

An Investigation of Teachers, Parents, and Students Perception and Practical Implications of
Play at a Selected Elementary School

By

Lisa J. Horan

A thesis submitted in partial fulfillment of the requirements for the degree of

Master of Education

Department of Education

Schools of Social Sciences and Education

Milligan University, Tennessee

Spring 2022

Major Professor:

Dr. Patrick Kariuki

Table of Contents

Abstract: 4

Chapter 1: Introduction:..... 5

 Physical Activity and Student Engagement..... 5

 Physical Activity and Academic Achievement..... 6

 Physical Activity and Cognitive Function 6

 Statement of the Problem..... 7

 Purpose of the Study 7

 Significance of the Study 7

 Limitations 8

 Definitions..... 8

 Overview of the Study 8

Chapter 2: Review of Literature 10

 Introduction..... 10

 Play Activity and Student Engagement 11

 Play Activity and Academic Achievement 11

 Play Activity and Cognitive Function..... 12

 Play Activity Integration..... 14

 Conclusion 16

Chapter 3: Methodology..... 18

 Introduction..... 18

 Population 18

 Sampling..... 18

 Data Collection 19

 Procedure 19

 Research Questions..... 19

Chapter 4: Data Analysis 21

 Collection of Data..... 21

 Research Question 21

 Research Question #1 21

Research Question Findings	22
Results Derived from the Observations	22
Results Derived from the Questionnaires	23
Chapter Summary	24
Chapter 5: Summary of Findings, Discussions, Conclusions, and Recommendations.....	25
Summary of Findings.....	25
Limitations of the Study.....	27
Conclusions.....	27
Recommendations In Practice.....	28
Recommendations to Further Study.....	28
References.....	30
IRB Approval	33
Appendix A.....	34
Appendix B.....	35
Appendix C.....	36

Abstract

This qualitative research study aimed to examine students, teachers, and parents' perceptions and practical implications of play activities on academic achievement. The research was guided by one overarching research question and the data were collected using questionnaires given to all student, teacher, and parent participants. Student on and off task behaviors were recorded during observations conducted in their classroom before and after play activities to determine the effects of play. The analysis of data revealed several themes including a) students, teachers, and parents need for play activities, b) students, teachers, and parents believe that play should be an integral part of the school day, and c) teacher planned intentional kinesthetic lessons. The research suggests that students should be afforded ample and frequent opportunities to move, through outdoor recess, physical education class, and dance and movement breaks throughout the day, as well as more teacher planned, intentional kinesthetic learning lessons that incorporate movement rather than traditional sedentary lessons. With planning, intention, and purpose, school districts, administrators, and educators can use the study information to create a more play and movement centered curriculum and routine to help students succeed academically as well as socially in schools.

Keywords: play, kinesthetic activities, elementary schools

An Investigation of Teachers, Parents, and Students Perception and Practical Implications of Play at a Selected Elementary School

Introduction

Incorporating physical activity into schools' daily routine can help students and teachers in numerous ways. The Center for Disease Control and Prevention (CDC) found that if students would participate in at least 60 minutes of physical activity a day, 5 hours a week, they would gain many health benefits. However, many students are not getting the recommended physical activity that they need. Incorporating physical activity in schools is an effective way to help students get the exercise they need. Eight out of nine studies analyzed in this article found positive associations between physical activity in the classroom and indicators of cognitive skills, behavior, attitude, and academic achievement (Center for Disease Control and Prevention, 2010). This article also found positive relationships in academic performance, children's attention, and concentration by allowing children to participate in recess and play activities. Based on these studies, this article suggests that physical activity can have a significant impact on cognitive skills, attitudes, and behavior. Students that are afforded the opportunity for play breaks and physical activity are better able to engage in and retain academic processes.

Physical Activity and Student Engagement

Stapp and Karr (2018) conducted a study focusing on the effect of recess on the on-task time of fifth graders in an elementary school setting. Teachers in this study discovered that 100% of students showed an increase in on task time after recess as compared to before recess. Students' behaviors were recorded in a controlled structured observation period, meaning they happened at the same time every day to maintain as much continuity as possible. Behaviors were recorded in time intervals that highlighted on task and off task behaviors. The on-task behaviors

included but were not limited to answering questions, raising hands, looking at academic materials and the teacher, and receiving assistance from the teacher or the assistant. The off-task behaviors were playing with materials, laying head down, talking to the teacher or classmates about non-academic subjects, scribbling on paper, staring off into space, and being out of their seat (Stapp & Karr 2018). It is noted in the research that there was an increase of 3.125 to 13.125 minutes of increased on-task time. The least amount of time accounted for was for students that already spent much of their time on-task before recess.

Physical Activity and Academic Achievement

In the process of having more student engagement through more physical activity, the direct result of this is increased academic achievement. When students know that there is a break coming, teachers feel that learning and retention is more valuable and richer. The fear of losing time because of the additional transitions with more play time is alleviated by this fact because students are more engaged (Erwin, 2018). This increased engagement and richness of learning leads to more academic achievement because the students can retain more of the information and process more of the concepts due to the increased engagement. When students are present and attentive, their academic performance increases, exponentially.

