THE EFFECT OF MUSIC AND MOVEMENT INTERVENTIONS ON ELEMENTARY STUDENTS’ CLASSROOM TRANSITION TIMES AND ENGAGEMENT

by

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This thesis is dedicated to my parents whose constant love and support has encouraged and sustained me throughout my life and to my grandparents whose love and memory I will hold in my heart forever.
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ABSTRACT

BRYANNA SUSANN HALL: The Effect of Music and Movement Interventions on Elementary Students’ Classroom Transition Times and Engagement
(Under the direction of Dr. Alicia Stapp)

In recent years, educational mandates such as those established by the No Child Left Behind Act have placed increased pressure on school administrators and faculty to focus a large portion of their resources on improving students’ standardized test scores. As a result, many teachers are searching for ways to increase instructional time, yet during an already chaotic school day, that is not such an easy task (Heafner, Lipscomb, & Rock, 2006). Therefore, this study examined possible solutions to this issue that would benefit both students and teachers through the implementation of various music and movement interventions. The research occurred over eight weeks during the fall of 2018, from September 26, 2018 through November 7, 2018. The first two weeks of the study were designed to gather baseline data regarding students’ transition times and engagement. Three phases of two-week interventions followed which utilized music, movement, and music and movement interventions, respectively to gauge their influence on morning and afternoon classroom transition times, as well as any change in student engagement. The findings of this study indicate that the various music and movement interventions utilized were successful in decreasing students’ transition times and increasing student engagement, providing a valuable increase of instructional time.
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CHAPTER 1: INTRODUCTION

Rising childhood obesity rates and decreasing amounts of physical activity in schools have led to an increased concern regarding what role schools should play in promoting children’s physical health. As a result, there has been a strong push toward finding a solution that is suitable to all parties involved. However, it remains unclear what that solution is and when it will occur. The statistics on the declining health of children in the United States are startling. For children between the ages of two and nineteen, the obesity rate is 18.5%, equating to over 13.5 million children with the chronic disease (Hales, Carroll, Fryar, & Ogden, 2017). Despite these numbers, increasing instructional mandates stemming from policies such as the No Child Left Behind Act and the Every Student Succeeds Act, have left administrators feeling that there is little time remaining for an increase of physical activity or any extracurricular activity during the school day (Heafner, Lipscomb, & Rock, 2006). In an effort to reverse this epidemic of an increasingly sedentary classroom, vested stakeholders, including parents, teachers, and administrators have garnered support for research on the benefits of movement in the classroom. Current research has focused on incorporating various types of physical activity, including yoga, online videos for brain breaks and instructional use, and mindfulness training into classroom instructional time. The goal is to hopefully with the hope that it will produce positive impacts on various aspects of students’ development, including academic, social, and emotional growth (Donnelly et al., 2009;
Jensen & Kenny, 2004; Mendelson et al., 2010; Sibinga et. al., 2014). In-depth school physical activity programs such as Take 10 and Physical Activity Across the Curriculum (PAAC) have also been part of the body of research over the past couple of decades. However, a comprehensive overhaul of the restrictive policies has not yet occurred, preventing a complete reform toward a more active curriculum.

It is not highly debated that music also plays a critical role in a child’s development. However, its importance in schools is often underestimated as a result of several factors, including an increased emphasis on STEM (Science, Technology, Engineering, and Math) curriculum (Heafner, Lipscomb, & Rock, 2006). Despite studies such as Thomas et al. (2015) that have shown a positive correlation between arts integration in schools and a decrease in the dropout rate, there are still those who advocate for its removal from schools. Although exposure to music might not produce the same physical characteristics that exposure to movement does, it is still vital to the overall cognitive development of a young person. Hyde et al. (2009) found that with just 15 months of instrumental music training in early childhood, there were apparent structural brain changes in the motor and auditory areas, both of which are extremely important to a child’s educational success. Therefore, some educators argue for the use of music in the classroom as a tool to aid student performance (Cole & Boykin, 2008; Iwasaki, Rasinski, Yildirim, & Zimmerman, 2013; Song, Capraro, & Tillman, 2013). However, others, such as Salamé and Baddeley (1989) assert that music is detrimental to students learning during instructional periods, and its use in the classroom should be avoided.
Despite the potential physical and mental benefits of music and movement being integrated into the academic classroom, there has been little consideration for the positive outcomes that might be produced from a comprehensive curriculum that incorporates both music and movement. One of the most successful countries, in regard to students’ education, is Finland. The Finns continuously rank as having one of the best school systems in the world, producing similar scores as the education superpowers of Singapore, South Korea, and China (Partanen, 2011). It is worth noting that the Finnish educational model does not focus on repetitive, rigorous instruction throughout the entire school day, but rather, it encourages students to engage in problem solving activities that promote innovation and creativity. Furthermore, Finland only has one standardized test that all students take at the end of what Americans would consider high school. This test is intended to guide the student toward a suitable field based on certain characteristics that he or she possesses (Partanen, 2011). It is not to say that the United States should eliminate standardized testing altogether, but it is worth noting that if Finland produces higher test scores than the United States while maintaining a more relaxed school environment that includes a shorter school day and the infusion of music and plenty of physical activity with essentially no standardized tests, current policy makers may want to consider ways to revise educational standards to be more aligned with what has shown to be successful abroad. One potentially successful method would be to integrate more music and movement into the curriculum, as it has shown to directly affect numerous areas, including recall, reading levels, mathematics skills, engagement, and motivation (Cole & Boykin, 2008; Vazou, Gavrilou, Mamalaki, Papanastasiou, & Sioumala, 2012;
Jensen & Kenny, 2004; Iwasaki et al., 2013; Mendelson, Greenberg, Dariotis, Gould, Rhoades, & Leaf, 2010; Song, Capraro, & Tillman, 2013).

The Research Problem

There is a divide in the current field of research regarding which interventions are most beneficial to children’s development. One facet of the research focuses solely on music’s impacts on students’ learning (Corrigall & Trainor, 2011; Dyer, 2011; Iwasaki et al., 2013; Patscheke, Degé, & Schwarzer, 2018; Salamé & Baddeley, 1989; Wiggins, 2007). These studies investigated what role music could have in the classroom as a tool to aid in reading and mathematics among other core content areas. The other area concentrates on movement’s effects on students’ behavior (Grönlund, Renck, & Weibull, 2005; Jensen & Kenny, 2004; Mendelson et al., 2010; Sbinga, Perry-Parrish, Thorpe, Mika, & Ellen; 2014). In these studies, the researchers aimed to determine whether or not mindfulness-based practices, such as yoga, produce positive results on behavioral outcomes in the classroom, including engagement and attention span. Separate music and movement integration programs in the general education classroom have been shown to produce encouraging results on student achievement, motivation, and engagement. However, there is very little research that considers the potential of a program that integrates both music and movement. There is even less research on what impact music and movement could have during transition times, which are one of the least focused times of the school day.

After observing numerous off-task behaviors during transition times at the beginning of the school day and after recess, the researcher determined that it was necessary to investigate whether music and movement interventions can be used as a
transitional tool to increase instructional time. The present research study was conducted in a first grade classroom in which the principal investigator was student teaching. Prior to the interventions, the researcher noted the extreme sedentary nature of the classroom as one of the potential causes of all the disruptions. Furthermore, it was observed that on the rare occasion students were allowed to listen and dance to music, they seemed to be much more engaged in the activity that followed shortly thereafter. After conducting two weeks of strictly observations, the researcher determined that it was beneficial to teachers, administrators, and elementary school students to study whether transitional and instructional times would increase or decrease through the use of music, movement, and music and movement interventions implemented at the beginning of the school day and after students return from recess. The results of this study could potentially be influential in determining what strategies are used to aid students as they move from less structured points of the school day into instructional time that requires more traditionally “appropriate” behaviors.

**Definition of Terms**

For the purpose of this thesis, the following terms are defined.

**Music integration.** Music integration is a purposeful merging of musical learning and academic content (Hewey, n.d.).

**Movement integration.** Movement integration is the combination of aerobic physical activity and cognitive engagement associated with learning activities in the classroom (Mullender-Wijinsma et al., 2014).
**Music and movement integration.** Music and movement integration is the combined use of music and movement strategies in the classroom to keep students physically and cognitively active (Sandberg et al., 2013).

**Classroom transitions.** Classroom transitions are periods of time that occur throughout the school day when teachers direct students to move from one activity or task to another (Arlin, 1979).

**Purpose of the Study**

The purpose of this study was to examine the effects of music and movement interventions on students’ behavior as it relates to their academic engagement, following transition times at the beginning of the school day and after recess. This study also provides insight into the importance of music and movement in the classroom as a useful classroom management tool that allows for creative forms of expression and positively influences brain development. The researcher implemented interventions with a single first grade class, twice per day (30 separate times) from September 26, 2018 - November 7, 2018. Data was collected on the length of time it took for the classroom teacher to provide instruction to the students and the amount of time that they remained engaged in the activity following the intervention. Data was collected using a checklist that accounted for observations categorized under body language and focus. Each intervention lasted three to five minutes in length.

The following research questions guided this thesis research project:

Question 1: Do music interventions increase or decrease the length of time it takes for students to transition to their next task at the beginning of the school day and following recess?
Question 2: Do movement interventions increase or decrease the length of time it takes for students to transition to their next task at the beginning of the school day and following recess?

Question 3: Do music and movement interventions increase or decrease the length of time it takes for students to transition to their next task at the beginning of the school day and following recess?

Question 4: Does student engagement in the task increase, decrease, or remain stagnant following a music intervention?

Question 5: Does student engagement in the task increase, decrease, or remain stagnant following a movement intervention?

Question 6: Does student engagement in the task increase, decrease, or remain stagnant following a music and movement intervention?

