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Lessons Learned: Kinesthetic Learning and Engaging Students with ADHD (in the Time of COVID)

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**Lessons Learned: Kinesthetic Learning and Engaging Students with ADHD
(in the Time of COVID)**

by

Claudia Freedman

A culminating thesis submitted to the faculty of Dominican University of California
in partial fulfillment of the requirements for the degree of Master of Science in Education

Dominican University of California

San Rafael, CA

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Abstract

While many studies have examined the benefits of movement and kinesthetic learning on the engagement of all elementary school-aged children, especially those with Attention Deficit Hyperactivity Disorder (ADHD) or children with common characteristics or behaviors of ADHD (undiagnosed ADHD), less research exists on how the COVID-19 pandemic and hybrid learning affected and continues to impact the engagement of children, especially those with ADHD or undiagnosed ADHD. The purpose of this study was to investigate how teachers engage students, particularly those with ADHD or undiagnosed ADHD, in an elementary classroom using practices from movement, music, dance, and theater, especially during COVID-19. Additionally, my research explored how the pandemic and hybrid learning affected and continues to impact student engagement. This was a qualitative study in which data was collected through interviews with elementary teachers who taught before the COVID-19 pandemic, during the pandemic in a hybrid context, and are still currently teaching in a partially “post-pandemic” environment, to understand how the use of movement, dance, and theater impacted (and continues to impact) the engagement of their students, especially those with ADHD or undiagnosed ADHD. Findings indicated that before the pandemic, teachers had time and flexibility to incorporate movement, music, dance, and/or theater practices to engage all students. However, the pandemic drastically changed how teachers engaged all students. Now, in a partially “post-pandemic” environment, teachers are still dealing with the ramifications of the pandemic and are struggling to maintain the engagement of all students, especially those with ADHD or undiagnosed ADHD.

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Chapter 1: Introduction

The concept of a public system of education is surprisingly a relatively new and revolutionary concept. It was not until the nineteenth century that school existed in its modern form. However, it was only in the last two decades that pedagogical approaches shifted from teacher-centered to more student-centered (Stapp, 2019). Long-gone are the days of desks in rows facing the front of the room while a teacher lectures on an academic subject. Or are they? When the COVID-19 pandemic hit in the spring of 2020, the landscape of teaching seemed to revert back to a traditional model of school: one in which students were confined to desks in rows, facing the front of the classroom, with little to no opportunity to interact with anyone around them. This problem is compounded by the fact that teachers today feel as though more children than ever before struggle with attention, focus, and engagement. In fact, as of 2019, Attention Deficit Hyperactivity Disorder (ADHD) was the most common mental health diagnosis in children and the most frequent reason for referral to services (Eccleston et al., 2019). Additionally, the rate of diagnosis of ADHD has been growing by about 3% each year and has risen in parallel with the growth of standardized testing (Reddy, 2015; Robinson, 2010). The question now becomes, how is a child's ability to focus and achieve academically still being impacted by the pandemic's forced regression of classrooms back to the traditional model of desks and chairs in rows and forbidden social interaction in the form of social distancing?

Statement of Purpose

Many studies have found an established link between the mind-body connection that occurs during the learning process (Stapp, 2019). Stapp's (2019) research, in particular, found that physical activity has a direct, positive effect on behavior, focus, and listening, while sedentary positions have a direct, negative impact on attention and on-task behavior. Mulrine et al. (2008) argue that movement and exercise improve concentration, brain function, and academic performance, as well as reduce problematic behaviors. Another study, conducted by Ludlow (2020), determined that kinesthetic learning approaches improve academic achievement on standardized testing and literacy scores and a child's postural stability, direct balance, dexterity, and eye movement control.

While many studies have examined the benefits of movement and kinesthetic learning on the engagement of all elementary school-aged children, especially those with ADHD or characteristics of ADHD, far less research exists on how the COVID-19 pandemic and hybrid learning affected and continues to impact the engagement of elementary school children, especially those with ADHD or undiagnosed ADHD. The purpose of this study was to investigate how teachers engage students, particularly those with attention and focus challenges, in an elementary classroom using practices from movement, music, dance, and theater, especially during COVID-19. Additionally, my research explored how the pandemic and hybrid learning affected and continues to impact student engagement.

Overview of the Research Design

This was a qualitative research study in which data was collected through interviews with four first grade teachers at an elementary school in Westchester County, New York, who taught before the COVID-19 pandemic, during the pandemic in a hybrid context, and are still currently teaching in a partially “post-pandemic” environment. The teacher-participants in this research study have all had extensive teaching careers, ranging in experience from 12 years to more than 30 years. They have taught specifically at this school site for at least nine years each, one in particular, for 27 years. This elementary school serves 886 children in kindergarten through fourth grade. During this study, I was employed as one of eight first grade teachers at this elementary school.

In order to gather greater insight into the thoughts, experiences, and perspectives of the participants, I used a phenomenological research design in my qualitative study. True to a constructivist worldview, my interview questions were broad and open-ended in nature and interviews were transcribed and coded to identify common themes. This study sought to answer three essential research questions:

- (1) How do teachers engage students, particularly those with ADHD or undiagnosed ADHD, in an elementary classroom, especially during the COVID-19 pandemic?
- (2) How did the COVID-19 pandemic and hybrid learning affect the engagement of elementary school children, especially those with ADHD or undiagnosed ADHD?