Physical Activity and Cognitive Function

According to Trudeau and Shephard (2010), physical activity can lead to changes in cerebral circulation, levels of arousal, and greater concentrations of neurotransmitters. After physical activity there is an increase in blood pressure, resulting in the brain perfusion increasing 14% to 25% (Trudeau, & Shephard 2010). Relaxing forms of physical activity can be useful for countering stress and helping students' feel more control, therefore helping students to score higher on tests (Trudeau, & Shephard 2010). Play gives children the opportunity to practice

problem-solving and decision-making skills, both essential components of cognitive function.

The study that was conducted showed that while the type of play and the ages of the students did not make a significant difference in cognition, but the duration of play did (Ahmad, et al., 2016).

Longer periods of play, as well as larger amounts of time, even if divided through the day, gave students the breaks that they needed to have better focus when it was time to get back to learning time. This shows that children need to have ample time for play breaks and opportunities for play without restrictions.

Statement of the Problem

Many studies have been produced on the association between students in play activities and academic performance, however, a much smaller amount of research has been produced on perceptions of teachers, parents, and students about play time at school and the affects that it has on academic achievement. The research that has been produced on play activity interventions is mostly focused on academic performance of students. It is difficult to determine the effects of play activity perceptions. Therefore, the problem of this study was to determine the perceptions of play activities of teachers, parents, and students in an elementary school setting,

Purpose of the Study

The purpose of this study was to reveal the perceptions of teachers, parents, and students about play time at school and the effects that it has on academic achievement and focus.

Significance of the Study

This study is important because teachers and students are being pushed to perform well in the classroom and on standardized tests and evaluations. Due to the heavy pressures, every strategy should be taken to improve students' capabilities to achieve in the classroom. If teachers can improve their students' academic performance with simple solutions such as play activity

breaks throughout the day, it should be done. Keeping students engaged, focused, and ready is essential for the academic process. Past research has shown that attention and students' approaches to learning are all important predictors for educational achievement (Kyndt, Cascallar, & Dochy, 2012). This study will reveal the perceptions of teachers, parents, and students about play time at school.

Limitations

The following limitations were imposed on this study:

1. The results of this study come from one elementary school and therefore the research cannot be generalized to other schools or age groups.
2. Data collected in the questionnaire were dependent on the accuracy and candidness of the participants, knowing that their answers would be documented and recorded.
3. The instrument used to collect data was created by the researcher and was not tested for reliability and validity.

Definitions

Elementary Student- students ranging in age from 4-12 years old, that are enrolled in a kindergarten through fifth grade class.

Play activity- all forms of movement associated with an increase of energy expenditure. It includes spontaneous physical activity and organized noncompetitive forms of physical activity (Trudeau & Shephard, 2010).

Time-on task- when a student is engaged in the lesson. It will be measured using an on-task tally sheet.

Tally sheet- the record of student data of on-task behavior.

Overview of Study

This thesis is composed of five chapters. Chapter one begins with the introduction, then states the problem, purpose of the study, significance, limitations, definitions, and overview. Chapter two is a review of the literature. Chapter three discusses methodology and procedures. It states information about the population, sample, data collection instruments, procedures, and states the research question. Chapter four consists of data analysis and includes research questions. Chapter five states the findings, recommendations, and implications of the study.

Chapter 2: Literature Review

Introduction

School is a community where a child's physical, social, emotional, and intellectual well-being are cared for and nurtured. Educators and administrators do the best that they can every day to promote and enhance skills that will help students become thinkers, learners, and future leaders in their communities and adult lives. While educators are looking at the whole child, obviously the priority is academic achievement, and the development of skills that will create independent, hungry, and reflective learners. This is the end goal, to help students become lifelong learners and to have an intrinsic desire for knowledge. A key part of this process is physical activity and play activities. Starting at birth, physical activity helps with all parts of development in a child. The process of learning through play is something that is important and scientifically proven to promote greater achievement in later academic years. Being able to grow in a risk-free environment, express thoughts, and feelings, build communication skills with peers, and have the freedom to discover and explore their worlds, developing problem solving and critical thinking skills just by playing in their environments, is imperative to future academic achievement (Alharbi & Alzahrani, 2020). This premise continues throughout their school lives. When children are allowed to engage in play activities, their academic achievement will increase in response to these play activities.

Incorporating physical activity into schools' daily routine can help students and teachers in numerous ways. The Center for Disease Control and Prevention (CDC, 2012) found that if students would participate in at least 60 minutes of physical activity a day, 5 hours a week, they would gain many health benefits. However, many students are not getting the recommended physical activity that they need. Incorporating physical activity in schools is an effective way to

help students get the exercise they need. Eight out of nine studies analyzed in this article found positive associations between physical activity in the classroom and indicators of cognitive skills, behavior, attitude, and academic achievement (Center for Disease Control and Prevention, 2010). This article also found positive relationships in academic performance, children's attention, and concentration by allowing children to participate in recess and play activities. Based on these studies, this article suggests that physical activity can have a significant impact on cognitive skills, attitudes, and behavior. Students that are afforded the opportunity for play breaks and physical activity are better able to engage in and retain academic processes.