Question 7: What effect does a music, movement, or music and movement intervention have on specific student behaviors in the areas of body language and focus?
A major concern expressed by elementary school teachers in public education across the United States is an increase in instructional time, leaving less time for subjects outside mathematics and language arts. A 2006 report found that, as a result of educational mandates, most instructional time focuses on language arts and mathematics (Heafner, Lipscomb, & Rock, 2006). Policies such as the Educate America Act, No Child Left Behind Act, and the newest legislation, the Every Student Succeeds Act, have largely contributed to the reduction and/or removal of instruction in social studies, science, and fine arts curriculum. Due to an already packed curriculum and pressure to increase students’ academic achievement, encouraging teachers to use a curriculum that integrates music and movement into the classroom may be ineffective if they are not shown or do not have the opportunity to experience the potential benefits of such programs themselves.

**Teachers’ Perceptions of Integrating Music and Movement**

In addition to educational mandates, examining teachers’ perceptions of integrating music and movement into the curriculum is essential to the effectiveness of such methods. Regarding music integration, one study showed that despite receiving additional training, which led to a greater confidence in their skills and abilities, classroom teachers still did not feel a sense of responsibility for integrating music into the curriculum in the absence of a music specialist (Colwell, 2008). Classroom teachers also
showed a decreased intention to integrate music into their lessons. Colwell (2008) suggests that this finding is likely a result of the increasing demand for higher standardized test scores, which has led to time constraints that drastically limit the additional content teachers can add to their lessons.

Parks, Solomon, and Lee (2009) surveyed over three hundred in-service elementary school teachers to determine their views on incorporating movement into their daily lessons. Results indicated that the majority of classroom teachers rarely employed movement integration in their classrooms. Reasoning for this decision varied, but an increased emphasis on standardized test scores as a reliable indicator of a teacher’s effectiveness definitely played a noteworthy role (Parks, Solomon, & Lee, 2009). Although more than three-fourths of the respondents perceived the positive benefits on children’s health, both mental and physical, many identified a need for significant support from colleagues and other relevant stakeholders in order to succeed (Parks, Solomon, & Lee, 2009). Thus, beyond meeting academic mandates, self-efficacy and lack of training or knowledge on integrating music and movement are also precipitating a lack of these methods from being implemented in classrooms.

Educators and researchers alike admit that there are challenges to implementing a meaningful curriculum that purposefully integrates music and movement into the core academic subjects, such as the sustainability of these programs. Kibbet et al. (2011) recognized the challenges of integrating a physically active curriculum with fidelity and maximum impact. Yet, additional research asserts that with proper support and flexibility, these programs can positively affect children’s physical activity and overall development (Naylor, Macdonald, Warburton, Reed, & McKay, 2008). Students who have participated
in such programs have also been shown to have higher levels of engagement, a positive
affect, better communication skills, and reduced stress levels (Cole & Boykin, 2008;
Klatt, Harpster, Browne, White, & Case-Smith, 2013; Yazejian & Peisner-Feinberg,
2009). Even though instructional mandates and other barriers such as teachers’
perceptions have affected the degree to which other subjects are taught in the classroom,
it is still imperative to seek ways to integrate these concepts into the core curriculum to
promote development of the whole child.

Benefits of Music in Schools

While such barriers to music and movement integration are apparent, parents,
teachers, and administrators all recognize the vital role that education plays in a child’s
life. The way children are taught influences their beliefs about teaching, learning, and the
world around them. Thus, students who learn through a music-integrated curriculum or
are exposed to music programs in school may be more likely to support similar programs
when they become leaders in their schools and communities. However, music education,
along with the rest of the arts, is often viewed in the educational policy realm as less
important than mathematics or science instruction. This outlook is demonstrated by
reduced funding to these areas.

Proponents of arts in the schools researched the correlation between arts programs
in school and the high school dropout rate. They contend that the arts are a vital part of
student success in school, as they directly correlate to reduced dropout rates because they
appeal to a variety of interests and talents that might go unnoticed (Thomas et al., 2015).
The Every Student Succeeds Act passed in December 2015 places an emphasis on music
instruction as part of the core curriculum. However, only “29% of the new state plans
acknowledge music and arts education within accountability systems (Tuttle, 2017)

meaning that a majority of schools are continuing to place both focus and funding on mathematics and reading since they are so heavily influential for determining a school’s rating (Tuttle, 2017). Therefore, it is important that educators continue to advocate for an integrated curriculum that emphasizes music at similar levels to other core subjects.

**Music’s impact on cognition.** Despite a lack of emphasis placed on subjects such as music, theorist Howard Gardner (1983) noted that music intelligence is just as important and impressive as intelligence in the core subjects taught in schools. Studies have also shown that when music is integrated into school curriculum, it produces positive results on students’ learning by enhancing their story recall, reading levels, and mathematics skills (Cole & Boykin, 2008; Iwasaki, Rasinski, Yildirim, & Zimmerman, 2013; Song, Capraro, & Tillman, 2013).

**Music’s impact on social-emotional development.** Students of all ages, races, and backgrounds have some connection to music. Allowing students to discover their specific strengths and intelligences can be an excellent first step in cultivating these connections. Although building relationships with students can be one of the most difficult aspects of teaching, research indicates that constructive student-teacher relationships produce positive impacts on students’ “academic motivation and engagement, academic self-concept, and general self-esteem” (Martin, Marsh, McInerney, Green, & Dowson, 2007, p.121). Determining students’ interests can help facilitate increased engagement and motivation in the classroom. Even though the world is inundated with thousands of languages, music speaks to us all. In the United States alone, popular music sales surpassed $12 billion in the year 1994. As technology has
advanced, music has only become more accessible, which indicates that today’s youth are spending even more time and money listening to music (North, Hargreaves, & O’Neill, 2000). Therefore, the natural connection humans have with music indisputably shows us the positive impact it can make on children when integrated into the academic curriculum.

**Benefits of Movement in Schools**

**Movement’s impact on health.** One of the major benefits of movement in schools is its ability to impact children’s health. According to the Centers for Disease Control and Prevention (2015-2016), the obesity rate for children in the United States between the ages of two and nineteen is 18.5%, which means that over 13.5 million adolescents are being plagued by the health consequences of obesity (Hales, Carroll, Fryar, & Ogden, 2017). The National Conference of State Legislatures (NCSL) reported that, as of 2011, there were only five states or territories where the childhood obesity rate was above twenty percent. Louisiana, South Carolina, Tennessee, and Mississippi were four of the states identified, which indicates that the southeastern United States has an obesity epidemic that desperately needs to be addressed (Childhood Overweight and Obesity Trends, 2014). As of 2017, the obesity rate in Mississippi was 14.5% among two to four year olds and 26.1% among 10 to 17 year olds (“The State of Obesity”, 2017). It is often said that change starts in the home, but it should also be considered that schools, and therefore teachers, have the power to create a positive impact on the health of their students through innovative movement strategies that promote both health and academics.
Since the majority of students in the United States attend public schools, it is worth noting the impact in-school obesity prevention programs can have on students’ BMI. Sobol-Goldberg, Rabinowitz, and Gross (2013) conducted a meta-analysis of these programs in order to determine what impact school policy can have on childhood obesity rates. The researchers reviewed 32 studies with a combined participant total of 52,109. They concluded that “the school-based obesity prevention intervention programs were significantly, but mildly effective (effect size = 0.076) in reducing BMI, primarily in children but not teenagers” (Sobol-Goldberg, Rabinowitz, & Gross, 2013, p. 2426).

While the aforesaid statistics should inform schools about the importance of integrating movement into the entirety of the school day, Parks, Solomon, and Lee (2009) noted that teachers and administrators are facing such great pressure from both the state and federal government to improve test scores that they are forced to eliminate any activity that is not directly related to the core content material on which students will be tested. Therefore, teachers are increasing the time spent using traditional methods, such as lecture where students are expected to remain sedentary and attentive for extended periods of time (Parks, Solomon, & Lee, 2009).

A 2008 study found that school aged children spent anywhere from 40% to 60% of their day in sedentary behaviors, which the researchers found to directly correlate with the rising obesity rates of adolescents in the United States (Matthews et al., 2008). Gardner (1983) recognized the importance of reaching every student through varying instructional techniques. He identified eight different intelligences that provide an indication as to how different students learn best. One of these intelligences is bodily/kinesthetic, which means that some students succeed at their highest potential
when movement is incorporated into their learning. Complimenting this theory, Jensen (2005) noted the oddity of treating the brain and body as separate entities. The outdated sentiment is that, “[i]f the brain is in the head and the body is below the head, how could there be any links?” (Jensen, 2005, p. 83). Furthermore, Jensen (2005) cited previously conducted research that confirms, “sensory motor integration is fundamental to school readiness” (p. 85). Not only has movement been shown to improve fluid intelligence and academic prowess, (Reed, Einstein, Hahn, Hooker, Gross, & Kravitz, 2010; Mullender-Wijnsma et al., 2015) it has also demonstrated the possibility of increasing attention spans, engagement, and motivation (Jensen & Kenny, 2004; Mendelson, Greenberg, Dariotis, Gould, Rhoades, & Leaf, 2010; Vazou et al., 2012).

Current Research on Music Interventions

The benefits of music and movement for children have been examined for decades. However, as the current climate in education has shifted toward a focus on improving academic achievement, so too has the examination of music and movement as interventions to aid in improving students’ skills in academic subjects. Within the current body of research there is little consensus on music interventions regarding which strategies are most beneficial for children’s engagement in the general education classroom. With so many genres of music, each study asserts that one is more useful for increasing focus or improving academic performance than another. For instance, Salamé and Baddeley (1989) suggest that if one insists on the use of music, classical or instrumental is the only type that should even be considered because it is the least distracting, although they still do not support its use. In contrast, Cole and Boykin (2008) advocate for rhythmic music as the most effective. Some studies claim that any music is
detrimental to students’ concentration (Salamé & Baddeley, 1989). Whereas, others argue that it is the type or volume of music played that makes the biggest difference. Additionally, some researchers assert that the genre of music used is most beneficial when it reflects the cultural background of the students (Cole & Boykin, 2008).

