

Sponsoring Committee: Dr. Richard Grove, Moravian College
Dr. Elizabeth Conard, Moravian College
Keila Olmeda, Bethlehem Area School District

Incorporating Physical Activity Breaks into the ELA Curriculum

Ashley Culligan

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Abstract

In this action research study, short physical activity breaks were implemented into the English and Language Arts (ELA) curriculum block. Student engagement and academic achievement were examined for improvement. Fifteen second-grade students from an urban district in Eastern Pennsylvania participated in this study for a four month period.

Students selected activities such as hopping, yoga stretches, jumping jacks and running in place to/from and at centers during the ELA block. The student leader read the activity selected from the jar each day. The students then participated in the short two to three minute breaks every fifteen minutes throughout our ELA block which lasts 140 minutes.

Surveys were given to the students prior to implementation and post implementation. Observations pertaining to student engagement were completed daily by teacher. Interviews were given to four pre-selected students before and after implementation. Reading assessments were given to all students pre and post study to track progress.

All data collected were analyzed using codes, bins, and themes. The findings suggest that incorporating physical activity into the ELA curriculum is beneficial for both students and teachers.

Acknowledgements

Dad: Thank you for raising me to be a strong and independent woman!

Mom: Thanks for showing me, by example, that I CAN do it all too!

Son: Caden, you are my inspiration to be better every single day of my life!

Sister: Keri, I am forever grateful that you are my #1 cheerleader.

Wife: Cherish, thanks for letting me focus while you handle everything else. You are everything! You truly are everything!

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Researcher Stance

As a teacher, I take my career very seriously. However, I did not grow up wanting to be a teacher. When I was young, I always dreamed of becoming a doctor. As you will see, things have changed. I went to school at the age of six with a smile on my face. I always loved learning and I enjoyed the fact that school was somewhat “easy” for me. Catching on to a new skill happened quite quickly. I rarely had to ask for help. I wanted to please my teachers and even wanted to help other students when the teacher was too busy to assist. My problem was that I always spoke just a little too loudly and a little too often. I should have known right away that teaching was for me with my gift of gab.

My name was constantly on the board for “talking.” I would sit in my chair in fear from the moment the “A” in “Ashley” was written. I knew that a check next to my name meant that I would be marching my primary-school self down to the principal’s office. That fear kept my mouth closed, for a little while.

Eventually, I would blurt out information again and my teachers would gaze at me and I would get up and walk the hallways as slowly as possible to avoid the conversation that would soon be happening with my father, on speaker phone. Dad would say the same thing to me over and over, “why can’t you just

stop talking?" The truth is, I did not know. I wanted to be heard. I did not understand why I had to be quiet all the time. At home, I was encouraged to speak, to read, to move, to be creative, to play. Then, I walk into school and I am being told to sit still, be quiet, raise my hand, copy what is written. This seemed unfair to me as young as age six.

Fast forward to middle school. I was super excited to walk between classes. I volunteered in the special needs classroom during all my study halls. I got to move around a lot more. My grades stayed high. I loved school, until I hated it. This part of my story is where it gets sad, really sad. I started to become bullied quite often. I knew that I was not getting the proper support I needed from my teachers. I was scared at school. Honestly, I was petrified. How could I focus on school work when my hierarchy of needs were not being met? I did not feel safe in a place I had to spend eight hours in each and every day of the week. I told my parents during seventh grade that I could not take it anymore. After a lot of discussion and hard work, I was able to place out of eighth grade and skip directly to my freshman year of high school.

That year was a year of huge change for me. I went from middle school to high school. I left one school district and entered another. I also went from public school to Catholic school in August 1996. It was different. But, it was exactly what I needed. I was able to start fresh and focus again on myself without fear. It

is amazing how happy one can be when Maslow's hierarchy of needs are being met. I loved school again. I was successful. I was happy.

I graduated from Bethlehem Catholic High School in 1999 with High Honors. I went to Cedar Crest College with a full ride for Pre-Medicine. I was on my way to becoming a doctor at the ripe young age of 17. All was going well when another unexpected yet wonderful change occurred in my life. I became a teenage mother. My son, Caden, was born one week after my freshman year of college ended.

People thought I would give up and drop out. People thought I would become a statistic. That was not the case in the slightest. I made sure my son became the reason I would finish college and do better than ever before. I got accepted to a college called Wilson College in Chambersburg, Pennsylvania. They had a "Women with Children" program and I was selected to be one of the 30 candidates out of over 3500 candidates. It was an opportunity I could not let pass. I moved two hours away from my family and friends with my little boy and started college again. I lived on campus with my young son and I worked throughout school to make sure we had what we needed to succeed. Wilson College was where I decided that teaching was going to be my new profession of choice. Yes, I still loved the idea of being a doctor but my heart changed when my

life did. Having my son led me to that change. He opened my eyes to what I love the most, helping children.

I realized I wanted to be a teacher. It made complete sense. I knew that my passion for meeting the needs of others and helping them could be fostered in another way. Teaching is the best career for me and I would not want to do anything else.

Although I talked a tad too much and got myself in trouble, I have the fondest of memories of elementary school. I remember back to my third grade teacher, Mr. DeMaio, and how he made us all feel included. He managed the inclusive classroom far before it was taught in collegiate articles and classes. He fostered an environment of trust and mutual respect. He helped me become a better person and that is far better than any curriculum could cover. Just like Mr. DeMaio, I take time to know my kids and understand their lives. I just want to help foster happy, healthy kids who love learning.

After teaching in the Bethlehem Area School District for a few years, I went back to college. This time, I decided to attend Moravian College to earn my Master's Degree in Curriculum and Instruction. I also wanted to obtain my Reading Specialist certification. I am now in my final year of my program and I just completed my action research.

After a decade of being in the classroom, I noticed a pattern. I noticed how very important being able to move around is for kids. With the pressure so high on the ability to read, my school district, as well as many others, needed to make a change. The administrators started reducing recess time. They also reduced many other opportunities for physical activity throughout the school day.

My English and Language Arts (ELA) block is quite long, 140 minutes, especially for young children (seven to eight years). Some of my students started to become antsy in their seats and off task due to the length of the lessons. They seemed to need breaks to refocus their attention on academics. I started to think what I could do to help engage my students more effectively. I wanted to make sure that my students were actively engaged in the curriculum and that their reading scores simultaneously increased. I wanted to make sure my research was going to be important and meaningful to not only me, but for my students as well. Getting to know my students is what led me to this research plan. It is of utmost importance for me to be knowledgeable.

Epistemology is the study of knowledge. Knowledge can take on so many meanings. Knowledge as described by McNiff (2000), can take on different forms. There is the objective knowledge which holds your factual knowledge and your procedural knowledge and then there is the subjective knowledge which is personal knowledge and is based on experiences. My students come to my

classroom with different types and depths of knowledge. It is through conversation and time that I learn each child and can better understand individual needs. Some of my students lack the background knowledge that is necessary to make meaning of texts. They have never had experiences with certain situations that I would consider common. Some have had many experiences and seem to have a strong foundation to build upon. My goal was to listen and learn and then build what knowledge I could to fill in the gaps.

In my classroom, I depended on diagnostic testing to help me create my lesson plans based on individual needs. I used benchmark testing as a requirement of my reading program. I also used formative and summative assessments throughout the day and week. Additionally, I reflected on the day/lesson and wrote in what my thoughts are about it. Was it effective? Who needs more help? Should we try delving deeper tomorrow? What I see as a trend is what is driving my ideas for my research project. My idea is to incorporate more movement into my classroom. I would like the students to brainstorm ideas for physical activity. We would put them into a jar and pull them out to complete each two to three minute activity throughout the day. This will give their minds a break. I have done this in previous years and it has been quite effective. I paired it with yoga and even mini sign language lessons. I see the importance of movement, especially for seven to eight year old kids. I keep them moving often but would like to do even

better to see if it will help them be more successful overall while they are actively engaged.

I will allow the students to make decisions. I want my kids to drive the research. I want their needs to lead our research in the right direction. As second graders, even though some of them probably already feel marginalized, I would not have them do research on too deep of a subject. I kept the research light and did what I could to better service my kids. Student choice and movement are both hot topics for me.

Literature Review

Incorporating Physical Activity into the Curriculum

A national, longitudinal study of nearly 4,000 students titled Reading by Grade 3 (RBG3) suggests that, “Students who don’t read proficiently by third grade are four times more likely to leave high school without a diploma than proficient readers” (National Assessment of Educational Progress, 2011, p. 1). Many school districts have reduced recess time to increase instructional time in the hopes that reading scores will increase (Jensen, 2000; Reed et al., 2010). Districts believe that if students are focusing on academics, they will gain more knowledge and therefore, grades will increase. This theory is being put into practice as the stakes are higher than ever to perform on standardized tests.

The Center for Disease Control and Prevention (CDC) has reviewed studies over the last 50 years trying to link Physical Activity and reading achievement (Table 1). Physical activity or PA is defined as “any bodily movement produced by skeletal muscles that results in energy expenditure” (Caspersen, Powell, & Christenson, 1985, p. 126). Contrary to many districts’ current practices, the CDC concluded that physical activity may have positive effects or no effects on academic performance (2010). Considering the majority

of the data studied either found a positive correlation or no relationship , the following review will delve more deeply into the available literature on this topic, including several articles that discuss physical activity in the classroom and the impacts it has on reading achievement. In short, the CDC relied on theory from neuroscience to explain why PA may have a positive impact on students' engagement, achievement, and overall physical health. "Research has shown that exercise provides more oxygen-rich blood, which nourishes the brain. More neurotransmitters are released, more endorphins are released, more neural networks are developed with movement" (Jensen, 2000, p. 34). Teachers and schools are leveraging these insights to incorporate more physical activity into their classrooms despite recess and other physical activities being reduced in the school-wide programming. In this review, I will begin with a brief history about physical activity in schools. Then, I will continue with the problems and the benefits of physical activity in the classroom. To conclude, I will end with a discussion for further research.