Play Activity and Student Engagement

Stapp and Karr (2018) conducted a study focusing on the effects of recess on the on-task time of fifth graders in an elementary school setting. Teachers in this study discovered that 100% of students showed an increase in on task time after recess as compared to before recess. Students' behaviors were recorded in a controlled structured observation period, meaning they happened at the same time every day to maintain as much continuity as possible. Behaviors were recorded in time intervals that showcased on task and off task behaviors. The on-task behaviors included but were not limited to answering questions, raising hands, looking at academic materials and the teacher, and receiving assistance from the teacher or the assistant. The off-task behaviors were playing with materials, laying head down, talking to the teacher or classmates about non-academic subjects, scribbling on paper, staring off into space, and being out of their seat (Stapp & Karr 2018). It is noted in the research that there was an increase of 3.125 to 13.125 minutes of increased on-task time. The least amount of time accounted for was for students that already spent most of their time on-task before recess.

When students were interviewed and asked the question, what is your favorite part of

school, in the study conducted by the authors, out of 252 students, 42% said their favorite part of the school day was outdoor play time. They stated that this was the best part of their day was when they went outside and were “just allowed to play” (Griebeling, et al., 2016). With this motivation to come to school, the students were engaged in the lessons since they used the outdoor play activity as a motivator to come to school. Their participation in class led to outside time since the lessons and academic activities had been completed due to their increased engagement and productivity.

Play Activity and Academic Achievement

In the process of having more student engagement through more physical activity, the direct result of this is increased academic achievement. When students know that there is a break coming, teachers feel that learning and retention is more valuable and richer. The fear of losing time because of the additional transitions due to more play time is alleviated because students are working harder in order to reach the physical activity break (Erwin, 2018). This increased engagement and richness of learning leads to more academic achievement because the students are able to retain more of the information and process more of the concepts due to the increased engagement. When students are present and attentive, their academic performance increases, exponentially.

Unstructured play, such as recess or creative activities such as dance has been proven to increase academic grade achievement on standardized testing. In a study conducted in Hawaii, all middle school students that chose unstructured play activities and creative activities such as dance approached or exceeded language and math state score norms, while students that did not have the opportunity to do these activities fell below state score norms (Holmes, Linden, & Shin, 2013). This indicates the importance of play opportunities for students to promote greater

academic achievement.

Another component of academic achievement is collaboration and the process of socialization that helps with collaborative learning. Ghaffari states in her study that when students work in collaborative groups, they can achieve greater engagement with peer interactions and discussions (Ghaffari, 2021). A part of this collaboration process happens in open, free play activity environments. Students begin to learn more about each other and can take these findings into group work as well. Being able to tell what your peers' collaborative strengths and weaknesses is an important component to the flow and dynamic of a group. This creates a more understanding environment and allows students to be able to work well no matter who is in their partner groups.

Play Activity and Cognitive Function

According to Trudeau and Shephard (2010), physical activity can lead to changes in cerebral circulation, levels of arousal, and greater concentrations of neural transmitters. After physical activity there is an increase in blood pressure, resulting in the brain perfusion increasing 14% to 25% (Trudeau, & Shephard 2010). Relaxing forms of physical activity can be useful for countering stress and helping students' feel more control, therefore helping students to score higher on tests (Trudeau, & Shephard 2010).

Play gives children the opportunity to practice problem-solving and decision-making skills, both essential components of cognitive function. The study that was conducted showed that while the type of play and the ages of the students did not make a significant difference in cognition, but the duration of play did (Ahmad, et al., 2016). Longer periods of play, as well as larger amounts of time, even if divided through the day, gave students the breaks that they needed in order to have better focus when it was time to get back to learning time. This shows

that children need to have ample time for play breaks and opportunities for play without restrictions. Another key function of play is collaboration and play with others. When children play with each other in an open ended, free play, there is a natural relationship between the cerebellum and the cerebral cortex. While engaging in open-ended play, children are always thinking a step ahead or bigger than their reality and engaging the cerebellum. While in cooperative play, children's cerebral cortex are working to process the play of themselves and others. These relationships and connections create greater social-emotional functioning, critical thinking skills, problem solving skills, and cooperative skills (Vandervert, 2017), all essential for cognitive function and academic achievement.

Younger students that do not have the capacity for full communication yet, due to undeveloped skills, are still expected to perform at a high and rigorous level to meet all academic standards that have been placed upon them. A study conducted by Allen, found that younger students who cannot communicate their needs tend to misbehave in order to have control of their social and emotional difficulties. The levels of stress and frustration that are in a typical classroom setting are not mitigated by play activities that are crucial in a child's development from concrete to abstract thought that is critical for academic achievement and success (Allen, 2015). There is also information gleaned from studies that show that children have a 38% less decline in cognitive function when they have extended physical activity opportunities. This lack of decline is due to increased cerebral blood flow, an increase in grey matter volume, and increased neurotrophins, which are proteins that play a crucial role in influencing the development of the brain and learning and memory processes (Akriti et al., 2020), structural and functional aspects of the brain that lead to cognition increase (Steiner et al., 2018).

Play Activity Integration

School supervisors and teachers may worry about adding yet another task to their busy schedules. The idea that additional physical activity should be added into school curriculum implies that there will be less time available for courses such as math, reading, language arts, and other school subjects. Even though it takes time away from these courses, adding physical activity during the school day is not negatively associated with academic performance in other subjects (Stapp & Karr 2018).