**Music integration and academics.** Many music intervention studies focus on increasing academic achievement in areas related to the English/language arts curriculum (Cole & Boykin, 2008; Iwasaki et al., 2013). Iwasaki et al. (2013) found that lyrical music is an effective tool for aiding student growth in reading. Throughout the school year Iwasaki, who used her own classroom for the study, taught her students one to two new songs every week. Each day the students would sing the songs with Iwasaki as they all tracked the words on the page, enhanced by student-made illustrations and whole class discussions about the words and their meanings (Iwasaki et al., 2013). Iwasaki et al. (2013) stated that, “[b]ecause of the motivational nature of singing, students were willing to engage in repeated reading of the songs throughout the week until all students could read/sing the song fluently” (p. 140). Findings revealed that the use of a music intervention led to a year’s growth in the reading levels of all but one of her first grade students.

Another study specifically focused on the correlation between music’s impact on urban, African American youth and story recall. Cole and Boykin (2008) focused on the use of music interventions, and also provided opportunities for students to express themselves through movement. Two experiments were conducted to differentiate the results between younger and older children. The researchers found that the older students were more responsive to the music and movement interventions that required less active
participation. They concluded that this was likely a result of a fear of being judged or embarrassed by their peers (Cole & Boykin, 2008). In the learning conditions featuring syncopated music, the research assistant read a story to the students to the beat of the music, whereas in the learning conditions with the non-syncopated music, the story was read in a normal speaking voice. Following the readings, the students were tested on their recall of the story. The researchers found that the greatest success was found when students were taught using a genre of music that most closely resembled traditional West African music in the syncopated learning conditions (Cole & Boykin, 2008). Additional research determined that “[a] music-integrated literacy environment nurtures auditory and visual discrimination, eye-motor coordination, visual sequential memory, language reception, vocabulary development, phonological and phonemic awareness, and fluency” (Wiggins, 2007, p. 62).

A vast majority of studies have examined music’s impact on skills related to reading (Corrigall & Trainor, 2011; Dyer, 2011; Patscheke, Degé, & Schwarzer, 2018). Corrigall and Trainor (2011) examined the impact of music training on groups of students between the ages of six and nine. They specifically focused on improvements in word decoding and reading comprehension. The researchers concluded that there was little or no correlation between length of music training and word decoding skills, but there was strong evidence suggesting music training produces a significant result on students’ reading comprehension levels (Corrigall & Trainor, 2011). Dyer (2011) advocates for music integration in the classroom as a tool to aid students’ engagement, recall, and phonemic awareness. Patscheke, Degé, and Schwarzer (2018) focused on the effects of pitch and rhythm training on preschoolers’ phonological awareness, a basic building
block for fluent reading. Both the rhythm-and pitch-trained groups showed improvement in phonological awareness; however, results from the rhythm group were not statistically significant (Patscheke, Degé, & Schwarzer, 2018).

Song, Capraro, and Tillman (2013) conducted a study that focused on the integration of music and mathematics. The researchers recruited two elementary school teachers to implement music integration in their mathematics lessons in a first and third grade classroom. During the ten integrated lessons, the teachers used various musical tools including hand bells, keyboards, percussion instruments, as well as singing. Students in both the first and third grade classrooms showed improvement in all three mathematical areas assessed on the Model, Strategy, Application (MSA). Therefore, the researchers concluded that, “music can be used to make connections to all kinds of different mathematics content areas” (Song et al., 2013, p. 14).

While there is evidence to suggest that music integration can have a significant impact on students’ achievement in language arts and mathematics, less research has focused on the impact music integration could have on students while learning social studies or science. Additionally, the scope of research is so vast that many of the findings contradict one another. For example, Wiggins (2007) and Iwasaki et al. (2013) stand as strong advocates for the benefits of music as a tool that should be utilized across all grade levels. Whereas, Salamé and Baddeley (1989) warn against arts integration in any form because of what they claim is a negative impact on concentration. It is worth noting that the aforementioned results might be altered if the same study were to be conducted today. Students have greater access to music from an early age, and might be more successful utilizing music as a study tool to aid in their concentration.
**Music integration and attention.** In addition to cognition, the impact of music on students’ attention in the classroom has been another area of interest for researchers. The majority of studies have concluded that music integration elicits positive effects on concentration in students of all ages. One study found that, “when students were off-task, [the teacher] would sing a song, chant or rhyme, which helped the students refocus and complete their work” (Sandberg, Hansen, & Puckett, 2013, p. 9). Furthermore, Rickard, Vasquez, Murphy, Gill, and Toukhsati (2010) examined the effects of music training and verbal memory on children’s attention. Although it was not the main focus of their research, they noted that children’s attention in the classroom improved throughout the duration of the study (Rickard et al., 2010). In stark contrast, Salamé and Baddeley (1989) determined that any background noise, excluding white noise, is disruptive to student concentration. The researchers link the distractions to the existence of a filter that lets in speech and can be disturbed by unfamiliar pitches or rhythms, such as those in classical music. The researchers conducted two experiments and found that students in the quiet learning condition made the fewest errors, followed by the instrumental condition, and the most errors were made during the vocal music learning condition (Salamé & Baddeley, 1989). They warn that relying on music integration as a tool for improving attention span is a risk that is more likely to produce unwanted results, and may actually decrease academic success and increase frustration levels because the auditory filter cannot solely focus on the academic task at hand. While this study found that music is a distraction for students, similar results have not been found in current studies that examine the effects of music integration on students’ attention (Sandberg, Hansen, & Puckett, 2013).
Current Research on Movement Interventions

There are several types of physical activity interventions utilized in the classroom that have been examined over the past several decades. Those types of physical activities are viewed as either calming, those that require small bouts of movement that serve as a brain break/boost from the daily routine, or physical activities that are incorporated into the curriculum to teach or reinforce an academic concept or skill. In programs such as Take 10!, teachers utilize physical activity as a way to re-energize students after intense or extensive instruction (“Take 10 brings physical activity in the classroom”, 2015). Calming movement strategies such as yoga or meditation are aimed at refocusing attention back to the curriculum, while small bouts of low-to-moderate physical activity integration may re-energize the student while priming the brain for learning.

Movement interventions and ADHD. One facet of movement integration research has focused on is students with attention deficit hyperactivity disorder (ADHD), particularly those of the male gender (Grönlund, Renck, & Weibull, 2005; Jensen & Kenny, 2004). This is likely a result of the belief that boys are generally more active than their female counterparts, which is corroborated by the American Psychiatric Association that says boys are about three times as likely to be diagnosed with ADHD as their female counterparts of the same age. Grönlund, Renck, and Weibull (2005) conducted their research with two boys ages five and seven. The boys received dance therapy that was tailored to fit their specific behavioral and emotional needs. The researchers concluded that the dance therapy had a minor, yet still positive, effect on the boys’ behavioral and emotional symptoms, but the greatest area of impact was their increased motor function (Grönlund, Renck, & Weibull, 2005, p. 81).
Another study conducted by Jensen and Kenny (2004) examined the impact of yoga on a group of boys between ages eight and thirteen, all diagnosed with ADHD. Over the course of twenty weeks, the boys attended one-hour long yoga sessions supervised by a professional in a controlled setting. The researchers found that the boys who participated in the yoga group demonstrated a statistically significant improvement in eight of the subscales on the Conners’ Parent Rating Scale (Jensen & Kenny, 2004, p. 209). Therefore, the researchers in both studies concluded that movement interventions may be useful as a complementary treatment to medication for children with ADHD (Grönlund, Renck, & Weibull, 2005; Jensen & Kenny, 2004).

**Movement interventions and low SES.** Other studies have specifically investigated the feasibility and impact of mindfulness training on urban youth from low socioeconomic status (Mendelson et al., 2010; Sibinga, Perry-Parrish, Thorpe, Mika, & Ellen; 2014). The aim of a study by Mendelson et al. (2010) was to determine whether movement interventions, such as various yoga poses and breathing techniques, reduced social-emotional and behavioral problems that are often seen in underprivileged youth. This was measured through self-reports on the following questionnaires and inventories: The Involuntary Stress Responses, Depressive Symptoms, Positive and Negative Emotions, and Relations with Peers and School (Mendelson et al., 2010). The researchers implemented a 12-week mindfulness program with groups of fourth and fifth grade students from schools in Baltimore, Maryland. Findings indicated that mindfulness programs can be feasibly implemented in schools, while still remaining enjoyable for students, teachers, and administrators (Mendelson et al., 2010).
According to Sibinga et al. (2014), “[o]ften urban youth in the United States are exposed to significant ongoing stresses, including poverty, failing education systems, and exposure to community and interpersonal violence” (p. 180). Sibinga et al. (2014) recruited adolescents between the ages of 13 and 21 to participate in an eight-week health education curriculum that included learning about “mindful eating, body scan, walking meditation, sitting meditation, and yoga” (p. 181). At the conclusion of the eight week program, the researchers determined that the mindfulness program was useful in increasing the youths’ ability to remain calm, avoid conflict, be self-aware, and self-regulate (Sibinga et al., 2014). A cross-gender study that examined the effects of movement on students from all socioeconomic backgrounds would be helpful in determining whether there are any pre-existing conditions or unforeseen variables that lead to the success or failure of such programs.

Movement integration and academic achievement. In regard to academics, researchers have examined the potential benefits of movement integration on not only academic motivation, but also academic intelligence. Reed et al. (2010) found that, “aerobically trained or physically active participants performed significantly better on the fluid intelligence tasks than untrained or inactive participants” (p. 348). The third grade teachers who participated in the study were untrained in physical education and confined to the limits of their classrooms, yet their students still managed to take an average of 1,200 steps per day. These numbers are a very positive result, as the recommended number of steps for children to take during a thirty-minute physical activity session is 1,200 to 2,000 (Reed et al., 2010, p. 348). Therefore, if all schools were able to integrate movement with the same success as the one featured in this study, children nationwide
would be receiving the recommended daily amount of physical activity, which would hopefully be compounded by a separate physical education class, as well as any after-school activities.

