning.

The classroom is set up with individual desks and chairs grouped into sets of three to five desks all facing each other. Each desk chair is a traditional hard blue school chair. The north and south walls of the room have large whiteboards on them with a projector positioned on the south side of the room. Windows line the east side of the room, spanning from a low cabinet to the ceiling, allowing ample amounts of natural light into the room. The room was dim; the



Figure 2 Alternative seating options in Sally's class.

teacher had the lights off with the window shades lowered. The lower cabinet is cluttered with books, plastic tubs, paper and pencils. The clutter was not limited to the cabinet counter by the windows. There seemed to be no rhyme or reason to the placement of most objects and class materials throughout the room. The west wall is lined with cabinets and hooks for students' book bags and coats. The cabinets are covered randomly in sticky notes of different colors and a few educational

posters. Along with the whiteboard on the north wall, hang framed pictures of all the students in the class. The teacher's desk is in the center of the east wall, allowing for access from all sides. Various colorful posters that were educational, informational, and motivational are displayed throughout the room.

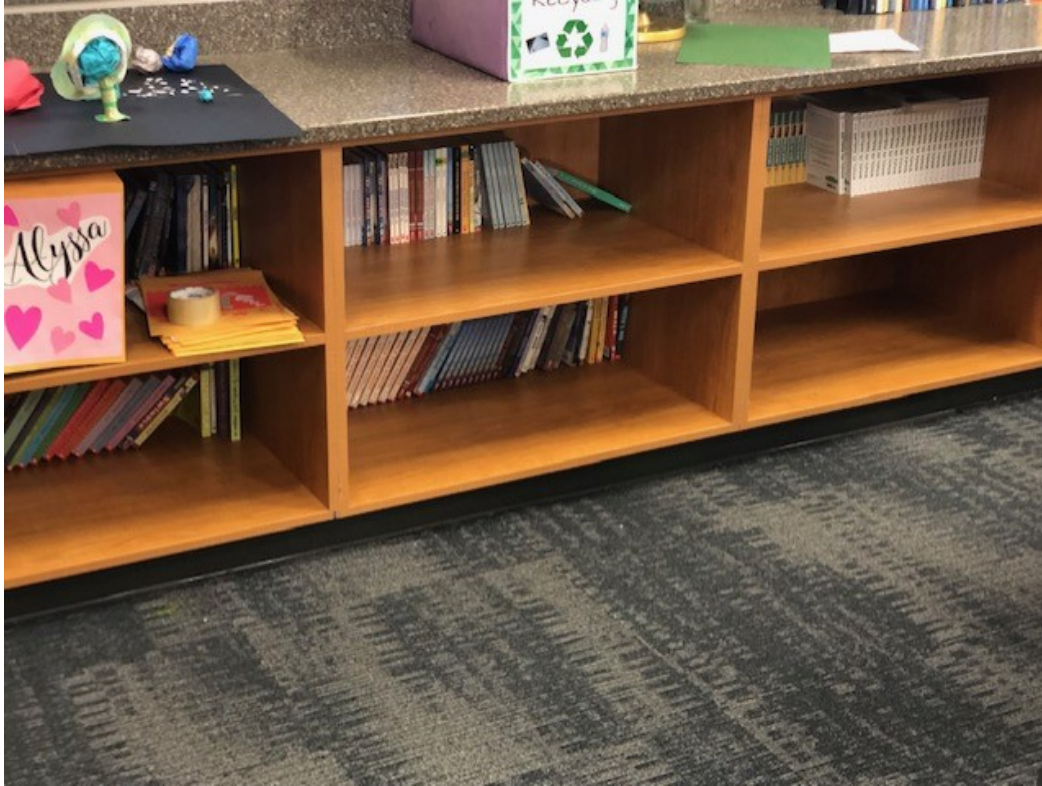
Alternative seating is abundant in the room. There are six stability balls, a rocking chair, three bungee chairs, and two lounge chairs. Students were using both the alternative seating options and the traditional blue chair and desk option. Students sitting at the traditional desks and chairs were more slouched over and had poorer posture compared to those students sitting on stability balls.

After 30 minutes of observation, the students continue to move around the room freely to have questions answered or have a short discussion with other students. Students move in and out of the classroom using parts of the hallway and stairway as work areas.

Amy Halley

When I entered Amy's classroom at 10:20 a.m., I am met by an aura of peace and calmness. At the start of my 85 minute observation, the students are at their desks silently reading, except for two students who are laying on the floor. The sixth-grade class of 12 girls and nine boys has only eight students in the room. They are participating in a tiered-by-ability reading club. The other students are in other classrooms based on their reading level.

Amy's serene room is the opposite of Sally's cluttered space. The classroom is organized and clean. The windows on the west side of the room have the window coverings pulled up all the way for maximum natural light. An aroma of holiday cookies, coming from an essential oil



diffuser, fills the room. A video of a fireplace is projected on the north wall whiteboard, giving the room a sense of coziness.

Figure 3 The neatness of Amy's room was evidenced by her book cases.

Desks and chairs are

together in groups of four. Each chair is a traditional blue classroom chair. The south side of room has low cabinetry along with a countertop and sink. The west side of the room has cabinetry including shelving and countertops. Books and school supplies fill the shelving in a clean and orderly fashion. Books are grouped by type and topic; the school supplies are neatly organized in containers. The east side of the room has high cabinetry with hooks underneath for student coats and book bags. The teacher's desk is in the southeast corner of the room. Amy's room is sharply decorated with colorful posters and artwork. The daily schedule is prominently displayed in the front of the room.

After 15 minutes into the observation, there is little to no physical movement occurring in the classroom. Students are still sitting quietly reading their books. One student moved to the floor and began talking with another student laying down. This is the first off-task behavior that I have noticed since the beginning of the observation. Another student also moves to the floor and physical activity in the class is becoming visible. Students on the floor change positions often.

Twenty minutes into the observation, and students continue to read silently. Observable restless physical movement occurs more and more often as the time elapses. Student begin swinging their legs, tapping their feet on the ground, and looking around the room and away from their book. At 10:45 a.m., silent reading ends and the students who were in other rooms begin to come back into Amy's classroom. The students transition into the room quietly and are asked by Amy to read silently or work on their iPads. Once all 21 of Amy's students are in class, she has the students come to the front of the room and sit by her at the whiteboard. After a short video, the students spend 10 minutes popcorn reading, taking turns reading aloud. Then they go to their desks to write a response to questions in the textbook about the story that was read while still seated on the floor. After 20 minutes, the students are asked to write a summary of their writing. As the students are at their desks, most are sitting slouched in their chairs or sitting on their knees.

The teacher informs the students that there will be no outdoor recess for a third straight because of the cold temperature. The students moan audibly, and slumping body language is observed. While there have been a few transitions from chairs to floor and back to chairs, students have been seated during the majority of observation. At 11:45 a.m. students are asked to put their books and iPads away and line up for lunch.

Wendy Greg

My next observation in Wendy's class began at 1:55 p.m. The students had just returned to class from lunch and recess. The class had spent the morning at an outdoor parade in cold weather. Students were scattered around the room reading and working on iPads. A few students are sitting on the floor, one is sitting on the crib mattress. The rest of the class sits at their desk. Students have the freedom to move around the room as needed as long as they stay on task. At this point, all students are on task.

At 2:05 p.m. Wendy begins getting the students ready for math. She has them get into groups on their own. There is a lot of physical movement around the room as the students organize themselves. A few boys act up with each other during this transition, but they are quickly back under control with a quick intervention from Wendy.

Three groups form with each group going to a different area of the room to work at math stations. One group is working with a para. This group sits on the floor and each student holds a whiteboard and dry erase marker. The para gives them numbers to the students to multiply. As the numbers are given, the students write them on their whiteboards and work through the problems. They work on their own and then as a group if help is needed.

Another group plays mat games on iPads. The students all sit at a desk and work on their own. A few of the boys talk a lot. Most of the students in the iPad group are off task. The final group is doing a worksheet with the teacher at one of the group of desks. Wendy is leading them through the problems.

The groups working with the teacher and the para are very much on task and engaged in the activity. The group using the whiteboards are visibly happy and excited about what they are doing. That group has now begun to one at a time go to the big whiteboard and do the problem

there. This activity gets the students up and makes them physically active while doing math problems, rather than having them sit at desks like the other groups. Watching the activity progress, you can see that each time the students are writing on their own whiteboard or get up to write on the whiteboard on the wall, they re-engage into the practice. Students with the iPads continue to get restless the longer the station lasts.

After 15 minutes at the one station, the groups rotate counterclockwise to new stations. The iPad station moves to the whiteboard station. This was the most off task group of the three at previous station. Once the group gets the whiteboards and the para begins giving them numbers to write and problems to solve, the students are all engaged. One of the students who struggled the most staying on task using the iPads now stands at the board writing out math problems and is fully on task. As the para waits for everyone to finish the questions, the group starts to get off task. As soon as the next problem is read, all students are back on task. With each group of students, it became very clear that as long as they were in the act of writing on the whiteboards, they were engaged in the learning process. The longer the time between writing, the more restless and off task the students became. The iPad group sitting at their desks continues to be the most off task of the group.

Focus Group 1

Using Doodle Poll, the online scheduling tool, the teachers and I settled on a date and time that would work best for them to meet. We decided Tuesday, November 13, would be our first focus group interview with all three teachers. I scheduled the meeting for after school at 4:00 p.m. in the conference room of the Truman Elementary School office. I arrived 15 minutes early to prepare the room for the interview. I brought pizza and soda because the teachers were not going to have time to eat before coming to the meeting. The food and drinks were set up on

the cabinet counter in the room. I set up three different recording devices, including an app called voice recorder on my iPhone. It became my main recording device for each of the following interviews that would take place. The conference room had a long rectangle table with eight chairs.

As the teachers came into the conference room just after 4:00 p.m., I invited them all to grab some food and drink before we started. We then sat at the conference table on both sides of the table, so we could easily talk, hear each other and see each other. I did a quick introduction about the focus group, and explained how our conversations will be confidential and that pseudonyms would be used when presenting the data in this paper. We then began recording our focus group interview. I had a list of eight questions to direct the discussion. The group was hesitant at first to open up and give detailed answers, but as the interview went on, the teachers became more engaged with the topics we were discussing. The discussion led to new questions and rich descriptions of the teachers' thoughts and perspectives on students and physical activity during the academic learning experience. The interview lasted about one hour and everyone had left the conference room by 5:30 p.m. The following is the significant data from the first focus group discussion.

My first question was, "What are your perspectives of physical activity's impact on your own lives?" All three teachers quickly responded that they loved it but struggled to make it a part of their everyday lives. Amy stated "I don't have the motivation to do it. But when I do it, afterwards I feel so much better about myself and just physically like I'm ready to go." Wendy then commented "I find I'm really good at finding excuses as well as why I can't but then once I do the activity or whatever, then I do feel better and I can also tell the difference at school."

I then asked, “What role do you think physical activity has in students’ lives?” Amy was quick to proclaim, “They’re not getting outside much. They sit inside playing video games like Fortnite.” Wendy continued stating “I played way more outside. So, I feel like today some kids only play outside if they’re involved in something like Parks and Rec or traveling sports.” All the teachers agreed that video games had a major impact on students’ lack of physical activity and that it also has affected their ability to just play. Sally commented “That’s what I’ve noticed at recess, like I can think of a couple kids just don't know what to do. Yeah, they don't know how to play.” Amy stated, “I think it’s imagination. They don’t know what to do outside. The kids say, ‘What do I do?’ ‘I don’t know what to play.’ If no one’s telling them what to do they just sit there. I don’t think they know how to play.” There was also discussion between the teachers that in “today’s world” parents are not comfortable letting kids outside by themselves to play. Sally added, “I know some kids don’t go outside because of the world that we live in. That’s one of my girls last week and she mentioned she’s likes being at school because that’s the only time I get to go outside and play. I said, ‘What do you mean? Like when you get home, do you’ and she's said, ‘Oh no, I’m not allowed to. I have to stay inside’ and so like there’s also that because it’s scary outside.” Wendy stated,

There are a lot of kids that don’t know what to play outside. They have to be told what to play. That’s how they are in class. Like if I say write a paragraph about it or write a sentence about something, they want everything told to them. A lot of them would totally like indoor recess instead of outdoor recess. I’ll tell them what they can play which is great. Like, you know, here’s card games. Here's this whatever, and they’re like, “No iPads” and I’m like, no

not unless I'm in here, because they would totally like it if I let them just have a day of iPads. There would be a few that would get bored, but a good handful, I think they would play all day if they could.

She continued that she had some kids who could literally sit and do nothing all day besides play on the iPad. "So, by that I know that's what they do at home. They're not going outside."

I followed this discussion by asking, "How does a sedentary lifestyle affect your students in school?" Sally and Wendy felt that students are affected both academically and socially by not being more physically active. Amy stated, "It's like they get bored listening to us. But then if it's too strenuous of an activity, they don't want to do it. Like with GoNoodle, sometimes if it's too strenuous, like the ones that just sit at home don't want to participate, but the ones that play sports are pretty into it." She continued, "I feel like with the video games, it's always changing. But then if they're listening to us teach sometimes, they are doing an activity where they have to sit, and they get bored because it's not constantly changing." Sally commented that, "It's hard because I don't know why some of them don't want move." Wendy added, "It's also that video games are something that they want to do. They're not interested in everything that we teach. I think some of their interactions if they're only on the iPad by themselves, they don't know how to talk to people."

The discussion about students not knowing how to play at recess or at home on their own and being sedentary led to my next question. "How are students different when they do and do not get planned physical activity breaks such as recess or physical education?" Amy immediately commented that when the students miss recess, they are "louder and their attention span is not there." Sally saw an improvement in the students' attitudes and focus after they had

their first outdoor recess after being inside for three days. Amy added that, “It’s amazing what the sun can do.” Wendy noted in response to not having outdoor recess, “That’s why I did math rotations yesterday in my room. Just to get them moving that way.” The teachers commented that having recess definitely helped students be more focused in the afternoon, but that students struggle with long intervals of direct instruction even after recess. They also noted that physical activity during the afternoons through class transitions and that moving from classroom to classroom helped. So too does working in more hands-on subjects such as science.

To get a better understanding of how physical activity was used in the classrooms, I asked, “What purposeful physical activities do you initiate into your academic experiences?” Wendy opened the discussion talking about the math activity I had seen in her class. “Mine is more of math games. I play math knockout with flashcards. It’s a multiplication game to see who gets their answers faster. I played around the world like when the students’ stand and the winner goes around the room.” Sally explained a kinesthetic activity she had done to teach negative numbers using big number lines drawn on the whiteboards. She would give them a positive or negative value and have the students move to the matching area on the number line. Wendy also uses physical activity strategies for reading. She said, “In reading, I’ll try to switch up how I read every day, reading with a partner or on the floor versus sitting in the desks.” Amy added, “During reading, I had us all sit in the circle on the floor and read just to have more visual what they were doing. Sometimes I’ll have them do group work with stations and have to rotate to answer questions about a story.” Wendy also uses physical activity to practice vocabulary words. “We acted out our vocabulary words. I know it’s not in their curriculum, but just to get it because the some of those words were hard, and just if they could think about the group acting it out, they can remember that group.”

Sally began a discussion about how not all physical activities in her classroom are planned. “I think another like physical movement thing that we do is isn’t necessarily planned activity but being okay if they need to stand up or move around when we’re learning.” Wendy added, “I think if you need to stand up in your chair, just scoot it in. Last year I had kids fall asleep. And if they were, if I knew their home life was tough, I would actually let them sometimes move around.” She also has the students stand up and sit down to agree or disagree to questions she asks. Amy noted that she felt her class had read for way too long the other day without moving. She commented though that, “I think some of them though, when they’re really working on a project and they want to do their best, and some of them just need quiet time to sit and work.”

Wendy said she likes to use music in her class to help kids focus. “I do music that has words because I don’t care if they sing quietly as long as they were doing that activity, not like dancing over here on this side of the room.” She added, “But if it’s like math. I’ll have them vote if they want music because you know, you do have those kids that want it quiet. And if it’s a majority vote then I will but I’ll put on the music without words that way.” Sally believes the music helps her students “chill out.” “At the beginning of the year, they made a playlist and so they all got to contribute one song to it.”

I asked the teachers if they used brain breaks and how have they worked. Wendy stated, “I feel like if I pause my classroom doing an activity to brain break, I’m going to also need five minutes to get my kids back.” She continued, “Brain breaks would have to be a transition. It could not be in the middle of a math lesson. It would have to be after math was over.” Amy added that they can be great to focus some of her students. The teachers all agreed that they don’t use specific brain breaks often, and that it’s hit or miss on whether the students want to do

them or not. They said often students feel awkward about getting up in class and doing dances or exercises, especially those who are not confident socially or athletically. The students feel like they fail if they mess up a movement or look funny. The teachers commented that the students who are more social are more excited to perform brain break activities.

Because the teachers felt like a lot of the students are resistant to brain break activities, I asked them how they thought they could get all the students included in some kind of physical activity in the class. One suggestion from Amy was, “Do it yourself. Do the silly GoNoodle with them. I see more of them join in and they’re like, oh she looks weird. I can look weird. It might be okay.” Sally thought that it depended on what kind of movement you are doing. She stated, “I feel like that’s different than like writing on your whiteboard. Some like doing that. It’s totally different because I don’t think I would want to do GoNoodle. I’m going to write on my whiteboard. I’m going to be awesome at it.” The suggestion from the teachers was that not every activity works for every student, especially if the activity single students out.

When asked what they found to be most effective in getting students moving in class, Amy said, “One time, I had my kids doing a circle time class meeting, and on the way back to their desk, they had to give everybody high five. That worked really well, and then they sat down they were really quiet.” Wendy commented that using physical activity in math worked well. “I’ve noticed that math, I can’t do it every day, but if we can do rotations or coming up to the whiteboard and writing on our desks, it’s way more helpful. I’ve gotten the math book out less and less this year. I just I look at the lesson and they do it with me versus ‘let’s look at the book’.”

I continued the discussion by asking, “What do you do during academic learning experiences that help engage them while the learning is taking place?” Wendy stated, “I did

afternoon rotations yesterday. I wanted to do it again today, but I know if I do it every day, then the're going to get sick of it. So I feel like for math, I do have to change it up.” Sally said,

We've started doing something recently in math. We're learning how to divide and multiply decimals and its awesomely terrible. But we've started doing it where the kids come up and teach sometimes or I work out the problem on the board and their job is if I make a mistake, then they gently quietly say hey, which engages them a lot. But then also like they don't have to sit in their seat normally or anything like that. And that's been really good for them, because they have to be attentively watching. That's been really good, and the kids get to teach and they write all over their desks and they write on whiteboards.

Amy explained how they do science experiments to engage the students. She stated, “They each have a role that will get a number and get that stuff that corresponds to an experiment. Each number corresponds to a supply needed for the experiment. For example, we've got basket by number three and that number role is will go to the basket and gets what they need. Then the groups will come back together and work through the experiment using all the supplies.” Amy also stated how she uses physical activity to engage students during reading. “We have a lot of nonfiction reading, so I will say ‘Okay, you're in a group of three go somewhere in the room read, and then they come back as a whole we discuss it. Then they go back to individual.’” So, they're either working in a small group or going from whole class to group to individual during the lesson.”

Wendy, who doesn't teach fourth grade science, talked about what the other fourth grade teacher who teaches science does. "It's more hands-on. They're building circuits or they're taking notes. She's doing interactive journaling." Wendy continues, "They're cutting and gluing. They are talking to their peers in groups." Sally was excited about a social studies activity they were doing. "We're doing a unit on world religions right now, and when they were researching, I gave them a group of sticky notes and whenever they found a good fact, they would write on the sticky note and actually go and paste it on to the cupboard." She was pleased with the results and felt that the act of the kids getting up and posting notes on the cupboard helped encourage all students to stay engaged to see how many facts they could find. All the teachers discussed that they enjoyed using physical activity to engage students and found it to be helpful, but that they had a hard time planning it out ahead of time. Amy noted, "I think it's awesome, but usually it's on the fly." She continued that "It's hard for me to come up with things to have kids move. I don't think it's anywhere in the curriculum we are given where it says how to use movement. It has to be on our own. We know that's how kids probably best learn."

I could sense some frustration by the teachers on the difficulty of planning out physical activity opportunities during the academic learning experiences. I asked what the main difficulties are in using physical activity in their classes and what support they feel they need to incorporate it more effectively into their classes. Amy quickly responded, "It would be cool if we could do workshops, that you're actually doing that. Like if I can actually do it, I can learn it." She commented on a teacher she had in college that inspired her. "I learned in my foundations class which was really awesome. She taught in a way where we would best learn and how I wish to teach our students. She got us moving all the time and doing role-plays and we

couldn't just lecture. That was the whole goal, no lecture at all." Amy felt a lot of her classes would tell you how to teach to engage, but they never actually did it in class.

Sally thinks teachers struggle to use physical activity because of expectations. "I feel like a lot of the time we're taught that you need to manage your kids. Management looks like you have your kids under control and they're all quiet and they're all sitting there and they're all doing their job. But kids don't learn that way." Sally continued, "That's not a very flexible thing, being quiet and sitting there. And so if you're taught that this is what management looks like in your ideal classroom and then kids don't learn that way." She concluded, "It's kind of hard because if I've been taught that it needs to be this way and kids learn best this way, then those two worlds don't really match." They all felt that teachers are scared to lose control in their rooms. Amy said, "I think it's even a generation thing. Definitely with older teachers like my cooperating teacher when I student taught. It was very silent, and I see myself doing that sometimes."

I finished the focus group by asking the teacher if they had anything to add. The teachers wanted to include that they believed that physical activity improved students' social skills by allowing them to talk and interact with each other, and when students are forced to sit quietly for long periods of time, they do not get practice engaging with others. Amy stated, "I just don't like not giving students a chance to talk. I like when they are learning and discussing things and having probing questions. Not just sitting in silence."

The focus group ended after 60 minutes. I thanked the teachers for their time and had a short discussion about my planned schedule to observe their classes my need to conduct one more focus group and my desire to hold individual interviews with each of them.

Field Notes November – December

Following the first focus group interview, I spent time in all three classrooms taking field notes that focused on the physical activity taking place in the classes and how students reacted to those experiences. I also noted reactions to extended periods of sedentary times. The following is the results of the observations that took place up until students left for winter break.