Physical activity can constitute much more than just recess. There are multiple ways in which a teacher can integrate physicality into their day. The traditional recess period allows for space to engage in more vigorous whole-body activity. Play activities are defined as “functional, constructive games with rules” (Brown, et al., 2020). This type of play helps develop children's executive functions and self-regulation. Skills that are sharpened during play such as multitasking, recall, planning, problem-solving, and attentiveness. All these aid in academic and mental functioning. In the modern era of technology, apps, and videos, such as GoNoodle, can also be used in the classroom for short, quick, physical brain breaks. These short 3–5-minute videos allow students to have short intervals of moderate to vigorous movement such as dancing, jumping, kicking, spinning, as well as incorporating some cooperative experiences, decreasing seat time, and allowing more engagement and focus. Integrating a mixture of these experiences into a daily schedule allows students the opportunity to know that there will be ample time to recharge and refocus, allowing for more quality instruction time and less time off-task.

Games such as Kahoot also offer students the opportunity to get up and move and interact with their peers in a more unstructured environment. While physicality is usually associated with recess and physical education class, simple things such as moving around the classroom or getting up and down out of a chair while playing a game are all ways to incorporate physicality

into a lesson (Calvert & Turner, 2019). Kahoot is a game that is meant to have students interact with each other using a web based multiple choice answers that are generated by students and/or teachers, based on their assignment and lesson for that day (Zucker & Fisch, 2019). Turning this into a physical activity where students move from team to team or have to calisthenics when answers are incorrect, or something to that effect, can make the material more engaging, and also open up receptors that promote comprehension and understanding.

Another way that play activities could be integrated to assist students' engagement during the school day is to create a time right before school starts before instruction time about 30 minutes before class starts. A study was conducted at a school in Illinois where students participated in this program for six months. The activities that were chosen were based off surveys completed by students to gauge what their interests were. There were a variety of activities such as soccer, basketball, kickball. The positive effects on the student's physical fitness as well as academic achievement proved that this early morning physical start to the students' days was beneficial to student's overall well-being (Park & Moon, 2018).

Conclusion

Research has shown the many benefits that physical activity can have when incorporated into the school day and into the classroom agenda. Students can achieve higher grades, perform better in academic subjects, stay focused for a greater amount of time, have better concentration, have fewer discipline problems, and improved cognitive functioning. Several variables can affect the outcomes physical activity has on academic achievement, such as motivation, intensity, duration, and teacher guidance. Teachers and schools that incorporate more physical experiences will benefit from a more engaged student population. Physical activity can help teachers to have smoother flowing lessons with fewer disruptions, better behavior from students, greater student

engagement, and with students having greater cognitive function, higher level thinkers in the classroom, and greater academic achievement.

The call for more rigorous academic achievement has made our educational system believe that there needs to be more instructional time and that play activities need to be lessened in order to make this happen. This is counterproductive to what is trying to be accomplished. There have been ample studies conducted and educator feedback given that play activities do help with student academic achievement and engagement. The studies have proven that given more time in play activities, students achieve higher scores on standardized and formal testing as compared to students that have less time (Oien & Solheim, 2019). The information that has been gleaned is that it does not matter what the play activities are, but that duration does count. The more time spent in play, the more students focus and engage when instructional time is presented, and that focus, and engagement leads to more achievement. With this information, educators and administrators should emphasize the importance of play activity integration into the school day on a more consistent and intentional manner so that students can experience the benefits of play activities that allow for more academic achievement through engagement and increased cognitive function.

Chapter 3: Methodology

Introduction

Many studies have been produced on the association between students in play activities and academic performance, however, a much smaller amount of research has been produced on perceptions of teachers, parents, and students about play time at school and the affects that it has on academic achievement. The research that has been produced on play activity interventions is mostly focused on academic performance of students. It is difficult to determine the effects of play activity perceptions. Therefore, the problem of this study was to determine the perceptions of play activities of teachers, parents, and students in an elementary school setting,

The purpose of this study was to reveal the perceptions of teachers, parents, and students about play time at school and the effects that it has on academic achievement and focus.

This chapter contains an overview of the population and sampling of the study, how data was collected, the procedures followed, and the guiding research question.

Population

This study was conducted at an elementary school in Northeast Tennessee. This is a K-5 Title 1 school with an enrollment of 356 students. The school population is 49% female and 51% male. The minority population is at 8%, the majority of these being African –American. The school has a student-teacher ratio of 13:1. There are 4 special education classrooms, accounting for 12% of the school population.

Sampling

The participants consisted of 10 students, 1 kindergartner, 1 first grader, 2 second graders, 2 third graders, 2 fourth graders, and 2 fifth graders. There were 5 boys and 5 girls selected for this study. 9 of the students are Caucasian, 1 is African-American. There were 2

parent participants, as well as 2 teachers, one 4th grade social studies teacher and one extended resource teacher, who teaches grades 2 and 3. The student, parent, and teacher participants were not chosen at random, rather by their ability and willingness to participate and answer questions.

Data Collection

Observations were made using an on-task tally chart with the students to record their on-task behavior 15 minutes before and 15 minutes after recess time. These observations were conducted twice in a two-month period, per student. Students, teachers, and parents were also sent a nine-question Google Form that had questions about their thoughts and perceptions on play activities and academic achievement. The on-task tally sheet and questionnaires were created by the researcher, so validity and reliability were not tested, although the questions are based on research and background knowledge.