- (a) How has the pandemic's forced regression of many classrooms back to a traditional structure of public schooling affected students' ability to focus and achieve academically?
- (3) How does integrating movement, dance, and theater in elementary classrooms benefit social-emotional learning (SEL) and development, as well as impact academic achievement?

Significance of the Study

After analyzing qualitative data for this project, three themes emerged: pre-pandemic engagement, hybrid learning during the COVID-19 pandemic, and partially "post-pandemic" engagement. As was evident through my research, before the COVID-19 pandemic, teachers had plenty of opportunities to incorporate kinesthetic learning practices such as movement, music, dance, and theater activities into their first grade classrooms to engage all students, especially those with ADHD or characteristics of ADHD. However, the pandemic forced teachers to change their pedagogical practices and added unprecedented obstacles to engaging their learners, such as hybrid learning, remote instruction, and social distancing. Now, in a partially "post-pandemic" environment, teachers are still dealing with the ramifications of the pandemic and are under unparalleled pressure to make up for "learning loss," close perceived achievement gaps, and secure and maintain the engagement, attention, and focus of their students, more of which than ever before exhibit characteristics of ADHD.

It is clear from this study that incorporating kinesthetic learning into the elementary classroom is essential for supporting all students, especially those with ADHD. It will not be possible to close any achievement gaps or make up for "learning

loss” if all learners are not supported. ADHD is protected under Section 504 of the Vocational Rehabilitation Act of 1973, a civil rights law that “prohibits programs that receive federal funds from discriminating against children with disabilities and, under certain circumstances, requires school districts to make accommodations for the ADHD student” (Frontline, 2014). Schools must provide accommodations for students whose disability affects their academic performance and offer them an equal chance to perform in their regular classes (Frontline, 2014). Now, more than ever, teachers need the tools and resources to engage all types of learners and kinesthetic learning practices such as activities involving music, dance, and/or theater are incredibly beneficial in this regard.

Chapter 2: Literature Review

This literature review seeks to explore how teachers engage students with Attention Deficit Hyperactivity Disorder (hereinafter known as ADHD) or children with common characteristics or behaviors of ADHD (hereinafter known as undiagnosed ADHD) in an elementary classroom, especially during the COVID-19 pandemic, using practices from movement, dance, and musical theater. While many studies have examined the benefits of movement and kinesthetic learning on the engagement of all elementary school-aged children, especially those with ADHD or characteristics of ADHD, far less research exists on how the COVID-19 pandemic and hybrid learning affected and continues to impact the engagement of elementary school children, especially those with ADHD or undiagnosed ADHD.

In 2007, the worldwide prevalence of ADHD among children and adolescents was estimated to be three to seven percent, with a prevalence in boys two to nine times higher than in girls (Ringer, 2020). In 2012, it was “estimated that up to 1 in 20 children in the U.S., and approximately 5.9% of school age children worldwide have a diagnosis of attention problems making it one of the most commonly diagnosed disorders of childhood” (Kercood & Banda, 2012, p. 19). In 2015, ADHD continued to be among the most common childhood neurodevelopmental disorders with approximately 11% of children in the US having been diagnosed (Reddy, 2015). As of 2019, ADHD was still “the most common mental health diagnosis in children and the most frequent reason for their referral to services” (Eccleston et al., 2019, p. 119). In fact, according to Reddy (2015), the rate of children being diagnosed with ADHD has been growing by about 3% each year. World renowned author and education advisor Sir Ken Robinson explained

that the rate of ADHD has risen in parallel with the growth of standardized testing and the diagnosis increases as you travel east across the country (Robinson, 2010).

Historically, ADHD was a problem thought only to exist in adolescence. However, the characteristics and challenges of ADHD are believed to persist beyond childhood, into adulthood (Eccleston et al., 2019). Individuals with ADHD or undiagnosed ADHD may also have secondary symptoms such as social, emotional, and learning impairments as well as depression and anxiety disorders (Feder et al., 2017; Ringer, 2020).

It is important to note that ADHD is protected under Section 504 of the Vocational Rehabilitation Act of 1973, a civil rights law that “prohibits programs that receive federal funds from discriminating against children with disabilities and, under certain circumstances, requires school districts to make accommodations for the ADHD student” (Frontline, 2014). The objective of Section 504 and of the Individuals with Disabilities Education Act (IDEA) is to provide accommodations for students whose disability affects their academic performance and offer them an equal chance to perform in their regular classes (Frontline, 2014). However, when the Individuals with Disabilities Education Act (IDEA) was first passed in 1990, it did not include ADHD in its list of disabilities that would qualify for special education services (Frontline, 2014). It wasn’t until September 1991, after advocates launched an extensive campaign that “the Department of Education issued a Policy Clarification Memorandum directing schools to include ADHD as a covered disability under the IDEA” (Frontline, 2014).

In this review of literature, I will review the characteristics and diagnosis of ADHD as well as address how ADHD affects identity. Next, I will discuss the historical context of kinesthetic learning, the various related learning practices, and the benefits of kinesthetic learning. Finally, I will review the benefits of theater, specifically as it relates to social-emotional learning (SEL) and academic achievement.