Table 2.1: Empirical Findings (Implementing PA into the curriculum)

Positive	50.5%
Were not significant	48%
Negative	1.5%

Note. Information courtesy of the Association Between School-Based Physical Activity, including physical education, and academic performance: A systematic review of the literature (Rasberry et al., 2011).

History

Being seated in chairs has only been a concept utilized in the past 500 generations. Prior to that people were on the move for the majority of the day (Jensen, 2000). Bodies are made to walk, run, dance, spin, and essentially move (Erwin, Fedewa, & Ahn, 2012; Jensen, 2000). Physical activity over the last several decades has changed tremendously. Not too long ago, many children woke up early and headed to school after doing several chores in and outdoors. They would then sit in the classroom in rows facing forward and work on the tasks at hand.

Within the last 50-100 years, there was a shift that suggested students needed more time for physical activity at school. Students had recess at least once daily. Time was allotted for the students to move around the classroom and between classes throughout the school. Students were given the opportunity to move more often as research indicated that physical activity enhances the brain's function, providing not only physiological but also cognitive benefits (Dinkel, 2017; Jensen, 1998a).

Most people are aware of how important physical activity is for the body. Physical activity is just as important for the mind. It stimulates blood circulation

and keeps the blood cells healthy. It even encourages new brain cell growth (Reed et al., 2010; Sibley & Etnier, 2003). Sitting for longer than ten minutes has a negative impact on physical health. For instance, Jensen (2000) states, doing so puts pressure on your spine and can cause fatigue, leading to musculoskeletal problems. It can also be a factor for obesity in children. Sedentary lifestyles lead to a higher Body Mass Index (Abadie & Brown, 2010). Considering the importance of overall physical health, it is imperative that students are moving around more in the classroom. Healthy chemicals can be released into the brain such as noradrenaline and dopamine that help students' state of mind. These chemicals can be especially useful in tough situations where students feel pressure to complete work on a deadline or possibly a fear of speaking to in front of a group (Jensen, 2000). Physical activity also improves circulation, increases blood flow to the brain, and has a calming effect on students (Taras, 2005). PA is also linked to lower depression rates and lower suicide rates (Sallis et al., 1999; Taras, 2005). Physical health is important to all students for a better life overall.

Despite the emerging research on the cognitive benefits of physical activity, schools reduced the amount of physical activity to increase instructional time. *No Child Left Behind* legislation increased pressure on the schools to increase standardized test scores, which led to schools having to reduce or eliminate programs that promote physical activity in students (Erwin, Fedewa, &

Ahn, 2012; Sibley & Etnier, 2003). When standardized test scores started to dictate funding for public schools, school officials thought students needed to have the maximum amount of time focused on academics alone. Higher expectations for academics were being implemented. Recess time began to shrink.

Problems

Not incorporating physical activity breaks into students' curriculum can cause several issues which include lack of engagement, and lower reading achievement. For example, Tremarache and colleagues (2007) found that reducing and eliminating programs that promote physical activity has many negative effects in combination with students' increasing sedentary lifestyle. This issue is vast. Tremarache and colleagues (2007) explain that students are playing video games and watching television more than ever before; they are not walking to school or riding bikes as much as in the past. Living a sedentary lifestyle is not only unhealthy for one's body but also it is unhealthy for the mind according to the American Heart Association (2006) and the National Physical Activity Plan (2010).

Engagement. Students need to be actively engaged in order to learn. Without frequent physical breaks, students become bored and appear to be unable to concentrate. Students may even act inappropriately, which may be attributed to a behavior problem, when truly it is just lack of movement that got the student off

track (Jensen, 2000; Carlson et al., 2015). Since engagement is crucial in order for children to learn, the focus on engagement needs to be paramount.

Reading achievement. The Center for Public Education (2015) suggests that if students are not considered “readers” by the end of third grade it is more likely that they will drop out of high school and not graduate. In third grade, students are expected to be reading to learn rather than learning to read, which means that reading should be now focused on content and comprehension rather than decoding. Third grade is a crucial year of school for students as they have to take state standardized tests. The testing is long and arduous. For students without a strong reading ability, these tests can be daunting, to say the least. Having students prepared for testing as well as having an increased confidence in their reading ability is great. Thus, it is important to keep students on track from an early age. Second grade is usually the last year students are capable of learning to read before the reading to learn mentality takes over.

Benefits

Incorporating PA breaks into students’ curriculum provides several benefits which include increased engagement in school and students’ reading achievement scores. Improving students’ overall health can help students have more energy for their time in school, which may lead to better engagement in their lessons, which, in turn, can lead to enhanced reading achievement.

Engagement. Jensen (2000) states, “teachers need to engage students in a greater variety of postures, including walking, lying down, moving, leaning against a wall or desk, perching or even squatting ” (p. 36). Providing two to four minute breaks throughout the lesson, Rasberry and colleagues (2011) found that students were more focused and engaged on their reading activities than when the PA breaks were not implemented. Engaged students grasp information more easily. Students do not need to be sitting in a chair correctly to learn; they can be engaged in various positions.

Reading achievement. It is important for students to demonstrate increasing reading scores throughout the school year. The goal is to have students achieving more reading skills each day. Students who receive more physical activity can score higher on reading tests (Carlson et al., 2015; Tremarache, Robinson, & Graham, 2007). Students with higher reading scores have more self-confidence and generally test higher on other standardized tests, as well.

Strategies for Incorporating PA into the Curriculum

There are many ways to incorporate PA into the curriculum. Much of the research highlighted specific programs as a way to incorporate physical activity into the classroom. For example, some of the programs include CATCH, Instant Recess, Take 10!, classroom energizers, and GoNoodle.

CATCH. CATCH, otherwise known as Coordinated Approach To Child Health, is a program that was adopted to help students in four main categories: classroom instruction, physical education, school nutrition services, and family events. This program is about school and community coming together in an effort to help the whole child in and out of the school context. Before implementing the CATCH program, all school personnel need to complete a workshop that lasts one to three days. Most lessons are available online but the program requires additional resources that must be purchased (CATCH, 2015). CATCH stands out because it incorporates all staff and parents. Both parents and educators are striving to instill lifelong healthy habits in their children. From the cleaning personnel to the principal, every member of the school community “lives” by the CATCH program. This design intends to teach children a way to live a healthy life by immersing students in CATCH as a lifestyle (Franks et al., 2007).

Instant Recess. Another program that incorporates PA into the classroom is Instant Recess. “Instant Recess was designed to be done to any type of music, in any setting, and accessible by any culture. Basically, it was made for everyone everywhere” (Instant Recess, 2015, p.1). The program includes various posters, pamphlets, and DVDs to follow in order to complete it. Instant Recess is technology-based and used to promote overall physical health in ten minute increments. Enabling students to create their own exercises and choose what to do

for breaks is empowering. Along with teaching empowerment, this program is one that focuses on team building. Empowerment paired with team building has proven successful with a 90% participation rate when implemented correctly in the classroom (Woods, n.d.). It also has been suggested that it leads to decreased stress and anxiety and an increase of self-esteem, mood, and self-efficacy. (Woods, n.d.).

Take 10!. Similar to Instant Recess, the Take 10! Program adds 10 minute sessions of physical activity to the school day. The Take 10! Program “engages students in movement while reinforcing specific academic objectives in math, reading, language arts, science, social studies, and nutrition and health. The program uses grade-specific learning objectives so teachers can incorporate activities that align with the daily lesson” (TAKE10, 2015, p.1). It is a purchased program that can be fit into the curriculum with minimal disruption to the daily schedule. The program is based on ten minute segments of exercise. According to Ribiero (2014), the intervention program was successful at deterring students from choosing unhealthy foods. It helped them become less sedentary individuals and helped them choose more active lifestyles. It is important to note that Ribiero stated that when comparing PA programs, results showed that movement is what is imperative rather than the program itself.

Classroom energizers. Classroom energizers are ten minute mini lessons that are available online, free of charge. They are used to incorporate physical activity into the curriculum. Teachers read the lessons and design a schedule to place the lessons throughout the curriculum that pertain to the subjects being taught (Mahar et al., 2006). [Students in the intervention group took significantly ($P < 0.05$) more in-school steps (5587 ± 1633) than control-group students (4805 ± 1543), and the size of this difference was moderate ($ES = 0.49$). The intervention was effective in improving on-task behavior; after the Energizers were systematically implemented, on-task behavior systematically improved. The improvement in on-task behavior of 8% between the pre-Energizers and post-Energizers observations was statistically significant ($P < 0.017$), and the difference was moderate ($ES = 0.60$). Likewise, the least on-task students improved on-task behavior by 20% after Energizers activities. This improvement was statistically significant ($P < 0.001$) and meaningful ($ES = 2.20$)] (Mahar et al., 2006, p. 1).

GoNoodle. GoNoodle, which launched in 2013, is a technology based program that includes catchy songs and dances to get students up and moving. Each short video lasts between two and five minutes. The videos are tracked and will result in the animated character moving up a path to physical health. This program is used often with primary school-age students. It is known for being a

game-based learning program. Considering 75% of children over the age of four have a device of their own, the opportunity to add physical activity with gaming intrigued the founders, McQuigg and Herbold (2013). “A tally in the dashboard section keeps track of the minutes of each activity, points gained, and medals won, which is a nice incentive for the class and a great way for teachers to share the activity summary with students” (GoNoodle, 2017, p.1). This program allows students to watch their progress which helps to build excitement. (GoNoodle, 2017).

After reviewing the previous five programs, it is clear that integrating physical activity can be done in short 10 minute spurts throughout the day. Sometimes the PA helps students review content, whereas other times it is merely for enjoyment. Other research suggests that actual physical activity programs are not necessary. PA is about making sure the students have the ability to move. There is little research to suggest that one program works over another (Carlson et al., 2015; Rasberry et al., 2011; Taras, 2005). Within my study, it will be less important to implement a specific program than it will be to get students moving throughout the school day.