Procedure

Prior to conducting this research, permission was sought from the Milligan University IRB. After initial permission was obtained, permission was sought from the school district in which the study was conducted. After all permissions were obtained, the sample of the study was selected. Overall, 14 participants were selected for the study. The participants included teachers, parents, and students. There were 10 students, 2 teachers, and 2 parents. Data was collected from the participants using observations and questionnaires. After all data was collected, it was analyzed inductively, and a final report was formulated.

Research Questions

The primary research question that was investigated was what are the perceptions of teachers, parents, and students on the practical implication of play at a selected elementary school.

The secondary research question was are there significant differences to the amount of times that children are on task and off task before and after physical activity interventions.

Chapter 4

Data Analysis

Physical activity interventions can improve students' ability to stay focused and improve time on task. The purpose of this study was to determine the what the perceptions are of students, teachers, and parents on play in an elementary setting, and the effect of physical interventions on off task and on task behaviors of elementary students. In the following chapter, collection of data methods and tables, research questions, and related hypotheses will be analyzed and interpreted.

Collection of Data

Data were collected using questionnaires and observations. Data collected from questionnaires came from the parents, teachers, and students. The sample comprised of 10 students, two teachers and two parents. The questionnaire was administered using Google forms. Observations were made for 10 students from a selected elementary school with a population of 346 students in northeast Tennessee. There were a range of age groups, 5-12, and grade levels, K-5th. Students served in both the control and the intervention, and their scores were compared before intervention and after intervention. The students were not randomly selected.

The students were observed in the same time frame, 15 minutes before and 15 minutes after their play intervention, during their regular classroom times that preceded and followed their play intervention. The researcher recorded all observed on task and off task behaviors in these 15-minute time frames. These observations were done twice on each student selected over a two-month period.

Research Question

One research question guided the analysis.

Research Question #1-What are the perceptions of teachers, parents, and students on the

practical implication of play at a selected elementary school?

Research Question Findings-To answer this research question, data from observations and questionnaires were used to answer this research question.

Results derived from the Observations

Observations were conducted on the 10 elementary students and the data were recorded on a tally sheet that was created by the researcher. The students' on and off task behaviors were observed and recorded 15 minutes before play intervention and 15 minutes after play intervention to see if there was any difference in on and off task behaviors, in the pursuit of understanding what effect the play intervention had on these behaviors, if any. The on-task behaviors that were observed were talk related to task, answering questions, at work, and listening to teachers and peers. The off-task behaviors were talk not task related, wandering around the room, inappropriately attempting to draw attention, and daydreaming/staring off into space. Every time one of these behaviors were observed in the allotted observation time period, it was recorded on the tally sheet. The overwhelming theme of these observations was that on task behaviors were more prevalent after the play intervention than before the play intervention, and there was a sharp decrease in off-task behaviors after play interventions, leading to the conclusion that play intervention has a strong correlation to increase of on task behaviors in elementary students. This analysis supports the research that was conducted, as well as best practice, and also supports the perception of parents, students, and teachers of the practical implications of play interventions in a select elementary school. The data collected are displayed in Table 1-2

Table 1

Elementary Students Total Observed On Task Behaviors Before and After Play Intervention

<i>On Task Behaviors Before</i>	<i>On Task Behaviors After</i>
60	75

Table 2

Elementary Students Total Observed Off Task Behaviors Before and After Play Intervention

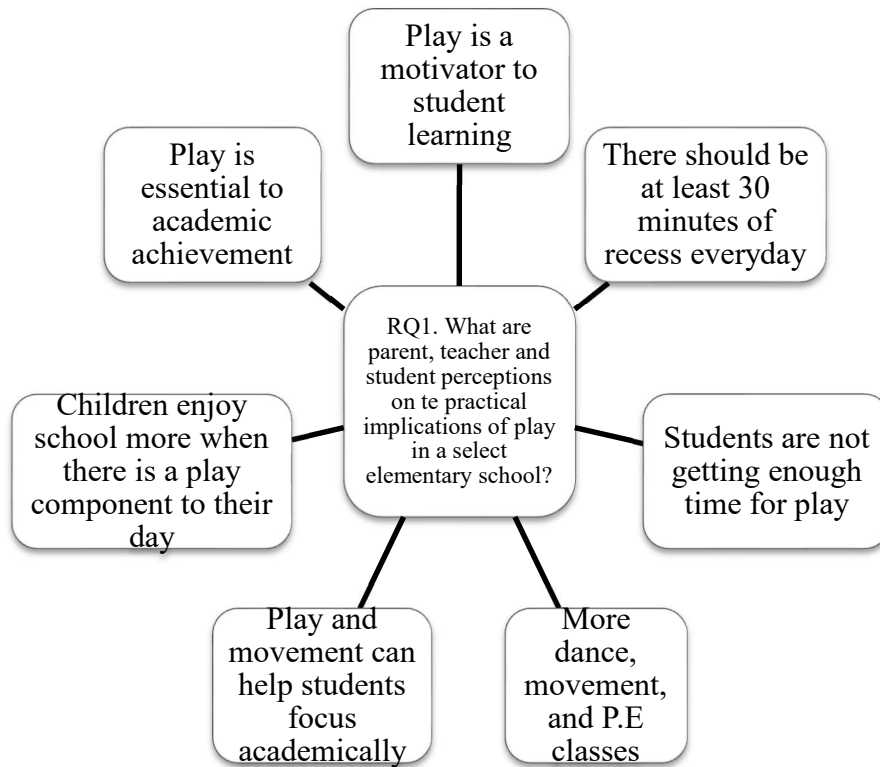
<i>Off Task Behaviors Before</i>	<i>Off Task Behaviors After</i>
89	68