Mullender-Wijnmsma et al. (2015) examined the effects of physical activity on academic performance. A year’s worth of data was collected and analyzed to determine whether or not movement integration produced long-term positive results. The conclusions were drawn through scrutiny of both mathematics and reading skills, which was unique to this particular study. However, the researchers did not rely entirely on test results, as they also collected teacher observations of the students’ time-on-task. Through this study, Mullender-Wijnmsma et al. (2015) found that third grade students who received the movement interventions performed significantly better on both the reading and mathematics assessments when compared to their peers in the control classes. Additionally, the researchers stated that time-on-task behaviors were above seventy percent during the intervention lessons; however, similar percentages also emerged during the sedentary lessons. Several more contradictory findings also emerged from the data analysis. In the second grade intervention classroom, students scored significantly lower on the mathematics assessment and on-par on the reading assessment with their classmates in the control group. The researchers suggest that this may stem from an inability, by the second graders, to focus the majority of their attention on the academic tasks, rather than dividing their attention between the academic and physical aspects of what they are being asked to do. Regardless of the ambiguous findings, the researchers still maintain that physical activity interventions can be implemented into the general education classroom with relative ease and success (Mullender-Wijnmsma et al., 2015).
Movement integration and academic motivation. Although not solely concerned with academic success in regard to improved scores in mathematics or reading, Vazou et al. (2012) investigated a related concept: how physical activity in elementary school classrooms influences academic motivation. Parents, teachers, and researchers assert that an increase in student motivation directly correlates to improved academic performance because students are willing to dedicate the necessary time and effort to succeed (Vazou et al., 2012). As a result, one of the first steps in aiding lower performing students would be to attempt to increase their motivation to complete schoolwork. Therefore, the researchers argue that movement integration in the general education classroom could potentially have promising effects on both present academic levels of performance, as well as motivation, which seems to be positively correlated.

Vazou et al. (2012) examined the impact of physical activity on a total of 147 students, both male and female, from fourth through sixth grade. To determine any change in motivation, the researchers used the Intrinsic Motivation Inventory, which has five subdivisions; (a) interest/enjoyment, (b) perceived competence, (c) effort, (d) value, and (e) pressure. At the conclusion of the two-week intervention period, the researchers found that physical activity integration aided in improving students’ intrinsic motivation, perceived competence, and effort (Vazou et al., 2012). Furthermore, it was determined that students did not feel any sense of increased pressure, nor did they value the lesson any less because it implemented movement. Not only did students perform better academically as a result of increased motivation, they were also reported to be happier and more interested in the lessons that integrated physical activity. It took at least two integrated lessons before students became comfortable and confident with physical
activity in the classroom, since it is quite polarizing compared to traditional methods of instruction. Students’ feelings of competence increased after the second integrated lesson, but did not increase at any point during the traditional lessons. Therefore, the researchers assert that physical activity is a useful tool that can help to elicit increased student motivation, which seems to directly correlate to academic achievement (Vazou et al., 2012).

**Movement integration and attention.** Another facet of research related to movement integration has focused on the attention spans of students. One study in particular found that “integrating movement into spelling, sight words, or literacy concepts reenergized the students, increased attention to the task, and helped concentration” (Sandberg, Hansen, & Puckett, 2013, p. 9). Therefore, there is a need for research on classroom interventions that have positive effects on attention, as 6.1 million children were diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) in 2016. This is estimated to be about 9.4% of all children between two and seventeen years of age. Additionally, over 66% of these children were diagnosed with at least one other mental, emotional, or behavioral disorder (“American Psychiatric Association” 2013).

One study examined boys between the ages of eight and thirteen with ADHD (Jensen & Kenny, 2004). All of the participants were diagnosed using the DSM-IV criteria, which is the common standard used for testing. The purpose of this study was to determine if movement, specifically yoga, could help reduce the ever-increasing number of children receiving pharmaceutical interventions. It is the position of the researchers, that parents, educators, and other relevant stakeholders, should be willing to try other forms of assistance before, or in addition to, medicating the child (Jensen & Kenny,
2004). The researchers chose yoga because of its therapeutic qualities, in addition to the fact that it has been found to significantly impact both neurological and physiological activity. They define yoga as, “a systematic body of knowledge concerned with the physiological and mental processes that change the physiology of the body through respiratory manipulation (breathing techniques), postures, and cognitive control (relaxation and meditation)” (Jensen & Kenny, 2004, p. 205). Over the course of twenty weeks, participants took hour long instructional sessions that were administered at a local hospital. Each session included both the boys and their parents, so that the techniques could be implemented throughout the boys’ daily lives. The specific yoga techniques the boys learned were centered on respiratory training, postural training, relaxation training, and concentration training. Results of the study helped to confirm the study’s hypothesis, as the intervention group showed positive trends on ten of the Conners’ Parent Rating Scales. In comparison, the control group showed positive trends in six of the specified categories. Although the authors concede that more research is necessary to discover the full-range of benefits from interventions, such as yoga, on children with ADHD, they maintain that it is a useful treatment that can be paired with medication or called upon at times of the day in which the effects of medication have dissipated (Jensen & Kenny, 2004).

**Movement integration and feasibility.** A common concern among faculty and staff at schools across the country is the feasibility of implementing movement interventions into the general education classroom. Mendelson et al. (2010) examined the feasibility, along with the results, of a mindfulness program conducted at schools in an urban area of Baltimore, Maryland. Similarly to Jensen and Kenny (2004), Mendelson et
al. (2010) chose to research the impacts of yoga along with other mindfulness programs. Their research question stemmed from recent findings that claim children who are chronically stressed at young ages are at a high risk for abnormal or underdeveloped cognitive and emotional abilities. Persistent poverty is one obvious stressor for both adults and children, which explains why the participants of the study were all from an urban area, where poverty rates tend to be higher. The interventions occurred in two different schools over a twelve-week duration, in forty-five minute sessions, and the researchers attempted to gauge changes in social, emotional, and behavioral responses pre-and post-intervention. They based their findings on several different measures including, involuntary stress responses, depressive symptoms, positive and negative emotions, and relations with peers and school. At the end of their study, Mendelson et al. (2010) concluded, in regard to feasibility, that both teachers and students thought positively of the program and its successful implementation. Students were found to have significant levels of enthusiasm and were eager to participate in the training. Furthermore, teachers were supportive of mindfulness training to aid students who struggle with behavioral or attention issues. Students in the intervention groups were found to show improvements, or positive trends, in the categories of engagement, rumination, intrusive thoughts, emotional arousal, and impulsive action. Included in their findings was a quote from one of the participants that perfectly sums up the potential benefits of such a program. “[The] most important thing I learned in the program is that it’s all different ways to deal with your stress instead of like fighting and stuff” (Mendelson et al., 2010, p. 989).
Trost, Fees, and Dzewaltowski (2008) were also interested in the ease with which physical activity can be integrated into the classroom curriculum. The researchers evaluated the feasibility and efficacy of a “move and learn” program among groups of children between ages three and five at a preschool in Kansas (Trost et al., 2008, p. 88). The program was used across the curriculum, in math, science, language arts, and nutrition education. At the conclusion of the ten week study, Trost et al. (2008) determined that the “move and learn” curriculum was able to be implemented by general education classroom teachers and staff. The activities were carried out with fidelity, and the participants appeared to be enthusiastic and engaged throughout the lessons. Furthermore, the teachers indicated that the students were able to self-regulate as they completed the activities, so they required less individualized instruction and redirection from their teacher (Trost et al., 2008).

Katz et al. (2010) researched the impact, as well as the feasibility of a physically active curriculum implemented in three schools located in Independence, Missouri. Their aim was to create a program that was low-cost and sustainable to encourage more schools to implement one. The students receiving the physical activity interventions showed improvements in numerous areas, including abdominal strength and upper body strength (Katz et al., 2010). The researchers concluded that, “the program can improve fitness, reduce medication use, and preserve teaching time and academic performance” (Katz et al., 2010, p. 5). Furthermore, they stressed that a physically active curriculum can be implemented with few disruptions to the daily classroom routine. Katz et al. (2010) made the distinction that physical activity is meaningful because it increases classroom
efficiency by limiting various interruptions, and, therefore, does not require extra time be devoted to the program (Katz et al., 2010).

**Comprehensive movement integration programs.** In Physical Activity Across the Curriculum (PAAC), Donnelly et al. (2009) conducted a three-year study that aimed to increase physical activity in the classroom, to aid in decreasing the percentage of overweight and obese children. Originally, twenty-six Kansas elementary schools were chosen to participate, however, only twenty-four participated in the study for its entirety. The researchers gauged the success of the program based on change in Body Mass Index (BMI), academic achievement, and direct observations (Donnelly et al., 2009). Donnelly et al., (2009) concluded that, “change in BMI from baseline to 3 years was significantly influenced by exposure to PAAC” (p. 338). Furthermore, they determined that the students who participated in PAAC made significant improvements in reading, math, and spelling. Additionally, as the year progressed, the teachers increased the amount of physical activity, most often in language arts and mathematics (Donnelly et al., 2009).

Kibbet et al. (2011) examined the impact of the Take 10! program on children’s physical activity and their academic achievement in the classroom ten years after its initial implementation. Take 10! was designed to promote “brain breaks” in the classroom to allow students the opportunity to re-energize before continuing with the day’s learning. The researchers compiled information from various journal articles, abstracts, and student health outcomes. The authors allege that the elementary classroom is an ideal setting in which to implement physical activity because so many children can be affected on a daily basis (Kibbet et al., 2011). Kibbet et al. (2011) determined that 75% of the participating teachers were willing to continue using physical activity in their
classrooms, and 62.5% noted that they believed the activities were aligned with the curriculum objectives. Furthermore, students demonstrated increased knowledge in academic content areas, as well as those related to health and physical activity because they were more willing to partake in various exercises (Kibbet et al., 2011). Another positive result of the Take 10! program was improved classroom behavior. According to Kibbet et al. (2011), “[t]he results indicated a reduction of over 20% in off-task and other inattentive behaviors following the activity segment, suggesting that the activity segment had a positive effect on students’ behavior” (p. S48). Programs such as PAAC and Take 10! have influenced various frameworks that could be implemented in schools, including Comprehensive School Physical Activity Programs (CSPAP) introduced by the Centers for Disease Control (CDC) to guide schools as they increase the amount of physical activity in the classroom.