My Strategy for Incorporating PA into the Curriculum

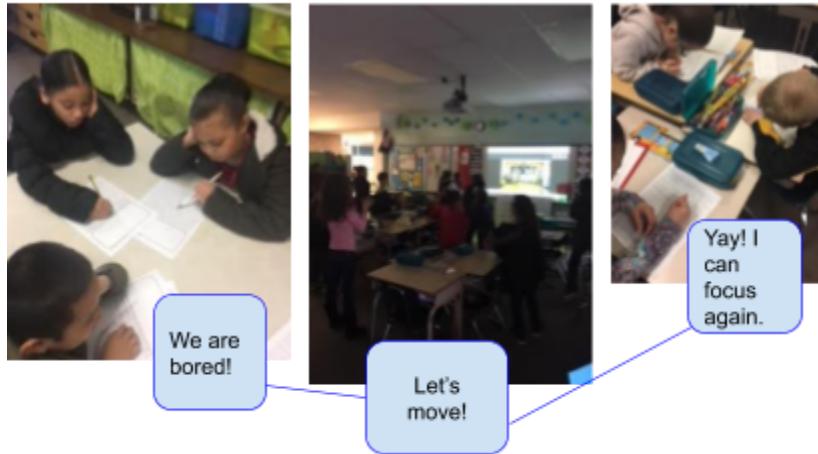
For my action research, I will begin the day the school year starts. My class size is expected to be about 20 second grade students. My class is

heterogeneously grouped, which means my students are of varying ability levels. I will collect a baseline from my entire class using two standard tests; DIBELS and Wonders data dashboard. I will create a table and plot where each students' beginning of year (BOY) scores lie. I will also give my class a survey that I previously created which discusses reading and engagement in the classroom as it pertains to them personally. Four students will be selected based on four specific measures I am looking to follow. One student will have a confirmed diagnosis of Attention Deficit Hyperactivity Disorder/ Attention Deficit Disorder (ADHD/ADD) . One student will be considered below grade level with an Individual Education Plan (IEP) already in place. One student will be considered on grade level. The last student will be considered above grade level. If there are more than one candidates for each spot, the student will be selected at random. These four students will, in addition to the survey, be interviewed at the beginning of the implementation process and at the end. I will also be documenting both participant and nonparticipant observations throughout the duration of the study.

Students will be given the opportunity to select types of physical activity to perform in the classroom. Together, we will brainstorm different ways to move. Each week students names are selected from a bin. As names are called out, students select a "job" for the week. The "teacher's assistant" job would be the student who leads the PA breaks. The leader of the PA breaks will change each

week. The PA breaks will take place during the ELA block. Students will rotate between centers every 10-15 minutes. During the transition from each group, the students will perform the pre-selected physical activity break. The activities may include, jumping, spinning, dancing, yoga poses, running in place, etc. This gives my students autonomy and it allows me to continue working with my leveled reading group so minimal time possible is taken away from instruction each day. According to Danielson's Framework for Teaching, students need to be engaged in planning lessons and have the ability to have choices throughout the school day (2012). My students will have a lot of student choice throughout this action research process. Due to issues with space and noise, considering I have a small classroom with only two full walls and no door, a specific PA program will not be implemented.

Figure 2.1: What can I do so school is more engaging?



Physical Activity

*Received permission to use photographs of students for academic purposes.

Discussion

During my literature review, I found an abundance of information pertaining to physical activity in the classroom and reading achievement. Nearly half the studies show that PA in the classroom is linked to higher reading achievement. The other, nearly half, suggested that there is no correlation between PA in the classroom and increased reading achievement. The overall data showed that PA in the classroom does not negatively impact reading achievement.

Physical activity is either beneficial or does not positively affect scores yet it is not detrimental to academic performance (Sibley & Etnier, 2003, Taras, 2005, & Rasberry et al., 2011). Therefore, physical activity should be added to the classroom curriculum.

Research Question/s

What are the impacts on second grade students' reading grades when frequent physical activity breaks are implemented into the English and Language Arts (ELA) block? In other words, when second grade students have the ability to move around more during the ELA block, will their reading scores improve? Will the opportunity to dance, spin, bounce, etc. for a short period of time, generally two to four minutes per break, allow these second graders to grasp concepts more quickly when they return to academics? To what degree does physical activity help students remain engaged on lessons?

Research Design and Methodology

Research Goals

For my action research, I implemented more physical activity into the school day. My question was, what are the impacts and reported findings of second grade students' and on their reading scores when frequent physical activity breaks are implemented into the curriculum throughout the school day? This question excited me as I have been teaching in the Bethlehem Area School

District for ten years and have felt the need for more physical activity to be implemented into the day.

It was my assumption that reading grades would increase when physical activity was implemented into the daily curriculum. I believed that students who had the ability to move and exercise more often were more capable of focusing on reading tasks. That, in turn, increased their knowledge and reading scores. There are many reasons exercise should be implemented into the curriculum in addition to the increase in test scores. This research proved that exercise should be more important in the district curriculum. I have found an ample amount of research to support my hypothesis. In, "*Implementing classroom physical activity breaks: Associations with student physical activity and classroom behavior*", the research suggests that physical activity helps students to focus and better focus can have positive impacts on students ability to learn and to stay on task (Carlson et al, 2015). When reading, "*They just need to move: Teachers' perception of classroom physical activity breaks*", the research also suggests that physical activity helps students development and therefore should be practiced at least 60-minutes daily. "The reduction in time allocated for physical education and recess are thought to increase the amount of instruction time, thus improving test scores."

Multiple studies have shown physically active children are able to perform better academically than peers who are not as physically active” (Dinkel, Schaffer, Snyder & Lee, 2017). The research explained in “*The association between school-based physical activity, including physical education, and academic performance: A systematic review of the literature*”, there is a high likelihood (about 98%) that physical activity will benefit academic achievement or it will at least remain the same (Rasberry et al, 2011). While reading Donnelly & Lambourne’s research in the article, “*Classroom based physical activity, cognition, and academic achievement*”, they state that considering students spend majority of their day in the classroom, they should have physical activity added to their curriculum while in there. Exercise has positive impacts on both teachers and students. It also results in higher test scores (2011). “*Examining the impact of integrating physical activity on fluid intelligence and academic performance in an elementary school setting: A preliminary investigation* states”, “regular physical activity has been found to promote structural changes in the hippocampus region of the brain, which is an important area for memory” (2010). Having a strong memory may help increase test scores. There are many other articles of research that suggested the same. After all the preliminary research I completed, I felt my hypothesis that physical activity in the classroom would be beneficial for students and increase reading scores.

Setting and Participants

In my district, we have 16 elementary schools. I currently teach second grade at Fountain Hill Elementary School. Fountain Hill has 546 enrolled students and 43 teachers. Our student to teacher ratio is lower than the Pennsylvania average at 13:1. Our minority enrollment is 83%, which is well above the state average of 32%. Fountain Hill students identify as 64% Hispanic, 14% black, 17% white and 5% identify as two or more races. Our diversity score of 0.54 is higher than the state average of 0.25. 84% of our student body qualifies for free or reduced lunch. (www.publicschoolreview.com) My classroom has between 16-20 students daily. My students are of varying ability levels. Five of my students currently have IEP's in place in all academic areas. Five of my students are considered on grade level. One student is above grade level. The remaining students are below grade level. I have twice as many boys as I have girls.

Data Gathering Methods

The objective of my study was to implement physical activity breaks into the ELA curriculum and use the data to determine if physical activity breaks increased reading achievement.

Assessments. I gathered data from Wonders data dashboard at the beginning and end of my study. I also gathered data from Dibels Next. I used this information to compare individual scores from the beginning of the study and the end. I created graphs with this data and analyzed the data for my study.

Observations. I spent about twenty minutes per day logging observations about my class and how they were doing before, during, and after implementation of physical activity breaks. A frequent observation was that students would interact more with each other by discussing the PA breaks and say things like, “I like jumping jacks” or “Don’t forget to skip to centers today”. They were positive about the interactions. They were also quick to remind others if they forgot to do the PA task of the day.

Double entry log. I kept a double entry log with me at my leveled reading table throughout the study. I was able to quickly jot down what I heard or saw and comment about what I noticed or how I was feeling at the given time. Having that log now is helpful for me because I can see, in real time, how things progressed.

Surveys. My class was asked to complete a pre (Appendix E) and a post survey (Appendix F) for my study. The questions included their feelings about reading, exercise and school. They also included questions about what kinds of activities they enjoy for exercise. My class answered the questions and I found a

lot of information showing kids were fond of sit-ups and jumping jacks as the exercises of choice.

Interviews. I pre-selected four students prior to implementing my study. I asked the four students the same questions. One question asked if they felt like a good reader and how they know? Another question asked if they think physical activity breaks would help them concentrate better? I asked past tense versions of these same questions after the study was complete. One question asked of they felt physical activity breaks helped them concentrate more? I compared the results from both sets of questions at the culmination of my study.

Behavior Chart. I used a behavior chart (Appendix G) to monitor behavior throughout the study. The chart had seven colors. The top of the chart was red and read; “Outstanding Leader”. Beneath red was orange. Orange said “Great Job”. Yellow was under orange and said “Good Day”. Green was in the middle of the chart and said “Ready to Learn”. That was where all students began each school day. Blue was under green and said “Think About It”. Purple was under blue. It said “Teacher’s Choice”. Pink was at the very bottom of the chart and read “Parent Contact”.

Students moved up and down the chart often throughout the day. Student clips moved fluidly; they had opportunities to turn around behavior at all times. I had students “clip up” if they were caught doing something good. The students

were to “clip down” for undesirable school behavior. The chart was a great visual for students to see how their day was going. Students enjoyed clipping up but not down. That meant the students tried harder to behave more appropriately in order to avoid a clip down.