ADHD and Identity

Diagnosis and Characteristics

The American Psychiatric Association (2013) defines ADHD as characterized by severe difficulties maintaining attention and a tendency toward impulsivity and hyperactivity. Further, Mulrine et al. (2008) suggests that individuals with ADHD exhibit a "persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequently displayed and more severe than is typically observed in individuals at a comparable level of development" (p. 16). As Hanc and Brzezinska (2009) explain, "Children with ADHD have difficulties in controlling their behaviour (caused by hyperactivity and impulsivity) and problems with keeping their attention" (p. 492). Individuals with ADHD often demonstrate deficient study skills and general disorganization that cause significant academic, behavioral, and social problems stemming from the inability to pay attention (Mulrine et al., 2008). Kercood and Banda (2012) articulate that these students "have been reported to display between three and eight times as many off-task behaviors as comparison students" (p. 19). These behaviors can be present during both work or play and frequently include not completing tasks, difficulty listening to and following directions, losing materials, inattention to details resulting in frequent mistakes, and difficulty awaiting turns (Mulrine et al., 2008). These behaviors and characteristics

often cause children to have difficulty adapting to the school environment (Hanc & Brzezinska, 2009). As Mulrine et al. (2008) explain:

Children with ADHD often experience difficulties during recess because they often lack the social skills needed to get along with their peers. They may have difficulty with peer relationships as a result of (a) inability to pick up on social cues, (b) acting impulsively, (c) having limited self-awareness of their effect on others, (d) over personalizing another's actions as being criticism, and (e) not recognizing positive feedback. (pp. 20-21)

Some scholars even note that certain regions of the brain in children with ADHD are less active than those of typically developing children (Reddy, 2015). Dr. Julie Schweitzer, a professor of psychiatry and behavioral sciences at the MIND Institute at the University of California, Davis, explains the following:

People with ADHD have increased activity in motor regions of the brain such as the cerebellum and the basal ganglia, but other areas such as the prefrontal cortex—a higher order part of the brain that is associated with decision-making and regulating control—don't work as effectively. (Reddy, 2015, p. 5)

Children and adolescents with ADHD or characteristics of ADHD also exhibit overwhelming emotions, “lower mood, higher anxiety, and greater academic difficulty than those without the diagnosis” (Eccleston et al., 2019, p. 119). These challenges are believed to persist beyond childhood, into adulthood and may also result in secondary symptoms such as social, emotional, and learning impairments as well as depression and anxiety disorders (Eccleston et al., 2019; Feder et al., 2017; Ringer, 2020).

ADHD and Self-Competence

ADHD or undiagnosed ADHD have significant implications for adolescents' physical and emotional well-being and sense of self (Eccleston et al., 2019). Hanc and Brzezinska (2009) posit that students with ADHD or undiagnosed ADHD feel less competent and have lower self-esteem than their non-ADHD peers, specifically in their feeling of acknowledgement by people they deem important (i.e., parents, teachers, peers) and their sense of their own knowledge and skills. Hanc and Brzezinska (2009) suggest this is because children with ADHD or undiagnosed ADHD often receive signals from parents, teachers, and peers that they are unable to do things as well as other children, which frequently results in the child being convinced of their own incompetence. Further, children with more intense or severe symptoms or characteristics of ADHD such as hyperactivity, impulsivity, and attention deficit have a stronger sense of their own incompetence than those with less severe ADHD behaviors (Hanc & Brzezinska, 2009). Eccleston et al. (2019) propose that a young person's understanding of ADHD appears "to be influenced by their socio-cultural context and inability to meet various societal expectations" (p. 131). As Ringer (2020) explains, individuals with ADHD or undiagnosed ADHD feel that others have demands and expectations that they cannot meet, which leads to the manifestation of negative feelings about themselves, the experience of stigmatization, and a feeling of a lack of belonging.

Hanc and Brzezinska (2009) suggest that the problems with social relationships that children with ADHD or undiagnosed ADHD experience often include rejection, neglect, and instability of friendships. Feder et al. (2017) propose that the diagnostic

label of ADHD stigmatizes and creates differences between children who are diagnosed and undiagnosed with ADHD, which in turn results in children having more negative views of their peers who are diagnosed as having ADHD than those with other learning challenges. While conducting an ethnographic field study on the influence of social interactions during the school day for children with ADHD or undiagnosed ADHD, Feder et al. (2017) found that friendship played a large part in a child's overall experience of being in an elementary school classroom. These children "revealed a desire to be appreciated and accepted by their classmates" (Feder et al., 2017, p. 407) and these researchers believe the absence of this acceptance could put them at risk of developing low self-esteem. During Feder et al. 's (2017) field study, teachers reported observing students that had emotional or behavioral issues as neither having friends nor people with whom to identify. Teachers explained they found it difficult to facilitate social integration because there were insufficient opportunities to do so throughout the school day.

Feder et al. (2017) assert that because children diagnosed with ADHD are often rejected by their peers, they value friendship more than other children do. Eccleston et al. (2019) sought out the perspectives of individuals diagnosed with ADHD and reported that participants felt "they had difficulty making and sustaining friendships and felt different and inadequate to their peers, particularly following their diagnosis. Due to their feelings of difference, participants strove to be liked and accepted and tried hard to please others" (p. 126). When they could not meet the expectations of others, they had a considerable sense of incompetence, failure, and inadequacy (Eccleston et al., 2019).