**Music and Movement Intervention Research**

Within the current body of research there has been minimal research conducted to determine the potential benefits of incorporating *both* music and movement interventions into the elementary classroom. Separate music and movement integration programs in the general education classroom have indicated encouraging results on student achievement, motivation, and engagement. Thus, a curriculum or instructional strategies that weave both music and movement together seamlessly could elicit positive results. While the current body of research focuses on very young children, none older than first grade, the remaining body of evidence on music and movement integration is divided between the socioeconomic statuses of students, focusing primarily on those from more impoverished
areas. Furthermore, the scope of research is very broad in terms of what types of music and movement are used, as well as the measures that determine success.

**Music and movement interventions and low SES.** Cole and Boykin (2008) centered their research around the effects of music and movement integration on the recall and mood of groups of students in fourth and sixth grade who reside in an urban area. The purpose of this study was to determine what type of learning environment is most effective for low-income, African American children. Many of these children come from a culture that has a rich history of both dance and music, yet they are taught using methods that are quite sedentary. No experiments were conducted within the study to increase reliability. This was accomplished by piloting similar procedures with a group of fourth graders, then sixth graders. Their intent was to gauge what, if any, difference age produces on the success of the program. Results of the first experiment indicated that the most effective learning environment for students involved rhythmic music and plenty of opportunities for movement, which stands in direct opposition of the findings from Salamé’s and Baddeley’s 1989 study. The second experiment’s results were somewhat contradictory to those of the first. The researchers found that the sixth graders performed best in the environment that included non-syncopated music and little opportunity for movement. Although the sixth graders were more hesitant in the high movement conditions, they still performed well in the presence of music. However, this could be a direct result of the fact that all four conditions involved some type of music, syncopated or non-syncopated. The proposed explanation for the variance in results between experiments one and two is that over time, children learn to suppress “Afrocultural practices” (p. 349). According to Cole and Boykin (2008), “[o]lder African American
school children attempt to accommodate mainstream schooling practices such as individualism, competition, and movement restrictions” (p. 349). Furthermore, the researchers found that students in the groups that promoted movement expression reported higher levels of engagement and a more positive affect.

**Impact of music and movement on language.** Yazejian and Peisner-Feinber (2009) researched the effects of a dually integrated program on preschool children’s language skills. The participants were selected from a Head Start preschool program, which presents its own challenges because it limits the ability of the researchers to determine whether the outcomes were a result of the intervention or the preschool itself. Furthermore, Head Start preschools are designed for families from a lower socioeconomic status, so the students’ language growth could be skewed based on the amount of conversation taking place in the home. Despite these limitations, the study is still incredibly useful because it is one of the few that integrates both music and movement. The program implemented at the school featured a sequenced curriculum that was taught by a music specialist twice per week for thirty minutes throughout the school year. The findings of this study indicate that the students receiving the intervention made significant gains in their communication skills in comparison to the control classrooms (Yazejian & Peisner-Feinber, 2009). However, there was no noteworthy difference in either receptive language ability or phonological awareness between the two groups. The researchers acknowledge the need for longitudinal studies that follow the children into first grade and beyond to address the differences that age might make in the success of music and movement-based intervention programs.
Impact of music and movement on student engagement. Sandberg et al. (2013) narrowed their scope to focus specifically on the impact that music and movement have on student engagement. The researchers assert that attention and engagement in the classroom can be improved by implementing music and movement strategies within the everyday curriculum. The study’s population was two students who both spoke Spanish as their first language. The first student was observed for twenty-five days and the second for twenty-two days, due to a withdrawal from the school. The students were described as struggling with behavior, attention, engagement, and motivation. It was the researchers’ viewpoint(s) that children can be positively affected by the use of integrated lesson plans. Sandberg et al. (2013) used time sampling and daily interviews to support their claim that music and movement are a highly useful tool for improving children’s behavior. They cited the quantitative results of their study, which showed a general increase in the positive behavior and a decrease in the negative behavior, as well as increased attention and engagement in classroom activities among two students as evidence for their thesis. Sandberg et al. (2013) also used personal interviews with the teacher of the two “problem” students as a first hand reference for the change in the students’ behavior. According to the boys’ teacher, “as music and movement activities were integrated, her students would refocus and engage actively in group lessons and individual work” (Sandberg et al., 2013), indicating that the combination of music and movement in the classroom is potentially valuable, yet still in need of continued research on different populations of students.

There seems to be less debate regarding the usefulness of movement in the classroom than the use of music. Holistically, there is more research regarding movement
integration from varying perspectives, whereas the research on music integration tends to be concentrated from an academic perspective. This could potentially be a result of the vast expanse of genre options that could be implemented in music programs, or because of the relatively limited physical activities that can be safely conducted in a general education classroom. Furthermore, many of the studies focus on lower elementary school students. Subsequently, there is a lack of research on the effects of music and movement interventions in upper elementary, middle, and high school. Yet, it would be interesting to examine the effect of such interventions on this population, as these students tend to be much more self-conscious about their actions in front of other peers. Despite the deficiency in the literature on older children, it is still imperative for educators to seek out ways to implement music and movement interventions in all classrooms to help students succeed at their highest potential.

**Importance of Transitions in the Classroom**

As noted above, much of the literature has focused on music and movement as a method for attention, behavior, or learning an academic skill in the classroom. Much less attention has been paid to an essential part of the school day known as transitions. Transitions have the ability to positively or negatively affect instruction. Research has described transitions as indicators of both teachers’ effectiveness and students’ success (Johns, Crowley, & Guetzloe, 2008). Transitions occur throughout the school day, and when implemented effectively in the classroom, allow for a smooth shift from one lesson or activity to another. This is important to teaching and learning because it eliminates unnecessary distractions, which decreases frustration and confusion while increasing time allotted for the lesson. For instance, when students return from lunch and begin their
English lesson, a transition has just occurred. However, poorly managed transitions can cost teachers significant instructional time, and, therefore, limit students’ learning. Johns et al. (2008) identified transitions as a major source of off-task time in the classroom. Off-task behaviors do not always have to be apparent to the teacher, but they can include behaviors such as talking, looking around the room, or tapping a pencil on the desk, among many others. Researchers claim that students should be reinforced for completing transitions smoothly and quietly (Johns et al., 2008). Arlin (1979) described three characteristics of effective transitions: smoothness, momentum, and continuity of signal systems. Through his research, it was determined that transitions are most successful when students are accustomed to the routine that takes place shortly before the shift in focus or activity.

While music and movement are commonly used to enhance or enrich a lesson, it is less common for music and movement to be used to signal the start or finish of a daily routine, known as transitions. It is even less common to find literature centering on music and movement strategies utilized as transitions. However, being that teachers are under great pressure for their students to perform academically, using music and movement during transitions might be a more feasible way for teachers to begin to integrate music and movement while also increasing instructional time and student success. Utilizing this strategy may even lead to small incremental integration during daily lessons.

According to Paine et al. (1983) there are four components to effective classroom transitions including, (1) move quietly, (2) put your materials away and get out the materials for the following activity, (3) move desks/chairs quietly, (4) keep your hands and feet to yourself. However, one could ask why transitions need to occur in such a quiet
and orderly fashion when children already spend a large portion of the school day sedentary in their desks. It is worth determining whether music/movement interventions could be used to aid transitions while still maintaining an orderly and efficient classroom. Although transitions are one of the least focused times during the school day, there is still limited evidence to determine whether music interventions increase students’ attention on the task that directly follows the transitional time. Furthermore, there is even less research that has examined the effects of movement interventions on the behavior of students during transition times.

Since a lack of instructional time is commonly cited as a reason that teachers cannot incorporate anything else into their daily tasks, some researchers have examined strategies that enable teachers to manage time most efficiently through transitions. While disciplinary issues are the most frequent interruptions in the classroom, time is also lost due to activities that are unrelated to academics, such as guest speakers, assemblies, and messages that need to be delivered to or from the classroom. One study found that high school classes can expect two interruptions per class period, which equates to at least five per day (Spitzer & Helms, 2006). Since this study was conducted, advances in technology have only led to more disruptions. Many students have cell phones or iPads at their disposal from a very early age, and they fail to separate themselves from these devices during the school day. Another study determined that student inattentiveness equates to the largest loss of instructional time and cites information that children spend between 10% and 50% of their time off-task in the regular education classrooms (Godwin, Almeda, Petroccia, Baker, & Fisher, 2013, p. 2428). In a 2001 study, Leonard determined that approximately 60% of instructional time during the school day is lost due to events
such as recess, lunch, pep rallies, and assemblies. It is not only the events themselves that take away instructional time, but attempting to have students settle back into academic instruction can further limit an already tight schedule.

**Music as a tool to aid transitions.** Register and Humpal (2007) examined three case studies that used music as a tool to facilitate transitions throughout the school day. In the first case study, a music therapist used transition songs to encourage a toddler class to continue to the next activity. In this case study, Register and Humpal (2007) found that before the intervention, it took students 180 seconds to move to the next task after instructions were given, and after the intervention, the length of time decreased to 80 seconds (p. 27). In case study two, researchers measured the amount of time needed for the kindergarten children to put away their supplies and the number of verbal prompts or redirections in order to be ready for the next activity. The researchers determined that “[t]he entire group responded more quickly to directives issued in music than to directives given verbally” (Register & Humpal, 2007, p. 29). Additionally, they observed that pre-intervention, the students took 4 minutes and 55 seconds to put everything away, and they received 15 redirections. Once the intervention took place, the students completed the clean-up in 2 minutes and 8 seconds, receiving only two redirections for behavior (Register & Humpal, 2007). In the third case study, a class of prekindergarten students were measured before and after a finger cymbal and goodbye song were introduced. The two variables measured were the time from the cymbals and song being played to all the students being quiet and the amount of time between the conclusion of the activity and the response for the initiation of the goodbye song. Initially, it took 1 minute and 45 seconds for all the students to grow quiet and listen for the next set of
instructions, and after six weeks, the amount of required time had decreased to less than 35 seconds (Register & Humpal, 2007). This decrease in time implies that music integration is an effective tool for promoting quick classroom transitions.