Research Design

I used a participatory action research design. This design of study was similar to the design outlined in the McNiff models. There were three sets of reasons driving my action research. “First, you can improve learning in order to improve practices. Second, you can advance knowledge and theory. As a practitioner-researcher, you aim to generate theories about learning and practice, both your own and other people’s. Third, you can explain how you are contributing to new understandings for yourself, for others and for the world” (McNiff, p.3, 2017). I collected data during the months of September and October 2018. I then analyzed that data for my action research project to explore the theory that physical activity helped reading achievement scores.

Two Weeks Prior

- Sent out consent forms to parents
- Sent out consent form to Principal

One Week Prior

- Collected consent forms

- Collected Principal consent forms
- Gathered student assent forms
- Teacher gathered data from Wonders data dashboard
- Teacher gathered data from Dibels Next website

Week 1

- Students filled out a pre-study survey
- Four pre-selected students answered pre-survey interview questions
- Students created a list of activities for the activity jar
- Teacher modeled what the classroom would “look like” and “sound like” for the students during the physical activity breaks
- Teacher collected data in double entry log

Weeks 2-5

- Teacher assistant chose an activity each day to be performed on way to/ at centers
- Teacher collected data in double entry journal
- Teacher completed non participant and participant observations

Weeks 6-8

- Students completed a post study survey
- Four pre-selected students answered post study interview questions

- Teacher continued to collect data in double entry journal
- Teacher completed participant and non participant observations
- Teacher gathered assessment data from Wonders data dashboard
- Teacher gathered information on Dibels Next website

Post Study

- Students decided to continue physical activity breaks after study ended
- Teacher analyzed data pertaining to study

Trustworthiness Statement

Before designing my action research plan I had to understand completely what “action research” actually meant. According to McNiff, the “action” part of action research is taking the actions to improve something within my practice while the “research” part is explaining what I am doing while it is being done (2017, p. 18). In effect, the definition is right in the name. It took me some time to determine what I felt could be the best route to take with my plan. I began with two ideas in mind. I wanted to study student choice in the classroom. I also wanted to study physical activity in the classroom and how increased activity could affect reading scores. I ended up deciding to mesh the studies together and allow students to decide what types of physical activity to incorporate into the classroom during our English and Language Arts block (ELA).

Creating an action research plan and building it into fruition is a great task. It is one that should be taken very seriously. Considering other people are part of action research, it is important to do my best to ensure authenticity, validity, and legitimacy (McNiff, p. 205). “Involving other people in research demands ethical awareness This is not just a matter of courtesy but also legal obligation” (McNiff, 2017, p. 125). Therefore, I am practicing my ethical awareness so everyone in my study knows they are safe and can be honest while also expecting honesty and openness for the duration of the study.

To begin my action research study process, I submitted my outline and received approval from Moravian College’s Human Subject Internal Review Board (HSIRB). I created and submitted student assent forms, principal consent forms, and parent consent forms. I also outlined my entire study for all subjects and opened the line for consistent communication with them about the study to be completed Fall 2018. After receiving signed consent forms from all willing participants, I placed these forms in a secure place to be destroyed at the completion of the study as per my research agreement. All of the children in my class understood that their participation was both voluntary and completely anonymous and that they could withdraw at any time without penalty.

My study took place during the Fall 2018 semester at an open-concept second grade classroom at an elementary school in eastern Pennsylvania.

The study was specific to the ELA block which takes place in the morning during each school day. The 15 students that consist of 9 boys and 6 girls all between the ages of 7 and 8 years were asked to move for 2-5 minutes every 15-20 minutes for the duration of the ELA block. The interventions included but were not limited to yoga, coordination exercises, dancing, hopping, skipping, playing short games of Simon Says, GoNoodle, walking in place, etc. (Hendricks, 2013, p. 67). The students came up with these ideas on their own during a brainstorm session and we wrote them on small pieces of paper and placed them into a container for daily use to be selected at random. I also created pre- and post surveys for the participants that allowed me to see changes, if any, in how they felt about reading and exercise as they pertained to each other. Interviews at the beginning, during, and after the study were administered to a preselected set of four students. One student was considered above grade level for reading currently. One student was considered on-level at this time in reading. One student was considered below level with an IEP in reading. One student was diagnosed with ADD/ADHD. Participant and nonparticipant observations were conducted. Wonders data dashboard and DIBELS via Amplify were set to track reading scores during the semester after each scheduled testing day. Hendricks pointed out the need to include several sources to obtain data throughout action research in order to

ensure credibility (2013, p. 65). The data were compiled and analyzed often throughout the study.

“In the process of action research, a researcher continually reflects on what is occurring during the study and make changes to the research plan as necessary” (Hendricks, 2013, p. 67). Daily journaling took place to reflect on what occurred that day and allowed me the opportunity to go back and take another look after the school day ended. I also logged all peer debriefing. It was important that I stayed unbiased, which was difficult, at times being actively immersed in the research. Having peers who had no involvement in my study look over what I did was helpful to keeping the data impartial. Logging student quotes and taking short videos of student engagement throughout the study was also important for me to timestamp when certain things occurred.

All students were referred to by pre-selected pseudonyms to ensure privacy before, during and after the study was completed. At the end of my action research, all papers pertaining to the study as well as computer documents that have to do with the study that were formerly kept locked and secured in their respective places, were destroyed.

With all of these steps, I felt my study was valid and observed to be reliable. Times were set for me to read and reflect daily as McNiff stressed the importance of setting aside an abundance of time for action research (2017, p.

123). It was clear that my action research helped me to be a better teacher regardless of the outcomes of my study. I was excited to continue on the journey with my students, my colleagues, and my peers.

Researcher Narrative

After my school district adopted a new curriculum, Wonders, I spent much of my last two years learning it. Wonders was a K-6 program rolled out across the district to promote comprehensive literacy in attempt to meet the goal of all students Reading By Grade three (RBG3). The program was designed to scaffold

learned material. It was created to help with the challenges of reaching all learners by spiraling material. The Wonders program had large group and small group instruction. The groups went back and forth four times on a schedule to encourage movement in the classroom and change of activities. I spent many days, nights, and weekends deciding how I would approach a curriculum that had so many varying components. The amount of time that was to be devoted to the English and Language Arts block (ELA) was in excess of two hours per school day. Considering I teach second grade, I knew something had to be done to keep my students interested and engaged. That is when my idea for my study came to mind.

I decided that adding frequent physical activity breaks throughout the ELA block would be a fantastic approach. Most teachers are aware that students need to move. Most teachers also know important it is to have students engaged in the lessons. However, we were given a strict schedule that needed to be adhered to so any deviation was frowned upon. I needed to try to solve both of these issues, without taking instruction time away, but how? That is when my creativity had come into play. I added four centers per day into the morning routine. Each center would last 15 minutes. The centers remained the same each week but what was available to do at the centers changed each day. For example, every day there was a writing center; what they would do during that writing center varied from poetry

to sentence structure to writing vocabulary words to complete sentences to free writing. The phonics center contained a word sort focusing on the skill for the week. The computer/reading center involved Wonders games that were preselected by me for each student based on student need, and/or reading from the classroom library. The last center was the teacher center. The students met in small groups with me to practice the skills for the week such as short /o/, or compound words. These centers are one way I was able to add movement into the curriculum.

Additionally, I had students brainstorm several activities that we could do in our classroom. They came up with ideas. I wrote those ideas onto pieces of paper and put them into a basket/jar so they could select one per day to do as they went to each center. Some of the ideas they selected were; jumping jacks, yoga poses, skipping, high knee touches, dances (Floss, Whip and Nae Nae, and Macarena), and slow twirls. The leader for that week, also known as the teacher assistant, would select one piece of paper for how the students would move to their centers that morning. The teacher assistant would then read the piece of paper to the class and then place it under the Elmo, our projection system, so the students could read it at anytime if they forgot what to do. I never had to be involved in the selection or the implementation once the routines were taught and

put into place, so this addition to the ELA block did not take away from teacher instruction time.

The other way I added physical activity breaks into the ELA block was to play short two to three minute games with the students during transition times. As a class, we played Simon Says, we used a Tabata timer and did exercises like squats and arm circles, we did yoga poses and timed the movements to promote increased balance, we danced to GoNoodle videos, etc. This kept the kids engaged and focused on what we were doing at the time not allowing for much off-task behavior.

My Classroom

I teach in an Elementary School that is part of an urban district in Eastern Pennsylvania. It was built when open-concept schools were popular. I have a classroom that contains no doors nor does it contain full walls. My classroom is sandwiched directly between a busy elementary school Main office and another open concept classroom. The noise level coming from outside the classroom ranges on a scale of one to ten, usually a three to four on any given school day. My students and I, have become very capable of blocking out the outside noise, most of the time. With that being said, I do not like to add to the noise. Our physical activity breaks were designed for the body and brain not the mouth. Therefore, the breaks are mostly silent.

We started the school year with 19 students. By the end of the study we had 16 students but only 15 were original with beginning and ending scores. Due to the changes in the student body, some of the data for the study were slightly smaller of a set than originally intended.

My study was designed for my entire class to participate and for four students to have additional interviews during the process. I preselected four students to monitor extra closely for the duration of the study. The four selected stood out to me for different reasons. One student was diagnosed with ADHD and ADD and a speech delay. I wanted to see if the physical activity breaks being implemented would help him be more successful in the classroom. He really struggled with staying in his seat/area. He also had a very difficult time staying on task, even for short stints of time. We will call him Sam. When I asked Sam if he liked school he exclaimed, “Yeah, really! It is the funnest school in the world. I love you. You’re nice. Let’s play recess. I like playing.” I also asked him if he feels he is good reader. He said, “Yeah, a little bit. I’m awesome one, teachers says.”