Kinesthetic Learning

Historical Context

Before the middle of the nineteenth century, there were no public systems of education. As Sir Ken Robinson (2010) explains, the public school system as we now know it, “paid for by taxation, compulsory to everyone and free at the point of delivery” (2:17) was considered revolutionary. The public school system was “conceived in the intellectual culture of the Enlightenment and in the economic circumstances of the Industrial Revolution” (Robinson, 2010, 1:56). “School buildings were highly formalized, and 50 to 100 students sat in classrooms with desks bolted to the ground in rows and columns” (Stapp, 2019, p. 32). The public school system was also met with objections and built-in assumptions of social structure and intellectual capacity. As Robinson (2010) puts it, the Enlightenment version of intelligence was the intellectual model of the mind: real intelligence consisted of an individual's capacity for deductive reasoning, which determined their intellectual ability. It was believed there were only two types of people: academic and not academic, or smart people and not smart people.

Robinson (2010) opines that the current system of education was designed and structured for a different age. He argues that our system of education is still modeled in the interest of industrialism (Robinson, 2010). As Ludlow (2020) explains, classrooms often have desks and chairs facing the front and allow for a limited amount of movement, noise, and discussion. The model of students in rows still resides in many classrooms around the United States today (Stapp, 2019) and students are often constrained by the requirement to line up in rows, sit at a desk, or move in a specific way (Ludlow, 2020).

Robinson (2010) asserts that children are living in the most intensely stimulating period in the history of the world, with information calling their attention from every angle, and yet they are penalized for getting distracted. Research shows “the increase in sedentary behaviors at school is largely due to an increased emphasis on standardized testing instated by the No Child Left Behind (NCLB) Act of 2002” (Stapp, 2019, p. 33). Additionally, instances of ADHD have risen in parallel with the growth of standardized testing (Robinson, 2010). Only recently, in the last two decades, has there been a shift in pedagogical methods from teacher-centered to more student-centered, with the implementation of flexible seating and other kinesthetic learning practices in the classroom (Stapp, 2019). Ludlow (2020) describes student-centered learning as “a teaching approach in which students are in the center of the learning process and influence the content, activities, materials, and pace of learning” (p. 13). Skoning (2008), however, argues the following:

Throughout history, educational philosophers from Aristotle through Dewey, Whitehead, and Montessori have all encouraged the use of movement to promote learning. More recently, much has been written about the benefits of using Howard Gardner’s (1983) theory of multiple intelligences and the idea that students have differing learning styles (p. 3).

Various Practices of Kinesthetic Learning

There are a variety of kinesthetic learning practices that can be implemented in an elementary school classroom. Ludlow (2020) defines kinesthetic learning as “an activity that physically engages students in the learning process” (p. 7). Practices can

range from gross motor supports such as flexible seating, resistance bands, yoga, dance, and theater, to fine motor scaffolds which may include doodling, fidget toys, squish balls, and putty. Stapp (2019) explains flexible seating as:

any type of alternative, non-traditional seating in the classroom that allows for low-intensity movement. Low-intensity movement refers to any type of everyday incidental movement that is performed at approximately 40% to 50% of one's maximum heart rate. Common types of flexible seating in the classroom that prompt low-intensity movement include stability balls, wobble stools, wobble discs, scoop chairs, standing desks, lowered desks, and even utilizing floor space as seating. (p. 33)

Reddy (2015) further references gross motor kinesthetic learning tools such as being allowed to stand while others are seated, and resistance bands wrapped around the bottom of chairs to allow for quiet kicking or bouncing movements. Kercood and Banda (2012) discuss the use of yoga as a gross motor physical activity that can be employed as a calming reinforcement in the elementary school classroom while Ludlow (2020) describes brain breaks as “a break from learning that is based on breathing or relaxation, vigorous physical activity, focused on mental activities, or a combination of the three” (p. 7). Finally, Young et al. (2020) analyze the kinesthetic learning strategy of reader's theater, which they categorize as similar to a play that does not require memorization, costumes, or props.

Fine motor practices may include the use of fidget tools such as squishy balls or putty that can be rolled, squeezed, or stretched (Reddy, 2015). Kercood and Banda (2012) reference flexible tangle toys and doodling as fine motor kinesthetic learning supports.

Benefits of Kinesthetic Learning

Whether implementing gross motor or fine motor kinesthetic tactics, movement and exercise are widely thought to be beneficial for all children and especially helpful in improving the concentration and reducing problematic behaviors of students with ADHD or undiagnosed ADHD (Mulrine et al., 2008). Stapp (2019) argues that there is an “established link between the mind-body connection that occurs during the learning process” (p. 33). Studies have shown that physical activity has a direct and positive effect on behavior, focus, and listening, while extended amounts of time spent in sedentary positions have a direct and negative impact on attention and on-task behavior (Stapp, 2019). According to Ludlow (2020), studies have indicated that movement and music help students learn important skills and manage their brain and body physically, mentally, and emotionally. “Emotions help the brain remember experiences and in turn, students are more effective in retaining knowledge of what they have learned for years to come” (Ludlow, 2020, p. 12). Brain breaks specifically have been shown to improve overall classroom behavior by increasing the amount of time students are on-task and focusing on instruction (Ludlow, 2020). Ludlow (2020) also argues that physical activity helps develop bodily awareness, which is a critical skill in the elementary classroom, as students use these skills to sit on the carpet or at a table, stand in line, and walk around the classroom safely.