Results Derived From The Questionnaires

The data used in this qualitative study were collected from a 9 questions Google Form questionnaire that was given to all 10 elementary level students that participated in the observations by the researcher, two elementary teachers employed by the select elementary school, and two parents of the students that participated in the observations. The Google forms were sent to all participants through email addresses that were provided to the researcher. The data that were collected showed that 13 of 14 participants thought that students should have recess once a day for 30 minutes, one participant thought that it should be twice a day for a period equally 60 minutes. There was an 8/7 split in the thought that Physical Education class should be offered every day, with the slight majority being for having P.E. every day. 12 of 14 agreed that play activities motivate students to work harder on school lesson from a 5-point scale of strongly disagree to strongly agree. All participants of the questionnaire believed that students should get dance/movement breaks throughout the day. When looking at the responses of students, teachers, and parents, the perception on the practical implication of play in a school setting is one of importance. Overwhelmingly, the participants believed that play, movement, and physical education plays a significant role in students’ academic achievement and motivation

in school. They believe that recess, play activities, including dance and movement breaks, as well as physical education should be an important part of a student’s daily and weekly routine. There is a perception that students are not getting enough of these interventions in their current routines and schedules. The main theme that play is essential to academic growth is highlighted in Figure 1.

Research Question 1-Figure 1-Theme and Supporting Statements



Chapter Summary

The data collected during the study allowed the researcher to answer the research question for this study. Questions that were posed in the questionnaire allowed for differentiation and deeper understanding of the perceptions of the participants. Overall themes emerged as the researcher reviewed the data.

Parents, teachers, and students had an overwhelming perception that play was essential to academic growth and that the implications of this was that more play interventions needed to be added to our elementary school routines and structures. The observations that were conducted also supported these perceptions and conclusions.

Chapter 5

Summary of Findings, Discussions, Recommendations, and Conclusions

This chapter contains a summary of findings, a discussion of the findings, and conclusions drawn from the data collected and analyzed during this research study. The chapter includes recommendations for educational practice by readers who may use the results of the study for making decisions about district policies and procedures and school instructional practices to address the influence of play activities on academic achievement in an elementary school setting. This qualitative study was conducted to gather the perceptions of students, teachers, and parents about play activities on academic achievement. One overriding research question guided this study:

What are the perceptions of teachers, parents, and students on the practical implication of play at a selected elementary school?

Data collected throughout the study were gathered from observations conducted by the researcher on student's classroom environments when they were on and off task 15 minutes before and 15 minutes after play interventions. For these specific observations, the play intervention was outdoor recess. These observations were charted on a tally sheet. There was also a google form questionnaire that was sent out, via email, to all student participants, 2 elementary teachers, employed by the elementary school, and two parents of the student participants. The results of the observations and questionnaires were organized and coded to determine themes based on the participants' perceptions. A complete analysis of the data resulted in several themes, which provided answers to the research question addressed in this study.

Summary of Findings

The qualitative analysis reported in this research study was based on one overriding

research questions. The findings of the study resulted in themes related to the perceptions of students, teachers, and parents about play interventions in elementary school. The themes included how participants viewed the significance of play interventions as an aid to academic achievement, what types and amounts of play interventions they thought students should be getting, and the importance of play interventions on student motivation and enjoyment of school.

Participants felt that play interventions “strongly” influenced students’ academic achievements and that recess was “one of the most important factors” to learning and academic accomplishment. Recess should be offered for at least 30 minutes daily and students should be getting dance/movement breaks frequently throughout the day, especially after sedentary work. As in Stapp and Karr’s (2018) study where 100% of students showed an increase in on task time after recess as compared to before recess, the data analysis showed that same theme, where there was an increase in on task behavior across all participants after the play intervention. Most participants also felt that Physical Education class should be offered everyday as well as having play interventions such as recess and dance/movement breaks. The study indicated that all participants believed that play interventions such as recess, Physical Education class, and other movement activities are a great motivator for students to come to school, enhance the enjoyment of their lessons, and serve as an instrument to help students’ focus on their academic lessons. These beliefs correlate with the research study that concluded that while the type of play interventions did not matter, the duration and frequency made a significant impact on cognition (Ahmad, et al., 2016).

Observation conducted during this research study supports these perceptions as the amounts of off task behaviors significantly decreased after play intervention, as opposed to the amount displayed before play interventions. The occurrence of disruptive or off task behaviors

such as getting out of their seats, shouting, or blurting out questions or answers, day dreaming, decreased after play interventions while on task behaviors such as writing down tasks and notes, looking at the teacher as they were speaking, and raising hands and waiting to be called on, were observed at an increased rate after play interventions occurred.