Another student that piqued my interest was a student we will call Ro. She learned English as her second language only two years ago and now she can read, write, and speak fluently in both her native language and English. She was identified as “gifted” and was reading above grade level. Ro said, “I like school. I

feel though that it's boring. I would rather stay at home. That's why I call it boring.", when asked how she felt about school. She also stated that she was a good reader but not sure how she knew she was, she just knew it somehow.

The third student was Zac. He had an IEP in all academic areas. He is well below grade level for academic achievement. He was also shy and stays to himself. He reported that he "likes school" and that he would "like to play games" as a physical activity.

Lastly, I selected Ally. Ally was a great student by all accounts. She was on grade level in all academic areas. She was kind and helpful to all students. She enjoyed helping and was a natural leader. When asked about her feelings toward school she stated, "I feel very good because it feels good. I feel happy. I feel like I'm learning like a lot." As a reader she felt good. She also said, "I know because every time I read at home I start at easy books and then I read hard books and I still do very good".

Starting off

In September 2018, I started to implement the predetermined pacing calendar. I created and sent out consent forms to parents. I sent a consent form to my principal. I also had my students fill out student consent forms. I received 19

consent forms back from parents, which meant my entire class was able to have their data recorded for my study. I received a signed consent form from my principal. I additionally had all consent forms from my students signed, collected, and locked into a safe place.

Week 1

During week one, I had my students fill out a reading survey (Appendix E). I collected the survey and analyzed the data to determine which of my students felt like good readers, who felt they needed more movement throughout the school day, who liked being at school and who liked to exercise. These data were used for both my study and for me to get to know my students better as this was still quite early in the school year. I also interviewed my four pre-selected students (Appendix D) for more in-depth answers that required more than a simple “yes” or “no” or short answer. These interviews helped me a lot to understand my students reasons behind their answers. We also created the “activity jar” where we put the activities that the students decided when they were to brainstorm.

I pulled the Benchmark data from the Dibels Next (www.mclasshome.com) The students were tested on two different measures; Nonsense Word Fluency (NWF) and Dibels Oral Reading Fluency (DORF). The scores were then combined to get their composite scores. The composite scores

categorized the students into four groups. The groups were color coded. Red meant the student was significantly in need of intervention. Yellow meant the student was in moderate need for intervention. Green meant the student was meeting expectations and is seen for core instruction only. Blue meant the student was above expectations for the time of school year. The goal was to have all students in the green or blue group by the end of the school year. Unfortunately, some students started with less knowledge than others making the playing field uneven. Therefore, making progress was the main goal. When I pulled the beginning of the year data, I had six students in the red zone, one in the yellow zone, seven in the green zone, and one student in the blue zone. About half of my class was in need of intervention.

I downloaded data from the Wonders data dashboard (www.connected.mcgraw-hill.com) and looked at their beginning of the year scores for reading comprehension Benchmark. Although it appeared my class would probably have about half score decently on the Wonders test, that was not the case. Out of 15 students, none passed the original test. There were several reasons that could have happened. The test, by all accounts, was difficult for a second grader. The test was read to all students in first grade but not in second grade. The summer slide could have been an issue. Not being on task cold have also played a role in the failing test scores. I made copies of the tests and put them

in a safe place for future use. I also created a skill inventory for all students. It helped me to organize all areas of need.

Week 2

During week two, I demonstrated what the students should “look” and “sound” like when moving to centers. I modeled this each day until all students were easily able to follow the instructions. Intentional and explicit modeling was needed in order to create the quiet and smooth transitioning environment necessary to implement these physical activity breaks.

I also documented two different assessment scores during week two. One was the Wonders data dashboard scores for each student. The students did not have any passing scores at that time. That is when I decided that the kids needed to be taught how to take the Wonders tests. Teachers decided to practice test taking skills with the students. The other was Dibels Next scores for progress monitoring. I wrote in my field log, “two students said they ‘couldn’t do it’ when asked to read the Dibels passages”. The passages were a tad difficult and the students had little to no background knowledge of the subjects in the passages. There were no picture prompts either. Frustration levels were high during testing times.

Weeks 3-4

Students and teacher continued the same pattern where physical activity breaks were implemented on the way to centers, at centers, and during any transition time. Students were very capable of following routine and rarely needed teacher guidance to perform necessary tasks. Students were observed saying things like; “I like to exercise” and “I can get my knees up higher than yours”.

I spent a lot of time keeping a journal throughout these weeks and performing participant and non participant observations. I was able to notate specific comments certain students made. I documented when any of the four students that I closely followed said or did/did not participate. During these weeks I noticed some students who decided to stop participating in the PA breaks. One of the students I closely followed throughout the study, Zac, stopped doing any of the exercises that included any dance moves. He was a shy boy so I assumed it was due to embarrassment. I had to make a change at that time. I implemented a new rule. Students did not have to do the exact thing we did as a class as long as they continued to move during the set time. I let them know that walking in place, swaying back and forth, or even making small arm circles was fine. The important thing was that they were moving. That issue was solved.

I also did an informal mid study survey asking students about the PA breaks during the ELA block. I wanted to know if they were liking the breaks and all students, in fact, preferred having the breaks rather than not.

Weeks 5-6

Students and teacher continued with the daily routine. The crowd favorite was a Teenage Mutant Ninja Turtle video on GoNoodle. The kids would jump up and down and beg to do it again. The video was the characters from the show doing different moves like a video game character would do. Then when the character was shown in the corner of the screen, the students were to imitate that action. They jumped, hopped on one foot, juked in both directions, and ducked down to avoid being “knocked down” by flying objects on the screen. At the end, they formed a group hug. One hundred percent of the students participated in this activity every time. Unfortunately, when we did GoNoodle activities, students struggled with maintaining a quiet classroom. They also had a harder time getting back on track.

Another crowd favorite was Simon Says. They enjoyed when I randomly would say, “get out of your seats and tuck in your chair”.

They knew it was time for a short game during transition time from whole to small group or from ELA to WIN time. The students enjoyed trying to beat me. When a student would be “tricked” by me, they would sit down. However, every few turns, I would have everyone stand back up and participate again because the idea was to have kids moving, not sitting. That worked wonders for the students

who were set on winning. The idea of winning was no longer an issue and they could focus on playing.

Weeks 7-8

The students continued with the additional PA breaks in the ELA block. They became very comfortable with the routine. We decided to continue the breaks for the entire school year. It was going so well that we decided not to end them.

One student said, “I like to play at school everyday”, when referring to physical activity breaks.

I observed Sam singing a pattern song we learned for PA break time, during snack. He enjoyed the “games” so much that he did them even on his own time. It was another fun activity that involved whole body movements with a song about patterns; banana, banana, meatball, banana, banana, meatball, was one of the catchiest patterns that even I sang in and out of school.

Last Week

During the final week of the study, I gave an end of study survey (Appendix F) to all my students. I took the information and compared the information from the first survey to the last. I wanted to see if the PA breaks helped them feel more focused and if they felt like better readers. Thirteen of fifteen students stated that they felt physical activity breaks helped them

concentrate more on academics. Additionally, thirteen of the fifteen students surveyed considered themselves good readers.

I gave end of study interviews (Appendix D) to the four pre-selected students. I analyzed this information for changes in answers. I was looking to see improvement with movement and with reading.

Zac stated that he believed physical activity breaks helped him to concentrate more in school.

Ro said, when asked if she gets to move around in school enough now, “Yes, because like sometimes I used to just like to color and now I like to jog and when we do GoNoodle like we dance and we get to do movements and when we do yoga we get ourselves together and move around”.

Ally said, “I feel great about it because I love school. In first grade I didn’t like it that much. In second grade I like it a lot”, when asked how she feels about school.

The main answer that was similar from Sam, Ro, and Ally was about who they thought benefitted the most from physical activity breaks in the classroom. Three out of the four interviewed students said the same students names.

Ally busted out, “That is easy, Sam and Jav. I know because they move around a lot, like a lot! They needed it most”!

Ro said, “Javi. At the beginning of the year several times he was on red and then you said, ‘good job, Javi’ and he is good now”.

When I asked Sam about physical activity breaks and who he thinks they help, he said, “Me! I sit a little better. I not walk around a lot”.

Javi and Sam definitely benefited from having the extra physical activity breaks implemented into the curriculum. Even other students noticed.

I also gave mid-year assessments for Wonders. After several weeks of teaching the students to take the Wonders test, I expected to see a large increase in scores. Unfortunately, two out of the fourteen completed tests were passing scores. One test was two points from a passing score. The rest were clearly failing scores. Those tests were not read aloud to the students. Questions nor answers are read aloud either. The tests were very difficult. Some questions had as many as six choices to select from. Additionally, several questions required two to three responses each. That was quite confusing for young learners. The passages were confusing as well.

Dibels middle of year Benchmark tests were administered. The data were very encouraging. Fifteen students were tested. Five students scored in the red zone which is down one from the six at the beginning of the year. One student scored in the yellow zone which is the same as the beginning of the school year. Four students scored in the green zone which is down from the seven at the

beginning of the year. Four students scored in the blue zone which was up from the one that scored there in the beginning of the year. Only fifteen students remained the same and had beginning and mid-year scores available. Even though I had less students, the number of students in the green or blue zones remained the same and the red and yellow zone ranked scores decreased. It should be noted that fourteen out of fifteen students improved on their Dibels scores, significantly. The increases ranged from 10-150 points per student. One student regressed three points.

What Is Next?

We decided as a class to continue on with the physical activity breaks. We also decided to continue graphing progress for Dibels data. We decided not to worry much about the Wonders scores at that time. I did not feel that Wonders scores accurately assessed the progress of the students.