While many believe, and much research shows, that exercise and physical movement increase attention to various cognitive tasks and can help boost academic performance (Mulrine, et al. 2008), researchers have also found that fidgeting actually resulted in a performance decline in children with typical behaviors (or children who don't exhibit characteristics of ADHD) (Reddy, 2015). Interestingly, Reddy (2015) found that while children with ADHD who used a swivel chair while performing a working-memory task performed better the more they moved, the opposite was true for typically developing children, who fared worse the more they moved.

Ludlow (2020) posits that "schools and educators are trained to focus their teaching on the student's mind, with no standards that incorporate or include their body in the classroom" (p. 12). Further, Ludlow (2020) explains that most learning happens explicitly through reading, listening, and worksheets, rather than implicitly through movement, emotions, and life experiences, which is what the brain prefers. Mulrine et al. (2008) propose that neuroscience research clearly indicates a link between physical activity and brain function as well as physical activity and improved academic performance; the researchers explain:

Exercise impacts oxygen levels in the brain, with resulting effects on brain chemistry, cerebral metabolism, and growth and development, establishing the link between exercise and learning. Oxygen is essential for brain function, and enhanced blood flow increases the amount of oxygen transported to the brain. Physical activity and exercise increase blood flow and allow for more oxygen and nourishment to flow to the different parts of the brain through the blood vessels, arteries, capillaries,

and veins. In addition, exercise can increase activity in the parts of the brain involved in memory, attention, spatial perception, language, and emotion. (p. 17)

Mulrine et al. (2008) also argues that “exercise helps students to cope more effectively with stress and promotes positive self-image, clearer thought, and improved memory” (p. 17). Additionally, Kercood and Banda (2012) address scientific evidence in their discussion of The Optimal Stimulation Theory, which hypothesizes that “organisms will initiate stimulation seeking activity to achieve a stimulatory state that might be described as homeostasis” (p. 20). In individuals with attention deficit hyperactivity disorders (ADHD), this often presents with the children engaging in excessive physical movement in an attempt to generate stimulation and reach homeostasis (Kercood & Banda, 2012). Kercood and Banda (2012) suggest adding stimulating activities such as color and novelty or physical activities into routine tasks to provide the optimal level of stimulation required by students with ADHD in order to help them improve task performance and reduce disruptive behaviors.

Research shows that executing either gross motor or fine motor activities results in individuals completing tasks more efficiently (in less time) and correctly (Kercood & Banda, 2012). Specifically, “using an exercise ball and doodling was effective in improving performance in simple tasks such as handwriting or listening to a phone call and recalling information” (Kercood & Banda, 2012, p. 29). In this study, Kercood and Banda (2012) found that adding a fine motor activity was more beneficial for tasks that require listening but was less useful for tasks that require reading, as reading may provide adequate stimulation for some students with attention problems. Further, study

results indicated fine motor activity was associated with more problems correct on a math task, participants who doodled recalled more during a memory test (leading investigators to conclude doodling may aid concentration) and sitting on therapy balls increased in-seat behavior and legible word productivity (Kercood & Banda, 2012).

Kinesthetic learning and physical movement also impact a student's physical health, mental health, and cognitive achievement (Ludlow, 2020). Studies have shown that implementing physical activities in the classroom impacts a student's aptitude, self-control, attention, memory, attitude or mood, and psychological well-being, which reduces stress, anxiety or depression (Ludlow, 2020). Kinesthetic learning approaches also improve an individual's academic achievement on standardized testing and literacy scores and a child's "postural stability, direct balance, dexterity, and eye movement control" (Ludlow, 2020, pp. 8-9).

Theater

Theater and Social-Emotional Learning (SEL)

Theater teaches social-emotional learning, including emotional understanding and regulation, as well as communication skills, which provide students with tools to regulate themselves and communicate throughout the day (Ignacio, 2018; Joronen et al., 2011). Joronen et al. (2011) argue that social and emotional well-being is an indicator of mental health that helps protect children from emotional and behavioral problems, violence and crime, teenage pregnancy, and the misuse of drugs and alcohol. Joronen et al. (2011) define social-emotional learning as:

The process through which children and adults acquire the knowledge, attitudes and skills to recognise and manage their emotions, set and

achieve positive goals, demonstrate caring and concern for others, establish and maintain positive relationships, make responsible decisions and handle interpersonal situations effectively. (p. 617)

This team of researchers (Joronen et al., 2011) views drama in education (DIE) as an “appropriate and natural means of improving SEL among primary school children” (p. 671) because DIE explores themes and problems through role play and improvisation with an emphasis on developing a child’s imagination and social skills. Further, when participating in theater activities, a student is working with their own personality, experiences, and feelings in close relationship with their classmates which, in turn, produces an increased understanding of oneself and others (Joronen et al., 2011).

Experts believe theater is a powerful tool for building empathy and engaging people in stories (Ignacio, 2018). Rajan and Ranga (2015) agree that musical theater can be used to foster personal learning, improve social skills, and connect to academic subjects. Ignacio (2018) posits that theater “meets the students where they are without judgment, then helps them to find the language they need to define their own emotions, and, with patience, learn to regulate those emotions” (pp. 34). This researcher believes theater should be used “as a vehicle to engage and empower young people to reflect on their lives” and that theatrical skills help to build the creative capacity to “grow into well-rounded human beings adept at using empathetic communication skills in their lives” (p. 34).