Sally Westwood

The students are independently working on iPads and worksheets when I walk into the classroom at 10:40 a.m. Some students are out of the room working in the computer lab. One student sits in a rocking chair, while the other students are at their desks. Students are talking quietly with each other as they work through their assignment together. The teacher goes back and forth between helping students at their desks and sitting at her desk. Students are free to get up and move around the room to do tasks as needed without asking the teacher for permission. Soft instrumental music plays in the background. The lights are off with the shades open a little to let some natural light in. Between the music and low lighting, the room has a very calm feeling. At 10:55 a.m., most of the students are up moving around the room talking quietly with others. Students begin to come back into the room from the computer lab. During this transition time, the teacher is at her desk talking with students as they come up to her desk. Other students get out iPads and work on them at their desks. One student asks the teacher if she can have a snack. Without hesitation, Sally opens a box of graham crackers and has the student pass them out to anyone who wants one. During this transition time, the teacher turns on a CNN news program for the class to watch. The students continue to move around but slowly settle into their

desks and begin working on their iPads as the news plays. Some of the students sit in the available alternative seating. By 11:00 a.m., many of the students are out of their desks and talking with others or going in and out of the room to get a drink, talk with another teacher, or go to the bathroom.

At 11:05 a.m., the news ends and Sally has the students raise their hands to get their attention. They are told to work on an activity on their iPads and are invited to move around the room and sit where they want. All the alternative seating options are quickly taken. During this activity



Figure 4 Students sit on stability balls while watching the news.

time, students are still moving around the room as needed, but it is not leading to off-task behavior or disrupting other students in the class. Sally walks around the room checking on students. The room is getting noisy, but in a positive way. Students are working together and staying on task. I note that the ability to converse with each other and move around the room is actually keeping the students on task. The room is active, but all students seem to be engaged in the learning process.

Students are asked to move back to their desks at 11:20 a.m. to finish an iPad activity and take a math facts test. The students take less than 20 seconds to move throughout the room back to their desks. As they finish the math facts test, each student gets up and turns the test into a file by Sally's desk. When the buzzer sounds to end the test time, the rest of the students turn in their

tests. Sally has everyone get out a whiteboard and has one student pass out markers. She then asks the students to draw “rainbow dancing with a chair” on their whiteboard. The students all begin to draw what that means to them. The activity engages them, and they enjoy showing others what they have drawn.

The next observation of Sally’s class takes place a different day at 12:30 p.m. Students return from lunch and recess. Sally gives students time to get a drink or use the restroom before going to their desks where they begin drawing on whiteboards. To get the class’ attention, Sally counts down from five and says, “Snap once.” All the students respond by snapping. She does this twice and the students are now focused on her. She then begins asking them questions and has them respond with a thumbs up and a smile or a thumbs down with a frown. Students begin taking turns at the board writing down their answers to math questions. After they write the answer the other students clap on their desk if the student at the board gets the correct answer. Lastly, Sally asks the students to put their hands in the air if they can hear her. Sally did four different physical activities within this one learning experience. The students were smiling and having fun with each of the motions. Each time a physical cue was used, all students fully participated, and engagement increased into the next part of the activity. Both the teacher and the students were active together as the cues were communicated. Students appeared to be enjoying both giving out and receiving physical and audible cues.

At 12:45 p.m., Sally airdrops a picture of the math work page to the students’ iPads so they can work on the math problem. Music is playing, and students are working at their desks. As they finish, they are allowed to move around the room and read before transitioning to the next activity. New students begin to transition in the room at 1:00 to begin study hall. They are encouraged to work on homework or read quietly. While doing this, the students have freedom

to move around the room if necessary. I note that while there is constant moving during the study hall, none of the movement appears to be a distraction to others in the class. Some students are sitting at their desks working quietly while others are moving around and quietly talking at low level.

Students walk to Sally's desk to ask for help on math or just to talk. I made a note that the students have been back from recess for about 45 minutes and working on academics for about 30. While there is talking and movement apparent, the students have stayed under control and engaged. The ability for the student to move around the room when needed seems to be welcome by the students, and while they use it often, they do not abuse the privilege. Upbeat music is put on and the students definitely react to it. Some are nodding their heads or tapping their feet to the beat. Others are lightly tapping the beat on their desks with their fingers.

As noted earlier, Sally's class contains constant movement and noise, and at a glance it may look like chaos. However, I have yet to see any major off-task behavior or disruption of students working. The students are very comfortable in the class and are engaged in the learning process, regardless of the subject being taught or worked on independently.

Amy Halley

Amy's students sit at their desks highlighting in their books as they work on a class read-aloud activity at 2:00 p.m. After a few minutes, the students are asked to finish the story by reading in pairs. Amy randomly picks the groups and allows them to sit anywhere in the room. Most partners pick sitting on the floor rather than at their desks. Three of the 12 groups are at their desks. Those on the floor lay down on their stomachs or sit crisscross. They continue to highlight the important parts of story. Amy pulls down the shades to lower the lighting in the room. The sun coming in has made the room uncomfortably hot. The room is loud because of

the out loud reading, but students continue to be on task. After 10 minutes, the students are asked to go back to their individual desks to work on a comprehension check from the story in their book. Once back at their desks, most students slouch over or stand up while doing their work. Once they finish the comprehension check, they get iPads and sit anywhere in the room to work on activities. Only one student stays at her desk. Amy plays calm instrumental music. The class is very quiet and on task. The music definitely has a calming effect on the students. Many of them are nodding their heads and tapping their feet to the beat of the music.

At 2:30 p.m., some of students line up at the door to transition to the next class. Amy gives each student a high-five on the way out. Some students return to Amy's class from other classrooms and line up for recess. The students seem excited to go outside. A few of the students talk about what game they are going to play. I stay in the class and wait for them to return from recess so I can see how they respond after 30 minutes of playing outside. At 3:00 p.m., Amy and the students come back into the class. They put their coats up and get into science groups at their desks. They are quickly under control and ready for the lesson after Amy gives the students a quiet signal. One student at a time gets up and presents from their iPad that is projected onto the whiteboard. I note that this is as engaged as I have seen the students in Amy's class. After fifteen minutes of presentations, the students remain engaged and on task.

Afternoon recess seems to have had a positive impact on the students.

The next time I observe Amy's class, students are just finishing up art at 9:40 a.m. They are building a figure using cardboard tubes and construction paper. I note that the students are definitely very engaged in the hands-on art activity. Art class is for one hour each week. At 9:45 a.m., Amy takes over the class. She has the students form a circle at the front of the room. They are going to have a class meeting. Amy asks the students to focus and stop talking. The

students take turns telling the rest of the class something about their weekend. After 10 minutes, the students are still sitting still on the floor. Some students appear restless. But before it can get out of hand, Amy has the students get up and give out 23 high fives before they go to their seats. Students are smiling and having fun doing the activity. I note that this is a positive activity and that the students went right back to their desks and got on task. The activity is followed by reading club where the class reads together. Each student has a of the book and is asked to read to a certain page. They are allowed to sit where ever they would like in the room. All of the students stay in their chairs.

My final observation of Amy's classroom before winter break was one of the most interesting observations I had while at Truman Elementary School. Walking in at 11:15 a.m., the students were at their desks working with a textbook to answer questions in the book. They were doing a reading activity to analyze text and using words in a sentence. As the students finish the assignment, they are to either work on an iPad or read a book. This begins a 30 minute period of sitting quietly at their desk. While most students appear to be on task at their desks the entire time, I wonder if some type of quick physical activity during this extended time would improve the students' engagement and energy level.

After lunch, Amy introduces a guest speaker from the Extension Office who is in class to teach the students how to make bread. The guest speaker has never met these particular students but has done this presentation many times. What occurred during the next 90 minutes was both amazing and inspiring. The students were put into groups of four and spread out at desk groups throughout the room. The speaker gave each group a packet of materials to make bread and asks them to take out the materials. Students murmur excitedly going around the room. The students are asked to scoop out the ingredients and put them into a plastic bag. They are to then squeeze

out the air, tie the bag up and then mash it around. The students work together in groups to do this. They are all engaged in the activity and are smiling as much as I have seen them at any time. Amy asks the students about what the bread smells like. Many of the students respond



Figure 5 Students in Amy's class knead dough while learning to make bread during a kinesthetic lesson.

with different ideas. The students take turns mixing the ingredients. The activity has already involved multiple senses: touch, smell and sight. One student who sits, not doing participating. Amy asks him if he wants to participate and he states, "no." His attitude is pretty negative. As I watch him, I can see that he wants to participate, but does not want to let others know he's interested in the activity. Finally, Amy asks him again and he jumps at the chance to mix the ingredients along with his group. As they finish mixing, the speaker turns on a video about the history of bread that also includes a local tie in. After the video ends, the students are asked to raise their hand if they see changes in the mixture. The students then add a few more ingredients to the bag and mix it together by squishing the bag. Students again take turns doing this. The boy who was not participating

earlier is now fully engaged in the activity. There is a lot of discussion going on, but most of it is about the dough and how it feels. The students are now taught how to knead the bread on their desks. They put a little flour on their desk and Amy and the guest speaker walk around to help



Figure 6 Students mix up the ingredients while making bread during a kinesthetic lesson in Amy’s class.

take dough out of the bag and then knead it. All students are moving their hands and are actively engaged in the learning experience of making bread. I note

that, it’s great to see the students smile and be engaged. There are students of all academic levels working together effectively to accomplish the task of making bread.

This activity so far has included science, math, communication skills, teamwork skills, and listening skills. It even brought in social studies with the video discussing where wheat is grown and the history of bread. All of the students are smiling and enjoying the activity. It may be loud, a little messy, and a little out of direct control of the teacher, but the class has had no behavior issues during the entire process. The students continue to knead the bread and it is

observable that it is a very physical process. Students are using their entire body to knead the dough. This physical activity is also engaging many of the students' senses. I note that this lesson is also teaching accountability. The students have had to follow directions but also perform the tasks on their own to make the dough.

The lesson ends with the students putting their dough into pans and cleaning up. They all work together cleaning up with smiles on their faces. The students thank the speaker before she leaves. Amy has the students to sit down so they can have a short class discussion. She asks them what they liked about the activity. The following are the comments from the students.

- I liked when we mixed in the bag.
- I liked how we saw the changes and feeling.
- I liked squishing everything.
- I liked when we kneaded it.
- I liked all of it.
- I didn't like how the flour went everywhere.
- I liked hitting my bread.
- I liked to beat the bread.
- I thought the warmness of the bread was weird.

What I took away from those comments was that each one was about the physical part of the experience or the senses they used. When Amy continued the discussion asking what they got from the video and the lesson, the students were able to clearly explain their answers.

This activity was the most effective teaching exercise that I observed during my time at Truman Elementary School. Every student was actively engaged in the experience. The room had a positive energy that was observable both visual and audible. Amy was also excited about

the way the lesson went. She commented that she would love to do that kind of activity all the time. She said she was a little concerned about how it was going to go before the speaker got there but couldn't have been happier about the outcome of the experience.

Wendy Greg

Wendy's students are at their desks doing a read aloud activity when I begin my observation at 10:25 a.m. The students have been given roles in the book to read aloud. Wendy discusses the differences in emotion and action as parts of speech for a drama reading. She encourages them to use inflection and to be active as they read as it relates to the character they are playing. I note that I think this activity will challenge the students to be active and on task while reading. The students begin to read in groups and act out their parts of the reading. One group of boys are very into the activity and doing a lot of actions. Throughout the room there are various levels of success with the activity, but the students are all trying and on task.

When they finish, the students are asked to go back to their seats. I note that it is interesting and very telling to watch the kids act out the roles. I could see immediately who is comfortable being expressive and who is not. It reminds me that it takes a lot of confidence to be expressive in front of others, and that many elementary students do not have the confidence needed to do so. The class discusses how the activity went and what they could do to get everyone more active. I wonder how many times it would take to get students comfortable doing this type of activity. I also worry that it may be an activity that will only be done once and forgotten because many of the students struggled with it.

At 10:45 a.m., Wendy has the students work on a spelling assignment. During this time, she explains to me how she keeps students accountable by using laps at recess. Her accountability plan goes as follows:

- If they get in trouble, they owe her laps at recess.
- They must walk the laps so it's understood that they owe her time rather than getting it done quickly.
- This not only serves as a reminder but also keeps the students from having to sit and do nothing when recess time is taken away.

Wendy comments that she feels students need to still have the physical activity time, especially those students who may get in trouble more than others.

The next time I observe Wendy at 10:00 a.m., the students are again reading a play aloud. This time the entire group reads together with students taking turns reading their role. One student is very demonstrative with his voice and actions. His enthusiasm seems to spark other students to get into it more. The class enjoyed the voices and I noted that the read aloud made the story come to life.

At 10:20 a.m., students are split into two groups: one group with Wendy and one with the para. Each group is doing a read aloud together, and once again they are encouraged to have a lot of expression and action when they read their part. One of the groups sits on the floor, the other gathers around a table. The students are all engaged in the story and on task. Having the students act out their parts seems to be engaging to the students. The more the students act out their parts, the more into the story the rest of the students get. When the read aloud is finished the students go back to their desks. I note that this transition would be a great opportunity for a short physical activity.

During my classroom observations before winter break in Wendy's room, a few things stood out. First, Wendy is a very confident teacher and allows for a tremendous amount of movement in her class. Students are allowed to sit on the floor or at one of her alternative

seating options. Often, even if students are at their desks, many of the students are standing, not sitting. Also, Wendy's class never does one specific activity for an extended amount of time. She uses rotations to practice lessons. These rotations have the students move around the room to practice using varying strategies. Students are typically doing one thing for less than seven to 10 minutes before they have an opportunity to move to another area in the classroom. Rarely is there a prescribed physically activity performed throughout the day, but there is visible constant physical activity occurring in the class. Wendy's transitions occur often, and they are efficient. They allow students to move throughout the room on their own before going to their desks. Students may stop and talk to another student or just wander around the room, but they are always back in their seats and ready to the next activity when the teacher is ready to begin.

Focus Group 2

On Monday, January 7, 2019, I conducted my second focus group. The students had come back to school from winter break the previous Thursday. This focus group was scheduled during the teachers' morning plan time at 8:45. All three classes were at a specials class such as physical education, music, art, or STEM. The meeting took place in Wendy's classroom around her desk. I arrived at the classroom 15 minutes early to make sure I had my recorders set up and the chairs set for the teachers. Because of the teachers' tight schedules coming back from break, the interview only last 30 minutes. The plan for this focus group was to get a sense of what activities the teachers were trying in their classes on a consistent basis to introduce physical activity into the classes more often. I also wanted to discuss how they felt about using physical activity in the academic learning experience.

My first question to the teachers was, "Are there activities that you have tried since our last focus group or activities that you would like to try?" Amy commented that she was still

struggling with activities for reading, “I just have a hard time keeping them engaged and giving them time to talk. I want to keep them the reading. But reading you have to sometimes sit and read.” Sally added her difficulty getting students physically active with the curriculum, “How do we still teach with Fidelity, while making sure they don’t die of boredom?” Wendy also felt that the curriculum was hampering their ability to incorporate physical activities. She explained how she combated that. “I started doing an interactive read aloud. So, they each have a book to follow along with me. They can sit on the floor. We read novels so it’s not this one-page story and there’s so much more engaged.”

The conversation was becoming more and more directed toward how they felt unable to introduce physical activity into the reading program. I decided to explore that more by asking, “Do you find the current curriculum to be prohibitive of physical activity?” Amy responded, “Oh, yeah. You have to really add in activities that are fun.” Wendy added that it is mostly worksheets, and that “they don’t want you to add any extra activities.” Amy explained the reasoning for the strict curriculum from the district. “They want a kid to go from school to school and have the same experience if they had to move a different school and everyone be in the same spot.” To which Wendy commented, “We already know that’s not going to happen.”

I asked the teachers how they balance the strictness of the curriculum with the individual needs of their students. Wendy responded, “Well, I had to add my own stuff. I think every teacher in this district is, and you have to, because you have to base off what your class needs.” She continued that, “If they’re wiggly, you’ve got to do something because they’re bored.”

Wendy gave an example of how the curriculum restricted them,

With idioms, you can draw posters. There’re so many things that you can do with them, and in the curriculum, it was the same four

worksheets about idioms. And it was the same four idioms used over and over and over, but then the test had different ones. I know they're supposed to apply it, but they might not even know what an idiom is because they only talked about those four over and over.

Sally and Amy both agreed with Wendy's example and felt that the lack of flexibility in how they are supposed to teach the curriculum creates a major barrier to having students physically active. They also worry that they will get in trouble when they do stray off the curriculum and add activities to better engage the students. The teachers noted that they do try to add activities outside the curriculum to engage the students more effectively. Wendy does one-minute writing sessions to keep the students thinking. Amy attempts rotations when she can but feels that the students get bored quickly if they are not constantly changing. Amy also feels more confident about getting students physical engaged teaching science. She said, "Science, that's easy. They're constantly working with each other and sitting around the room. But in our curriculum, there's hardly any hands on. So, I'm pulling out my own activities all the time. It's just frustrating with the district."

Amy also feels the curriculum calls for dedicating too large of a chunk of time to just sitting and reading. The students have a 60-minute block of reading time each day, plus a 30-minute reading club where the students are expected to read on their own. The teachers agreed that while students are able to sit there for the large amount of time reading, they are often not actually engaged in the reading. The discussion then turned to the importance of knowing or figuring out how much physical activity is needed along with quiet seated learning experiences. They all agreed that it is something they are still working on and that they are going to try some new activities to see if there are changes in engagement levels.

The meeting end after 30 minutes. The teachers and I discussed that I would be doing a few more observations in their classrooms, and that I would be scheduling individual interviews with all of them during the next week. We agreed to meet during their school plan time and that the meetings would last less than 60 minutes.

Field Notes January

Following the second focus group, I conducted one more week of classroom observations. I spent a varying amount of time in each class looking to see how physical activity impacted the students' engagement and at what level students participated in different physical activities.

Sally Westwood

Sally's class was in reading club when I began this observation. Only two students sat at their desks. All the other students sat on stability balls, bungee chairs, and a rocking chair. The students appear to be focused on their books. A few more stability balls have been introduced into the classroom. Students on the stability balls are bouncing and moving their torsos. While there is observable physical activity, the students are not disrupting those around them. Students get up and move around if needed. One student walks up to talk to the teacher. Another student walks out to get a drink. Few students sit quietly at their desk or on the floor reading. Those students have not gotten up to move, but they continue to be on task. The reading club ends after 30 minutes, and students begin to transition in and out of the classroom. Those students walking in are talkative, but not out of control. Three of the students go right to their own desk and begin reading a book. Some of the students have gotten iPads and are playing games at their desks. Other students come in and find seating all over the room. Again, all the stability balls and other alternative seating options are popular choices for the students. The music is playing, and the

lights are off. This class continues to be a physically active class that stays on task. While the movement is not prescribed or structured, the class is in constant movement. If students need to get up and move around the room, they do.

The next observation of Sally's class takes place as the students return from lunch and recess. Once again, all of the alternative seating options are being used with only a few students sitting at their desk. One student using a stability ball has his head on his desk. The other students using alternative seating are on task and engaged in their assignments. Sally allows her students to get up and move around the room as needed without asking for permission. The students use this freedom respectfully, and they do not seem to take advantage of it. Her students initiate conversation and genuinely enjoy their dialogue with her. I note that this class has a large range of learning styles and abilities. The freedom and flexibility provided seems to allow students to work in manner that is best for them. The class switches to a 30 minute study hall at 12:45 p.m. Twenty minutes into the study hall, the students are definitely becoming more restless. Their voices are louder and the bodies more spread out. Most of the students in Sally's have been sitting for about 30 minutes with very little movement. The class grows more and more active and off task. I note that this would be an excellent time for a physical activity to get students regrouped. I also note that this physical activity could be voluntary and aimed at those students struggling the most with sitting for long periods of time.

My final observation of Sally's class begins at 12:50 p.m. and is during math club. The math club is tiered by students' math scores. The math group in Sally's class is the higher of the two sixth grade math groups. Music plays. The lights are off. The only light comes from the windows. Most student sit on alternative seating. One student on a stability ball is overly bouncy but is not distracting others. Sally walks by me and mentions that she thinks Amy's

students are calmer than hers. I thought about it and then said that both of their classes reflect their teaching styles. I found this interesting and kept thinking about what I've observed in the two teachers' classes. Sally's class does not sit calmly for long periods of time. They are up and moving around interacting with each other and the teacher. There is constant noise, but it typically does not get out of control. Sally has a very laid-back class that encourages students to move around. It's not neat and clean. In this class, students are more likely to move out of their desks to work on assignments and communicate with others. The majority of the class is using alternative seating. These students, while not sitting nice and quiet, are mostly smiling and seem positive about what they are doing. They are also much more likely to get up and ask questions. It is a very flexible and unthreatening environment.

Sally has everyone move to the front of the room. She gives them a 10 second countdown. She has the students put their hands on their head, then in the air, and then wave at four people. The students all participate and respond with smiles and positive body language. Next, Sally has the students stand up and find a partner. When they do, they put their hands together in their air to identify they have found a partner. Partners are then given a designated area to work. They are spread throughout the room and hallway. When students finish their assignment, each group is designated to answer a certain group of questions on the board. Once again, the students move around the room. This is not a prescribed physical activity, but the students are up and active. Sally begins to go over the answers to the questions. Those who agree with the answer move to one side of the room. Those who don't agree move to the other side of the room. Instantly all the students are engaged and focused on what the teacher is saying. When a few of the students begin to sit because all the answers are correct, Sally changes the answer to get the students to move. They then move back when she gives the

correct answer. When Sally finishes the activity, she has the students go back to their desks and turn in their assignments.

The students begin to transition in and out of the class. Students talk and move around the room as they get settled. Sally turns on instrumental music. The music has a real impact on the noise level in the room and the work focus. The volume of the students' voices quickly lowers once the music is turned on. While the lack of organization or structure allows for a few students to be off task or play around, the overall attitude of the class is positive and alert. It's been 30 minutes since this group of students came in. All of the students are on task. There is constant noise and bustling around the room. Students get up to ask questions or to help each other. Some are louder than others but not enough to disrupt others. At any given time, there are four to five students up and moving around Sally's classroom.