Data Analysis

During the course of my study I used many methods to gather data. I gathered pre and post scores from Wonders assessments and Dibels Next assessments. I jotted down information pertaining to students during participant and nonparticipant observations. I kept a double entry log with what was happening and my thoughts on the activities as the study progressed. Additionally, I conducted pre and post surveys with my class (Appendix E & F). I interviewed four students before and after the study (Appendix D). The four students were pre-selected prior to my study's implementation. Lastly, I monitored student behavior by utilizing my classroom behavior chart (Appendix G). The seven color chart acts as a visual for students to see how their day is going pertaining to their behavior. They used the clothes pin with their name on it to move up and down the chart fluidly throughout the school day.

Assessments

Prior to my study I decided to use Wonders and Dibels assessments as a starting point for childrens' scores. It was imperative to me that I knew where each student was beginning second grade. Wonders was my district-wide curriculum of choice, so I used the data as a measure. Dibels was another district assessment used to benchmark students. Both of these tests were used for all second grade students so I did not make them take any additional testing.

At the culmination of my study, I assessed my students on the Wonders benchmark for mid-year. I compared the data from the beginning and the middle of the year for Wonders. No students passed the beginning of year assessment and only two passed the middle of year assessment. The results were not encouraging. However, I attributed the lack of progress to the rigorous Wonders curriculum and the fact that taking tests on computer screens can be difficult for new readers.

Dibels scores were a lot more encouraging. The beginning of the year scores were sorted into four categories. The lowest tier, the red tier, had six students. The middle tier, the yellow tier, had two students. The top tier which is considered on-level, the green tier, had eight students. In the above level tier, the blue tier, there was one student.

After the intervention was implemented, I assessed the Dibels benchmark for mid-year. There were only fifteen students that were assessed at the beginning and mid-year. Five students scored in the red category, one in the yellow, four in the green, and five in the blue. All students, besides one, made positive growth. The growth was observed. Scores increased between 10-150 points per child.

I created a Wonders plan for skills inventory in order to track the information more closely throughout the study and beyond. I noticed that less students needed to be progress monitored as the year progressed. Students in the red zone needed to be progress monitored weekly. Yellow zone students were to

be progressed monitored every two weeks. Green and blue students only needed to be progress monitored monthly. Only five students needed to be monitored weekly by the end of the study. That was a success.

Observations

I took twenty minutes each day to jot down the things I noticed the students doing throughout the study. I observed things like students helping each other to be more successful, students reminding others what the physical activity break was and how to do it correctly, students smiling and encouraging each other during centers. The behavior was not much different before or after implementation of physical activity breaks, but it was nice to see the positive relationships developing in my classroom.

Double Entry Log

In my log, there were many entries with my thoughts along the way. I noticed a trend that certain students stopped participating in certain activities. I notated when and the students names and what the activity happened to be. The trend was that my shy students did not participate when the activity was considered silly. If there was a dance or music that had something they found funny, certain students would not follow. I wrote down that my more social students had no problem dancing and singing and being wild. The more reserved students seemed standoffish and embarrassed. After some thought, I decided that

instead of making them do something they felt was possibly embarrassing, I made a new rule. I asked the students to be moving during the PA breaks. They did not have to do the exact thing the class was doing but they had to do some type of physical movement like walking in place or swaying back and forth. This new rule helped quickly as my log does not indicate any further issues with participation.

Surveys

I gave the entire class pre and post surveys (Appendix E & F). They completed them by answering questions that required them to circle the “yes” or “no”, fill in short answers, and select a pseudonym in case they were selected for the four students to be interviewed. Picking their names was their favorite part.

After the study I gave them the survey again. This time the questions were in past tense when necessary. They answered with “yes” or “no”, and short answers. I found that majority of my class felt like good readers. They also felt physical activity breaks helped them to concentrate more on academics.

Interviews

I interviewed four pre-selected students prior to implementation and post implementation (Appendix D). The questions were similar to the survey but more in-depth. My shy student, Zac, answered both surveys with minimal words. He

gave me one to five words for each question I asked him in both interviews. I had to encourage him to speak more.

Overall, he stated that he felt he got to move around enough in school, but he would like to move around even more. He said, with encouragement, that he thinks he is a “little bit of a good reader. Some parts are easy, like the cards I do.”

Ro, my above level student, answered in much longer responses. She told me that she felt the physical activity breaks were especially helpful for two students in my classroom that struggle with staying on-task and out of trouble. She mentioned the behavior chart and how they used to have their clips on an undesirable color but after breaks were implemented, they were on more desirable colors. She said “they are good now”.

Sam, my student that struggles with ADD and ADHD, told me that physical activity breaks helped him and he can sit better now. That comment struck me deeply as he was accurate. He did sit better after the physical activity breaks. He even gave himself additional breaks when he felt it was necessary in order for him to concentrate again. It was an eye-opening experience.

Ally, my on level student, also noticed the positive change in a few students in our classroom.

She spoke to me about the kids who “move around a lot” and how “they really need it”.

I believe the interview data helped my study the most. The reactions and answers straight from my students' mouths led me to believe the study was successful.

Behavior Chart

In my classroom, I had a behavior chart (Appendix G) up in the front of the classroom. Each student has a clothespin with his/her name on it. They started each day on green which means "ready to learn". They moved up and down the chart based solely on their behavior. At the beginning on the year, I had them move the clip quite often. I tried to notice every positive thing that went on and reward them for that behavior. I liked noticing the good behavior rather than the naughty. It helped my well-behaved students to feel successful and the not so well-behaved students to want to do better. Some of the students in my class needed that visual in front of them. Students in my class generally wanted to do well in all areas. Some students needed more help to stay on-task. The physical activity breaks helped the students who needed that extra movement to get out their extra energy throughout the school day. With the rigorous Wonders curriculum, it was important for them to have short breaks and get their "sillies" out. The behavior in the classroom, as a whole, improved with physical activity breaks.

Data Analysis Process

In order to analyze my data, I had to organize it in a way that made the task less daunting. I had so much material. I began coding my data right away. I was aware that I had a couple codes that stuck out to me immediately. I knew I was going to be coding for engagement and academics. However, after trends started developing I added habits, off-task behavior, and issues. Those ended up becoming my bins.

I color-coded all data including my observations, double-entry log, surveys, interviews, and assessments. I entered everything into my field log in order to see it in one document. Each color represented a different code.

I used teal to represent my habits bin which encompassed improvement in behavior and increased movement. The items in that bin varied from when I saw a correlation between physical activity and improved behavior to when students discussed their own or other students' improved behavior. I also logged my feelings of happiness when a child who was regularly sedentary started moving more often. Teal highlights were logged often throughout my field log.

I created a bin for engagement and highlighted everything in purple. I grouped together student engagement, excitement, student interest, and flow moments. All of these codes fit easily into the engagement bin. I tracked when students were excited for the physical activity breaks and when they asked to do

more of them. I also logged when things flowed effortlessly throughout the morning ELA block. That engagement made the study effective.

My pink bin was created for academics. I grouped reading achievement, improved test scores, anytime Dibels was used or discussed, and Wonders data dashboard. I kept track of scores prior to implementation of my intervention and post intervention. I documented successes and failures over the study period. I analyzed the data for links between improved test scores and increased physical activity breaks.

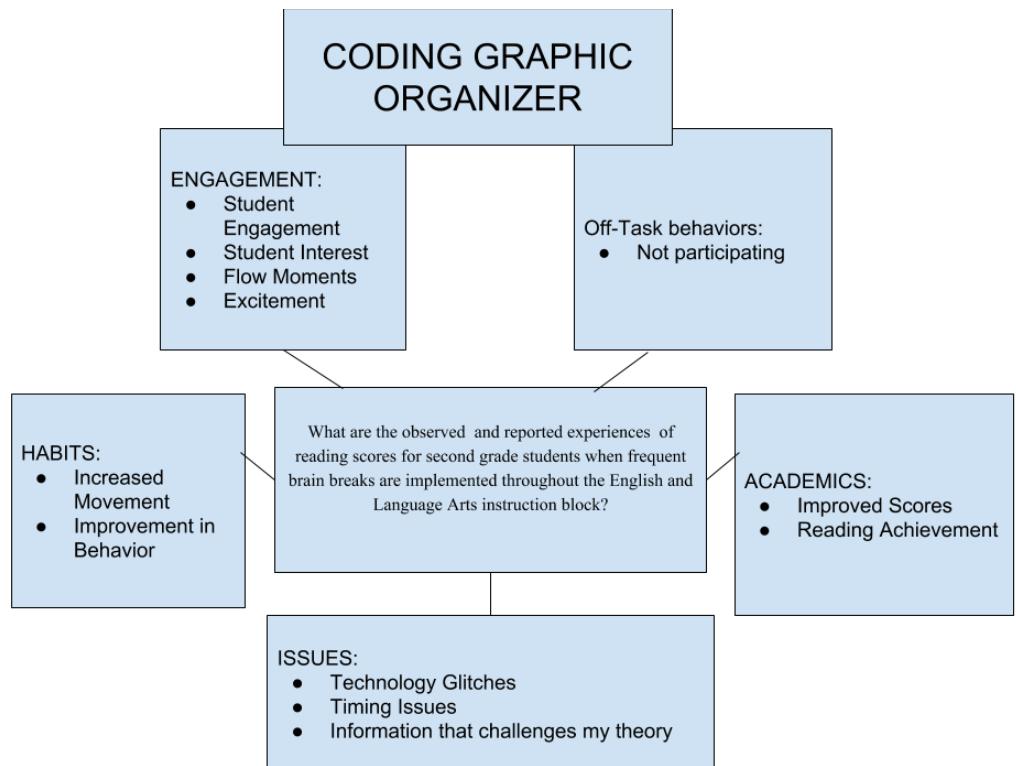
I created an issues bin that I color-coded in orange. Issues occurred from time to time during the study. I logged issues that challenged my theory that physical activity breaks were beneficial for students and led to increased scores in reading, technology glitches, and timing issues.