Ingalls (2018) proposes that children learn individualism at an early age — they learn that they are expected to be independent and self-sufficient. When children are disruptive and oppositional, they might be reacting to incompatible expectations to be

both an individual and a team member (Ingalls, 2018). Improvisational (improv) theater games help participants face their conflicts and fears about giving up this individuality (Ingalls, 2019). Ingalls (2018) goes on to explain that improv games “can help in building teams, as well as enhance communication and goal achievement, camaraderie, mutual respect and creativity” (p. 40). Ignacio (2018) agrees that improv relies on concepts of agreement, confidence, acceptance of failure, collaboration and empathy which make giving up this individuality fun and rewarding.

Theater and Academic Achievement

Music, dance, and theater improve academic achievement and are a useful tool to evaluate a student’s understanding of class content (Rajan & Ranga, 2015; Skoning, 2008). Ignacio (2018) explains that theater leads students to emotionally connect with what they are learning in school through both a listening and speaking component and “provides students with the theatrical vocabulary to participate in dialogues with characters, to create tableaux of scenes from the book, to be good audience members for their classmates” (p. 34). Utilizing theater practices allows educators to take a critical literacy approach to their pedagogy, which Ignacio (2018) describes as “an orientation to reading and listening that involves an understanding of how texts position readers, how readers position texts, and how texts are positioned within social, cultural, historical, and political contexts. It asks questions of power, voice, and visibility” (p. 34). In other words, theater provides a space for learners to think critically about their own thinking.

For many, theater is an active, engaging way to learn that draws in students with a variety of different learning styles (Ignacio, 2018). In one study, Skoning (2008) found that when theater and dance were incorporated into the classroom the following occurred:

Children with learning and cognitive disabilities showed increased comprehension of character, plot, and overall comprehension of novels read. Students who had Attention Deficit Disorder became classroom leaders and head choreographers. They demonstrated the ability to organize groups of other children, to choreograph dances, and to think about ways that all of the other students could participate using their strengths. Students with emotional disabilities took risks and participated in movement activities as members of small groups which led to an increase in social skills. Children with gifts and talents discussed how movement aided their understanding of character development and their prediction of the future behaviors of characters in a novel. (p. 4)

As Skoning (2008) explains further, “dance is uniquely suited to support conceptual learning because dance’s inherent interdisciplinarity helps to connect more abstract ideas to concrete and fundamental movement concepts” (p. 3).

Rajan and Ranga (2015) argue that theater allows students to make connections to different areas of academic learning. Specifically, “connecting a show to subject matter that students are already learning reinforces their understanding through song, dance, and dialogue” (Rajan & Ranga, 2015, p. 49). Salas (2008) explains that reader’s theater scripts can be developed for content areas such as math, science, and social

studies where students are having major difficulty or at risk of failing and that the repeated reading of a script allows for greater retention of academic content. According to Rajan and Ranga (2015), the use of reader's theater also supports emerging readings in augmenting reading fluency. Salas (2008) defines reading fluency as "the ability to read accurately, quickly, effortlessly, and with appropriate expression and meaning" (p. 24) and agrees that reader's theater provides a fun way to encourage students to develop their reading skills including their reading efficiency and comprehension. Further, Young et al. (2020) propose that reader's theater improves overall reading achievement and promotes "linguistic awareness, which is known to correlate with reading and writing achievement," (pp. 348-352) and can be a motivating, engaging, and enjoyable activity, even for reluctant or struggling readers. Instructing students to focus on their expressiveness (also known as prosody) when engaging in reader's theater may help students learn unfamiliar words and interesting phrases more efficiently as well as improve reading comprehension (Young et al., 2020). In fact, "research has found that measures of rate, accuracy and prosody differentially contributed to reading comprehension with greater influence for less proficient readers" (Young et al., 2020, p. 351).

Conclusion

This literature review exemplifies the level of research conducted on the benefits of movement and kinesthetic learning on the engagement of school-aged children, especially those with ADHD or undiagnosed ADHD. It is clear from the research that ADHD is one of, if not the most common mental health diagnosis in children and incidences continue to rise at a rate of approximately 3% each year (Eccleston, et al.,

2019; Reddy, 2015). Now, the challenges faced by those with ADHD or undiagnosed ADHD are believed to persist from adolescence into adulthood and may result in social, emotional, or learning impairments, as well as depression and anxiety disorders (Eccleston et al., 2019; Feder et al., 2017; Ringer, 2020). However, it is apparent that classrooms still implement the standard and arguably antiquated model of education in which children are expected to sit quietly in desks and chairs facing the front of the room, with limited allowable movement, noise, and discussion (Ludlow, 2020). Only recently has there been an accepted shift in pedagogical methods to incorporate kinesthetic learning practices in the classroom (Stapp, 2019).

As was discussed in this literature review, there are a variety of kinesthetic learning practices such as flexible seating, resistance bands, yoga, dance, theater, doodling, fidget toys, squish balls, putty, etc. that are widely believed to be beneficial in improving the behavior and academic performance of all students, especially those with ADHD or undiagnosed ADHD (Ludlow, 2020; Mulrine et al., 2008; Reddy, 2015; Stapp, 2019; Young et al., 2020). Additionally, it is evident that music, dance, and theater not only teach social-emotional learning and provide students with tools to regulate themselves and communicate throughout the day, but also improve academic achievement and can be used as a tool to evaluate student's understanding of instructional content (Ignacio, 2018; Joronen et al., 2011; Rajan & Ranga, 2015; Skoning, 2008). The question now becomes, how did the COVID-19 pandemic and hybrid learning affect the engagement of elementary school children, especially those with ADHD or undiagnosed ADHD? Additionally, how is their ability to focus and achieve academically still being impacted by the pandemic's forced regression of

classrooms back to the traditional model of desks and chairs in rows and forbidden social interaction in the form of social distancing? The purpose of this qualitative study is to investigate how teachers engage elementary-aged students, especially those with ADHD or undiagnosed ADHD, in an elementary classroom using practices from movement, music, dance, and theater (especially during COVID-19).