Amy Halley

Coming into Amy's class at 10:15 a.m., I was unaware that the next 90 minutes would be one of the most telling observations that I would do. Students had just arrived back from music and physical education. Amy asked the students to read their books silently wherever they would like in the room. To my surprise, every student stayed at their desk. After 10 minutes of reading, I observed the first signs of students not reading and talking to their neighbors. I note from what I am observing and previous meeting with the teachers that reading is definitely the main area in which the teachers struggle to get students physically active. Almost all of the work is done in students' desks, quietly and for an extended period of time. Most of the time it's more than 30 to 40 minutes. Teachers are frustrated by the curriculum in that it is supposed to be followed strictly but does not include any movement or active learning strategies. I also note that in Amy's class, I am learning that the students do not know how to move or are content in

the way it always has been. It's like they have become very regimented in their learning experiences. Even when given the opportunity to use flexible seating, most students do not participate. Students often initially groan or have negative attitudes when any kind of physical activity is introduced. Amy, while aware of the importance and benefit of students being physically active, still falls in to the notion that a quiet and still classroom works.

After 30 minutes of reading, some students transition in and out of the class. The students coming into the class get out their books and begin reading along with those students who are already seated. I note that this may be an opportunity to introduce a physical activity. The teacher has the students sit on the floor with her to let them know what they will do next. A few boys begin to struggle paying attention and are talking with each other. Amy takes a vote on whether or not the students want to work in groups or individually. The class votes to work individually. Even though Amy invites the class to sit where they want in the room, all but two students sit at their desk. The students work quietly, completing worksheets and highlighting in their books. For the last 60 minutes, students have been reading and most of that time was spent quietly at their desks. The only movement was when students switched classes but that lasted less than two minutes each time.

At this point in the observation I made a note to myself asking, "What does an engaged and successful classroom look like?" I made a memo in my notes stating, "Amy is a terrific teacher and cares a lot about her students. She is doing what she thinks is best for them. While she knows that a quiet still classroom is boring for the kids and wants a better way, I think she feels restricted by the curriculum and as a first-year teacher does not want to give up too much control." I continued, "During the last hour the students have sat and read for the majority of the time. Honestly, their behavior has been fine. They are sitting quietly and reading. They have

not disrupted others. The question is, could they be better engaged? How much does the sitting affect their day overall (back pain, leg numbness etc., boredom)? Would a few physical activities during the class increase students' awareness and productivity, increasing the positivity of the learning experiences?"

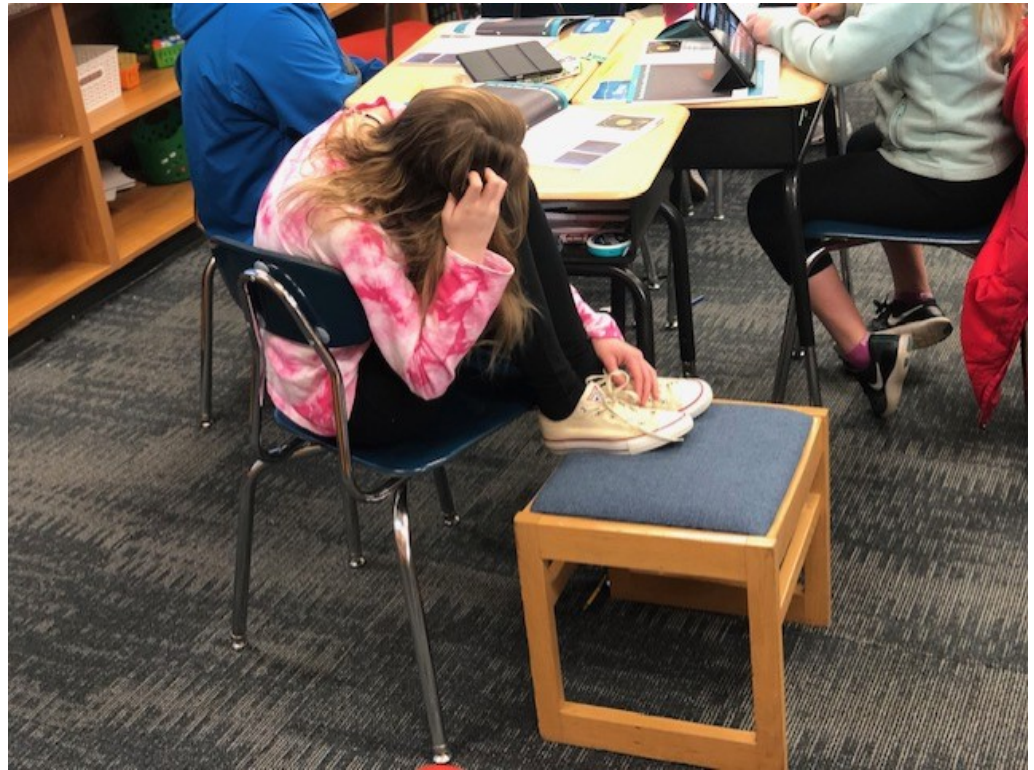


Figure 7 A student in Amy's class sits slouched over with her feet on a stool during a 90 minute reading block.

The sedentary aspect of the reading class continues until the students go to lunch. It has been 90 minutes with little observable physical movement. As noted above, the students appear to have accepted this. In bold letters I have asked, "Is it scarier that there has been no significant movement for the last 90 minutes or that the students are okay with it?" I have decided to address this more in depth with Amy and the other teachers during our individual interviews.

Wendy Greg

Wendy's class has just returned from music and physical education when I begin my observation at 9:45 a.m. The students are having a snack and some free time. Many students move around the room talking with others. This period lasts 15 minutes. The students transition back to their desks, get out their books and begin a lesson on synonyms. Wendy begins asking

the students questions and has them raise their hands to answer. After a short review, the students are instructed to partner up and do a read aloud, and then answer the questions in the book. They students are allowed to sit anywhere in the class. Wendy picks one group to sit on the mattress. They are definitely excited to have been picked. Another group quickly moves to the stability ball that Wendy has introduced into the class. They take turns sitting on the stability ball. A few groups are at their desks. One group stands at the library area book case.

This activity lasts about 10 minutes until the students complete the questions and move

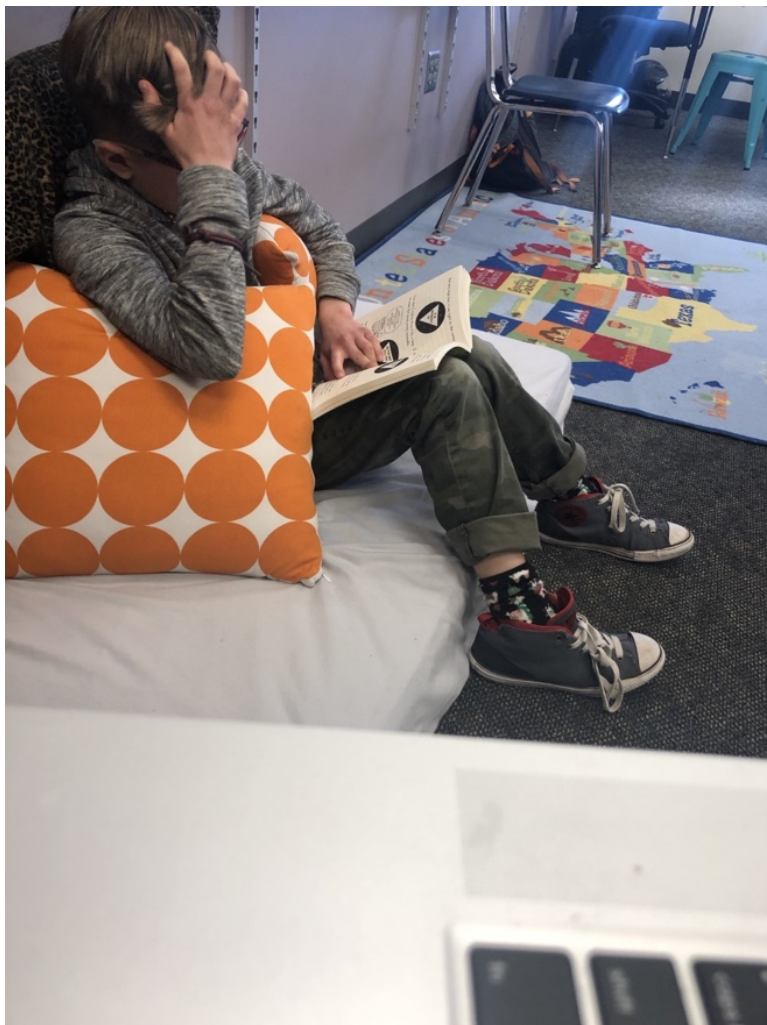


Figure 8 A student in Wendy's class sits on a crib mattress and wraps pillows around him while reading a book during silent reading.

back to their desks. Wendy then gives the students a short vocabulary worksheet to do. The students make excited noises when she tells them it's a crossword puzzle. They have 15 minutes to complete the worksheet. When they are done, they are asked to get their book and sit somewhere in the room and read. The first student done with his worksheet gets his book and moves directly to the mattress. When he sits at the mattress, he also grabs a few pillows and wraps them around him. I note that this is an act of

physical touch. Does the comfort or pressure of the pillows around him make him feel secure and allow him to focus better? I continue to watch the student until they transition to the next activity. He continues to be focused on his book. He has an observable sense of comfort on his face while sitting with the pillows.

I make a memo to myself that Wendy's class rarely does any one activity for more than 10 minutes. Her class transitions from one activity to the next quickly and efficiently. It is uncommon to see her students looking bored or off task. I note that the short practices and constant changing of activities in the class allows for a lot of physical activity to take place without it being organized or without it taking time away from the academic learning experience.

I return the next day at the same time to further observe how Wendy's class functions. I am intrigued by the number of different activities that she does during each subject and block time. At 9:50 a.m., Wendy quickly goes over the instructions and parts of the story to help the students have an understanding of what they will be reading. She then has them go to a designated area with a partner. The first group she picks gets to sit on the mattress. The rest of the students spread throughout the room with some on the floor, a few at their desks, and one group sitting on the stability ball. The students begin a read aloud with their partner followed by a worksheet over the story they are reading. I note that the ability to move around the room and spread out has a positive effect on the students. It allows for students to pick where they are comfortable, and allows for them to have some room to spread out. This type of freedom in the classroom gives the students control of part of their learning process.

It's been 35 minutes since the students began the reading class. They have performed three different activities in this time. Students are still on task and engaged. They are talkative with each other and still spread out around the room but are focused with their assignments.

There is little to no off task or misbehavior. As the students finish up their worksheets and transition back to their desk, Wendy asks the students to clap once, then clap twice, then class three times to get their attention. All students participate. The physical cue that Wendy uses is another example of physical activity being constantly present in her classroom.

Individual Interviews

After completing multiple observations in Sally, Amy, and Wendy's classrooms, I conducted individual interviews with each teacher and the school principal Addy Toms. I scheduled the interviews to take place between January 10 and January 15, 2019. The interviews took place during the teachers' plan time, at their desks, in their classrooms. Prior to the interviews I had emailed the teachers to let them know that my first question would be, "What does engagement look like and mean to you?" I wanted to give them time to think about it and tell me what they had come up with. Each of the interviews started with that question and developed from there depending on each teacher's class and teaching style. The following is the conversations that came from the four interviews.

Sally Westwood

In response to my engagement question, Sally stated, "I think part of it is if they are excited about what they're doing. Like if they are doing their work, whether that be participating in whiteboard work or having a conversation with those at their table group or like moving around the classroom. So, if they're actively participating in what we're doing in class." I asked how she could tell if students were engaged. She said, "Oh, I see it on their face. You see expressions on their faces that are physically not frustrated. They're not overwhelmed. They're happy people. They feel safe. They can be themselves." Sally continued by discussing what she does to keep her class engaged. She began by saying, "We do a lot of different activities. We

don't just do one set thing all the time. There are some things that are stable. But if we think about during math time, we don't just sit there and take notes the entire time." She continued, "We move around and if there's an activity that's better, we get up and move. I think having some structure but then also changing it up."

I share with Sally how I observed her class to be one in constant motion and a little chaotic at times, but one that is also under control and keeps students on task. I asked her to comment on my observation and why she designed her class this way. She said, "I think it's really helpful, because I don't make them sit. I know you don't have to stay in your seat the whole time." She went on to say, "If you need to get up and move, then get up and move. I think that's been really helpful to the kids just because they get their work done and they know what they're doing." Sally gave one example of how she believes the freedom to move in the class helps students, "I was watching a kid yesterday and there's another kid who needed help. He knew that he had the freedom to go over and help that kid without having to be afraid of the consequences." She continued, "He was able to go over and help him, which also is really good because, for the students learning, when a peer's helping a peer, then it seems less intimidating to the kids." Sally summarized it by saying, "I think then having that freedom allows them to maybe learn a little bit better."

I then asked Sally how she felt that the freedom to be physically active in her class engaged different styles of learners. Sally said, "I would say mainly yes, but then there's also those handful of kids that can't work in an environment that's super crazy. I've noticed they struggle a little bit and we've talked about giving alternative locations." She went on to say, "When I notice a kid is getting overwhelmed, then we put them in an alternative location like in the hallway at a table." She also said, "I think for most of the kids it's been really helpful. I think

for a couple it's been kind of like a little bit overwhelming because it's a totally different environment." Sally understands her class is a bit out of the norm and at a glance may not look like a traditionally effective class. In response to what she thinks people see when they come to her classroom, Sally responded, "I think they think it looks crazy. But then if they actually like sit and look at the kids, they can see that they're actively learning. If you just come in and look at them, they're all over the place and that's okay."

Sally then commented on what she has done to set her class up to be successful using her style of teaching. She said, "We set up expectations pretty firmly, like when this happens, you do this or when you get up to the classroom, you stand outside the door." She continued that, "Setting up all of those procedures is very important, but I think part of it is giving them the freedom to be up and moving. So, if you can't sit still, you can move instead of calling them out each time."

Sally has more alternative seating in her room than any of the other teachers I observed. I asked her how she felt the students reacted to the freedom to sit on the various options she has in the classroom. She responded before having the alternative seating options that she has had some frequent walkers in the past who would disrupt others sometimes. She said, "I've noticed that walking around struggle hasn't been a problem as much this year since giving those alternative places to sit, which has been really interesting to think about because I never would have thought." Sally said it has become important to make sure the students are all getting the chance to use the alternative seating options to keep them all satisfied.

Sally discussed what she would tell other teachers about her teaching style. She said,

I think just giving them that freedom to be themselves plays into their movement and plays into how they are going to learn. Do

you learn best by listening to music? Do you learn best by being quiet? Do you learn best by sitting at the desk? Do you learn best by sitting in a chair? Like what is best for you and having them evaluate and what is best for your learning and thinking.

My final question for Sally was, “Even though many studies show the benefits from using physical activity in the academic setting, what’s the biggest barriers for teachers using it?” Sally felt that a lot of teachers are scared of using physical activity because it forces them to give up control. She discussed that there are expectations of what a classroom is supposed to look like in terms of management and student compliance. She said she can see how it would be hard for someone who is very organized and rigid in their teaching styles. “This would be really scary, you know, and it would be like, how am I going to teach what I’m supposed to teach when the kids are constantly bouncing up and down and up and down.” She continued the discussion by commenting on her perspective of giving up control. “I think it’s interesting because I feel like when you give up that control, then you can actually get more control because then the kids actually are like, oh my gosh, I can be myself and that’s okay.” Sally felt that her teaching style is relatable to the way she learns. She struggles with sitting for long periods of time and uses verbal communication to learn. By allowing her students to learn in a way that is best for their individual needs, Sally feels that she is giving them control over their learning.

Amy Halley

Amy thought engagement can be difficult to define. She stated, “This is a hard one. Every kid is different. I can just see in their head. They’re reading, they’re focused, and then they’re able to speak about what they read. That’s the way I can tell if they’re engaged, they’re able to talk about it or explain it.” She continued, “They’re engaged if they’re able to follow

along throughout the lesson without staring off into space and being distracted.” Amy concluded that, “It’s really hard when they don’t all learn in the same way, and how do you reach them each day.” I followed up asking Amy to further discuss what she observes when students are engaged. She stated, “They’re just concentrated and they feel relaxed, not fidgety and asking every 10 seconds to get a drink or go to the bathroom. They’re interested in what they’re reading.”

When asked what she does to keep students engaged in her classroom in relation to her teaching style, Amy responded, “Just trying to find something they like. I’d say I’m definitely a lot stricter than the others. I like to like keep my classroom so they’re not distracted by a lot and they can focus on what they’re doing.” She continued, “I try doing lessons in different ways. Some kids prefer to work alone, and others prefer to work in a group. I try and give them the option of a partner or to sit around the room in different areas.”

I asked Amy what she feels is the most effective way to introduce physical activity into the academic setting. She said, “I think it’s definitely effective especially when they’ve been sitting for a long time.” She struggles with prescribed physical activities though. “I just feel like some of the kids just get so annoyed with me when I ask them to get up and move around like doing a GoNoodle video.” While many of Amy’s students enjoy the option to sit around the room or to sit on a stability ball that was brought into the class, not all of her students are so receptive to the freedom. “Many of them really like it. Other ones don’t care at all. I wonder why some of the kids when, I draw their names to sit on it, don’t want to sit on it.” Amy’s struggles with getting her students moving is something that’s been going on during her first-year teaching. While she wants to get the students physically active to help engage them, she often falls back on students sitting at their desks working.

We discussed the class I observed during which the students worked without physical activity for 90 minutes. I asked her why she felt students seemed to be unbothered by the length of time they sat. “I think it’s because they’re used to sitting on their butts in front of a TV playing video games, honestly.” Amy felt that students have had less and less motivation to move as the year has progressed. Trying to get Amy to open up about why her class is typically at their desks, I asked her to describe what a successful classroom looks like. Her answer shows the struggle and uncertainty she is having finding a balance of what is the norm and what is most effective for students.

I see a successful classroom not being quiet, but then I look at my classroom and they are quiet. I'm just really struggling with reading and making it fun because I look up the curriculum that we have to teach and it's boring. I'm bored with it. I skipped a whole bunch this last unit because I was like, this is boring. I don't want to do this. I'm just really struggling to make it more fun and engaging. There's lots of group work that they can do and discuss, but they get tired of doing that. It's the same thing every single story. I remember writing my philosophy of teaching and it was kids talking to each other and working together. And doing like some hands on things and things like that. But yeah that's reading. I'm struggling to find that.

When asked what she feels has led to this difficulty Amy said, “I don't want my kids to be like crazy and ‘m trying to have classic good classroom management as well.” She continued that, “When I think about when I went to school, and like if you talk or move you were in big

trouble.” Amy felt that expectations from other stakeholders (district administration) of what students are supposed to do in school, push her to a more sedentary traditional classroom. She discussed that parents want their students to learn and that the learning should be rigorous. She used the example of one parent who came in during an activity in which the students were drawing. Amy felt judged by the parent because the students were not engaged in a traditional rigid way of learning.

I asked if the administration places pressure on her to teach in a traditional way. Amy feels that the school principal, Addy, is very supportive to try new things as long as the teachers love the students. Amy did feel there is pressure at the district level. She said, “Lane from the district office tells us how to be a Fidelity reading school. They’ll come out to do walkthroughs in our classroom. I’ve had one done to make sure we’re teaching to the curriculum. So that’s a little intimidating.” Amy commented again that the curriculum is very rigid and does the same activities each lesson. She feels the district wants to see data to show the curriculum is working, regardless of it whether or not its engaging to the students.

I asked Amy how she would ideally like to teach. She responded, “I would use the classroom in different ways, moving to different areas. For example, writing for like 10 minutes on one topic then moving to another area to write on a different topic.” She continued, “I’d like to do short lessons and then break into groups and then do something else. I would like to have them move at least every 15 minutes.” Amy commented that she would like to have physical activity be a normal part of the class and not just for brain breaks like GoNoodle videos. She said, “I think it’s (physical activity) most effective when they don’t realize they’re doing it. I think some of my best lessons have been when I haven’t even hardly done anything, and the kids are doing it. They’re exploring, they are diving in because they have interest in the book.” She

added, “They analyze the text, and I have stations with the questions, and they would move around every five minutes to answer each question. Their group would discuss it and move around.”

Wendy Greg

I began the interview with Wendy by asking her the same question I asked the other teachers, “What does engagement look like and what does it mean to you?” She stated,

All kids being involved and listening. It might be in their own little way, and you might not think they’re listening. But if they’re fidgeting or on the ball or something, you know, as long as they’re participating. I would say participating - whether it be discussion, or getting up, or working with your partner or being active whether it’s listening or doing something - that’s what it looks like to me. Participating and being focused means a lot because if you have a kid that’s not engaged, that kid that comes up to you later and asks, “What do I do? What did you say?” So, then that proves to you that they were not engaged, and they might have been engaged in something but not in your discussion or your whatever you are doing. Engagement means a lot to me, because it tells you who is actually listening and involved.”

I followed up by asking Wendy what she does in class to engage students. One thing she does is have them clap to get their attention. She believes the physical and audible aspect of clapping helps focus the students. She also stated, “I know I need to change it up how we read the story together.” Sometimes Wendy allows the students to draw while she reads. She also lets the

students sit around the room in her alternative seating options. Another strategy that Wendy uses often is having the students read aloud as a class and in small groups. She feels the physical action of reading aloud keeps the students engaged longer. Wendy also used an example how one day a story they read was really long, so she knew she was going to have to get the students physically active during the next part of class. She will watch the class and if they begin to get fidgety, she will switch seating or change the class activity to meet the students' needs.

I asked Wendy to discuss the effectiveness of constant natural physical activity versus when it is prescribed, as with a brain break. She said, "I think for me anymore, just naturally what I already do. I think if I did a prescribed one and put on a GoNoodle or whatever, I would have kids not do it because that's just not their style." She continued, "Then you're losing the whole point of trying to get them engaged in moving because then they're not going to do it." Wendy further explained, "But whereas an everyday thing, like if they just have to get up to turn in their paper, that's still them getting out of their chair for that 30 seconds to go over and turn their paper." When I asked Wendy to explain how she sets her class up to be constantly moving or changing, but yet still under control, she stated, "The beginning of the year, just lots of procedures. Lots of going over expectations. Like when I tell you to do this, that is what I expect you to do." She continued, "It just comes natural. It's the procedures and expectations."