The last bin was developed for off-task behavior. I coded it in green. I logged when students were not participating or were not doing assigned work. That bin gave me the opportunity to rectify situations as they occurred considering I was documenting in real time. It also will help me improve any future research for my study.

Finally, I created a chart with my codes and bins in order to visualize my ideas for my theme statements. I used a Google drawing and placed my research

question in the center. Figure 5.1 shows how the bins surround the research question and encompass my codes beneath.

Figure 5.1: Codes and Bins



Theme Statements

My Personal Philosophy

“A philosophy of education, like any theory, has to be stated in words, in symbols. But so far as it is more than verbal it is a plan for conducting education. Like any plan, it must be framed with reference to what is to be done and how it is to be done. The more definitely and sincerely it is held that education is a development within, by, and for experience, the more important it is that there shall be clear conceptions of what experience is” (Dewey, 1938, p. 28). According to Dewey, teaching needs to be planned and purposeful. Although my philosophy of education and teaching has evolved a vast amount over the last decade, I felt one thing has remained the same, my intention to encourage an environment of positive experiences.

Additionally, I saw a deep link between Dewey’s quote of the philosophy of education and action research. I understood it as showing how they both evolved with experiences and time. This quote helped me link my action research study of having students be part of their learning experiences and my careful map and planning to show how together they could be successful.

While putting data into codes and bins I noticed themes. They were habits, engagement, academics, off-task behavior, and issues. I described each theme below.

Habits

Students developed better self awareness and focus as evidenced by their ability to work together and encourage each other without direct instruction from the teacher. They were capable of performing multiple brain breaks throughout the ELA block, easily adjusting to this new part of the classroom routine. I learned from them and they from me throughout my study

“The teacher is no longer merely the-one-who-teaches, but one who is himself taught in dialogue with the students, who in turn while being taught also teach. They become jointly responsible for a process in which all grow” (Freire, 1970, p. 80).

Freire identified that the teacher-student relationship is cyclical in that the teacher learns from the students just as much as the students learn from the teacher. Implementing physical activity breaks into the ELA curriculum truly helped not only the students, but me as well. At student centers kids were helping each other. They were working together to complete tasks more than ever. They were being more kind to each other. They giggled and chatted about the PA breaks and what to do next and offered a helping hand with center work after we started using some PA breaks as team building activities. I learned so much from my students. The study really was an eye opening experience to see how much I

could learn from my kids. They showed me what they need more of and I was excited to be in the position to help them and foster positive changes and growth.

Engagement

Students reported eagerly anticipating the brain breaks/ PA in the classroom because they enjoyed the time out of their seats focusing on their bodies and movement.

“When education is based upon experience and educative experience is seen to be a social process, the situation changes radically. The teacher loses the position of external boss or dictator but takes on that of a leader of group activities” (Dewey, 1938, p. 59). According to Dewey, education based on teachers being seen as a leader rather than a boss creates a more educative experience (1938). Dewey’s quote related to my Leader In Me (LIM) school. Within the LIM framework, students were accountable for themselves. They have seven habits to follow as students and teachers had the same seven habits to uphold. I associated Dewey’s quote with student choice within the classroom and their education experiences. Students had the opportunity to feel part the school day. My job became more to lead a successful pack or team rather than spew orders throughout the day. A lot of success in my classroom came from fostering positive relationships with my students and letting them feel that I am there to help them succeed. I wanted them to know I do what can to help them grow into

successful adults. Dewey helped me see the link between student choice, student involvement and student engagement.

Academics

Time on task and reading achievement as evidenced by scores on Wonders and Dibels increased overall when frequent activity breaks were implemented into the ELA curriculum.

“Successful instruction is constant, rigorous, integrated across disciplines, connected to students’ lived cultures, connected to their intellectual legacies, engaging, and designed for critical thinking and problem solving that is useful beyond the classroom” (Delpit, 2012, p. 37). To truly teach students, the educator must provide lessons that engage the child on deeper levels, making connections between their lives in and outside the school setting. Only then will students have the ability to truly make connections to the material and use these lessons throughout their lives.

Teaching and learning are not only for the classroom. I encouraged my students to continue learning and to have a passion for it. I got super excited when learning something new, especially in front of my kids, so they see how genuinely important it is to me. Considering a lot of my students look up to me, I made sure that I was a positive role model for them each day. There was little downtime in my classroom. That was very helpful to me and my students. It kept me on track.

It also kept my students engaged and too busy to get into trouble or to drift off into la la land. A positive aspect of Wonders was its diverse stories within the program. The anthology and the leveled readers had many stories that reached into many cultures and across races that provided talking points for us in the classroom. The stories were relatable to the kids in my classroom. We enjoyed the reading time together.

I used the Wonders materials to create centers for my students that pertained more directly to culture. Although I felt Wonders did a good job of incorporating cross- cultural material into the anthology and leveled readers, I enjoyed taking the material a few steps further. Through class discussion and getting to know my students backgrounds and cultures, I was been able to mesh what I have learned from my students to link directly to the material being taught. For example, one week we started discussing Thanksgiving and the upcoming “fall break”. After much discussion, I realized that Thanksgiving was very different for my Turkish student. With her permission, I decided to have students interview her and compare and contrast their own culture with hers. The students all loved this activity. It allowed them to talk, joke, sing, and even dance a bit all while learning. The vocabulary words: tradition, culture, and celebration have a true meaning now. They experienced the vocabulary instead of simply matching a

word to its definition. Creating meaning and context will make this material last longer and be ingrained for years to come.

Off-Task Behavior

Off task behavior occurred at times. This included students who were not participating or having a rough day. These were the days when the physical activity breaks were not effective.

“It is much more likely to arise from failure to arrange in advance for the kind of work (by which I mean all kinds of activities engaged in) which will create situations that of themselves tend to exercise control over what this, that, and the other pupil does and how he does it. This failure most often goes back to lack of sufficiently thoughtful planning in advance” (Dewey, 1938, p. 57). Dewey suggests that off-task behavior can result from lack of planning and preparation (1938).

When having a particularly tough day in the classroom I remembered that bad/off-task behavior can come as a result of lack of planning and preparation. In my action research design plan, I filled in gaps with intentional physical activity breaks in order to prevent “down- time”. When my students had off-task behavior issues I saw a link between that and boredom. That is not to suggest that all off-task behavior was because they had nothing to do or are not interested in what they are doing, but rather it simply was a way for me to reflect after a day of

teaching. I liked to make sure I was not contributing to those behaviors if at all possible. Throughout the action research study, the students implemented PA breaks often and this helped the students to stay on task and act more appropriately during the ELA block.

Issues

Challenges were encountered during the study, they included unreliable classroom technology, inclement weather, and timing issues.

Over the course of the study there were several issues that arose. Classroom technology was disrupted often which made any electronic devices null and void for use. Knowing the technology issues ahead of time helped guide my study away from a full time online program to implement PA breaks such as GoNoodle. Although the kids loved that website, it was not available often and therefore not a good choice for my study. Snow and incredibly low temperatures hindered my study. The weather closed our school a couple times and also caused low attendance rates. Timing issues also occurred due to assemblies, class interruptions and late starts that happened due to inclement weather.

The Next Action Research Cycle

Throughout my action research journey I saw so much progress. My students and I learned a lot about physical activity breaks and how and when to incorporate them into the curriculum.

What I realized after my study was the need to prove that the physical activity breaks actually caused the academic improvement. I was able to observe increased student engagement by utilizing my behavior chart to monitor behavior, keeping field logs, and analyzing data. However, due to the fact that correlation does not equal causation, the increased Dibels scores cannot be directly linked to physical activity breaks.

In the future, I would like to adjust my study to have parallel classrooms participate in my study. One classroom would be run exactly the way I ran mine with the physical activity breaks during the ELA curriculum block. The other classroom would not implement the physical activity breaks. I would give both classes the reading and exercise survey. I would also interview students from both classes. The objective would be to see the differences in reading achievement for both classes. This would further support my theory that implementing physical activity into the ELA curriculum was beneficial for both teachers and students.