Chapter 3: Methods

While many studies have examined the benefits of movement and kinesthetic learning on the engagement of elementary school-aged children, especially those with ADHD or characteristics of ADHD, far less research exists on how the COVID-19 pandemic and hybrid learning affected and continues to impact the engagement of elementary school children, especially those with ADHD or undiagnosed ADHD. The purpose of this qualitative study was to investigate how teachers engage elementary-aged students, particularly those with ADHD or undiagnosed ADHD, in an elementary classroom using practices from movement, music, dance, and theater, especially during COVID-19.

Research Questions

To further investigate this topic, the research was guided by the following central questions:

(1) How do teachers engage students, particularly those with ADHD or undiagnosed ADHD, in an elementary classroom, especially during the COVID-19 pandemic?

(2) How did the COVID-19 pandemic and hybrid learning affect the engagement of elementary school children, especially those with ADHD or undiagnosed ADHD?

(a) How has the pandemic's forced regression of many classrooms back to a traditional structure of public schooling affected students' ability to focus and achieve academically?

(3) How does integrating movement, dance, and theater in elementary classrooms benefit social-emotional learning (SEL) and development, as well as impact academic achievement?

Description and Rationale for Research Approach

My research on the engagement of elementary students (especially those with ADHD or undiagnosed ADHD) through the use of movement, dance, and theater took a constructivist philosophical worldview. As a researcher, I was seeking to understand the world in which I live and work (the elementary school classroom) (Creswell, 2014). My research relied “as much as possible on the participants’ views” and the data I gathered comes directly from “discussions and interactions with other persons” (Creswell, 2014, p.8). True to the constructivist worldview, my interview questions were broad and open-ended so that “the participants can construct the meaning of the situation” and I could “focus on the specific contexts in which [my participants] live and work” (Creswell, 2014, p.8).

I used a phenomenological research design in my qualitative study, meaning I described “the lived experiences of individuals about a phenomenon as described by the participants” (Creswell, 2014, p.13). Specifically, I interviewed elementary school teachers who taught before the COVID-19 pandemic, during the pandemic in a hybrid context, and are still currently teaching in a partially “post-pandemic” environment, to understand how the use of movement, dance, and theater impacted (and continues to impact) the engagement (and potentially academic achievement) of their elementary school students, especially those with ADHD or undiagnosed ADHD. I chose to interview because, as Seidman (2013) explains, “at the root of in-depth interviewing is

an interest in understanding the lived experience of other people and the meaning they make of that experience” (p. 9). Seidman (2013) also argues that so much research is conducted on American schools, yet so little of it involves the perspectives of the individuals whose collective experience actually constitutes school (i.e. students, teachers, administrators, counselors, nurses, psychologists, parents, school committee members, etc.). The best way to gain insight into education issues is by “understanding the experience of the individuals whose lives reflect those issues” (Seidman, 2013, p. 13). The goal of this research was to shine a light on “the essence of the experiences for [those] who have all experienced” (Creswell, 2014, p.13) teaching a range of learners in an elementary school classroom.

Research Design

This was a qualitative research study in which data was collected through interviews with elementary school teachers. Interview questions were open-ended in nature so as to gather greater insight into the thoughts, experiences, and perspectives of the participants. Interviews were transcribed and coded to identify common themes.

Research Site and Entry

The school setting in which the research was conducted is an elementary school in Westchester County, New York, which will hereinafter be referred to under the pseudonym Westchester Elementary School. To maintain confidentiality, all participants were also given pseudonyms. The school serves 886 children, 482 male students and 404 female students, in grades kindergarten through fourth grade. 52.4% of students are White/Caucasian, 21.4% are Asian, 21.4% are Asian/Pacific Islander, 13.4% are Hispanic, 9.8% identify as multiracial, 2.8% are Black, and less than 1% are American

Indian/Alaska Native. Of the 886 students at Westchester Elementary School, 9.7% of those students are considered to have a disability of some sort, 8.7% are considered economically disadvantaged, and 2.9% are English Language Learners. During this study, I was employed as one of eight first grade teachers at Westchester Elementary School.

Participants and Sampling Procedures

I used purposive sampling to recruit four adult participants. Study participants included four first grade teachers at Westchester Elementary School in Westchester County, New York, who taught before the COVID-19 pandemic, during the pandemic in a hybrid context, and are still currently teaching in a partially “post-pandemic” environment. The teacher-participants in this research study have all had extensive teaching careers, ranging in experience from 12 years to more than 30 years. They have taught specifically at Westchester Elementary School for at least nine years each, one, in particular, for 27 years. All participants were recruited at the school site (Westchester Elementary School) during weekly department meetings. I requested their participation verbally and followed up with an email if necessary. Once these individuals agreed to participate, they signed the Informed Consent Form (see Appendix B) and were reminded they could opt out of the study at any time.