Because Wendy's classroom allows for freedom of movement and a lot of change of activities in reaction to students' needs, I asked her, "What are the biggest barriers to using physical activity as a way to engage students for teachers that don't allow freedom of movement and want a very controlled class?" She responded, "I feel like they would go home stressed, because if something didn't go right, they would feel like they did something wrong since that's not what is expected." I asked Wendy to explain her comment further, especially the "not what

is expected” part. She brought up the district and their priorities. “At this point, it is curriculum because it’s what’s been adopted. “We’ve been told that if they do a walk-through, they expect to see your essential question in your vocabulary words up and that kind of thing.” She added, “I feel like that's what they’re looking for versus kids being more engaged into the learning process.” Wendy continued her discussion about the district priorities, “They want everybody to be the same, kids can move from school to school and start right in. Well, that’s not going to happen.” She used her class versus another teacher in a different school as an example. “At the beginning of the year, I was taking two weeks on the unit versus one because I wanted to make sure I was teaching it correctly. Then you have like the teacher at Orion Elementary School, who since the district said one week per unit, is squeezing in one unit per week.” Wendy believes it’s unrealistic to expect all schools to be the same because there are so many differences between teachers, students and parents.

We concluded the interview by discussing what parents and student want in school. Wendy believes they all want there to be opportunities for hands on, engaging activities. She said, “The projects and the engagement, and then the little fun things. They would rather see projects with hands-on experiences because those are the memories that the kids will remember from their elementary years compared to a unit of reading or math.” She explained how math was an area she tried to focus more on hands-on learning this year. “I put all the math books on the shelf. I display the math book on the board and we go over it together. They hardly ever get out a math book because I’d rather them be engaged writing or coming to the board to work out problems versus sitting in a chair staring at a book.” She finished by saying, “They won’t remember what the curriculum was called, but they will be able to tell you the engaging projects that we did.”

Addy Toms

My final interview was conducted with Addy, the Truman Elementary School principal. We met in her office before school on January 15. The intent of the interview was to get a broader view of perceptions and expectations within the school as a whole. I was interested in how the principal viewed many of the same issues I had discussed with the teachers.

I started the interview by asking Addy what engagement looks like and means from her perspective as a principal. She said, “It doesn’t have to be everybody sitting in a row, everybody looking at the teacher appearing to be engaged.” She continued, “We have a lot of friends that can’t sit in their chairs. I think it’s important to let kids stand and move.” She ended by saying, “So, engagement may not look like they’re engaged. But if they can complete the tasks that they’re assigned, or if they’re learning the information that’s engagement to me.”

Because she brought up the idea of students moving and standing, I asked her to describe her perspective on physical activity as part of the academic learning experience. She responded, “It’s really important to incorporate transitions and movements into their learning. We have 90 minute reading blocks. You can’t expect elementary students to sit through 90 minutes of reading and actually retain the information they’re learning.” She added, “I think all kids need it, and if they don’t get movement opportunities, we don’t keep them. We don’t keep them engaged.” She felt the most effective way to get students physically active in class would depend on the students. She said, “You have to be flexible in letting those kids show you what they need.”

In talking about what she has seen that works in her school, she brought up Sally’s class and how it is managed. “It’s remarkable to walk in there because it is chaotic at best, but all of those kids love learning, are engaged and growing according to our data” she said. Addy

continued that, “If the teacher allows for more movement and flexibility, their box is bigger. When they allow for a bigger box for kids, the kids seem to learn better.” Addy also commented about the expectations of a traditional classroom management style. “The norm doesn’t have to be the norm. We define our normal and we can redefine our normal.”

This led to me ask Addy why so many teachers resist changing the norm and trying new strategies. She said, “There are some teachers that have a very, I don’t know if rigid is the right word, but it’s very hard for them to let the noise rise, let the kids move.” She then said,

I think it’s a fear of loss of control. When you’re trying to define your parameters and have those high expectations, especially new teachers, they think, we have to have expectations, you have to do procedures. You have to review that with your kids over and over and over, so they know. But that doesn't necessarily mean you have to sit crisscross applesauce and put your hands on top of your desk. They have to allow for the individual learning styles of the kids for them to be successful. I think people just are scared to let kids rule the class.

She continued,

I think it’s really hard for people to incorporate that plan for that controlled chaos and accomplish all the tasks that they have in front of them. If your goal is to you have to read the story today, they could sit on a ball, but are they going to be able to focus? I think it’s challenging to find that balance of where I need to move my body to focus yet I also need to stay focused on reading.

Addy then discussed what she felt teachers needed to overcome their fears and traditional expectations. “They need to be given the autonomy, that permission to say, ‘It’s okay, learning can look different.’” We need to model and show our adults that it’s okay to pursue learning in a different way. We can do that for kids, too.”

I then asked Addy what the district-level priorities were and if they led to the traditional expectations of school classrooms. Addy said, “I think when they (district-level administrators) have that global view, they want to make sure that we’re checking the boxes as far as accreditation and students are growing. They want data.” She continued, “They can come into classrooms and do some observations, but I don’t think they are familiar enough with the individual classrooms to effectively judge what is effective and not.” Addy commented that from a district level, a class like Amy’s, which is very organized with students sitting at the desks reading and listening to the teacher, would be considered effective. However a class run like Sally’s would not conform to what they believe traditionally successful classroom looks like.

As a parent to three children, two of whom attend Truman Elementary School, I asked Addy what she wants from the teachers as a parent. She said, “I want my kids to love coming to school. And as a principal, that’s what I want for all kids. I have that standard when I’m hiring people. I wouldn’t hire anybody that I wouldn’t put my kids in their classroom.” She further explained what she wants as a principal, “One thing teachers need is how to make learning more engaging. It doesn’t have to be the curriculum. Yes, our standard should be what is leading our instruction. Our curriculum is our tool, but that doesn’t mean that you have to follow it to the T.”

I asked Addy what she would tell new teachers about the use of physical activity in their class as an engagement strategy. She said, “What I see in classrooms with more physical activity is kids are at higher level engagement concerning their product. We should allow for their

bodies to move the way they're supposed to. I think giving yourself permission." She continued, "I think that movement shouldn't be held hostage. Kids need to move, kids need to have that opportunity and freedom. Flexibility is incredibly important, and we need to not let our own fears, insecurities, and inexperience limit that for kids." Her final comment of the interview summed up what she felt could be done from teachers, administrators, and parents to help students be more engaged. She said, "I think if we can remove some perceived barriers or some self-prescribed barriers for teachers and students, they are going to more effectively learn what they need."

Summary

This presentation of data that came by the way of three methods of data collection, (classroom observation, focus groups, and individual interviews).

Chapter 5 - Theoretical Analysis

This chapter explores the coding and theme development process that I executed to analyze the data collected throughout my observations, focus groups and interviews. Through the use of open, axial and selective coding, I developed categories leading to my overall findings in this project. This qualitative study, using classroom observations, focus groups, and individual interviews, began with four questions designed to open an exploration that would generate theory regarding effective use of physical activity within an academic learning experience. The following questions directed my research:

- How do upper elementary classroom teachers use physical activity during academic experiences to enhance learning engagement?
- How do upper elementary classroom teachers and students perceive the impact of physical activity when it is used as a technique to enhance engagement during academic learning experiences?
- Which physical activities provide the opportunities for enhanced student engagement in an academic setting from the perspectives of teachers, students and administrators?
- What are the observable outcomes produced by using specific physical activities as a part of the academic learning experience?

Open Coding

Following the first instance of collecting data through classroom observations and the focus group interview, I began open coding. Open coding is, “The process of breaking down, examining, comparing, conceptualizing, and categorizing data” (Strauss & Corbin, 1990, p. 61). To do this I, went line by line through my field notes and transcriptions to create codes or labels.

This process was done after each day of observations or interviews. Through the initial open coding process, I developed about 80 labels. I present these labels in Table 1.

Table 1 Initial Coding Labels

Administration	Flexibility	Natural	Spontaneous
Alternative Seating	Freedom	Need of PA	Stability Ball
Awkward	Frustration	Outcome	Struggle
Bad Behavior	Getting Up	PA Used	Student Awareness
Barrier	Give Up Control	PA While Learning	Student Reaction
Body-Mind	GoNoodle	Parents	Support
Bored	Good Feeling	Participates in PE	Task Avoidance
Brain Breaks	Hard to Engage	Perspective of PA	Teacher Confidence
Chaos	Home Life	Playing Outside	Teacher Feeling
Classroom Manager	Individual Learners	Positive Feeling	Teachers
College Support	Interaction	Post Recess	Transition
Comfort	Keeping it Fresh	Quiet Time	Trust of Kids
Conflicting Message	Reaction to Freedom	Reading	Trust-Relationship
Constant Movement	Lack of Creativity	Recess Impact	Video Games Electronics
Controlled Chaos	Lack of Motivation	Science	Visuals
Curriculum	Lazy	Sensory	Wants
Effective	Loss of Control	Setting up Class	
Engagement	Loss of Recess	Short Reprieve	
Engagement Strat	Math	Social Studies	
Expectations	Model	Socializing	
Feeling Judged	Music	Specials Classes	

By creating this list throughout the research process, I was able to put labels on what I was seeing and what things I needed to look at more closely. It also helped me because it organized what I was observing into a more structured view. I first organized my labels by

relating them to my research questions. Some labels were put under more than one question. I also added additional labels where appropriate. The following tables present the next step of my organization of coding.

Table 2 Coded Labels Relating to Question 1

Question 1 - How do upper elementary classroom teachers use physical activity during academic experiences to enhance learning engagement?

Acting out Words	GoNoodle	Recess
Bread Making	Interactions	Rocking Chair
Bungee Chairs	Learning by Doing	Science
Flexibility	Math Activities	Sensory Activities
Floor	Mattress	Socializing
Freedom	Model	Spontaneous
Getting Up	Movement in Room	Stability Balls
Go Outside	Read Aloud	Transitions

Table 3 Coded Labels Relating to Question 2

Question 2 - How do upper elementary classroom teachers and students perceive the impact physical activity when it is used as a technique to enhance engagement during academic learning experiences?

Allow for Individual Learners	Feeling Judged	Memories
Allows Flexibility	Freedom	Perceived Norm
Autonomy	Good Feeling	Progress
Awkward	Home Life	Real Life Workshops
Confidence	Improve Focus	Scary
Connections	Keeps it Interesting	Social
Creativity	Kids not Wanting PA	Starts in College
Curriculum	Lack of Knowledge	Support
District	Learn Best	Video Games

Table 3 Continued

Effective	Loss of Control	Visible Excitement
Engagement	Love of Learning	What Kids Need

Table 4 Coded Labels Relating to Question 3

Question 3 - Which physical activities provide the opportunities enhanced student engagement in an academic setting from the perspectives of teachers, students, and administrators?

100% Participation	Happy	Model
Active	Impactful	New Normal
Allows for Individual Learning Styles	Individual Needs	Not Always Normal
Based on Kid's Needs	Interaction	Observable
Change of Pace	Knowing What's Going On	Real-life
Comfort	Lack of Distraction	Seat Time
Define Own Normal	Learn While Not Knowing	Sensory
Don't Hold Movement Hostage	Learning	Social
Engaging	Listening	Student Control
Flexibility	Love of Learning	Trust
Focus Longer	Making Memories	
Fun	Memorable	
Hands-on		

Table 5 Coded Labels Relating to Question 4

Question 4 - What are the observable outcomes produced by using specific physical activities as a part of the academic learning experience?

Awkward	Focus	Specials Classes
Bored	Happy	Standing Out
Calm	Love of Learning	Take Chances

Table 5 Continued

Confidence Impacts	Recess	Trust
Engaging	Safe	Unnatural
Excited	Some Bad	Visually Positive
Fear of Failure	Some Good	

As I organized the labels under the relating research questions, I began to see similarities and connections between the labels. I used the similarities and connections to come up with a list of 14 concepts. Table 6 organizes the concepts into their relating research questions.

Table 6 Concepts

Concepts

<i>Question 1</i>	<i>Question 2</i>	<i>Question 3</i>	<i>Question 4</i>
Alternative Seating	Barriers	Alternative Seating Impact	Constant/
Brain Breaks	Positiveness	Freedom-Constant	Natural
Kinesthetic Learning	What Teachers Need	Kinesthetic Learning Impact	Prescribed
Natural Movement		Student Engagement	

Now that these concepts had become more organized, they needed to each be analyzed in more detail. The analysis of these concepts confirmed the underlying indicators and properties and lead to new indicators and properties. Breaking down each concept will assist in generating three or four categories that will further the development of the overall themes. To present this analysis, I will give a short narrative of my coding discoveries regarding each concept followed by tables listing the indicators for each concept. The concepts have been organized under the research questions they relate to. While some of the concepts are similar, they are taken in the context of how they relate to each question.

Question 1: How do upper elementary classroom teachers use physical activity during academic experiences to enhance learning engagement?

Concept: Introducing Physical Activity Through Alternative Seating

All three teachers allowed for some level of alternative seating in their classroom and during various academic learning experiences. The most used form of alternative seating was allowing students to sit where they wanted in the classroom rather than at their desks. Students sat on the floor, lay down on the floor, and stood at their desks. Wendy stated, “They know they can sit on the floor. They can lie on the floor. Some of them like to lay like right underneath my desk by read aloud chair.”

Alternative seating also allowed students to get up and move around the room when needed. The teachers introduced the use of stability balls into the classroom setting as a seating option to the traditional blue chair. Sally had six stability balls in her classroom; Amy and Wendy each had one. During each observation, all of the stability balls, in each classroom were in constant use. The stability balls varied in size, color and type.

Wendy’s classroom had a mattress for one to two students to sit on. This was typically the first alternate seating option the students chose. The mattress had pillows that provided a place for students to rest their book on or to cuddle up with. Other alternative seating options the teacher used were, bungee chairs, a director’s chair, a lounge chair and a rocking chair.

Alternative seating was one of the main strategies the teachers used to introduce physical activity into the classroom. It was evident in each classroom and was offered as an option for students during each of my observations.

Table 7 Introducing Physical Activity Through Alternative Seating

Concept

Alternative Seating	Indicators	Indicators
	Freedom	Sensory Activity
	Stability Balls	Pillows
	Getting Up	Mattress
	Bungee Chairs	Floor
	Rocking Chair	

Concept: Introducing Physical Activity Through Brain Breaks

The three classroom teachers used brain breaks the least during my observations. Brain breaks are designed to take a few minutes of class time and have students get up and move in a very prescribed and organized way, typically by playing a physical game or doing a dance video. I did see each teacher use a GoNoodle dance video at least one time during my observations. The GoNoodle videos would play music and have someone or a group of people dancing or doing some type of movement pattern. The students watch and mimic what is going on in the video. The teachers agreed that while they did brain breaks such as GoNoodle videos once in a while, it was not a favorite strategy to use. They felt that they had to do it during transition time or during a break. They were not comfortable doing them in the middle of a lesson.

Another brain break strategy that the teachers used was taking the students outside. This was typically awarded through an extra recess time. One teacher commented that “Sometimes you can just see that the students need to get up and move.” This strategy is much less organized than typical brain breaks but does allow the students a relief from sitting in the classroom. The teachers’ limited use of or desire to consistently try brain breaks by the teachers was a surprise to

me. I went into the study thinking that brain breaks would be a popular physical activity strategy. This forced me to rethink the physical activity strategies that were going to be used the most and be the most effective by the teachers.

Table 8 Introducing Physical Activity Through Brain Breaks

Concept

Brain Breaks	Indicators	Indicators
	GoNoodle	Recess
	Short Reprieve	Dance
	Playing Outside	Games

Concept: Introducing Physical Activity Through Kinesthetic Learning

I described kinesthetic learning in Chapter 1 as any learning that takes place while the participants are actively doing something (Beaudoin & Johnston, 2011; Dixon, 2012).

Kinesthetic learning took many forms throughout the observations at Truman Elementary school. One of the most frequent kinesthetic learning experiences observed was a read aloud activity with partners or as a class. Amy and Wendy used read aloud activities often to enhance reading engagement during long blocks of reading. Students were often encouraged to use voice inflection, emotion, and physical actions to express the tone of the speech. Amy used read aloud activities in combination with silent reading, allowing students to choose what type of reading experience best fits their needs.

Both Wendy and Sally used kinesthetic learning activities to engage students during math. Students often used personal whiteboards or the big whiteboard on the wall to write out and solve math problems. Wendy played math games such as “Math Knockout” to review multiplication. Sally often had students move around the room to physically respond to math

questions and had physical representations of the math concepts. For example, Sally would have the students stand in the proper area of a number line to represent number values.

Amy used hands-on science experiments to enhance her science lessons. She said that she felt science was one of the most natural areas to incorporate kinesthetic learning opportunities. Amy stated, “Science, that’s easy. They’re constantly working with each other and sitting around the room.” During the most obvious kinesthetic lessons I observed, Amy had a guest speaker in class to teach the students how to make bread. The students used all of their senses and were physically active throughout the entire process. Activities included mixing ingredients, kneading dough, and cleaning up the supplies. Other kinesthetic learning activities observed included playing charades, acting out vocabulary words, using hand movements to stretch out word sounds, and reviewing math through student relays or races.

Kinesthetic learning opportunities are often not obvious at first. Little things during the learning experience can be added or adjusted to have students more actively participating in the learning process. Some of the activities above are simple and take little additional work, while others take much more planning time and practice. An activity such as a read aloud can completely change the reading experience and allow for more focus and engagement.

Table 9 Introducing Physical Activity Through Kinesthetic Learning

<i>Concept</i>		
Kinesthetic Learning	Indicators	Indicators
	Read Aloud	Learning by Doing
	Math Activities	Hands-On
	Acting Out Words	Bread Making
	Charades	Number Line
	Science Experiments	Review Games

Concept: Introducing Physical Activity Through Natural Movement

When my observations began, my focus was on specific and/or prescribed physical activities within the academic learning environment. What became increasingly obvious as I continued my observations was the phenomenon of natural movement to allow for physical activity within the classroom. I would define natural movement as movement that is not directed by the teacher but rather occurs through the natural process of daily classroom activities. Teachers create natural movement by giving students freedom to move throughout the classroom as needed to best meet individual learning styles. However, for this strategy to be effective, teachers must set classroom procedures and expectations early on in the school year. And they must enforce and follow through all year long. The teachers said that they believed that along with setting procedures and expectations, developing a positive and trusting student-teacher relationship was critical to allowing students freedom to move around the room as needed.

Natural movement presents itself in various forms. One example of natural movement is allowing students to get up and move to different areas in the classroom when reading or while working on assignments. Students gain a small break to refocus their thoughts. They take control of their learning environment and find one that best meets their needs. Sally stated, "I think part of it is giving them the freedom. Like I know this kid right here needs to be up and moving all the time. I know that. He can't sit still, and so instead of calling him out each time, we let him control what's best for him." Another natural movement occurs during transition times. Throughout the day, students transition from one classroom to another multiple times. During this time, students interact with others, physically move throughout the building, and have flexibility in their actions.

Natural movement is not easily observed at first glance. In fact, it often initially looks like off-task behavior. It took me a long time to find it in my coding. Once I discovered when, where and how natural movement was being used, things became much clear. I focused my observations to find natural movement and record its effectiveness toward student engagement. My discovery prompted me to have a more in-depth discussion about natural movement with the teachers. They said they felt that natural movement gives the students control of their learning environment, allows for flexibility in learning strategies and provides increased opportunities to interact and socialize with each other.

Table 10 Introducing Physical Activity Through Natural Movement

Concept

Natural Movement	Indicators	Indicators
	Transitions	Spontaneous
	Interactions	Sensory Activities
	Movement Throughout Room	Social
	Flexibility	Model
	Alternative Seating	

Question 2: How do upper elementary classroom teachers and students perceive the impact of physical activity when it is used as a technique to enhance engagement during academic learning experiences?

Concept: Barriers to Using Physical Activity in the Classroom

Before and during my observations and interviews, I wondered why more teachers don't use physical activity in their classrooms if study after study shows that physical activity enhances the academic learning experience. I hoped that my research would bring clarification. The teachers expressed many of the barriers to using physical activity in the classroom during the

focus group and individual interviews. Three main ideas stood out when coding the data: fear of losing control of the class, lack of knowledge to use physical activity, and the rigidity of the curriculum.

The three teachers frequently expressed their worry that pausing to do an activity or brain break would cost them another five minutes to get the class back under control. In each interview where I asked about barriers to using physical activity, the first response I received addressed the fear of losing control of the class. The teachers had experienced this loss of control in their own rooms; but they said they also felt this was a significant reason that most of their peers shied away from introducing physical activity into their own class. Sally said, “They think it would be really scary, and it would be. Like, how am I going to teach what I’m supposed to teach when the kids are constantly bouncing up and down and up and down.” The teachers said they also fear straying away from the norm. The overall thought was that teachers in general are conditioned to believe that there is a certain norm or expected classroom-management style. They said that they fear poor judgement if parents or district administrators observe that their classroom does not look a certain way. Addy, Truman Elementary principal, stated, “I think it’s a fear of the loss of control. When you’re trying to define your parameters and have those high expectations and everything. Especially new teachers, we have to meet expectations; you have to do procedures.”

The next barrier that came to light while conducting my research is that the teachers said they lack the knowledge about how to effectively incorporate physical activity into the academic learning process. Amy commented, “It’s hard for me to come up with things to have kids do and be physically active.” Addy stated, “I think there’s this unknown, especially with new teachers, when they don’t have a basket of tools to use to have students physically active.” There was a

feeling among the teachers that they were never taught to use physical activity in the classroom, and that many of the cooperating teachers they worked with in pre-service training taught in a very traditional manner, where movement was frowned upon.