**Movement as a tool to aid transitions.** Bobe, Perera, Frei, and Frei (2014) evaluated the perceptions and impact of implementing segments of a “Brain Breaks” exercise DVD in elementary classrooms. The authors define brain breaks as short segments of physical activity, and they encouraged the classroom teachers to play portions of the DVD at least once per week throughout the school day when the students began to grow restless. The results of their study indicated that most teachers increased the use of the brain breaks to two to three times per week, and approximately 90% of the 43 teachers planned to continue its use (Bobe et al., 2014). Therefore, Bobe et al. (2014) concluded that brain breaks were an effective method for increasing physical activity in the elementary classroom because students were excited and engaged during their implementation. However, the DVD was not specifically implemented during transition times, which reiterates the need for this research.

Wadsworth, Robinson, Beckham, and Webster (2011) researched the feasibility and usefulness of physical activity breaks throughout the school day in an early childhood setting. The researchers implemented one to two ten-minute physical activity breaks in two separate preschools and measured the results over four days, two days with breaks and two without. They concluded that the breaks did not disrupt classroom instruction and aided children in their transition from one activity to the next (Wadsworth et al., 2011). Furthermore, they strongly advocate for the use of these breaks because, “physical activity behaviors established in early childhood tend to factor into childhood
activity patterns and more active children tend to be more active as adults than their sedentary peers” (Wadsworth et al., 2011, p. 394).

Since there is a substantial amount of instructional time lost during transitions (Johns et al., 2008), elementary schools should consider any feasible intervention that would assist teachers in managing transitions while concurrently increasing instructional time. Transitions account for a significant portion of lost time during the school day, thus, it is worth examining music and movement interventions as a way to aid in creating smoother and quicker transitions as they become part of the daily routine.

Conclusion

The literature review for the present study addressed the importance and impact of music and movement integration on children’s academic performance, attention, and engagement at school. After a thorough review of literature, the researcher found that there are several deficiencies in the literature surrounding music and movement interventions in the classroom, specifically on the ability of music and movement interventions to be utilized to increase classroom engagement and instructional time during transitions. Effective transitions and management are indicators of keeping children engaged and that engagement is an indicator of academic success (Johns et al., 2008). Much of the literature has aimed to determine the impact music and movement have on children’s cognitive performance and attention span, especially those with hyperactivity disorders such as ADHD. However, there is still a need for research that looks at music and movement interventions as a transition tool to increase instructional time. Therefore, this study aimed to measure the length of transitional time with and without music and movement interventions in a first-grade classroom to determine if the
strategies increased or decreased both transitional and instructional time. Furthermore, the researcher also studied any changes in the duration of student engagement as a result of the music and movement interventions.
CHAPTER III: METHODS

This study examined the effects of music, movement, and music and movement on the transition times of a class of first grade students at the beginning of the school day and following recess in the afternoon. The researcher observed the students over 26 separate periods that occurred during 13 school days from September 26, 2018 - November 7, 2018. Each intervention lasted between three and five minutes. The researcher then observed the students following the intervention to determine what effect, if any, music and movement produced on transition times. Data was also analyzed to determine if student engagement in the task following the intervention increased or decreased as a result of the music, movement, or music and movement interventions.

Participants and Setting

The present study took place in a single first grade classroom at an elementary school in Northwest Mississippi during the fall of 2018. The researcher was randomly assigned to the classroom as part of a senior practicum course at the University of Mississippi. Thus, the participants in the study were chosen through a convenience sample due to the fact that they were students in the researcher’s randomly assigned senior practicum class. The participants ranged in age from six to nine, and all came from varying socioeconomic backgrounds, races, and academic levels. The demographic breakdown of the participants was as follows: 42.9% Non-Hispanic White, 52.4% African American, and 5.0% Hispanic. The male to female ratio was 13:8. Based on their
state, standardized test scores, the participants’ ability levels spanned from what would be considered “below grade level” in mathematics and reading to “on target”, meaning that they are on track academically with what is expected of a “typically developing” first grade student.

Procedures

Design. Before conducting this study, the researcher obtained consent from all participants, the clinical instructor, the school’s assistant principal and principal, as well as approval from the Institutional Review Board at the University of Mississippi. Furthermore, the researcher obtained written consent from the parents of all participants since interventions were implemented as part of the study. Thirteen days of observations and interventions occurred over eight weeks during this study. The number of participants, 21, was determined by the school administration as a result of randomly assigning students to one of four first grade classrooms at the school. The type of research utilized in this study revolved around participant observation, in which the principle researcher became part of the classroom community that was being studied (Crossman, 2018). As a result, the researcher was able to observe the students during all phases of the school day, which provided a stronger baseline with which to compare the results of the interventions.

During the eight-week study, two weeks were spent solely observing the students to determine a baseline for recording anecdotal notes following the interventions. The remaining six weeks of the study were spent implementing various music, movement, and music and movement interventions. The interventions were implemented every Monday and Wednesday in the mornings when students arrived to school and in the
afternoons when they returned from recess. Following the three to five minute interventions, the researcher observed students as they began the succeeding academic task or assignment. The morning interventions occurred between 8:00-8:30 a.m. each morning, and the afternoon interventions took place between 1:10-1:40 p.m. each afternoon. The reason for the varying implementation times was a result of unforeseen disruptions and schedule changes that could not be avoided. There was no set end-time for the observational period that followed the intervention. The researcher took note of when the majority of students demonstrated engagement and when the majority began to lose engagement. For the purposes of this study, the researcher defined “engaged” as students listening quietly to the speaker, following directions appropriately, and participating when called upon. In a classroom of 21 students, the researcher determined the majority to be 17 or more students showing engagement. The number 17 was derived as a result of calculating the mean number of students, 10.5, and adjusting up for one standard deviation, 6.055, which totaled 17 students. The researcher also made note of any surprising behaviors exhibited by the students following the intervention.

**Instrument**

The researcher divided the study into four main sections: observations, music interventions, movement interventions, and music and movement interventions. The first two weeks were comprised of a strictly observational period intended to measure how long it typically took the students to transition from one activity to the next at the beginning of the school day and following recess in order to establish baseline data. The next two weeks were spent implementing music interventions, one week of classical music followed by one week of popular music (i.e. children’s Disney songs). Then
followed two weeks of movement interventions, which were divided into one week of simple stretches and another week comprised of common children’s games involving movement. The final two weeks, interventions were implemented that combined both music and movement mostly through song and dance.

The instrument used in this study was a checklist that allowed the researcher to collect quantitative data from the interventions. The instrument was adapted from an online checklist that included behaviors discussed in the *Handbook of Research on Student Engagement* as indicators of focus and engagement (Christenson, Reschly, & Wylie, 2012). The checklist measured the start and stop times of the intervention, the start and stop times of the instruction for the next task or activity, and the length of time that the majority of the 21 students showed engagement in the lesson. The qualitative portion of the chart was separated into two subsections based on body language and focus. Body language was measured on the chart based on the following factors: eyes on speaker, appropriate posture, nonverbal response, and body containment. The focus section of the chart measured whether the participants remained in their assigned area, followed classroom procedures, self-started, and problem solved to get help if needed.

**Data Analysis**

A quantitative checklist was used during each observational period. The following quantitative data was collected for each intervention: the start and end time for each intervention, the start and end time for the classroom instruction that followed, and the start and end time that the majority of students showed engagement. Additional quantitative data was gathered in the subsequent portion of the checklist and gauged the following behavioral indicators: eyes on speaker, appropriate posture, nonverbal
response, body containment, remaining in assigned area, following classroom procedures, self-starting, and problem solving to get help if needed. Each of these behaviors was categorized as either not applicable, non-existent, inconsistent, or consistent. At the bottom of the checklist was a qualitative section that allowed the researcher to collect participant observations and anecdotal notes on the behaviors of the students during and directly following the interventions.

The data from each period of research - baseline data collection, music interventions, movement interventions, and music and movement interventions - were averaged separately to determine the length of time that the majority of students remained engaged in the academic task or activity that followed each intervention. This data was placed into a bar graph that depicts the statistical data from each intervention, allowing the researcher to concisely present the total length of time of engagement for the four stages of the study. The second portion of quantitative data from each observational period was also converted into a table that provides a visual of which behaviors were categorized as not applicable, non-existent, inconsistent, and consistent throughout each phase of research. The bar graph and table were analyzed in order to determine the effectiveness of the interventions on decreasing the time it takes for students to transition from non-instructional portions of the school day into structured, academic activities. Additionally, the anecdotal notes taken by the researcher were analyzed to further substantiate the results of the study.
CHAPTER IV: RESULTS

The researcher implemented an eight-week study that measured any changes in student transition times and engagement following music, movement, and music and movement interventions. The results of the study were separated into four different visuals showing the mean transition time and the mean duration of engagement following each intervention throughout the four phases of the study, as well as two tables focusing on body language consistency and focus of the students. Data indicated that the mean transition times of the students decreased when music interventions were implemented, and decreased even further when movement and music and movement interventions were utilized (See Figure 1). Furthermore, student engagement continued to increase throughout each phase of the study as music, movement, and music and movement interventions were implemented (See Figure 2). Data also revealed that certain student behaviors including keeping their eyes on speaker, appropriate posture, nonverbal response, and body containment became more consistent as students were introduced to the various types of interventions (See Table 1). Additionally, data showed that students were more likely to remain in their assigned areas, follow classroom procedures, self-start, and independently seek solutions to problems following a music, movement, or music and movement intervention.
Results for Research Question 1

Do music interventions increase or decrease the length of time it takes for students to transition to their next task at the beginning of the school day and following recess?

Prior to any interventions, the students’ mean transition time was three minutes ($SD = .82$) in the morning and three minutes and fifteen seconds ($SD = .96$) to transition following recess. Once music interventions were utilized, student transition time in the morning decreased to two minutes and thirty seconds ($SD = 1.73$) However, the mean afternoon transition time remained the same at three minutes and fifteen seconds ($SD = 1.7$). Although the data does not show any change in the mean afternoon transition time, the mean morning transition time decreased by 16.7% following the music interventions (See Figure 1).