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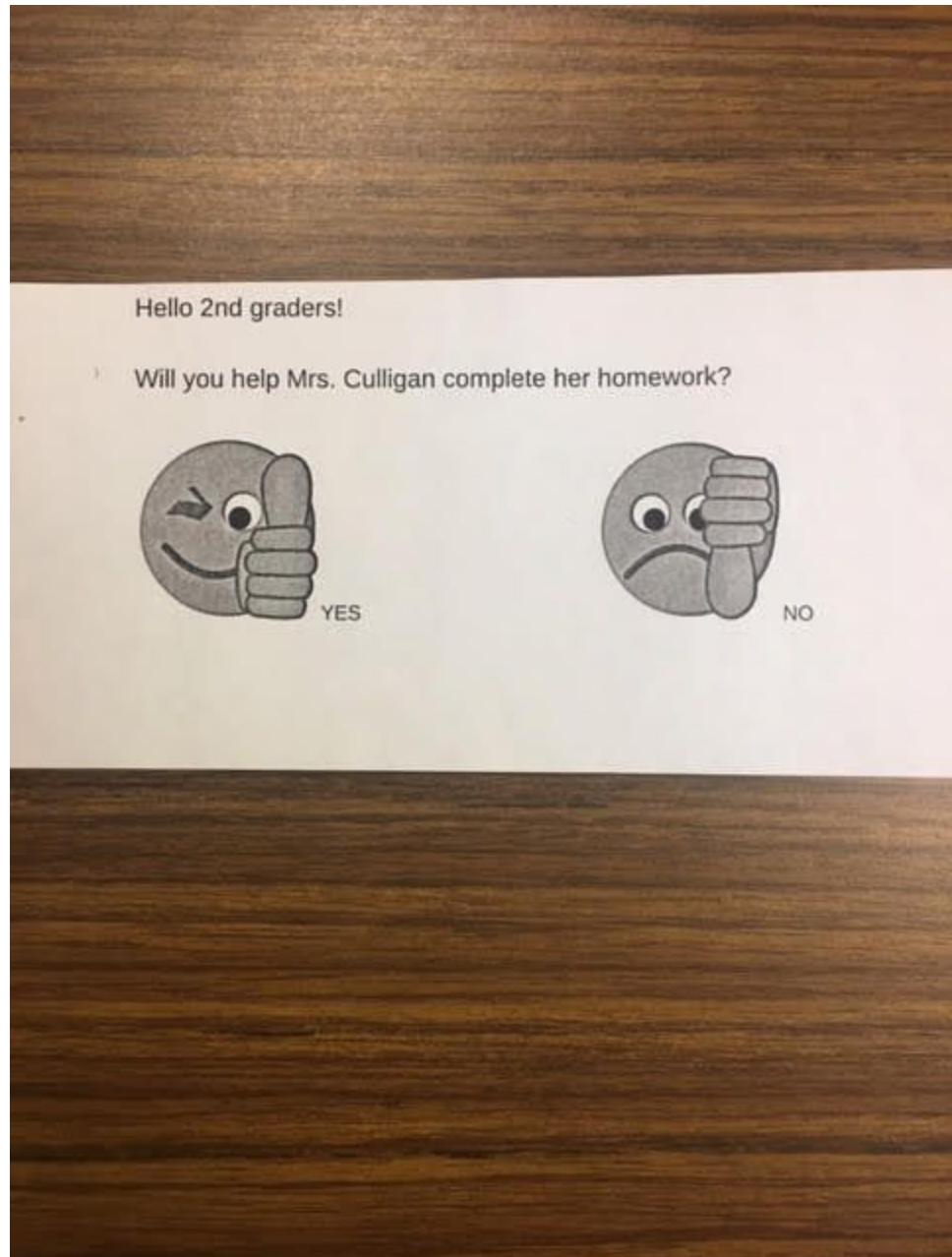
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Woods, D. UCLA Fielding School of Public Health

APPENDIX A

Participant Consent Form



APPENDIX B

Parent Consent Form

September 2018

Dear Parent/Guardian,

I am currently a graduate student at Moravian College. As part of my graduate study, I would like to conduct action research with my second grade students during Unit 1 of Wonders. The purpose of my study is to explore the impacts and experiences of my students when they engage in bodily-kinesthetic activities designed to support reading achievement. I plan to survey students prior to implementation. I will also gather their individual Dibels and Wonders scores. After several weeks of teacher observation and analysis, I will interpret that data to see if the additional brain breaks helped to increase reading achievement.

The students will engage fully in the curriculum. Only the research from willing participants will be utilized in my study. It is not mandatory for my students to participate and there is no penalty for those who choose not to. Additionally, they may withdraw from the study at any time. All of the information will be kept in a secure location and will be destroyed after the action research is complete. Number codes will be used instead of names throughout the study to maintain full confidentiality. The findings of this study will be published on Moravian Archive Master of Thesis.

If there are any further questions, please email me at aculligan@basdschools.org. Questions may also be directed to my Moravian College professor Dr. Joseph Shosh by email at shoshj@moravian.edu. Our school principal, Mrs. Lisa Lynch is also available for any additional questions at llynch@basdschools.org.

Thank you kindly,
Mrs. Culligan
2nd Grade Teacher
Fountain Hill Elementary School

- [] Yes, I give permission for my child to participate in this research.
[] No, I would rather not have my child participate at this time.

Signature _____
Date _____

APPENDIX C

Principal Consent Form

September 2018

Dear Mrs. Lynch,

I am currently a graduate student at Moravian College. As part of my graduate study, I would like to conduct research with my second grade students during Unit 1 of Wonders. The purpose of my study is to explore the impacts and reported findings of my students when they engage in bodily-kinesthetic activities designed to support reading achievement. I plan to survey students prior to implementation. I will also gather their individual Dibels and Wonders scores. After several weeks of teacher observation and analysis, I will interpret that data to see if the additional brain breaks helped to increase reading achievement.

The students will engage fully in the curriculum. Only the research from participants will be utilized in my study. It is not mandatory for my students to participate and there is no penalty for those who choose not to. Additionally, they may withdraw from the study at any time. I plan to ask permission from the students and their parents prior to implementation. All of the information will be kept in a secure location and will be destroyed after the action research is complete. Number codes will be used in lieu of names throughout the study to maintain full confidentiality. The findings will be published on the Moravian Archive of Master Thesis.

If there are any further questions, please contact me at 610-428-4615 or email me at aculligan@basdschools.org. Questions may also be directed to my Moravian College professor Dr. Joseph Shosh at 610-861-1482 or by email at shoshj@moravian.edu.

Thank you kindly,
Mrs. Culligan
2nd Grade Teacher
Fountain Hill Elementary School

- [] Yes, I give permission for you to conduct this research.
[] No, I would rather not have you conduct this research at this time.

Signature_____

Date_____

APPENDIX D

Interview Questions

1. Do you feel you get to move around enough in school?

2. Would you like to move around more?

3. What activities would you like to do?

4. Do you think you are a good reader? How do you know?

5. Do think brain breaks will help you concentrate more?

6. How do you feel about school?

7. Who do you think would benefit from brain breaks?

APPENDIX E

Pre-Survey

U

1) Do you feel like a good reader?
 YES NO

2) Do you get to move around enough during the school day?
 YES NO

3) Do you like to exercise?
 YES NO

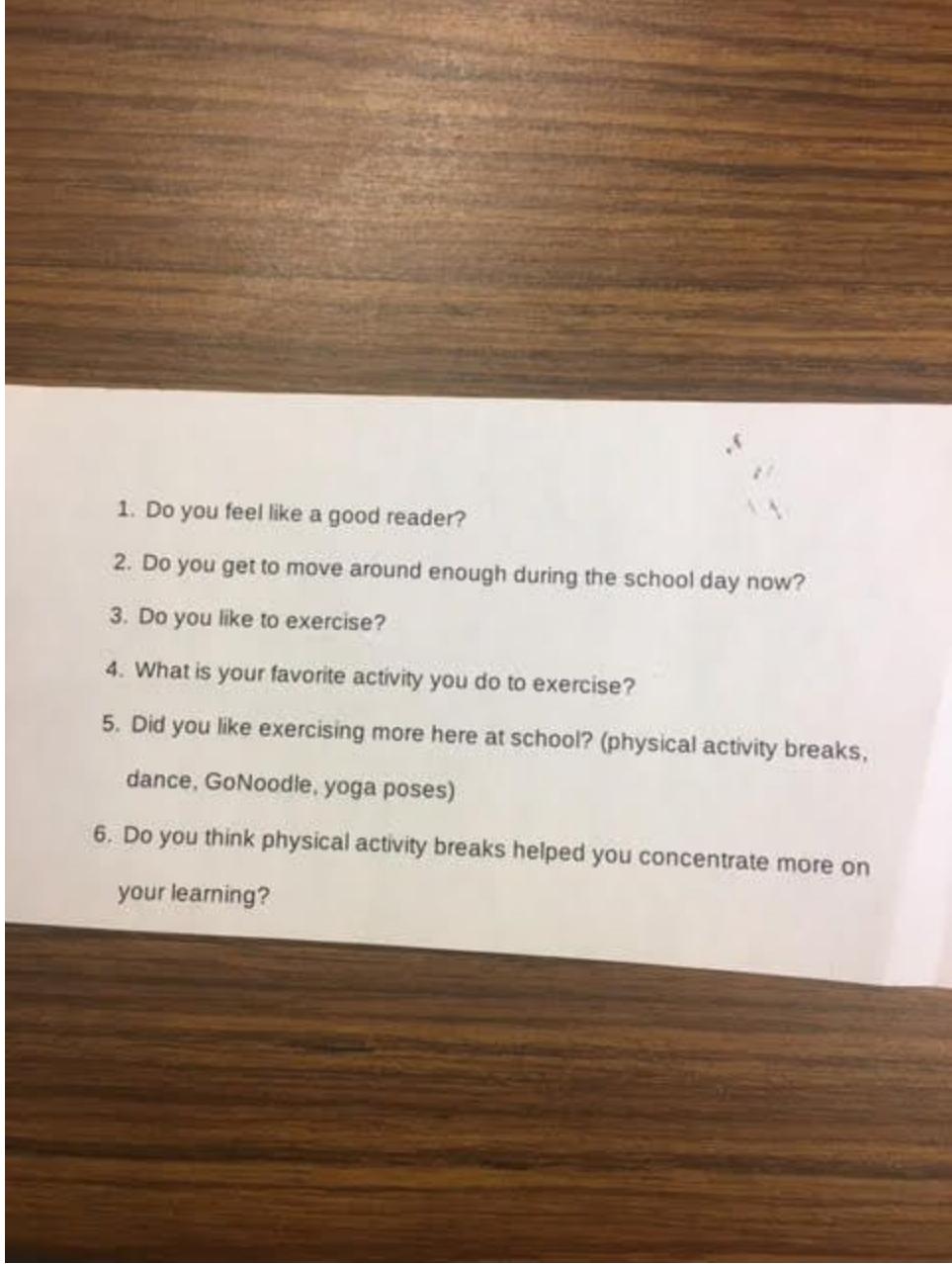
4) What is your favorite activity you do to exercise?
PUSH + PUS

5) Would you like to exercise more here at school?
 YES NO

6) Do you think brain breaks will help you concentrate more on your learning?
 YES NO

APPENDIX F

Post-Survey

- 
1. Do you feel like a good reader?
 2. Do you get to move around enough during the school day now?
 3. Do you like to exercise?
 4. What is your favorite activity you do to exercise?
 5. Did you like exercising more here at school? (physical activity breaks, dance, GoNoodle, yoga poses)
 6. Do you think physical activity breaks helped you concentrate more on your learning?

APPENDIX G

Behavior Chart