A label that kept coming up through the coding was curriculum. Each interviewee commented that the rigidness of the district adopted-curriculum was prohibitive to the use of physical activity. The district had placed expectations on the teachers to teach the curriculum in a very specific way so that each student in the district was taught in a homogeneous manner. The district officials will do walk-through observations throughout the year to ensure that the teachers teach in the style the district had designated through curriculum training. The teaching strategies that the teachers are asked to use, including set lesson plans, do not include or allow time for physical activity or outside activities. The teachers all said that they felt this often went against what they thought was best for the students. Addy stated, “That curriculum piece and having the protocol being really strong, encourages teachers to follow and to stay in a specific timeline.” Wendy added, “We have to follow what the district is saying.”

Table 11 Barriers to Using Physical Activity in the Classroom

<i>Concept</i>		
Barriers	Indicators	Indicators
	Awkward	Curriculum
	Norms	Video Games
	Feeling Judged	Lack of Creativity
	Loss of Control	Scary
	Lack of Knowledge	Home Life
	District	

Concept: What Teachers Need to Effectively Use Physical Activity in Classroom

As the concept of barriers became more prominent throughout the coding of the data, I began searching for what the teachers said that they felt they needed to be better prepared to use physical activity effectively during academic learning experiences. To start, the teachers said that they want increased training on how to use physical activity. They said that the number of strategies they know, and the opportunity to learn these techniques throughout their college experiences was inadequate. They all agreed that these strategies needed to first be taught in their pre-service college classes. Amy commented positively on the one class she felt did use physical activity to engage students. “I learned in college through my foundation class. It is really awesome. (My instructor) taught in a way where we would best learn and how I wish to teach our students. She got us moving all the time and doing role-play... We can’t just lecture; that was the whole goal - no lecture at all.” Amy said she felt there need to be more classes like that. Addy added, “There needs to be a lot more focus on how to relate to the students and understand that their bodies aren’t designed to sit all day.” She said she wants pre-service teachers to develop a “basket of tools” that includes ideas for physical activity and is more aimed at teaching to the students’ individual needs of the students. In addition, the teachers said they also wish they had more professional development opportunities to help them continue to learn new ways to incorporate physical activities. “It would be cool if we could do workshops, that you’re actually doing the activities.”

The three said that they also feel they need to have the autonomy to teach in ways best meet the needs of the individual students in their classes. This independence also gives the teachers freedom to try things and make mistakes without the worry of being judged poorly. The

teachers said they believe that to be effective at using physical activity during the academic learning experience, they must be confident in their teaching skills and willing to go outside the norm. Whether it be through college instruction, professional development, or in-class trial and error experiences, all three teachers agreed that more support and encouragement need to be present to enable them to increase physical activity use in the classroom.

Table 12 What Teachers Need to Effectively Use Physical Activity in Classroom

Concept

Teachers' Needs	Indicators	Indicators
	Support	Autonomy
	Real Life PD	Confidence
	Starts in College	Freedom

The Concept: Positive Perspective of Physical Activity in the Classroom

Throughout the focus group meetings and individual interviews, one of my main goals was to gain an understanding of the teachers’ perspectives of using physical activity in the classroom as a strategy to enhance student engagement. Overall, the teachers had a positive perspective on the use of physical activity. They stated many reasons for feeling positive and they said they thought that even though there were barriers to using physical activity, it was an extremely effective tool to use when teaching.

The teachers all said they felt that physical activity gave them a strategy that helped them meet individual learning needs and that encouraged students to take control of their learning environment. They also agreed that the students needed physical activity experiences throughout the day to keep them focused and comfortable. Amy said, “I think it’s definitely effective, especially when they’ve been sitting for so long.” Sally added, “I think it’s really helpful

because kids need to get all their wiggles out. When they move, they get their wiggles out and they still do their work. It’s awesome.” The three teachers commented on the good feeling they get from using physical activity in class as well as the visible excitement they see from the students when they are physically active in the classroom.

Another positive perspective of physical activity was that it gave students freedom in the classroom. Sally said “I think a lot of the kids feel like they can be themselves and they feel safe and they feel like they have freedom. I think that plays a huge part in it.” The ability of students to make their own choices also leads to spontaneous interactions and socialization throughout the day. All three teachers said they want the students to practice and improve their social skills with their peers and that physical activity encourages students to be more social with each other.

Finally, the teachers all had the perspective that students need physical activity. This movement and interaction create an environment in which students best learn. They said that if done throughout the daily classroom schedule, physical activity is an effective way to enhance student engagement.

Table 13 A Positive Perspective of Physical Activity in the Classroom

<i>Concept</i>		
Positive Perspective	Indicators	Indicators
	Individual Learners	Effective
	Good Feeling	Interesting
	Visible Excitement	Improves Focus
	Freedom	Social
	What Kids Need	Learn Best

Question 3 - Which physical activities provide the opportunities for enhanced student engagement in an academic setting from the perspectives of teachers, students and administrators?

Concept: Student Engagement

To best know which physical activities enhance student engagement, I needed to first understand what the teachers felt student engagement was. In Chapter 1, I defined engagement as the degree of interest, inquiry and active participation that students display during a learning opportunity (Dixon 2012, Stevens-Smith, 2016). I spent time during each individual interview questioning the teachers about what student engagement looks like and means to them. While the teachers were quick to say that it means that all students are active in the learning process, they also stated that there was much more to student engagement than just being active. Sally mentioned that she felt engaged students were excited about what they were learning. The teachers all commented that student engagement can look different for different students. Some students are engaged sitting at their desk reading or working on worksheets. Other students have to be moving and physically involved in the activity to be engaged. Addy commented that student engagement is not always just sitting and listening to the teacher. “Engagement may not look like they’re engaged. But if they can complete the tasks that they’re assigned or if they’re learning the information, that’s engagement to me.” The teachers also feel that student engagement is often visually observable. Amy stated, “They are concentrated on what they're doing. They feel relaxed and not fidgety.” Sally added, “If they are doing their work, whether that be participating in whiteboard work or having conversation with those at their table group or moving around the classroom, I can observe their level of engagement.”

The teachers agreed that student engagement was a critical aspect of student success. When students actively engage in the learning process, the teachers said they believe students

gain a love of learning. When they have a love of learning, school becomes fun and students are happy. These are very uncomplicated terms, but they make a huge difference to the academic learning environment. The teachers discussed that they observe an increased focus and improved product from students whom they see as actively engaged. They stated that the students know what is going on and can interact with them about the topics learned in class. They also said that students tend to remember activities that increase student engagement and the students take this knowledge with them as they move on. Wendy discussed that students are not going to remember the name of the curriculum or a particular math assignment. Bust she said that what they are going to remember is the interaction they had with the topic and the activity. The activities that actively engage students in the learning process create lifelong memories and make positive impacts on students' lives and their learning.

Table 14 Student Engagement

<i>Concept</i>		
Student Engagement	Indicators	Indicators
	Active	Love of Learning
	Listening	Not Always Normal
	Know What's Going On	Based on Kids' Needs
	Learning	Observable
	Happy	Making Memories

Concept: Alternative Seating's Impact on Student Engagement

Alternative seating has a highly positive impact on student engagement and student learning. By adding various seating options into the classroom, teachers noted a number of encouraging outcomes. The first outcome would be student comfort. It was often noted that

sitting in a traditional hard blue chair for long periods of time caused students to fidget and move around, often creating a distraction for other students. Alternative seating also allowed for a change of pace to students’ learning environment. The introduction of stability balls, mattresses and bungee chairs resulted in increased on task behavior. Alternative seating also increased student focus and active engagement within the classroom environment.

The constant movement provided by alternative seating allows those students who need additional sensory intervention or physical activity during classroom time an opportunity to satisfy these needs without gross motor movement that is often distracting to others. This led to increased student control over their learning environment. Not all students choose to use the alternative seating options. The students who felt more comfortable in a traditional setting worked at their desks, while the students desiring movement could use the alternative seating options. This allows for multiple types of learners to be successful within a single classroom environment without much effort by the teacher in regard to academic planning. Sally summed up how the giving freedom of seating options and allowing students some control of their learning environment helps students meet their individual needs. She stated, “I think just giving them that freedom to be themselves plays into their movement and plays into how they going to learn.” She continued, “Do you learn best by listening to music? Do you learn best by being quiet? Do you learn best by sitting at the desk? Do you learn best by sitting on a stability ball? What is best for you and having them evaluate their needs.”

Table 15 Alternative Seating’s Impact on Student Engagement

<i>Concept</i>		
Alternative Seating’s Impact	Indicators	Indicators
	Comfort	Learning Environment
	Longer Focus	Sensory

Table 15 Continued

Seat Time	Individual Needs
Control	Change of Pace
Active Participation	Not Distracting

Concept: Kinesthetic Learning’s Impact on Student Engagement

Although few instances of kinesthetic learning were observed during the research period, when kinesthetic learning was used by the teachers, student engagement during the academic learning process showed a marked increase. The students’ reaction to each kinesthetic learning experience was visibly positive and excited. I will refer to three specific examples of kinesthetic learning that were observed. Each one strongly supported an increase in student participation and student engagement, as well as student enjoyment in the learning process.

The first kinesthetic learning experience I observed was in Wendy’s classroom. Wendy often used class and partner read aloud during the reading block time. During one observation period, I viewed Wendy not only using the action of reading the story out loud, but she also had the students act out the reading parts. This included both physical acting and voice inflection. When reading, the students would stand and play out the role while reading. Each student was actively involved in the lesson. Some students were more outgoing than others. But as the activity went on, more students became increasingly demonstrative in their reading. One student, for example used an accent that he thought matched the character he was reading. Another student used physical actions to demonstrate what the character was doing in the story. Students in the classroom had smiles on their faces and were following along with the story waiting for their turn to read. The engagement continued when the students broke out into groups and continued the read aloud activity. One of the ways all the teachers explained how they can tell if students are engaged is if they can recall and discuss what the lesson covered.

During and after read aloud activities, every student participated in class discussions about what was read. The discussion time was more enthusiastic and informative than instances when students just read silently alone for long periods of time. Wendy commented how the read aloud activities were often more effective than just following the curriculum verbatim. “My kids are more engaged in our interactive read aloud than they are during the curriculum specified activities.”

The next example of kinesthetic activities observed came during one of Sally’s math classes. Sally used multiple kinesthetic activities during one lesson to engage her students. First, she had the students write on whiteboards in groups at their desks as she read out the problem. Time and time again, I observed the act of writing on personal whiteboards to be an effective engagement tool. Students used larger movements to write when using markers and whiteboards. The next kinesthetic activity used had the students go to the front of the room and write their math problems and solutions on the board. Students moved throughout the classroom to get to the front whiteboard. The final kinesthetic activity in the lesson had the students shift from one side of the room to the other depending on if they thought the answer to the math problems were correct as Sally went over the answers. When asked how she felt the use of this kinesthetic activity helped to engage her students, Sally said, “They don’t have to sit in their seat normally or anything like that, and that’s been really good for them. It’s more than just like they have to be attentively watching, they are active in the lesson so that’s been really good.” This specific example of an observed activity used three different kinesthetic learning strategies during one math practice session. All students were on task, engaged in discussing the problems with each other, physically active, and visibly enjoying the experience.

The final example of an observed kinesthetic lesson was in Amy’s classroom when a guest speaker came in to teach the students about making bread. Not only did the students learn about making bread, they actively learned how to make bread. The lesson included multiple opportunities to be physically active during the learning process. From moving around the room to get ingredients, to using their hands to mix and mash the ingredients together, to kneading the dough, the students were observed to be 100% on task and engaged in the activity. Students responded by being on task and visibly excited about what they were learning and what they were doing. Throughout the activity there were discussion opportunities. Each time there would be a discussion, the students were excited to share what they were doing and what they were learning. One of the most fascinating parts about watching the students engage in the kinesthetic lesson was how many school subjects were present within a single lesson. During the activity, students experienced lessons on science, social studies, math, and reading. The students also worked with other students to accomplish the goal of making bread. This observation was a perfect example of enhanced student engagement through kinesthetic learning. When the students were asked to talk about the learning experience, the excitement in their voices was clear. Again and again the students discussed the different aspects of the lesson that they enjoyed. It was noted that the majority of the comments were focused on how much they enjoyed the physical parts of the experience.

Table 16 Kinesthetic Learning’s Impact on Student Engagement

<i>Concept</i>		
Kinesthetic Learning	Indicators	Indicators
	Hands-On	Engaging
	Real-Life	Enjoyment

Table 16 Continued

Impactful

Visible Happiness

Participation

Memorable

Fun

Love of Learning

Learning Without Struggle

Concept: Freedom of Movement and Constant Movement's Impact on Student Engagement

As noted earlier in this paper, the concept of Freedom of Movement and Constant Movement as a positive way to enhance student engagement was not quickly discovered and came about as I analyzed what happened in the classes. As first glance, this concept can present itself as a chaotic unorganized classroom with few classroom management strategies implemented. Analyzing the data collected through multiple classroom observations showed increased student engagement in classrooms in which students were free to move around the room as needed or where there was constant movement. Students in these experiences were visibly more alert, stayed on task longer, and interacted with the teacher and their peers in a positive manner.

Addy commented that teachers, "should not hold movement hostage." She furthered her point by saying, "When students are engaged through physically active learning experiences, they produce not only better work, but better end products." Sally stated, "I think they (students) do better with constant movement." The teachers also commented that allowing freedom of movement within the academic learning experience let students take control of their learning experiences to best meet their needs. This increased interest and engagement in the lesson being taught.

One effect that freedom of movement and constant movement had on students was an increase in their love of learning. Each one of the interviewees listed "a love of learning" as one

of their primary goals for students. They said they feel that when students love what they are doing, the students more willing to engage with the learning process and are therefore more successful. They commented that the use of physical activity during academic learning experiences increases student enjoyment and the students feel more connected to what they are doing. This creates a sense of freedom to learn without the pressures of grades or rigid learning strategies. The teachers all suggested that they have had some of their best learning opportunities with the students when the students didn't even realize that they were in the middle of an organized learning experience.

Table 17 Freedom of Movement and Constant Movement's Impact on Student Engagement

<i>Concept</i>		
Freedom of Movement And Constant Movement	Indicators	Indicators
	Student Control	Individual Learners
	Don't Hold Movement Hostage	Engagement
	Model	New Normal
	Flexibility	Social
	Define own Normal	Love of Learning

Question 4: What are the observable outcomes produced by using specific physical activities as a part of the academic learning experience?

At the start, I envisioned this question would be one of the lead focuses of my research. However, the further I went into my analysis, the less meaningful it became. I planned to find specific prescribed physical activities used in academic experiences and report on the positive outcomes that students gained from them. As the data continued to show more positive outcome from constant natural movement, my focus turned away from looking at specific prescribed

activities and moved more toward the outcomes of constant natural movement. Through the use of coding and labels, I broke this question into two separate concepts: prescribed physical activities and constant natural activities.

Concept: Observable Outcomes from Prescribed Physical Activities

The use of prescribed physical activities during academic learning experiences was one of the least used movement opportunities provided to the students during my data collection time. When they were used, the activities often were observed to only focus students for a short time. Groups of students appeared awkward or uninterested in brain breaks or specific movement activities the teachers introduced. The teachers were also hesitant to use them because of the increased planning involved, the time taken away from learning, or the fear of having to regroup students after the activity.

One teacher said that she did not like to get up and dance in front of people, so she was not going to have her students do that. A few of the teachers commented that because a lot of their students are not used to moving in class or at home, they feel they would not have the confidence to do so in front of others as an activity in the classroom. The teachers all said they felt resistance from the students when they had tried brain breaks such as GoNoodle dances in the past. This has led to them not continuing the practice. The thought from the teachers was that because the specific prescribed activities were unnatural to the students, the teachers and students weren't motivated to use them to enhance student engagement.

Table 18 Observable Outcomes from Prescribed Physical Activities

<i>Concept</i>		
Prescribed Activities	Indicators	Indicators
	Some Good	Fear of Failure

Table 18 Continued

Some Bad

Lack of Confidence

Bored

Standing Out

Awkward

Unnatural

Lack of Motivation

Concept: Observable Outcomes from Constant Natural Movement Activities

Throughout the process of coding and analyzing the data, one idea that kept standing out was the effectiveness of constant natural movement activities during the academic learning process. Having the students constantly moving as a natural part of the classroom created observable positive outcomes. The teachers all favored its use above the other physical activity strategies. They said they felt it allowed them to reach individual learners, was comfortable to teach and did not take away time from the learning experience.

The observed student outcomes related to constant natural movement could be seen in multiple areas of their learning process. One clearly observable outcome from this strategy was a calmness to the classroom. While students were often up and moving around, they were under control and respected the need of their peers. For example, one student will be sitting on a stability ball bouncing since they desire physical activity while reading. At the same time, another student who wishes to work quietly at his desk does so without being interrupted by an off-task student walking loudly around the room. The more the students were free to be physically active in the classroom, the more the students stayed on task and under control.

Another observable outcome that resulted from the use of constant natural movement in the classroom was students who were increasingly engaged and focused during academic learning experiences. The students worked for longer periods of time and produced quality work. This was seen often during math lessons when students consistently moved throughout the room during practice time and helped each other with their questions. Students were rarely

observed talking about outside topics that distracted them from the math lesson. The interaction between peers assisted improves student social skill which each teacher mentioned as a priority.

Additionally, when teachers used periods of constant natural movement students were observed to be excited and display a love for learning. Signs of this included smiles, attentive body posture (sitting up right rather than slouching), and increased participation in discussions and class activities. The teachers often commented that during these experiences, the students' work quality improved.

The final observable outcome seen in the students when constant natural movement occurred was enhanced positive and safe relationships with the teacher and their peers. During the interviews the discussion turned to students having safe relationships with the class and the teacher. The teachers said they believe the safer students feel in the learning experience, the more chances they were willing to take. This leads many students to go outside their comfort zones and work in more effective ways based on their individual needs. And this behavior was often observed during times of constant natural movement.

Table 19 *Observable Outcomes from Constant Natural Movement Activities*

<i>Concept</i>		
Constant Natural Movement	Indicators	Indicators
	Love of Learning	Calm
	Engaging	Safe
	Excited	Relationships
	Happy	Take Chances
	Focus	Posture
Table 19 Continued	Positive Vibe	

Identification of Emerging Categories and Axial Coding

Axial coding is a major component to data analysis in grounded theory. It begins the testing process of theories indicating which need further development and which can be discarded (Okta, 2012, Strauss & Corbin, 1990). Through axial coding, categories and their relationships are identified through a detailed exploration of open coding labels and concepts. The concepts are clustered and unified from the use of data and indicators to create individual categories revealing a phenomenon’s context, strategies, and consequences to give them depth and precision. As I worked through axial coding four categories or themes emerged.

1. Student Engagement
2. Positiveness
3. Barriers
4. Constant Natural Movement

Student Engagement

Table 20 Category Student Engagement

<i>Student Engagement</i>		
What	Action	Result
Participation	Know What's Going On	Active Students
Active Listening	Observable Enjoyment	Effective Learning
Love of Learning	Individual Learning	Making Memories
Not Always the Norm		

Student Engagement as a category emerged early in the process of analyzing the data. This category can be looked at as the “Why” of this study. It refers to why teachers want to use physical activity strategies during academic learning experiences. Student engagement is looked

upon as the ultimate goal of the teachers in my study. The teachers said they believe that for students to learn most effectively, the students must first be fully engaged in the learning process. Student engagement cannot be singularly defined or observed at a glance. Student engagement means different things to different people and will be displayed show differently from one student to another.

I narrowed the teachers' perspective of student engagement into four common ideas. The first is "participation." To be considered engaged the teachers look to see a high level of student participation. The next idea is "active listening." This means students are paying attention to what the teacher is saying and demonstrating as part of the lesson. The third idea coded along with student engagement is "love of learning." The three teachers often commented that when students are engaged or actively participating in an academic lesson, they exhibit an increased love of learning. This could be observed by smiles, attentive body language, or increased discussion relating to the topic being learned or practice. The final idea that I related to what student engagement is "not always the norm." There was a consensus that student engagement does not always fit into what a traditional elementary school classroom presents. The belief is that students often are engaged in their own way, depending on what works best for their individual needs. Sally suggested that students sitting at a desk reading, may not be as engaged in their activity as another student who reads while lying on the floor, sitting on a stability ball, or standing at their desk.

I organized the action of student engagement into three different ideas. Throughout the analysis, one idea that continued to show up when discussing student engagement was knowing what's going on. This was one of the main ways that teachers used to judge student engagement. When students were able to recall and/or understand the material that was covered in a lesson,

student engagement was confirmed. Another action that took place during high levels of student engagement was observable enjoyment. While this may be hard to define, it was not hard to observe when watching the students. Sally made a point to state that she could “just see it in their eyes.” The last idea of action from student engagement is individual learning. The teachers said they feel that when students are engaged, the student adopt individual learning strategies to best meet their learning needs. These learning strategies ranged from where the students were physically in the classroom, to how often they got up to move around the room, to how long they spent on a particular practice experience.

The results from high levels of student engagement were organized into three ideas. These ideas consistently appeared within the coding in reference to observed student engagement. “Active” students are the first idea resulting from student engagement. The students were visually and audibly observed to be actively involved. For example, a student engaged in an activity would be quick to join in on a discussion or to volunteer to help other students with the material being learned. The next idea relating to the results of student engagement is “effective learning.” The teachers often brought up this idea as a goal of student engagement. During one discussion with the teachers, we talked about the importance of being effective in what they do. For example, is it better to sit and look at a book for 60 minutes appearing to be engaged? Or is it more effective to have a shorter block of read time in which the students are actively engaged in the reading. All the teachers agreed that they would rather have short spans of engaged reading time because when students are engaged, they are able to focus and learn more effectively. The final idea that is connected to the results of student engagement is “making memories.” This is one code that I was not expecting but kept showing itself. Wendy repeatedly commented about how high levels of student engagement make

learning memorable. During her individual interview, she said, “They (students and parents) want the projects and the engagement and then little fun things. Those are the memories that the kids will remember from their elementary years compared to a unit.” Addy also commented on making memories when discussing the difference between a traditional elementary classroom and an engaged classroom. She suggested that students will remember those moments when they were engaged in the learning process.