Results for Research Question 2

Do movement interventions increase or decrease the length of time it takes for students to transition to their next task at the beginning of the school day and following recess?

The baseline data indicated that students took a mean of three minutes to transition in the morning, which decreased to a mean of one minute and seven and a half seconds ($SD = 0.63$) following the utilization of movement interventions. This change equates to a 62.5% decrease in the length of time that it took students to transition in the morning. The mean afternoon transition time during the baseline phase of the study was three minutes and fifteen seconds, and this time also decreased following the movement
interventions. The mean afternoon transition time during the two weeks of movement interventions was one minute and fifteen seconds, equating to a 61.5% decrease ($SD = 0.5$) (See Figure 1).

**Results for Research Question 3**

Do music and movement interventions increase or decrease the length of time it takes for students to transition to their next task at the beginning of the school day and following recess?

When music and movement interventions were utilized, the mean morning transition time decreased from the baseline mean of three minutes to forty-five seconds ($SD = 0.29$). This change equates to a decrease of 75%. Furthermore, the mean afternoon transition time decreased as well, dropping from three minutes and fifteen seconds to fifty-two and a half seconds ($SD = 0.25$). The implementation of music and movement interventions led to a 73.1% decrease in the length of the mean afternoon transition time (See Figure 1).

*Figure 1. Average transition times following morning and afternoon interventions.*
Results for Research Question 4

Does student engagement in the task increase, decrease, or remain stagnant following a music intervention?

The baseline data showed that the mean time in which students remained engaged in their task at the beginning of the day was four minutes and thirty seconds ($SD = 1.29$). Following the implementation of music interventions, the time of engagement in the morning increased to seven minutes and fifteen seconds ($SD = 2.99$). This equated to a percent increase of 61.1%. During the baseline phase of the study, the mean time of engagement in the afternoon was five minutes and fifteen seconds ($SD = 1.29$) which also increased following the music interventions to nine minutes and forty-five seconds ($SD = 1.71$). This change equates to an 85.7% increase in the overall time of engagement (See Figure 2).

Results for Research Question 5

Does student engagement in the task increase, decrease, or remain stagnant following a movement intervention?

When compared to the baseline data, the mean length of time that students remained engaged following movement interventions in the morning increased from four minutes and thirty seconds to thirteen minutes and twenty-two and a half seconds ($SD = 4.11$). When converted to a percent change, this data equated to an increase of 197.2%. In regard to the movement interventions conducted following recess, the mean length of engagement increased again, from the baseline time of five minutes and fifteen seconds to twelve minutes ($SD = 3.74$). This equated to a 128.6% increase in the length of time that students remained engaged following the intervention (See Figure 2).
Results for Research Question 6

Does student engagement in the task increase, decrease, or remain stagnant following a music and movement intervention?

The data from this phase of the study also indicated an increase in the mean length of student engagement following both the morning and afternoon interventions. The baseline showed a morning mean time of four minutes and thirty seconds, which increased to twelve minutes and thirty seconds ($SD = 2.12$) once music and movement interventions were introduced over the course of two weeks. This change is equal to a 177.8% increase in the length of engagement. Furthermore, the afternoon length of engagement also increased following the implementation of music and movement interventions from the baseline of five minutes and fifteen seconds to fourteen minutes and seven and a half seconds ($SD = 3.52$). Overall, this equated to a 169% change (See Figure 2).

![Figure 2](image.png)  
*Figure 2. Average length of engagement following morning and afternoon interventions.*
Results for Research Question 7

What effect does a music, movement, or music and movement intervention have on specific student behaviors in the areas of body language and focus?

To determine the results for this question, the researcher created two tables designed to illustrate certain behaviors that are categorized as either body language or focus (See Tables 1 and 2). The behaviors observed in Tables 1 and 2 were adapted from the *Handbook of Research on Student Engagement* (Christenson, Reschly, & Wylie, 2012). The data from the Body Language Consistency Table indicates that student behavior improved with the implementation of each intervention. The music intervention showed more positive behaviors than the baseline, and the movement and music and movement interventions demonstrated even greater positive impacts on student behavior. The four behaviors measured in Table 1 were, “eyes on speaker, appropriate posture, nonverbal response, body is contained”. Furthermore, the data also indicated that student behavior under the category of focus improved following each phase of the interventions.

The data for body language consistency indicates that the most successful phase was the music and movement interventions. Each phase of the study had eight observational periods in total. All four behaviors noted in the chart improved across each phase of the study, baseline, music intervention, movement intervention, and music and movement intervention, respectively. Eyes on speaker improved from being measured as consistent one time in the initial phase of the study to five, seven, and eight times consistent in the following phases. Appropriate posture was also shown to improve, as it increased from zero times consistent in the baseline phase to two, seven, and eight times consistent in the music, movement, and music and movement interventions. Furthermore,
nonverbal response also improved from zero times consistent to four, eight, and eight times consistent as the study progressed. The final behavioral measure was body containment, which followed the same trend as the previous three behaviors, as it increased from one at the baseline to two, eight, and eight throughout the next three phases of the study (See Table 1).

Table 1

<table>
<thead>
<tr>
<th>Body Language Consistency</th>
<th>EYES ON SPEAKER</th>
<th>APPROPRIATE POSTURE</th>
<th>NONVERBAL RESPONSE</th>
<th>BODY IS CONTAINED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BASELINE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consistent</td>
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<td>0</td>
<td>1</td>
</tr>
<tr>
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<td>8</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
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<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Not Applicable</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td><strong>MUSIC INTERVENTION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Inconsistent</td>
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<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Not Applicable</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td><strong>MOVEMENT INTERVENTION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consistent</td>
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<td>7</td>
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<td>8</td>
</tr>
<tr>
<td>Inconsistent</td>
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<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Non-existent</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Not Applicable</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>MUSIC AND MOVEMENT INTERVENTION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consistent</td>
<td>8</td>
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<tr>
<td>Inconsistent</td>
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<td>0</td>
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</tr>
<tr>
<td>Not Applicable</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

The data from the Focus Consistency Table also shows a positive trend from the baseline data toward the various phases of the interventions. Four more behaviors, “remaining in assigned area, following classroom procedures, self-starting, and problem solving to get help if needed” were measured to collect the information presented in Table 2. Across the baseline, music intervention, movement intervention, and music and
movement intervention the consistency of remaining in assigned area increased from six to eight, eight, and eight respectively. Furthermore, following classroom procedures increased in the same pattern, being observed as consistent one time in the baseline phase to six, eight, and eight throughout the following phases of the study. The students’ ability to self-start also showed improvement, initially being observed as consistent zero times, to three times throughout each of the subsequent intervention stages. The final behavior, problem solving to get help if needed, also became more consistent as the study progressed. During the baseline phase, this behavior was measured as consistent zero times and it remained at zero throughout the music interventions, as well. More positive improvements were seen in the movement and music and movement interventions as this behavior was determined to be consistent one and then two times respectively (See Table 2).
Field Notes

Through the analysis of the anecdotal notes collected by the researcher, three main themes emerged. The first theme is the increased duration of engagement that became apparent throughout the progression of the study. The second theme is that of decreased transition times in both the mornings and afternoons. The third main theme that is important to note is the overall enjoyment displayed by the students while they were participating in the interventions. When viewed through the lens of this study, these three themes help to support the researcher’s claims that an integrated curriculum that uses
music and movement is an important key to improving student engagement and decreasing classroom transition times.

**Increased duration of engagement.** During the baseline phase of the study, the most common behavior noted by the researcher was the short attention spans of the students, which was denoted as “complete chaos” on two occasions. The students were unable to remain engaged in the lesson or activity for more than 10-12 minutes at a time, which was not long enough to complete the task at hand. Beginning with the implementation of the music interventions, the researcher witnessed a noticeable change in the duration of students’ engagement, and it continued to increase throughout the two weeks of music interventions and grew even further during the two weeks of movement interventions. The most significant increase in the duration of engagement became apparent once music and movement interventions were introduced. The students were clearly becoming engaged more quickly and remaining engaged for much longer periods of time.

**Decreased transition times.** Due to the importance of time in the classroom, the researcher also felt it was highly important to record any potential changes in the transition times of the students. Throughout the baseline phase, the students were unable to transition smoothly, and a fight often occurred during the process, which only contributed to more chaos. Both the morning and afternoon transition times of the students began to decrease across the three intervention phases of the study, with the greatest decrease in time occurring during the final phase, which implemented music and movement interventions. Several factors contributed to the decreasing transition times including the enhanced focus of the students that was demonstrated by their ability to line
up in correct alphabetical order without arguing or confusion. Furthermore, there were fewer fights because of the students’ ability to get in line more easily. Lastly, the noise level also decreased due to the fact that the frequency of arguments and amount of confusion were also reduced.

**Overall enjoyment.** The final theme that became apparent to the researcher centers on the enjoyment that the students derived from the interventions. It was important to the researcher that the students enjoy all the music and movement interventions utilized in this study so that the potential for implementing a similar study might increase. The researcher was able to tell that the students enjoyed the activities because they were constantly smiling throughout the dances and games. Furthermore, each morning and afternoon, they would beg to participate in that day’s activity, and if both interventions had already occurred, they would ask that the researcher think of another. The delight was so apparent, that the types of interventions used in this study quickly became a regular occurrence in the classroom following the conclusion of the study. The researcher believes this theme to be so important because the students’ enjoyment seemed to directly correlate to their improved engagement and transition times, which would provide both teachers and students with vital additional time in the classroom.