Limitations of the Study

Results of this research study may provide helpful data for districts and schools in their understanding of student, teacher, and parent perceptions about play interventions on academic achievement. However, several limitations exist within the current research. First, the study was limited to a single elementary school resulting in data based on a single school demographic. Students, teachers, and parents from other districts within our region or other parts of the United States may have differing perceptions than those gathered from this study. Second, data collected in the questionnaire were dependent on the accuracy and candidness of the participants, knowing that their answers would be documented and recorded. Third, while the researcher used research-based practices to generate the questionnaire and observation tally sheet, they are not verified or copyrighted resources, rather self-created by the researcher.

Conclusions

This research study's major conclusion is that students, teachers, and parents all feel that play interventions are essential to the academic achievement of students in a elementary school and classroom setting. They all generally feel that a consistent, developmentally appropriate amount of time should be allotted in each school day for students' to be able to play and interact with each other in an informal, unstructured setting, with activities such as recess or physical education. There is also support for frequent movement breaks such as dancing and calisthenics, after sedentary lessons, and more lessons and activities that feature movement as part of the

learning experience.

Administrators and educators should also take into account the results from the observations conducted in this study, as they showed that there was a significant increase in the amount of on task behavior after play interventions than before the play intervention occurred. This showed that play and movement have a positive influence on academic achievement and there should be emphasis placed on allocated more time for play and movement in our daily routines and lessons.

Recommendations for Practice

The results of the study indicate that students, parents, and teachers, all feel that play interventions have a positive impact on academic achievement and that the practical implications of these perceptions are that there should be more play and movement within our school routines and lessons.

Administrators and educators placing an emphasis on play and movement breaks throughout our school days will allow students to refocus their energy and increase brain function and blood flow to allow for greater retention of information and concepts. Play and movement also influences the areas of memory, motivation, problem-solving skills, and conflict resolution, all key components to academic achievement.

Encouraging movement breaks for every 20-to-30-minute sedentary activity, implementing more movement into our daily lessons themselves, where students are able to move throughout the room and kinesthetically touch, manipulate, and interact with each other are keyways that we can use play and movement within our classrooms.

Recommendations for Further Study

This research study was conducted in a single elementary school, and with a relatively

small population of participants and cannot be generalized to a broad population. The study could be replicated and broadened to include other schools and districts, adding more student, teacher, and parent perceptions to the data. Conducting research to gather similar information from students, teachers, and parents in middle and high school grades would add to the body of knowledge regarding their perceptions and the practical implications in these school settings. As students' rise through the ranks of school, parent expectations may change or shift.

References

- Ahmad, S., Ch, A., Batool, A., Sittar, K., & Malik, M. (2016). Play and cognitive development: formal operational perspective of piaget's theory. *Journal of Education and Practice*, 7(28), 72-79.
- Akriti, S., Anvita, K., & Sadhana. J. (2020). Role of neurotrophins in pregnancy and offspring brain development. *Neuropeptides*, (7)1. <https://doi.org/10.1016/j.npep.2020.102075>
- Alharbi, M. & Alzahrani, M. (2020). The importance of learning through play in early childhood education: Reflection on the "Bold Beginnings" report. *International Journal of the Whole Child*, (5)2, 9-17. <https://eric-ed-gov.milligan.idm.oclc.org/?q=play+importance+for+babies&pr=on&ft=on&id=EJ1286551>
- Allen, K. B., & Barber, C. R. (2015). Examining the use of play activities to increase appropriate classroom behaviors. *International Journal of Play Therapy*, 24(1), 1–12. <https://doi-org.milligan.idm.oclc.org/10.1037/a0038466>
- Brown, M, Burriss, K., Snead, D., & Burriss, L (2020). Teacher practices, time for physical activity, and a school day: A preliminary analysis. *International Journal of the Whole Child*, 5(1), 39-52.
- Calvert, H. & Turner, L. (2019). School day classroom-based physical activity and sedentary behavior. *Health Behavior Policy Review*. <https://doi.org/10.14485/HBPR.6.5.5>
- Center for Disease and Control and Prevention. (2010). The association between school based physical activity, including physical education, and academic performance. Atlanta, GA: U.S. Department of Health and Human Services.


- Erwin, H. (2018). Exploring teacher and student perceptions of the impact of two recess periods per day. *Texas Education Review*, 6(2), 57-69
- Ghaffari, M. (2021). Are Collaboration and Socialization Key to Student Engagement? *International Journal of Interdisciplinary Educational Studies*, 16(1), 135–150. <https://doi-org.milligan.idm.oclc.org/10.18848/2327-011X/CGP/v16i01/135-150>
- Griebeling, S., Jacobs, J., Kochanowski, L., & Vaughn, L. M. (2016). What preschool children like best about school. *Dimensions of Early Childhood*, 44(2), 18–26.
- Holmes, R., Liden, S., & Shin, L. (2013). Children's thinking styles, play, and academic performance. *American Journal of Play*, 5(2), 219-238. <https://eric-ed.gov.milligan.idm.oclc.org/q=play+and+academic+achievement&pr=on&ft=on&id=EJ1003951>
- Kyndt, E., Cascallar, E., & Dochy, F. (2012). Individual differences in working memory capacity and attention, and their relationship with students' approaches to learning. *Higher Education*, 64(3), 285-297.
- Oien, A., & Solheim, I. (2019). Physical Activity and Interaction for Less Active Pupils at Elementary School: The Experiences of Teachers and Parents. *European Physical Education Review*, 25(4), 1161–1175.
- Park, Y. & Moon, J., (2018). Effects of early morning physical activity on elementary school students' physical fitness and sociality. *International Electronic Journal of Elementary Education*, (10)4 p441-447. <http://doi.org/10.26822/iejee.2018438134>
- Steiner, G., Bensoussan, A., Liu, J., Hohenberg, M., & Chang, D. (2018). Study protocol for a randomized, double-blind, placebo-controlled 12-week pilot phase II trial of sailuotong (SLT) for cognitive function in older adults with mild cognitive