Barriers

Table 21 Category Barriers

<i>Barriers</i>		
What	Action	Result
District Curriculum	Lack of Confidence	Avoidance
Perceived Expectations	Fear	Traditional Classroom
Know How		

While I expected barriers to develop into a category as I moved through the research phase of my project, I was surprised by the extent that it was present throughout the data. During each focus group and individual interview, the teachers discussed barriers to using physical activity. This category is an intervening condition that disrupts the use of physical activity as a strategy to increase student engagement in academic environments. I first organized the “what” of barriers into three different ideas. The first and idea is “district curriculum.” This refers to curriculum that the district requires teachers to use when teaching students. One comment from Amy that stood out but was repeated in multiple ways by the different teacher, “It’s just ... how do you incorporate (physical activity) into the lessons when the curriculum you’re given has nothing about physical movement whatsoever.” Addy also addressed the rigidity of the curriculum. She stated, “That curriculum piece, the protocol is being really strongly encouraged

for teachers to follow and to stay in a certain timeline.” The teachers said they feel that because they are expected to teach the curriculum a specific way and not stray from what is given to them, the curriculum prohibits teachers from using physical activity during academic learning experiences. One of the main concerns regarding the curriculum is it’s “rinse and repeat” style of lessons in which the same teaching and practice strategy is used in each lesson. The teachers said they feel that there is little room to add in additional strategies and that the students have become bored with the same routine. Another concern from the teachers is the long blocks of time students are expected to read without interruption. Because of spontaneous observations from district-level administration to make sure the teachers are teaching the curriculum the same way across the board, the teachers tend not to add in their own teaching strategies.

The next idea “perceived expectation.” This idea comes from the teachers perceived expectation of what a traditional classroom environment looks like. Each teacher commented throughout this study that they believe physical activity positively enhances their teaching technique and increases student engagement. Yet they do not feel that a physically active classroom matches with what many stakeholders, such as peer teachers, parents and district level administrators are used to seeing. Sally explained, “I feel like a lot of the time we’re taught that you need to manage your kids and management looks like you have your kids under control and they’re all quiet and they’re all sitting there and they’re all doing their job.” Amy said she feels it’s hard to get away from the traditional style of teaching because many teachers are trained that way. She said, “I think it’s even a generation thing. Definitely with older teachers, like my cooperating teacher. It was very silent, and I see myself teaching the same way. I always said I would not do that and here I am.”

“Lack of knowledge” is the third idea organized under the “what” of barriers. Addy commented that teachers, especially new ones, do not have a “bag of tools” to in regard to physical activity strategies. The teachers suggested that they were taught to teach through traditional methods. They were not given the knowledge of how to create and plan for academic settings that incorporate physical activity. Amy commented that teachers are not given many resources to help them teach using movement strategies. The teachers said multiple times that they would like to have more workshops and/or professional development opportunities that focus on physical activity in the academic environment.

The resulting emotions or “actions” of these barriers to teaching physical activity in academic learning environments lead to both fear and a lack of confidence from the teachers. There is a fear of what will happen when implementing strategies that get students physically active. From the teacher’s perspective, there is a fear of chaos in their classrooms as well as a loss of student control. The teachers also lack confidence in their ability to properly use physical activity as a strategy to enhance student engagement. This concept was developed by coding suggesting that teachers shied away from using something they were not comfortable with. The following were comments from the teachers during interviews when asked what their emotions were when it came to using physical activity in the classroom.

- “I think it's a fear of loss the loss of control.”
- “I think it's scary.”
- “I don't want my kids to be like crazy.”
- “I'm sure they (teachers) are nervous.”
- “It’s not how I know how to teach.”

These emotions in turn lead to avoidance when it comes to trying new strategies that include physical activity. This is especially true when the activity requires the teachers give up control of a quietly seated classroom. Fear plays a big part in teachers' willingness to take chances. When they are scared of what others will think of their class or how their students will behave, or of not using physical activity strategies correctly, teachers tend to revert to what they have always done. In this case, that means the continuation of a traditional classroom environment where students sit at their desks and the teacher directs the learning through a single strategy, such as lecture or worksheet practice.

Positiveness

Table 22 Category Positiveness

<i>Positiveness</i>		
What	Action	Result
Feeling	Excitement	Individual Learners
Need	Love	Improved Focus
Effective Strategy		

Positiveness refers to the attitude of teachers in regard to physical activity as a teaching strategy to enhance student engagement. As a category, positiveness supports the need and the determination of teachers to use physical activity in their academic classrooms regardless of the barriers that may present themselves. Throughout the coding process several labels related to the teachers' positiveness toward the use of physical activity in their classrooms. I organized the "what" of positiveness into three ideas: feeling, need, and effective strategy. Comments from teachers about their feelings when using physical activity in their classrooms ranged from, "I love it" to "It makes me feel like Superman." Teachers also said that they had a feeling of

freedom when letting students move around the room and when using physical activity as a teaching strategy.

The next idea relating to the “what” of positiveness is “need.” The overwhelming conclusion from the teachers was that students need to have the opportunity to be physically active during the academic learning process. Sally stated, “I do not like sitting still so I shouldn’t expect them to like it. I can’t focus for longer than two minutes at a time and even that’s pushing it. So, like I shouldn’t expect them to be able to.” She continued, “I think it’s really helpful because kids need to get all their wiggles out, and then they still do their work but like there’s moving at the same time.” Wendy explain how she knows when to use physical activity saying, “Because they are nine and 10 and I know that they can’t sit for very long, and I can tell when they are sitting for too long.” Addy agreed with the teachers stating, “You can’t expect elementary students to sit through 90 minutes of reading and actually retain the information they’re learning.” The teachers repeatedly discussed the need to keep students physically active throughout the day in order to keep them engaged in the learning process. Most of the comments from the teachers about the need for physical activity came from their experiences in their classrooms and working with their own students. Their own observations and knowledge about what students need in order to learn effectively led to their positiveness about the need for physical activity.

The positiveness of the teachers’ attitudes of physical activity led to observable actions of both excitement and love of learning. The teachers mirrored the excitement from their students when physical activity was a regular part of the lesson. On multiple occasions students were observed to be visually excited while participating in physical activity. Sally commented, “Oh, I see on their face. You see things on their faces that are physically excited. They’re not

frustrated. They're happy people. They feel safe. They can be themselves." Addy also stated, "There's a very visible reaction with it as far as their body language is excited and happy." Love of learning was coded often in relation to the use of physical activity in the academic environment. One example was a comment from Addy in regard to a question about how students react to movement in the classroom. She stated, "I think it is happiness. Yeah, they love being at school and they enjoy coming to school. There is a positive shift in their attitude." Love of learning is one of the core philosophies of Truman Elementary School. Each teacher discussed that one of the ultimate goals they had as teachers was to have the students develop a love of learning. Addy, as school principal, stated multiple times during my interview with her that she wanted teachers who would engage their students in a manner that produced a love for learning. The teachers said they believe that if the students have a sincere love of learning, student academics take care of themselves in terms of grades, products, and engagement. Physical activity was observed to be an effective strategy to develop a student's love of learning.

The results of positiveness presented themselves as an increase in individual learning opportunities, higher levels of student interest in the academic learning process, and improved student focus. The three ideas here work together to produce a safe, inviting and encouraging learning environment. The idea of individual learning refers to the students' ability to control their own learning environments in terms of seating choice, position in room, and how often they need to get out of their seats. The teachers discussed that, when give then opportunity to be physically active and to have more control of their learning environment based on their individual needs, students were more willing to engage in the act of learning with the teacher rather than as just a recipient of information. Multiple discussions addressed the increase in student interest levels during physically active lessons. This was especially observed during

hands-on math and science activities. Students stayed on task, asked questions, and participated in class discussions at a higher level. These results were observed by the teachers throughout their teaching experiences as well as by me during my research observations.

Constant Natural

Table 23 Category Constant Natural

<i>Constant Natural</i>		
What	Action	Result
Alternative Seating	Real Life	Engagement
Kinesthetic Learning	Hands On	Active Participation
Freedom		

Constant natural refers to the “what” of physical activity in academic environments. I consider this to be the core category of the study. I hadn’t considered this category at the start of the research, data collection and open coding process. My original thought was that I would find specific prescribed physical activities that impacted student engagement positively. As I began to code and put concepts together to form categories, one idea kept presenting itself as a major storyline to the data. The terms constant and natural are terms that were coded again and again relating back positive student engagement experiences during academic learning experiences.

Three ideas are presented as the “what” of Constant Natural. They are alternative seating, kinesthetic learning, and freedom. Alternative seating has been discussed throughout this study as one strategy to incorporate physical activity into the academic classroom with little disruption. Seating options such as stability balls, rocking chairs, bungee chairs, and mattresses play an important role in a teacher’s ability to allow students control over their learning environment. By using alternative seating, students break out of the cocoon of their traditional

desk and chair. For those that need consistent body movement or changes of environment throughout the school day to keep their focus, alternative seating creates a safe environment to meet those needs. Sally described one impact of alternative seating in her class. She stated,

A lot of it's just the student feels really anxious or like they need to move, and I've noticed that the walking around struggle hasn't been a problem as much this year since giving those alternative places to sit. It's been really interesting to think about because I never would have thought that it would have had that effect.

Kinesthetic learning was a strategy observed to have one of the largest impacts when it came to engaging students in the learning process. The story of making bread that was detailed earlier in the study is one example of many in which students were engaged in a hands-on activity that they were actively participating in. The use of kinesthetic learning creates a real life, natural learning experience creates opportunities for students to interact with the learning process and not just receive it from others.

The final idea relating to the “what” of constant natural is freedom. The code freedom comes from the observation of students being allowed to move as needed within and during the academic environment. For example, at one point in Sally's class a student got up from his desk and chair and went to help another student. While this may seem minor in the overall view of the classroom, it was significant because the student not only was able to move and feel comfortable doing so, he was also able to assist another student with no distraction to others. The teachers discussed that allowing the students freedom to meet their movement needs has reduced the amount of large distractions in their classes. When there is freedom to move, it happens naturally and is often not presented as a big movement or something that would catch

the attention of others. The students and teachers developed a trust between each other. As I noted earlier in the study, while students were allowed to move around the room on their own as needed, they did not take advantage of this freedom. It appeared that because students knew they could move when needed, their movements tended to be less full gross motor movements and more subtle and less distracting.

The “action” of the constant natural category is presented in three ideas: real-life, hands-on, and individual. Real life relates to the natural aspect of learning. When the teachers use real-life teaching activities through the use of kinesthetic learning, they said they feel that students become part of the experience. Wendy commented that lessons taught through real-life experiences related to the students wants and needs. “Hands on” was coded often throughout the analyzing process. Typically, it was coded in relation to teaching techniques that had students constantly physically active. The teachers commented that hands-on learning experiences were the ones that students would remember. Often, these were the experiences that increased student engagement. Referring back to the bread making lesson, when asked what they thought of the experience, each positive response related to the hands on or physical part of the experience.

The results of the constant natural category were observed and presented in the data as engagement and active participation. These ideas relate closely to one another. As students increased their active participation in the learning experience, student engagement was enhanced. The two ideas go hand in hand with each other. The more Constant Natural physical activity was present the more students actively participated and engaged in the academic learning process. Addy described this type of engagement strategy as a “dynamic environment that kids want.” Sally commented that she, “thinks they (students) do better with the constant movement.” The teachers discussed that the use of constant natural movement changed the norm in the class. By

creating a new norm that includes physical activity, students are more likely to engage in the movement activities provided for, thus engaging in the learning process.

Summary

As I searched for evidence to answer to my research questions and find relationships between them, I was guided by the grounded theory method. I looked for data relating to physical activity; its impact on student engagement; and what teachers perceived about using in as an engagement strategy in the academic learning environment. Through the use of open and axial coding, I developed four categories or themes, student engagement, barriers, positiveness, constant natural. These four themes directed my research to the main storyline and theory. In the next chapter, I will review my study and discuss what was learned in relation to my research questions. I will also present my theory and implications for administrators, teachers, and further research.

Chapter 6 - Theory and Implications

Going back to my first teaching experience as a pre-service college student, I can remember physical activity being an effective strategy to enhance student engagement. I was teaching a lesson to a preschool class. The students sat quietly in their desks and waited for me to present my lesson. The lesson I taught introduced various kinds of movement activities and locomotor skills to the students. Once the physical activity began, the students' faces immediately lit up and everyone was completely engaged in my activity. I remember the preschool teachers telling me how much fun the students had and how well my lesson went. I certainly did not know it then, but that moment in the preschool room began a path to this study. My more than 10 years as an elementary physical education teacher and coach continued to impress the importance of physical activity in students' daily lives.

Throughout my teaching career I was often given surveys on students during their individualized education plan. I would respond to them stating that they were doing great in physical education and developing normally. So, my question became, why were students having behavior issues in the classroom but not in the gym. When my own children entered elementary school, I watched as they struggled to stay on task and engaged in the classroom. Going back to my time as physical education teacher, I remembered the IEP surveys. This drove home the point that something must be present in the physical education class that was engaging my students and my children. This something showed itself to be physical activity. When my students and children were physically active, their engagement level was enhanced.

I kept this idea with me as I went through my masters and doctoral program at Kansas State University. My thoughts moved away from just focusing on physical education and more toward creating educational experiences that most effectively address individual needs. My core teaching philosophy is based on John Dewey's statement, "The child is the starting point, the center, and the end. His development, his growth, is the ideal. It alone furnishes the standard" (Dewey, 1902, p. 107). As I developed my philosophy and put it into practice in my own classes, I focused my research work on the use of physical activity as a teaching strategy throughout the academic learning experience of elementary students to enhance student engagement.

Summary of Study

Bringing with my previous experiences as a physical education teacher, coach and parent, including a pilot study I conducted in the fall of 2017, I began this project in the spring of 2018. A thorough review of literature presented that the inclusion of physical activity in the academic learning environment is an effective teaching strategy to enhance student engagement. The literature review also revealed an increasing need for physical activity opportunities during the academic day because of an increase in youth sedentary lifestyles, an increase in childhood obesity, a marginalization of physical education and the need for increased student engagement. One study stated, "Our findings should persuade decision-makers and school personnel that increasing curricular physical activity may enhance rather than impede children's academic achievement" (Kall et al., 2015, p. 711). Strategies found to incorporate physical activity in the academic learning environment included kinesthetic learning activities, alternative seats, brain breaks, and yoga. While the literature provided ample evidence that physical activity as teaching

strategy has the ability to improve many aspects of the academic learning experience, little addressed which what specific strategies were most effective.

Following my extensive literature review, I presented an opportunity to participate in my study to the teachers at Truman Elementary School. Three teachers, one fourth grade and two sixth grade, along with the Truman Elementary School principal volunteered to participate. They agreed to multiple focus group meetings, individual interviews, and classroom observations. Data collection took place from November 2018 through January 2019. I was guided through my data collection by my four research questions:

- How do upper elementary classroom teachers use physical activity during academic experiences to enhance learning engagement?
- How do upper elementary classroom teachers and students perceive the impact of physical activity when it is used as a technique to enhance engagement during academic learning experiences?
- Which physical activities provide the opportunities for enhanced student engagement in an academic setting from the perspectives of teachers, students and administrators?
- What are the observable outcomes produced by using specific physical activities as a part of the academic learning experience?

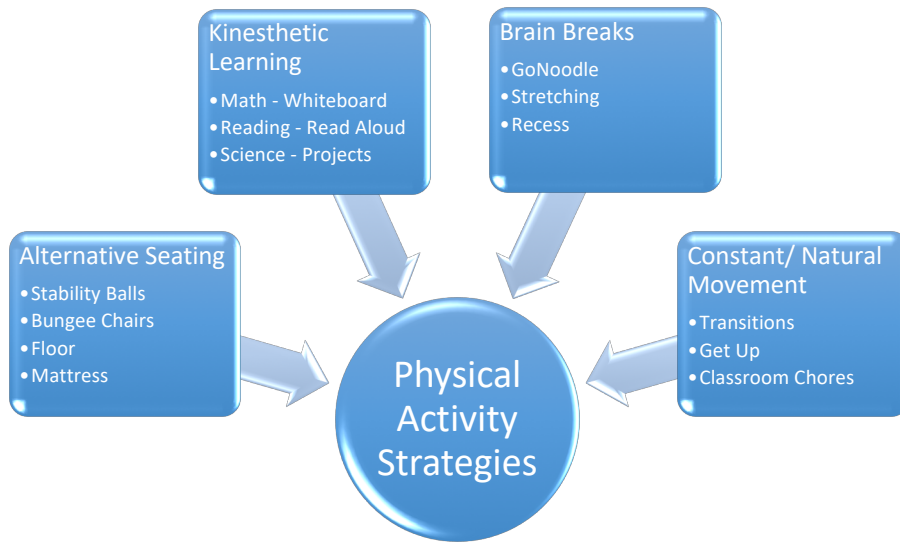
During the data collection period of the study, field notes were taken during classroom observations and transcripts of all focus groups and individual interviews were created immediately following the recording. I conducted two focus group interviews, four individual interviews and more than 20 classroom observations. Once data collection began, I started analyzing the data through open coding. This process continued throughout the data collection period. The labels that were developed through the coding led helped me in identifying and

understanding what I was hearing and seeing. This allowed me to adjust my focus of observations and interview questions as needed. Following the collection of data, I created a list of labels that had been coded throughout the open coding process. I then grouped those labels under the research question they related to. Some labels were present under multiple questions. Through the use of axial coding, I developed 13 concepts specific to the research questions. The open and axial coding process led me to four categories, or themes, that were constant between the focus groups, individual interviews and classroom observations. These four categories were further analyzed to create a core category, which became the storyline for my research. This storyline is the basis for the theory generated by this study. I found that there was not one specific strategy that worked to satisfy the needs of all. However, the use of a combination of physical activity strategies through a theory of Constant Natural Movement effectively engaged and positively impacted students on multiple levels during their academic learning process.

What Was Learned – Answering the Questions

Research Question 1: How do upper elementary classroom teachers use physical activity during academic experiences to enhance learning engagement?

The initial focus of the classroom observations was to develop a list of all the physical activity strategies the teachers used within the academic learning. Physical activity was defined in



Chapter 1 as any observable activity in which the student is engaged physically within a classroom setting in order to increase student behavior and engagement (Goh, 2017; Martin & Murtagh, 2017; Stevens-Smith, 2016). The data revealed

Figure 9 Physical Activity Strategies

much about the physical activities the teachers used during the academic learning experience. The teachers used many different strategies to incorporate physical activity into their lessons. Some of the strategies observed were purposeful and dictated by the teachers, while many of the strategies occurred naturally without direction from the teacher. I organized the strategies used into four categories with examples of more observed specific physical activities under each category. The four main strategy categories are alternative seating, kinesthetic learning, brain breaks and constant natural movement. Alternative seating and constant natural movement are strategies that are not directed by the teacher. Kinesthetic learning and brain breaks are

strategies that are planned and directed by the teacher. Figure 9 shows the physical activity strategy categories and examples of specific physical activities used by the classroom teachers.

Research Question 2: How do upper elementary classroom teachers perceive physical activity’s impact when used as a technique to enhance engagement during academic learning experiences?

Based on the analysis of coding in regard to teacher perspectives of physical activity as a student

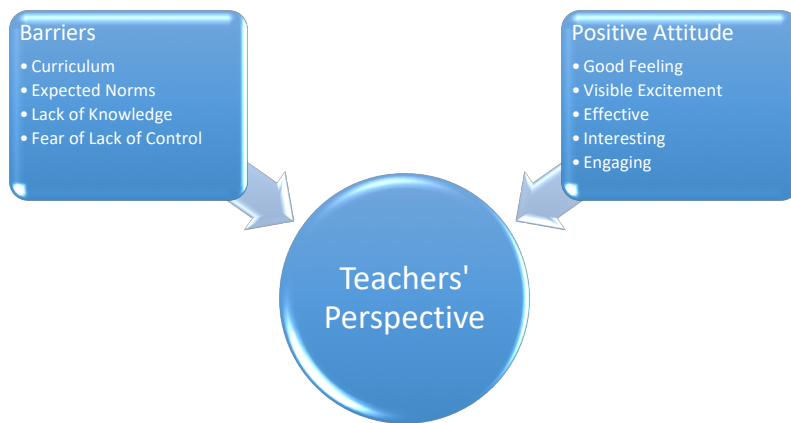


Figure 10 Teachers' Perspective

engagement strategy, two categories were developed. They are positive attitude and barriers.

I listed the main concepts relating to each category under the appropriate name. See Figure 10 for the organization of the categories. During the focus group and individual interviews, the teachers repeatedly stated that

they perceived physical activity through a positive lens. They said they believe that teaching strategies that include physical activity engage the students and enhance the learning process. They also perceive that as teachers, they get a positive feeling when incorporating physical activity into the academic learning experience. A statement from Addy, the principal, appropriately summed up the teachers’ perception of physical activity. She stated,

What I see is in classrooms with more physical activity. Kids are at a higher level of engagement. Not just perceived engagement

it's also their product. Their end product is better and their perception of what's cool is better. We should allow for their bodies to move the way they're supposed to move and it's okay.

While the teachers' perception of physical activity was positive overall, discussions during the focus groups and individual interviews often included barriers that they believe prohibit themselves and other teachers from using physical activity in the classroom. These barriers come from multiple sources. Many times, the source of the barrier has little knowledge of an individual teacher's classroom. One of the main barriers that came out of the teacher interviews was the rigidity of the curriculum and the desire from district administration to have all students taught in the same manner. The teachers know that this type of teaching is less effective to meet all students' needs, but they also feel pressure to teach in a specific way that does not allow for introduction of outside strategies.

Research Question 3: What physical activities provide the opportunities for enhanced student engagement in an academic setting from the perspectives of teachers, students, and administrators?

When analyzing the data from this study, the teachers provided main perspectives regarding enhanced student engagement were from the teachers. While the perspectives of students and administrators was discussed, it was typically done through the focus group and individual interviews. Earlier in

this study I defined student engagement as the degree of interest, inquiry and active participation that students display during a learning opportunity (Dixon, 2012; Stevens-Smith, 2016). Coding revealed two categories of physical activity that enhanced student engagement: prescribed teacher led activities and natural freedom of movement. I found that the methods used to introduce these categories into the academic learning environment were very different, if not completely opposite of one another. Prescribed teacher-led physical activities were easily observed. The teacher must mean for them to take place. They require teacher planning and typically instructions or directions for the students to follow. Specific activities such as watching a GoNoodle dance video, read aloud activities, or the earlier example of making bread are examples of prescribed teacher-led physical activities. Natural movement is subtler when

observed. The physical activity takes place during the academic learning experience, but it is not directed step-by-step to the students. Often, the ability to allow this type of physical activity is developed during a long period of time and requires trust between the teacher and the student.