**Conclusion**

In summation, the data from this study indicates that there is an apparent decrease in the mean transition times of the students in both the morning and afternoon following the implementation of various types of interventions, specifically music and movement. Furthermore, the duration of student engagement increases when music, movement, and
music and movement interventions are utilized in the classroom. Specific behaviors were also shown to improve as a result of the interventions employed by the researcher. In both the body language and focus tables (See Tables 1 and 2), the greatest improvement in student behavior was shown to have followed the music and movement interventions. However, there was still a significant amount of success when the music and movement interventions were implemented independently. Therefore, the findings from this study support the use of various music and movement strategies in the elementary school classroom as a tool to aid in classroom management as well as student behavior.
CHAPTER V: DISCUSSION

This chapter examines the results of the impact that music, movement, and music and movement interventions produce on the average transition times of elementary students in both the morning and afternoon periods of the school day, as well as gauging any change in student engagement and behavior as a result of the interventions. Furthermore, this section includes a discussion regarding the limitations of the research conducted in this study, as well as suggestions for what future research on this topic would be useful.

Significance

The results of this study indicate that first grade students are able to transition from their morning routine into classroom instruction at a much faster rate when the transition is preceded by a music, movement, or music and movement intervention. Furthermore, these types of interventions also aided in decreasing the average time it took for students to transition back into classroom instruction following afternoon recess. What is especially striking about the results from this study is the sizable decrease in the average time for both morning and afternoon transitions. Regarding the morning transitional period, the music interventions yielded a 16.7% decrease; the movement interventions yielded a 62.5% decrease; the music and movement interventions yielded a 75% decrease in the average transition time. Although the music interventions did not produce a decrease in afternoon transition times, the movement interventions led to a
61.5% drop, and the music and movement interventions led to transition times that were 73.1% faster than those measured from the baseline data, all of which equates to valuable time for both teachers and students. Additionally, the field notes gathered by the researcher further corroborate the quantitative data from this study. As the study progressed, the students were able to transition much more quickly and smoothly than during the baseline phase of the study. The researcher saw a noticeable decrease in the attention paid to common distractions, such as noise from the hallway, other students’ toys/possessions, or conversations among the teachers in the classroom. Reducing these behaviors that often caused transition time to become chaotic helped to promote more efficient transitions like the ones witnessed during the intervention phases of this study. Overall, the data demonstrates the usefulness of all three intervention types in the elementary classroom, but especially those utilizing both music and movement, since they produced the most notable decrease in the average transition times of the students.

Additionally, the data from this study indicated that the types of interventions used in this research were also beneficial in increasing the length of time first grade students were able to remain engaged in teacher-led instruction and academic work. In regard to engagement, each type of intervention produced important increases in the duration of student engagement, which was supported by both the qualitative and quantitative data collected in this study. Across all intervention times and types, the greatest improvement arose from the morning movement interventions, which produced a 197.2% increase in the length of student engagement. Throughout the six weeks of interventions, the duration of student engagement continuously increased, and the researcher noticed a sizeable change in how quickly the students became engaged, as well as how long they were able
to remain engaged. Concerning both morning and afternoon transitions, the greatest overall success was produced by the music and movement interventions. During morning transitions, this specific type of intervention led to a significant engagement increase of 177.8%, and in the afternoons, the duration of engagement rose by an average of 169%.

Further supporting the use of music and movement interventions in the classroom is the data collected from the behavioral observation checklists, which showed that the greatest positive change in both body language and focus occurred during the two weeks in which music and movement interventions were used.

In relation to the findings of this study, the current research on music and movement interventions indicate that students’ attention and engagement are improved when these types of integrated activities are utilized in the classroom. Sandberg et al. (2013) determined that music and movement were highly useful at increasing positive behaviors and decreasing negative ones. Furthermore, the researchers cited the positive changes witnessed by the classroom teacher as further evidence of the usefulness of music and movement interventions. Although the available research on this topic indicates positive results, there is not an abundant repository of research conducted with music and movement interventions. Therefore, this study fills a significant gap regarding music, movement, and music and movement interventions as a tool to not only increase student engagement, but also decrease both morning and afternoon transitions times, which is one reason why the results are noteworthy.

Regarding the usefulness of music interventions, the results of this study were similar to those of previous researchers who advocate for their use as tools to aid in academic and attention span growth (Iwasaki et al., 2013; Rickard et al., 2010; Sandberg,
Hansen, & Puckett, 2013). However, this study contributes to the breadth and scope of useful data on the success of music interventions as a transition tool that can also produce positive impacts on student engagement and behavior. Movement interventions were also shown to be valuable in decreasing the transition times of the students, increasing the duration of their engagement, and improving behaviors categorized as either body language or focus. Findings from this study are congruent with prior research on movement in the classroom that has shown its benefits for aiding with attention-deficit and hyperactivity disorders as well as academic performance and motivation (Grönlund, Renck, & Weibull, 2005; Jensen & Kenny, 2004; Mullender-Wijnsma et al., 2015; Vazou et al., 2012). This study fills a gap in the research because there is a deficiency in the literature that addresses movement as a transition tool in the elementary classroom. Since there is such limited research regarding the feasibility and usefulness of music and movement interventions in the classroom, the results of this study are noteworthy.

The researcher’s findings support the use of all three types of interventions, music, movement, and music and movement, in the elementary classroom, but specifically the latter, which produced the most positive and continuous results throughout the study. The results of this study are further corroborated by the remaining research on music and movement in the classroom. Cole and Boykin (2008) found that music and movement were useful in aiding students’ recall, which in turn improved their test scores. Furthermore, Yazejian and Peisner-Feinber (2009) assert that music and movement produced positive results on the language growth of preschool children, while Sandberg et al. (2013) determined the benefits of music and movement on attention span and engagement when integrated in the everyday curriculum.
Limitations

Findings of this study revealed the positive impacts that various types of music and movement-related interventions can produce on the transition times and duration of engagement of students in a first grade classroom. However, there are several limitations from this study that are important to consider when inferring from the results of the research. First, the researcher was unable to guarantee what subject was taught following the implementation of each intervention. Although reading was most often taught in the morning and writing taught in the afternoon, there were occasions in which math or spelling was taught in place of one of the aforementioned subjects. These changes were most often the result of an upcoming test that required the classroom teacher to adequately prepare and review her students, but the results would be more generalizable had the same subject been taught following each morning and afternoon intervention. A second limitation is that the research was conducted on an entire class of first graders, so the gender ratio was not equal. There were five more boys in the class than girls, which could have potentially impacted which interventions were most beneficial to the students. Generally, the male students tended to behave in a more hyperactive manner than the female students, so this may have led to the favorability and success of the interventions that included some form of movement. Another limitation of this study was the change in the number of participants. Due to illness and progress monitoring, the number of student participants fluctuated between 17 and 21 throughout the course of the study. This may have led to an over inflation of the success of specific types of interventions, but it may have also led to an underestimation of the benefits produced by these same interventions. Certain students who may have responded more positively to the independent music
interventions could have been absent when they were implemented, and this goes for any of the three types of interventions used in this study. A fourth limitation revolves around the success of the music and movement interventions. This specific type of intervention was shown to be the most successful in decreasing transition times, increasing the duration of engagement, and promoting classroom appropriate behaviors among the students. It is possible that the success of the music and movement interventions was affected by the time in which they occurred. The study took place over eight weeks, the first two weeks collecting baseline data, followed by two weeks of music interventions, two weeks of movement interventions, and then two weeks of music and movement interventions. As the study progressed, the interventions proved to be more and more successful, so it is worth noting that the significant success of the music and movement interventions could have been influenced by the students growing accustomed to the various types of interventions performed in the study.

**Future Research**

Future research should focus on similar types of interventions, but it would be useful to separate participant groups based on gender to see if there are any differences in the success of certain interventions that could be attributed to this specific factor. Furthermore, it would be beneficial if subsequent studies were able to test the effects of music, movement, and music and movement interventions separately on students attending different schools to account for any results that might occur from students growing accustomed to the interventions in the study. Additionally, utilizing control groups to compare amongst the various groups would also be highly beneficial. Another area of the study that needs more research is the use of music and movement
interventions in the elementary school classroom, since the results of this study were quite promising. Moreover, studying the impact of these specific types of interventions across various age ranges could provide insight into their usefulness in the middle and high school classrooms, as well.

**Conclusion**

This study contributes to the field of research regarding music and movement interventions in the elementary school classroom. Results of this research study indicate the beneficial nature of various music and movement interventions in aiding the educational experience of both teachers and students. Teachers gain valuable instructional time when the average transition times are reduced, as was shown in all phases of this study. Furthermore, when behavioral issues improve, teachers often spend less time offering corrections, and this time could also be used to provide more instruction. Students benefit from increased engagement because they will be more likely to retain the information taught to them, which could have a positive impact on their test scores. Additionally, the students’ excitement and enjoyment during the interventions was apparent to the researcher, which indicates an additional benefit from implementing these types of programs in elementary schools. The results of this study should serve as a recommendation for the use of music, movement, and music and movement interventions in the elementary school classroom to assist with one of the most valuable assets teachers and students have in their possession, time.


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National Conference of State Legislatures. (2014). *Childhood overweight and obesity*


APPENDIX A

**Student Engagement Checklist**

**Date of Observation:**

**Number of Students Present During Observation:**

**Observer:**

**Class Being Observed:**

**Type of Task/Assignment:**

**Quantitative Observations:**

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<thead>
<tr>
<th>Intervention:</th>
<th>Start time:</th>
<th>End time:</th>
</tr>
</thead>
<tbody>
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<table>
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<th>Classroom Instruction:</th>
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<table>
<thead>
<tr>
<th>Majority of Students show Engagement:</th>
<th>Start time:</th>
<th>End time:</th>
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</thead>
<tbody>
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**Qualitative Observations:**

**Body Language**

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<th>Inconsistent</th>
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<tbody>
<tr>
<td>Eyes on Speaker</td>
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<td>Appropriate Posture</td>
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<td>Nonverbal Response</td>
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<tr>
<td>Body is Contained</td>
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</tr>
<tr>
<td>Focus</td>
<td></td>
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<tr>
<td>Remaining in Assigned Area</td>
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<tr>
<td>Following Classroom Procedures</td>
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<tr>
<td>Self-Starting Problem Solving to get Help if Needed</td>
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</table>