impairment. *Trials*, 19(1), 1–10. <https://doi-org.milligan.idm.oclc.org/10.1186/s13063-018-2912-0>

Trudeau, F. & Shephard, R. (2010). Relationships of physical activity to brain health and the academic performance of school children. *American Journal of Lifestyle Medicine*, 4, 138-150.

Vandervert, L. (2017). Vygotsky meets neuroscience: The cerebellum and the rise of culture through play. *American Journal of Play*, (9)2, p202-227. <https://eric-ed-gov.milligan.idm.oclc.org/?q=play+and+cognitive+function&pr=on&ft=on&id=EJ1141580>

Zucker, L. & Fisch, A. (2019). Play and learning with KAHOOT!: Enhancing collaboration and engagement in grades 9-16 through digital games. *Journal of Language and Literacy Education*, (15)1. <https://eric-ed-gov.milligan.idm.oclc.org/?q=play+and+student+engagement&pr=on&ft=on&id=EJ1212450>



MILLIGAN
UNIVERSITY

Date: November 28 2021

Principal Investigator: **Lisa Horan**, Graduate Student, Milligan University
From: The Institutional Review Board (IRB) at Milligan University
Project: *An Investigation of Teachers, Parents, and Students Perception and Practical Implications of Play at a Selected Elementary School*
IRB Tracking Number: **2021-21**
IRB Approval Number: **Exp2111282019**
Subject: **Final Approval**

On behalf of the Milligan University Institutional Review Board (IRB), we are writing to inform you that the above-mentioned study has been approved as expedited. This approval also indicates that you have fulfilled the IRB requirements for Milligan University.

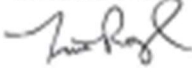
All research must be conducted in accordance with this approved submission, meaning that you will follow the research plan you have outlined here, use approved materials, and follow university policies.

Take special note of the following important aspects of your approval:

- Any changes made to your study require approval from the IRB Committee before they can be implemented as part of your study. Contact the IRB Committee at IRB@milligan.edu with your questions and/or proposed modifications;
- If there are any unanticipated problems or complaints from participants during your data collection, you must notify the Milligan University IRB Office within 24 hours of the data collection problem or complaint;
- Milligan University requires specific formatting when collecting demographic data on gender; please contact me if you need assistance with this formatting.


The Milligan University IRB Committee is pleased to congratulate you on the approval of your research proposal. Best wishes as you conduct your research! If you have any questions about your IRB Approval, please contact the IRB Office and copy your faculty advisor if appropriate on the communication.

On behalf of the IRB Committee,



Trini Rangel, Ph.D.
Chair, Institutional Review Board
Milligan University

Milligan, TN 37682 | 423.461.8700 | www.milligan.edu



Appendix A

Online Teacher, Parent, and Student Questionnaire

1. How often do you think that students should have recess at schools?
2. How important do you think that recess is a factor to learning?
3. Should students get dance/movement breaks during the day?
4. Should Gym/P.E. be offered every day?
5. Do play activities help student's focus on academic lessons?
6. Do play activities motivate students to work harder on school lessons?
7. Students enjoy school more when they have play time.
8. Do you think structured or unstructured play is more important to academic achievement?

Appendix B

On and Off Task Behavior Checklist

On Task Behaviors	
Talk Related to Task	
Answering Questions	
At Work	
Listening to Teacher/Peers	
Off Task Behaviors	
Talk not task related	
Wandering Around the Room	
Attempting to Draw Attention	
Day Dreaming	

Student Name: _____

Grade Level: _____

Date: _____

Time Start: _____

Time End: _____

Appendix C

Letter of Completion

Dear Students, Parents, and Teachers,

First, I would like to thank you all for your time and cooperation in this process of my completion of my master's research thesis.

I am writing to inform you that my thesis is complete, and I have published the results, which can be found and read on Milligan University's Online Library.

This is also a reminder that any information that was provided will be kept confidential and will not be shared. Any personal information will not be shared for any purpose other than for this research study. Any collected data will be kept in a secure location and on password protected devices. Data will be kept for a period of 5 years, as required by Milligan University.

If you have any questions or concerns, please contact me, my research mentor, Dr. Patrick Kariuki, or Milligan University's Institutional Review Board (IRB).

Again, thank you for your time, consideration, and participation in this research study.

Lisa J. Horan
ljhoran@my.milligan.edu
M.Ed Student, Milligan University

Dr. Patrick Kariuki
PNKariuki@milligan.edu
Research Mentor, Milligan University

Institutional Review Board (IRB)
IRB@milligan.edu
Milligan University