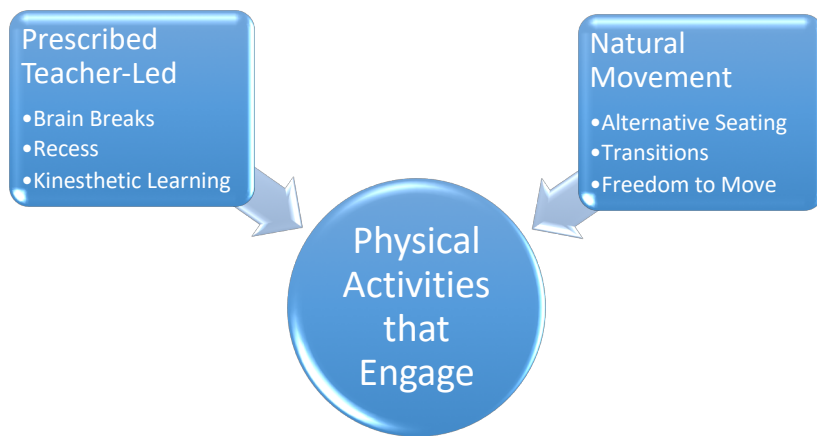


Figure 11 Physical Activities that Engage

Both strategy categories

were observed to have positive impacts on student engagement. Within each category, I have listed broad physical activity strategies that relate to either prescribed teacher-led activities or

natural freedom of movement. See Figure 3 for the breakdown of activities that were observed to enhance student engagement.

Research Question 4: What are the observable outcomes produced by using specific physical activities as a part of the academic learning experience?

As discussed earlier in this study, Question 4 was one of the original focuses of the data collection process. I wanted to explore outcomes for very specific physical activities used, such as GoNoodle dances or read aloud activities. The data, though, revealed the observable outcomes in a broad sense. Instead of looking at specific activities, coding suggested that the observable outcomes presented themselves in two categories of activities. The categories are similar to the categories in Question 3. They are prescribed physical activity and constant natural movement. While each category had positive observable outcomes, certain prescribed physical activity had negative outcomes. No negative outcomes were observed during activities

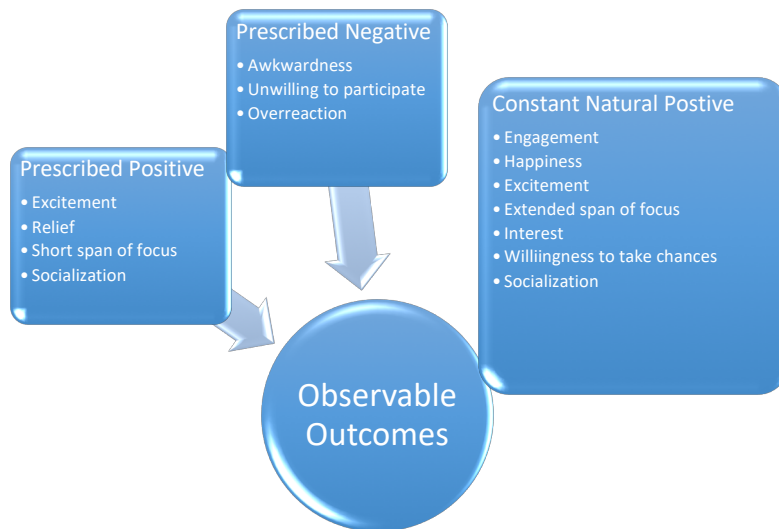


Figure 12 Observable Outcomes

considered under the use of constant natural movement.

Figure 12 presents the breakdown of both positive and negative observable outcomes that were discovered under each category of physical activity.

The teachers said that they felt, that the strategies most

effective in impacting student

engagement were the activity that

were constantly taking place and natural in a way that they just happened by student choice or a part of the class rather than being directed by the teacher. Sally stated when discussing the use of constant natural movement, “It’s not weird. It’s not like we’re having to do this odd thing. Like, okay now we’re all going to get up and do a brain break, which I think works sometimes. But then, if they're not used to moving in the first place, then it’s awkward.”

The Theory of Constant Natural Freedom of Movement

Counter-story

Waiting at the bus stop, he can’t wait for what’s ahead of him. This is a day he has been looking forward to for a long time. For as long as he can remember, Miles has watched his big brother and sister get on the yellow bus and leave for school. He imagines a place of fun and excitement, full of exploring new worlds and meeting new friends. His dad has told him this day would be coming and how special it would be.

Miles’ first day of school was going to be great. When Miles walks into the classroom he cannot believe his eyes. Along with traditional chairs, colorful stability balls, wobble stools and standing desks fill the room. As his teacher leads him into class, Miles is asked to pick up the box of supplies with his name on it and choose any seat he would like in the classroom. With excitement in his eyes, Miles immediately walks to one of the stability balls. It’s just like the one his dad has at home that he gets to sit on sometimes. The teacher asks the students to open up and explore what’s in their supply boxes. Miles is thrilled to find erasers, pencils, markers and notebooks along with other school supplies. Miles puts a few of the items in his desk and then follows along with a sheet of paper that tells Miles where to put the rest of the supplies. Throughout the room Miles finds baskets, files, and shelves labeled with the names of school supplies such as notebook paper, construction paper, glue, and Kleenexes. Miles and his

classmates walk around the room putting things away. There is some talking going on and one student wanders around the room touching other students' stuff. The teacher is there to redirect the students and keep them on task. The students walk back to their desks when they have dropped off all of their supplies. The teacher talks to the students about her expectations and procedures for the students while they are in the classroom. She says that these will be the focus of the first few weeks of school. But as they learn and are able to follow the rules and expectations of the class, they will gain freedom to move around and explore the room when appropriate. The teacher Miles and his classmates that she wants to facilitate their learning based on their individual needs and that as young students she does not expect them to sit a chair all day listening to her. She goes on to tell the students that as the year goes on, she hopes to develop positive relationships with the students that create trust between them. Miles is not sure exactly what the teacher is talking about, but when he goes home, he cannot stop telling his parents about all the neat things that are in the classroom. He tells them how he picked out a stability ball just like his dad's to sit on in class. He explains how he never got bored because they were always doing different things in the class and up and moving around the room exploring the different areas.

One month later, Miles walks into his classroom happy and excited to get the day started. School has become a world of exploration for Miles. He has moved on from sitting on a stability ball and now sits on a wobble chair. The teacher gave the students the opportunity to change their seats a few days ago and Miles was excited to try out something else. His friend Ari sits in a traditional chair at her desk. She sat on a stability ball for a while but then changed to a traditional chair. Miles couldn't figure out why, but Ari seemed comfortable and happy to sit in the chair. Another friend Peter typically starts the day in a traditional chair but moves to the

standing desk after lunch recess. Miles knows he would not be able to focus for long if he sat in the traditional chair. As the class starts, the teacher has the students get up and gather the supplies they will need for the math activity. The students get dry erase markers and whiteboards. They will be writing their numbers first on their small whiteboard and then go up to the big whiteboard on the wall and rewrite the numbers. This will continue until they know how to write the numbers 1 through 10.

After lunch recess, the students all come into the classroom and sit anywhere in the room that they find comfortable. Once they are settled, the teacher reads a story. As the teacher reads, she asks the students to give a thumbs up when they hear something that excites them. Following the short story, the students get up and find a partner. They begin taking turns acting out a part they remember from the story. The person watching tries to guess what part of the story is being acted out. The teacher gives the students 10 minutes to read or draw on a piece of paper. A few minutes into the activity, Miles feels a little fidgety. He remembers that his teacher told him he could get up and get a drink or just stand up at his desk when he needs to, as long as he does not distract others. Miles walks over to the drinking fountain to get a drink. As he heads back to his wobble stool and desk where he is drawing a picture of his family, he thinks about how great school has been. He uses his senses to explore what he is learning. Activities are constantly changing and allow for him to control how he learns. Miles' academic learning environment is what he makes of it. Not every student in the classroom is the same and they don't learn the same. What Miles has learned in his one month of school is that his academic learning environment is everywhere around him.

New Theory

The development of the Constant Natural Freedom of Movement Theory is born out of the need to and the ability to enhance student engagement in the academic learning process through the use of physical activity, rather than a sedentary teaching strategy of students sitting in place taking in information. John Dewey (1916) proposed the absence of this strategy more than 100 years ago. “That education is not an affair of ‘telling’ and being told, but an active and constructive process, is a principle almost as generally violated in practice as conceded in theory” (p. 34). The dangers to teaching through a sedentary style have become increasingly apparent. Extensive amounts of time sitting and focusing on core academics can lead to off-task behaviors and student restlessness that interrupts the learning experience (Goh, 2017; Stevens-Smith, 2016). The positive impact of physical activity to the academic learning process is being thought of by educational professional. Stevens-Smith (2016) stated, “While children are physically moving, they are developing neurological foundations that assist with problem solving, language development, and creativity” (p. 723). The development of this theory provides an effective physical activity strategy for teachers to positively impact student engagement on multiple levels, ranging from academics to emotion to physical well-being.

What is it

Constant Natural Freedom of Movement Theory is the use of physical activity through multiple avenues as a natural part of the school day. One specific physical activity strategy can work sometimes for some students. This theory is developed to enhance student engagement based on the needs of each individual learner. Extensive analysis of my data revealed that the most effective strategy to enhance student engagement through physical activity it to create an environment in which physical activity is constantly accessible through freedom of movement

and is developed as a natural part of the academic learning experience. To create this environment, teachers introduce physical activity as an integral part of the school day. In this theory, physical activity is introduced through four separate but intertwining strategies: alternative seating, kinesthetic learning, increased classroom transitions, and the freedom to

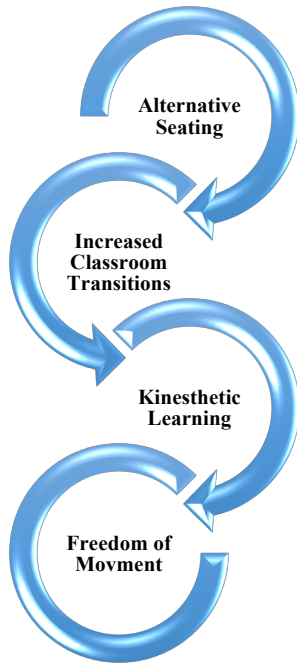


Figure 13 Constant Natural Freedom of Movement Theory

physically move when needed. Each one of these strategies can be introduced on their own and have a positive impact on student engagement. However, the data presents that they are most effective when facilitated together throughout the academic learning experience.

Alternative seating gives the students an amount of control of their individual learning environment, while at the same time providing them opportunities to have their bodies in constant motion.

This allows for students to address their need to be physically active during the academic learning experience, whether it be for the entire day or for smaller periods of time. Seating options shown to be most effective for student engagement are stability balls, bungee chairs, wobble stools, mattresses and pillows placed on the classroom floor. Other options to try include standing desks, wiggle cushions and rocking chairs.

Classroom transitions naturally introduce physical activity into the classroom by providing increased opportunities for students to move around the room or from one activity to another. Increased transitions means increased movement. This opportunity may also come in

the form of transitioning between classrooms. Data analysis of transition time revealed that transitions during the day act as a brain break and provide students with peer socialization opportunities. The teachers in the study repeatedly commented that they wanted to prioritize improvement of student socialization skills but struggled to incorporate practice into their curriculum. Increasing transition times also keep students from losing focus because they are not spending extended periods of time doing one thing. It was often seen in classroom observations that students would begin to get fidgety or off task after long blocks of a single activity. For example, during a 90 minute reading block, it was common to see students talk with others, put their books down, slouch and distract others. Observation experiences in which single activity times were kept under 15 minutes, off task or distracting behavior was rarely seen.

Incorporating kinesthetic learning into the academic learning experience provided an increase in student engagement in every instance observed. Creating kinesthetic learning requires knowledge of how to teach using the strategy and planning by the classroom teacher. While this can act as a barrier to the use of kinesthetic learning, the effectiveness of them as an engagement strategy calls for teachers to use them as part of the overall constant natural freedom of movement strategy when possible and appropriate. Doing math problems on whiteboards and doing read aloud activities are simple ways to incorporate kinesthetic learning into academics. The bread-making kinesthetic lesson example earlier in this paper takes a lot of preparation and planning by the teacher, but the impressive student effort and engagement showed it to be worth the effort.

Freedom of movement refers the relationship and trust between the teacher and the students to allow for students to move within the classroom during academic learning experience without distracting others from their learning experiences. By allowing students to move in an

appropriate manner without the worry of getting in trouble or negative consequences from the teacher, students are able to control their individual learning needs in regard to being physically active. Physical activities that are commonly observed when there is freedom to move are:

- Standing up at desks.
- Getting a drink.
- Walking to another student's desk to discuss a math problem.
- Turning in assignments.
- Getting up to ask the teacher a question.
- Moving to a different area of the room to work.
- Changing between the types of seating offered.

While these do not appear as significant physical activity opportunities, when students are allowed to freely use them throughout the day as needed, the combined movements decrease sedentary times and increase physical activity.

To maintain constant natural freedom of movement there must be an effort by teachers to interweave the individual strategies as needed based on the students' needs within the daily academic learning environment. While each strategy does not have to be employed at all times, multiple strategies should be present during each academic learning experience. By using multiple strategies, the opportunity to address individual student needs increases. Teachers must learn and be aware of their students' learning styles and adjust to them accordingly. What may work for one student may not work for another. The goal of this theory is to introduce physical activity into the academic learning environment as a natural way of doing things. The more that opportunities are provided for students to move, the more physical activity will become a normal

or new normal for students. The interaction between academic learning and movement will enhance student engagement both emotionally and physically.

Suggestions for Implementation

- Focus on classroom expectations and procedures regarding physical activity in the academic setting.
- Develop positive relationships with the students to become aware of their needs and interests.
- Trust students to know what academic learning environment works best for them.
- Provide physical activity practice opportunities early on in the school year.
- Experiment with the strategies to learn how to implement them most effectively for their students.
- Be willing to adapt based on student reaction and needs.
- Share ideas and experiences with other teachers.
- Provide multiple alternative seating options throughout the school day.
- Minimize time span of individual academic learning experiences when possible.
- Provide hands-on academic learning experiences.
- Don't give up on an idea if it doesn't work at first.
- Model the theory of constant natural freedom of movement by being physically active in the classroom along with the students.
- Be positive and supporting of students' individual academic learning styles, needs, and interests.

Implications for District-Level School Administrators

This study revealed multiple implications for district-level administrators relating to instructional design and curriculum. As discussed often during the focus groups and individual interviews, the teachers said they feel frustrated with the perceived disconnect between the district-led curriculum and the individual needs of students. Whereas the teachers perceived physical activity to be a vital, positive student engagement enhancing strategy, the overall thoughts from the teachers were that the rigidity of the curriculum was prohibitive to incorporating physical activity into the academic learning experience. The required curriculum presented no instruction or opportunities to include physical activity. Analysis of the data showed that the curriculum and instructional expectations are the greatest barrier to using physical activity as a student engagement strategy.

This implication requires that school district administration reassess the goals of their curriculum and what outcomes they wish to see. At this point, it is perceived by the teachers that the goal is to provide a curriculum that encourages and expects the teachers to teach the students through a homogeneous teaching style across the school district and that style does not invite or encourage physical activity. This paper suggests that the goals and outcomes should be increasingly focused on enhancing student engagement and promoting individual learning styles through physical activity, which will lead to both an increased love of learning and better student product. Kall et al., suggests in one study that, “Our findings should persuade decision-makers and school personnel that increasing curricular physical activity may enhance rather than impede children’s academic achievement” (2015, p. 711). The school district should also allow for and encourage individual teachers to have autonomy and flexibility within curriculum choices

regarding teaching styles and lesson creation to best meet the individual needs of their students based on their knowledge of those students.

This study also revealed a desire from the teachers to increase their knowledge about and confidence to use physical activity as a student engagement strategy. Providing professional development for teachers regarding the introduction of physical activity into the academic learning experience would not only support and encourage those teachers to increase their knowledge of new teaching strategies, but it would also influence teachers using more traditional teaching styles to experiment with new techniques. Support from the school district and a commitment to offering physical activity within the academic learning environment through professional development opportunities will increase the chances for a long-term focus on meeting the needs of all students regardless of their learning needs and interests.

Implications for Classroom Teachers

The implications of this study relating to classroom teachers are many. Virtually no research suggests that physical activity has a negative impact on students' academic learning experiences. At worst, it has no impact on student performance. At best, the introduction of physical activity into the academic learning experience by teachers as a student engagement strategy positively impacts students both physically, mentally and academically. This study suggests that elementary classroom teachers commit to the use of physical activity as a constant and natural part of the academic learning experience.

The first implication for classroom teachers is to disrupt the idea of what a traditional classroom environment looks like. A traditional classroom with students seated quietly in desks listening to a teacher give information does not allow for individual learning development. To address the individual needs of students, classroom teachers must introduce multiple teaching

strategies including physical activity strategies. This often requires teachers to get out of their comfort zones and take chances. It may be difficult at first. This study suggests that through repeated efforts and practice, the use of physical activity during the academic learning experience becomes a new normal for students.

The next implication for classroom teachers is the need to gain knowledge about physical activity as a student engagement strategy and increase their confidence in their ability to incorporate it into the academic environment effectively and positively. This can be done through multiple avenues. The first is through seeking out professional development opportunities relating to physical activity, including those outside the school district setting. The next is to research through both literature and teacher-based websites or social media. Another avenue is to discuss ideas with other teachers in the school, the district or outside the school district. Finally, one of the most effective ways for teachers to gain knowledge and confidence is to experiment with physical activities throughout the school day. This is a way for the teachers and the students to practice and gain confidence in physical activity. If there is a commitment from the teacher to increase the level of physical activity within the academic environment, there is an increased chance that students will also commit to physical activity as part of their daily lives.

The final implication from this study for classroom teachers is the need to continually introduce physical activity within the academic learning environment over extended periods of time. To be most effective, physical activity has to become constant and natural. The more it is integrated, the better the chance of positive outcomes. Teachers need to constantly evaluate and access what works for them and their students and what does not. Teachers cannot get quickly frustrated with failures because many of the students are not accustomed to the freedoms that

come with physical activity. While rarely observed during this study, the introduction of physical activity as a new teaching strategy can lead to short-term distractions or behavior issues. If teachers are willing to stay with the suggestion of this study, that physical activity positively impacts student engagement at the highest levels, both teachers and students will improve performance and product.

Implications for Further Research

The intent of this study was to develop an understanding of what physical activity strategies were most effective in enhancing student engagement in the academic learning environment. This study was conducted through the use of three different data collection methods, focus group interviews, individual teacher interviews, and classroom observations with three upper elementary classroom teachers and an individual interview with one school principal at a midwestern elementary school. Through an extensive grounded theory analysis, I developed four categories that led to my core storyline of constant natural freedom of movement. The ideas and generalizations made throughout this paper are done so with the understanding that they may not be attributed to all upper elementary classroom teachers and students. This study provides a basis for multiple future research opportunities.

The first additional study to this research project would be to broaden the scope of it. This study was limited to three teachers over a three-month period. Repeating this study and collecting data from more teachers over longer periods of time would increase depth of knowledge to the conclusions. This would allow for a more diverse pool of teacher perceptions, strategies used and student reactions. This would also allow for a better understanding of how teachers' perceptions can change as they become more comfortable using physical activity as a student engagement strategy.

Another research opportunity from this study would be to look at the differences between how new teachers and veteran teachers perceive and use physical activity in the classroom. This study showed a marked difference between Amy, a new teacher, and Sally and Wendy, both whom have taught for more than five years. A study could reveal how confidence and knowledge are developed, along with how teachers change their perspectives of student engagement, classroom management and what an effective academic learning environment looks like.

Further studies could be conducted to discover how long it takes for students and teachers to adapt to and gain benefit from the use of physical activity as a student engagement strategy. How does administration, teacher or student attitude towards physical activity impact the effectiveness of physical activity in an academic setting. Furthermore, how do attitudes change over time?

Finally, a study focusing on the implementation of regular brain breaks would be appropriate. This study found that the teachers rarely used brain breaks. This was because they believed the students felt awkward doing them because they were not a part of the regular lessons. I would like to work with teachers to develop a program of brain breaks that are taken regularly throughout the day on a daily basis. The study would look at what are students' reactions to regular brain breaks when they are no longer a side activity but are actually a constant during the academic learning experience. Additional studies could focus on secondary and college level students and correlations between genders.

Summary


This qualitative study used the grounded theory method to analyze data collected over a three-month period through the use of focus group interviews, individual teacher interviews, and

classroom observations. Through the extensive coding and analysis, 13 concepts were developed and further analyzed to create four main categories. Those categories led to the main storyline of this study. While the original focus of this study was to look at specific physical activities present in the classrooms, what was found was that a broader and more natural approach to introducing physical activity into the academic learning environment was most effective for the teachers in this study. This study revealed that through the use of a constant natural freedom of movement theory, teachers are able to effectively enhance student engagement through the use of physical activity as a teaching strategy within the academic learning environment. The study also presented that while a number of barriers are prohibitive to using physical activity in the academic learning environment, the teachers have an overwhelmingly positive perception of physical activity as a student engagement strategy. The teachers believe that the incorporation of physical activity into the classroom allows for individual learning opportunities and increased student engagement, which ultimately leads to a love of learning.

Appendix A - IRB Approval



TO: Dr. F. Todd Goodson
Curriculum and Instruction
261 Bluemont Hall

FROM: Rick Scheidt, Chair 
Committee on Research Involving Human Subjects

DATE: 10/16/2018

Proposal Number: 9420

RE: Approval of Proposal Entitled, "PHYSICAL ACTIVITY IN SCHOOLS: ITS NOT JUST FOR THE GYM AND RECESS INTRODUCING PHYSICAL ACTIVITY INTO THE ACADEMIC CLASSROOM TO IMPROVE STUDENT ENGAGEMENT AND PERFORMANCE."

The Committee on Research Involving Human Subjects has reviewed your proposal and has granted full approval. This proposal is approved for one year from the date of this correspondence, pending "continuing review."

APPROVAL DATE: 10/16/2018
EXPIRATION DATE: 10/16/2019

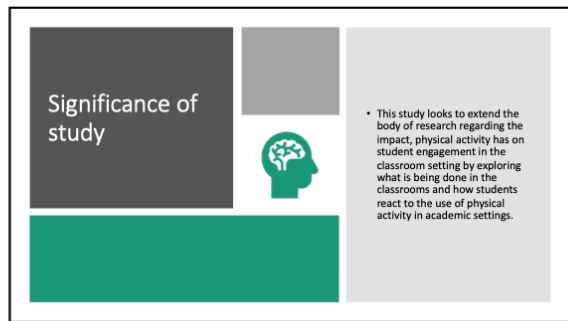
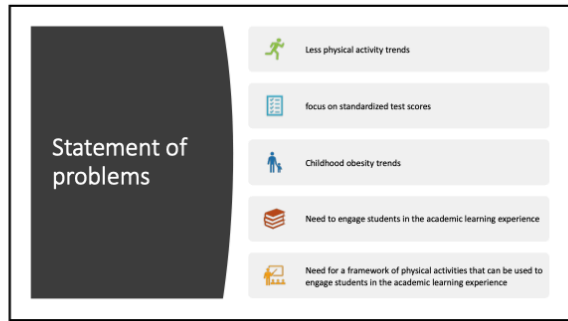
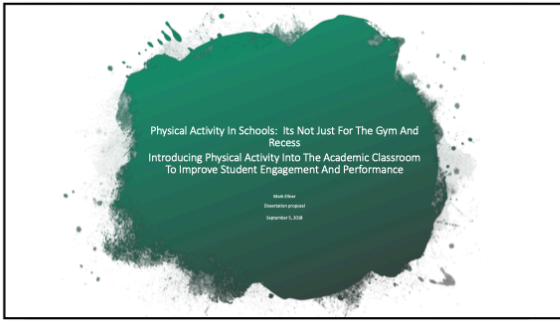
Several months prior to the expiration date listed, the IRB will solicit information from you for federally mandated "continuing review" of the research. Based on the review, the IRB may approve the activity for another year. **If continuing IRB approval is not granted, or the IRB fails to perform the continuing review before the expiration date noted above, the project will expire and the activity involving human subjects must be terminated on that date. Consequently, it is critical that you are responsive to the IRB request for information for continuing review if you want your project to continue.**

In giving its approval, the Committee has determined that:


- There is no more than minimal risk to the subjects.
- There is greater than minimal risk to the subjects.

This approval applies only to the proposal currently on file as written. Any change or modification affecting human subjects must be approved by the IRB prior to implementation. All approved proposals are subject to continuing review at least annually, which may include the examination of records connected with the project. Announced post-approval monitoring may be performed during the course of this approval period by URCO staff. Injuries, unanticipated problems or adverse events involving risk to subjects or to others must be reported immediately to the Chair of the IRB and / or the URCO.


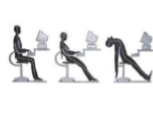

Appendix B - Participant Recruitment PPT Presentation



A historical perspective of body and mind




- It is a most pitiable error to imagine that the exercise of the body is harmful to the operations of the mind, as if these two activities ought not to move together in harmony and that the one ought not always direct the other (Rousseau, 1979, p. 118).

Need for physical activity in the classroom

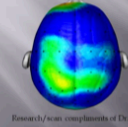
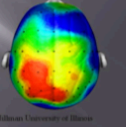
A historical perspective of body and mind




- Why is it, in spite of the fact that teaching by pouring in, learning by a passive absorption, are universally condemned, that they are still so entrenched in practice? That education is not an affair of "telling" and being told, but an active and constructive process, is a principle almost as generally violated in practice as conceded in theory (p. 34).

Brain Benefits from physical activity in the classroom

Average composite of 20 students brains taking the same test

Research from a study by Dr. Chuck Hillman, University of Illinois



Student engagement

- "Evidence of increasing on-task behavior through the use of brain breaks, energizers, or other types of physical activity interventions will hopefully motivate teachers to introduce such activities into their classrooms" (Mahar, 2011).



Alternative Seating

- To discover the different physical movements used and the effectiveness of those activities on engagement, my qualitative study will use both teacher and student focus groups, observations, and field notes.

Research procedures

- Qualitative
 - Focus groups
 - Classroom observations
 - field notes

Data collection

What I need from you

- 4 – 8 Upper Elementary School Academic Classroom Teachers to participate in 2 or 3 focus group sessions discussing their perspectives on physical activity in the classroom (About 1-2 hours each)
- Would prefer teachers who are currently using physical activity in their classroom or those who are willing to begin using physical activity in their classroom
- 3 to 4 teachers willing to allow me in their classrooms for about a month to observe and conduct clarification emails

WHAT I HOPE TO PROVIDE TO YOU

- OPPORTUNITIES TO PARTICIPATE IN A STUDY TO PROVIDE TEACHERS WITH A MATRIX OF STRATEGIES TO INCREASE STUDENT ENGAGEMENT AND ACADEMIC PROGRESS
- OPPORTUNITY TO PARTICIPATE IN LOCAL AND NATIONAL EDUCATIONAL PRESENTATIONS
- OPPORTUNITIES TO PARTICIPATE IN FURTHER RESEARCH MOVING FORWARD IN RELATION TO THE MIND AND BODY CONNECTION

Questions??



WHAT NOW

- ✓ IF YOU HAVE AN INTEREST IN PARTICIPATING PLEASE SIGN UP ON SHEET PROVIDED.
- 📅 WE WILL HAVE A MEETING WITH ALL INTERESTED LATE THIS WEEK OR EARLY NEXT WEEK TO GO OVER IN MORE DETAIL.

Appendix C - Informed Consent Form

PROJECT TITLE:

PHYSICAL ACTIVITY IN SCHOOLS: ITS NOT JUST FOR THE GYM AND RECESS
INTRODUCING PHYSICAL ACTIVITY INTO THE ACADEMIC CLASSROOM TO IMPROVE STUDENT ENGAGEMENT AND

PROJECT APPROVAL DATE: PROJECT EXPIRATION DATE: LENGTH OF STUDY: 2 months

PRINCIPAL INVESTIGATOR: Mark Ellner

CO-INVESTIGATOR(S):

CONTACT DETAILS FOR PROBLEMS/QUESTIONS: mrellner@ksu.edu

IRB CHAIR CONTACT INFORMATION:

PROJECT SPONSOR: Kansas State University

PURPOSE OF THE RESEARCH:

The study will explore from a how physical activity impacts the learning experience in terms of engagement. Through the use of various teaching strategies and alternative seating, the study will look at how teachers use and perceive physical activity's impact on students engagement.

PROCEDURES OR METHODS TO BE USED:

The study will use focus group interviews and classroom observation to collect data. During focus group interviews data will be collected on what physical activities are used during the teachers' classrooms and the teachers perceptions of using physical activity within the classroom setting to increase student engagement.

ALTERNATIVE PROCEDURES OR TREATMENTS, IF ANY, THAT MIGHT BE ADVANTAGEOUS TO SUBJECT:

RISKS OR DISCOMFORTS ANTICIPATED:

None anticipated

BENEFITS ANTICIPATED:

Teachers will gain a better understanding of how specific physical activities impact student engagement within the classroom setting.

EXTENT OF CONFIDENTIALITY:

No student or teacher names will be used. School and location being observed will be given a pseudonym.

IS COMPENSATION OR MEDICAL TREATMENT AVAILABLE IF INJURY OCCURS? Yes No

PARENTAL APPROVAL FOR MINORS:

PARENT/GUARDIAN APPROVAL SIGNATURE: Date:

Terms of participation: I understand this project is research, and that my participation is voluntary. I also understand that if I decide to participate in this study, I may withdraw my consent at any time, and stop participating at any time without explanation, penalty, or loss of benefits, or academic standing to which I may otherwise be entitled.

I verify that my signature below indicates that I have read and understand this consent form, and willingly agree to participate in this study under the terms described, and that my signature acknowledges that I have received a signed and dated copy of this consent form.

(Remember that it is a requirement for the P.I. to maintain a signed and dated copy of the same consent form signed and kept by the participant).

PARTICIPANT NAME:

PARTICIPANT SIGNATURE:

Date:

WITNESS TO SIGNATURE: (PROJECT STAFF)

Date:

Appendix D - Focus Group Questions

Focus Group 1 Questions

1. What role does physical activity play in your life?
2. What are your thoughts on physical activities' place in students' lives?
3. How have you used physical activity in your classroom?
4. What is your perspective on physical activities' impact on student academic engagement in your class?
5. What have your students' responses been towards the use of physical activity within the academic classroom setting?
6. What specific activities have you found most effective to engage students?
7. Are there areas of support that would be helpful with increasing the amount of physical activity students have during the classroom academic setting?
8. Is there anything you would like to add to the discussion on physical activity in the classroom academic setting?

Focus Group 2 Questions

1. What does student engagement look like and mean to you?
2. What physical activities have would you like to try on a regular basis in your classrooms.
3. How has incorporating physical activity into the academic learning experience impacted student engagement?
4. What physical activity strategies have you found to be most effective regarding student engagement?
5. Are there new physical activities that you would like to learn and try in your class? If so, what are they?
6. What do you see are the greatest barriers to using physical activity in the academic learning environment?
7. What do you need to combat those barriers?

Appendix E - Individual Interview Questions

Individual Teacher Interview Questions

1. What impact did you see from using specific physical activities in class?
2. What ways would you change the use of physical activities to meet the needs of all students?
3. Why do you believe teachers shy away from using physical activity in the classroom?
4. How does the curriculum designated by the school district impact your ability to incorporate physical activity?
5. How effective was the use of physical activity in your class towards engaging your students in the learning process?
6. What reactions do you see from your students when they are physically active in the academic learning environment?

References

- Bazzano, A. N., Anderson, C. E., Hylton, C., & Gustat, J. (2018). Effect of mindfulness and yoga on quality of life for elementary school students and teachers: Results of a randomized controlled school-based study. *Psychology Research and Behavior Management, 11*, 81-89.
- Barroso, C. S., McCullum-Gomez, C., Hoelscher, D. M., Kelder, S. H., & Murray, N. G. (2005). Self-Reported barriers to quality physical education by physical education specialists in Texas. *Journal of School Health, 75*(8), 313-319. doi:10.1111/j.1746-1561.2005.00042.x
- Beaudoin, C. R., & Johnston, P. (2011). The impact of purposeful movement in algebra instruction. *Education, 132*(1), 82-96. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=eft&AN=525502024&site=ehost-live>
- Blakemore, C. L. (2003). Movement is essential to learning. *Journal of Physical Education, Recreation & Dance, 74*(9), 25,41. Retrieved from <http://search.proquest.com.er.lib.k-state.edu/docview/215763134?accountid=11789>
- Breithecker, D. (2016). Beware of the sitting trap in learning and schooling. *Design Share*, Retrieved from <http://www.designshare.com/index.php/articles/sitting-trap/>
- Brotherson, M. J. (1994a). Interactive focus group interviewing. *Topics in Early Childhood Special Education, 14*(1), 101-118. doi:10.1177/027112149401400110
- Khalsa, S. B. S., & Butzer, B. (2016). Yoga in school settings: A research review. *Annals of the New York Academy of Sciences, 1373*(1), 45-55.
- Centers for Disease Control and Prevention. (2018, June). Retrieved May 2018, from <https://www.cdc.gov/>
- Cyr, J. (2017). The unique utility of focus groups for mixed-methods research. *PS: Political Science & Politics, 50*(4), 1038. doi:10.1017/S104909651700124X
- Dewey, J. (1902) *The Child and the Curriculum* & Dewey, J. (1915) *The School and Society*. New York: Dover Publications, Inc.
- Dewey John. (2012). *How we think*. United States of America: Renaissance Classics.
- Dewey, J. (1916). *Democracy and education*. United States of America: Merchant Books.
- Dewey, J. (2009). *Democracy and education* Merchant Books.

- Dinkel, D., Schaffer, C., Snyder, K., & Lee, J. M. (2017). They just need to move: Teachers' perception of classroom physical activity breaks. *Teaching and Teacher Education*, 63, 186-195. doi:10.1016/j.tate.2016.12.020
- DIXON, E. J. (2012). Dramatic ways to engage every student. *Education Canada*, 52(1), 38-40. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=eft&AN=80157453&site=ehost-live>
- Donnelly, J. E., & Lambourne, K. (2011). *Classroom-based physical activity, cognition, and academic achievement* doi://dx.doi.org.er.lib.k-state.edu/10.1016/j.yjmed.2011.01.021
- Ellner, M. (2017). *Movement in the classroom - A path to engagement*. Unpublished manuscript.
- Erwin, H. E., & Fedewa, A. L. (2011). Stability balls and students with attention and hyperactivity concerns: Implications for on-task and in-seat behavior. *AJOT: American Journal of Occupational Therapy*, 65, 393+. Retrieved from <http://go.galegroup.com.er.lib.k-state.edu/ps/i.do?id=GALE%7CA263786116&v=2.1&u=ksu&it=r&p=AONE&sw=w>
- Farnsworth, J., & Boon, B. (2010a). Analysing group dynamics within the focus group. *Qualitative Research*, 10(5), 605-624. doi:10.1177/1468794110375223
- Farnsworth, J., & Boon, B. (2010b). Analysing group dynamics within the focus group. *Qualitative Research*, 10(5), 605-624. doi:10.1177/1468794110375223
- Finnan, C. (2015). Not a waste of time: Scheduling non-academic learning activities into the school day. *The Urban Review*, 47(1), 26-44. doi:10.1007/s11256-014-0286-5
- Glaser, B., & Strauss, A. (1967). *Discovery of grounded theory*. Chicago: Aldine Publishing Company. doi:10.4324/9780203793206 Retrieved from <http://www.tandfebooks.com/isbn/9780203793206>
- Glickman, D., Parker, L., & Sim, L. J. (2012). *Accelerating progress in obesity prevention : Solving the weight of the nation*. Washington: National Academies Press. Retrieved from <http://lib.myilibrary.com?ID=365321>
- Goh, T. L. (2017). Children's physical activity and on-task behavior following active academic lessons. *Quest*, 69(2), 177-186. doi:10.1080/00336297.2017.1290533
- Goulding, C. (1999). Grounded theory: Some reflections on paradigm, procedures and misconceptions The Working Paper Series,
- Greenbaum, T. L. (1998). *The handbook for focus group research* (2. ed., rev. and expanded ed.). Thousand Oaks, Calif. [u.a.]: Sage.
- Grieco, L. A., Jowers, E. M., Errisuriz, V. L., & Bartholomew, J. B. (2016). *Physically active vs. sedentary academic lessons: A dose response study for elementary student time on task* doi://doi-org.er.lib.k-state.edu/10.1016/j.yjmed.2016.05.021
- Hannaford, C. (2013). *Smart Moves: Why Learning Is Not All In Your Head* (2nd ed.). Salt Lake City, UT: Great River Books.

- Hinckson, E., Salmon, J., Benden, M., Clemes, S., Sudholz, B., Barber, S., . . . Ridgers, N. (2016b). Standing classrooms: Research and lessons learned from around the world. *Sports Medicine*, 46(7), 977-987.
- Howard-Payne, L. (2016). Glaser or strauss? considerations for selecting a grounded theory study. *South African Journal of Psychology*, 46(1), 50-62. doi:10.1177/0081246315593071
- Howie, E. K., & Pate, R. R. (2012a). *Physical activity and academic achievement in children: A historical perspective* doi://doi.org/10.1016/j.jshs.2012.09.003
- Howie, E. K., & Pate, R. R. (2012b). Physical activity and academic achievement in children: A historical perspective. *Journal of Sport and Health Science*, 1(3), 160-169.
- Humphries, C. A. 1., Bidner, S., & Edwards, C. (2011). Integrated learning with physical education and music. *Clearing House*, 84(5), 174-179. doi:10.1080/00098655.2010.543192
- Husserl, E. (1977). *Logical investigations. Prolegomena to pure logic (Volume one of the German edition)* (Vol. 1). New York: Humanities Press. Translated by J.N. Findlay
- James, Alisa, & R. (2013). The marginalization of physical education. *Journal of Physical Education, Recreation & Dance*, 82(6), 15-16.
- Jayanthi, M., & Nelson, J. S. (2002). *Savvy decision making*. Thousand Oaks, CA: Corwin Press.
- John J. Ratey, Eric Hagerman. (2008). *Spark*. New York, NY: Little, Brown and Company.
- Johnson, R. B., & Christensen, L. B. (2014). *Educational research* (5 ed. ed.). Los Angeles, Calif. [u.a.]: SAGE.
- Käll, L. B., Nilsson, M., & Lindén, T. (2014). The impact of a physical activity intervention program on academic achievement in a swedish elementary school setting. *Journal of School Health*, 84(8), 473-480. doi:10.1111/josh.12179
- Kennedy, M. (2017). *Seat yourself. American School & University*,
- Khalsa, S. B. S., & Butzer, B. (2016). Yoga in school settings: A research review. *Annals of the New York Academy of Sciences*, 1373(1), 45-55. doi:10.1111/nyas.13025
- Lees, C., & Hopkins, J. (2013). Effect of Aerobic Exercise on Cognition, Academic Achievement, and Psychosocial Function in Children: A Systematic Review of Randomized Control Trials. *Preventing Chronic Disease*, 10, 174.
- Lengel, T., & Kuczala, M. (2010). *The kinesthetic classroom*. California: Corwin.
- Liamputtong, P. (2011). *Focus group methodology* (1. publ. ed.). Los Angeles [u.a.]: SAGE.
- Mahar, M. T., Murphy, S. K., Rowe, David A F A C S M, Golden, J., Shields, T., & Raedeke, T. D. (2006). Effects of a classroom-based physical activity program on physical activity and on on-task behavior in elementary school children: 920: 8:00 AM - 8:15 AM. *Medicine & Science in Sports & Exercise*, 38(5) (Supplement), S80.

- Martin, R., & Murtagh, E. M. (2017). Teachers' and students' perspectives of participating in the 'Active classrooms' movement integration programme. *Teaching and Teacher Education, 63*, 218-230.
- Mead, T., & Scibora, L. (2016). The impact of stability balls, activity breaks, and a sedentary classroom on standardized math scores. *The Physical Educator, 73*(3), 433-449. doi:10.18666/TPE-2016-V73-I3-5303
- Moghaddam, A. (2006). Coding issues in grounded theory. *Issues in Educational Research, 16*(1), 52-66. Retrieved from <https://search.informit.com.au/fullText;res=AEIPT;dn=150835>
- Morgan, D. L. (2012). *Successful focus groups: Advancing the state of art*. Newbury Park, California: Sage Publications. Retrieved from <http://www.vlebooks.com/vleweb/product/openreader?id=none&isbn=9781452253718&uid=none>
- Morrow, S. L. (2005). Quality and trustworthiness in qualitative research in counseling psychology. *Journal of Counseling Psychology, 52*(2), 250-260. doi:10.1037/0022-0167.52.2.250
- Oktaý, J. S. (2012). *Grounded theory*. New York: Oxford University Press.
- Orlowski, M., Lorson, K., Lyon, A., & Minoughan, S. (2013). My classroom physical activity pyramid: A tool for integrating movement into the classroom. *Journal of Physical Education, Recreation & Dance, 84*(9), 47-51. doi:10.1080/07303084.2013.827556
- Pangrazi, R., Beighle, A., & Pangrazi, D. (2009). *Promoting physical activity & health in the classroom*. San Francisco, CA: Pearson.
- Physical Activity Council (2018). *2018 Participation Report* (Rep.). doi:<http://physicalactivitycouncil.com/PDFs/current.pdf>
- Phillippi, J., & Lauderdale, J. (2018). A guide to field notes for qualitative research: Context and conversation. *Qualitative Health Research, 28*(3), 381-388.
- Ratey, J. J., & Hagerman, E. (2013). *Spark: the revolutionary new science of exercise and the brain*. New York: Little, Brown.
- Rasberry, C. N., Lee, S. M., Robin, L., Laris, B. A., Russell, L. A., Coyle, K. K., & Nihiser, A. J. (2011). The association between school-based physical activity, including physical education, and academic performance: A systematic review of the literature. *Preventive Medicine, 52*, 10-20.
- Rousseau, J. (1979). *Emile, or On Education* (A. Bloom, Trans.). New York, NY: Basic Books.
- Schilling, D. L., & Schwartz, I. S. (2004). Alternative seating for young children with autism spectrum disorder: Effects on classroom behavior. *Journal of Autism and Developmental Disorders, 34*(4), 423-32. doi:JADD.0000037418.48587.f4
- Southam-Gerow, M. A. 1. & Dorsey, S. (2014). Qualitative and mixed methods research in dissemination and implementation science: Introduction to the special issue. *Journal of*

- Clinical Child & Adolescent Psychology*, 43(6), 845-850.
doi:10.1080/15374416.2014.930690
- Stevens-Smith, D. (2016). Active bodies/active brains: Practical applications using physical engagement to enhance brain development. *Strategies*, 29(6), 3-7.
doi:10.1080/08924562.2016.1231096
- Strauss, A. L., & Corbin, J. M. (1990). *Basics of qualitative research* (5. print. ed.). Newbury Park u.a: Sage Publ.
- Suchert, V., Hanewinkel, R., & Isensee, B. (2016). Longitudinal relationships of fitness, physical activity, and weight status with academic achievement in adolescents. *Journal of School Health*, 86(10), 734-741.
- Vaughn, S., Schumm, J. S., & Sinagub, J. (1996). *Focus group interviews in education and psychology*. Thousand Oaks, CA: Sage Publications, Inc.
- Voices for Healthy Kids (2018). *Shape of the Nation: Status of Physical Education in the United State of America* (Rep.).
doi:https://www.shapeamerica.org//advocacy/son/2016/upload/Shape-of-the-Nation-2016_web.pdf
- Williamson, L.A.. (2013). Yoga in public schools. *The Education Digest*, 78(5), 35.
- Wragg, E. C. (2012). *An introduction to classroom observation*. London u.a: Routledge.
Retrieved from http://www.fachportal-paedagogik.de/fis_bildung/suche/fis_set.html?FIId=1004342