Methods for Data Collection

In order to conduct this study, I recruited four participants during weekly department meetings verbally and sent a follow-up email if necessary. Participants were individually contacted to arrange a mutually agreeable time for the interview to take place. Before conducting the interview, I shared and reviewed the Informed Consent

Form with participants and requested their signature as an agreement to participate. Participants were reminded that they had the right not to answer any questions during the interview and that they may opt out of the study entirely at any time. I conducted one 30–60-minute interview with each participant in which I asked open-ended questions designed to answer the research questions above (see Appendix B for Interview Questions for Teachers). I asked about the participants' experiences teaching before the COVID-19 pandemic, during the pandemic in a hybrid context, and currently in a partially "post-pandemic" environment with questions such as the following:

- (1) Before the COVID-19 pandemic, how did you incorporate movement, music, dance, and/or theater into your teaching practice?
 - (a) How did it affect your students, especially those with ADHD or characteristics of ADHD (undiagnosed ADHD)?
- (2) During the COVID-19 pandemic, while teaching in a hybrid context, how did you incorporate movement, music, dance, and/or theater into your teaching practice?
 - (a) How did it affect your students, especially those with ADHD or characteristics of ADHD (undiagnosed ADHD)?
- (3) Currently, while teaching in a partially post-pandemic environment, how do you incorporate movement, music, dance, and/or theater into your teaching practice?
 - (a) How is it affecting your students, especially those with ADHD or characteristics of ADHD (undiagnosed ADHD)?

All interviews were audio-recorded using my password-protected cell phone in order to transcribe the data afterwards. Notes and analytic memos were also taken during and after the interviews as back-up in case the audio recordings failed and to provide additional data to be used in the narrative of the research findings. Personal and/or identifying information was kept confidential and protected using codes that only I had access to. I transcribed the interviews and coded the data and then listened to the interviews again while rereading the transcriptions. I also followed up with each participant after transcribing their interview for member-checking purposes.

Data Analysis

To analyze my research data, I utilized all three of Maxwell's (2013) strategies for qualitative data analysis. I began by reading the interview transcriptions in their entirety several times to get a general sense of the ideas and data that resulted from the conversations, and I wrote analytic memos while reading. As Maxwell (2013) explains, "You should regularly write memos while you are doing data analysis; memos not only capture your analytic thinking about your data, but also facilitate such thinking, stimulating analytic insights" (p. 105). I then coded the data with both expected and unexpected codes and used color to help differentiate the different codes or themes I found in the research data. Some expected codes included ADHD, kinesthetic learning, social-emotional learning, and academic achievement. All of the qualitative data gathered in this study was coded and analyzed using Maxwell's (2013) connecting strategy, meaning instead of focusing "on similarities that can be used to sort data into categories independently of context," I looked for "relationships that connect statements and events within a context into a coherent whole" (p. 113). To facilitate the connecting

strategy, I created a concept map and a data analysis matrix to look for patterns and connections across the research data. Finally, I created a list of final codes/themes for reporting my findings.

Validity

I am currently employed as a classroom teacher at the school site in which the research was conducted. Participants in this study are my current colleagues and their professional relationship with me could have influenced data collection in that they may have answered interview questions in a way that attempted to agree with my personal views or portrayed them in a positive light. As a classroom teacher myself, I am aware of my own bias towards the benefits of using kinesthetic learning practices including music, dance, and theater to improve the engagement and academic achievement of my own students.

Several strategies and procedures were implemented to reduce these potential threats to the validity of the study. First, I obtained rich data, which Maxwell (2013) describes as “the product of detailed, descriptive note taking (or videotaping or transcribing) of the specific, concrete events that you observe” (p.126), by transcribing my interviews verbatim. Then, I member-checked my data with participants, which Maxwell (2013) defines as “soliciting feedback about your data and conclusions from the people you are studying” (p.126). Finally, I looked for and presented “negative or discrepant information that runs counter to the themes” to make the data more realistic and valid (Creswell, 2014, p. 201).

Chapter 4: Findings

Ample research has been conducted on the benefits of movement and kinesthetic learning on the engagement of school-aged children, especially those with ADHD or undiagnosed ADHD. However, it was only recently that many elementary classrooms began to accept, adopt, and implement pedagogical practices that incorporate kinesthetic learning into their learning environment. Such practices, including flexible seating, resistance bands, yoga, dance, theater, doodling, fidget toys, squish balls, putty, etc. are widely believed to be beneficial for improving the behavior and academic performance of all students, especially those with ADHD or undiagnosed ADHD (Ludlow, 2020; Mulrine et al., 2008; Reddy, 2015; Stapp, 2019; Young et al., 2020). Additionally, research has shown that music, dance, and theater can not only improve academic performance but can also be used as an alternative method for assessment and evaluation (Ignacio, 2018; Joronen et al., 2011; Rajan & Ranga, 2015; Skoning, 2008).

While the existing literature is extensive, far less research existed on how the COVID-19 pandemic and hybrid learning affected and continues to impact the engagement of elementary school children, especially those with ADHD or undiagnosed ADHD. Further, my research sought to understand how teachers incorporated practices from movement, dance, and musical theater in their elementary classroom, especially during the COVID-19 pandemic. After analyzing qualitative data for this project, it was clear that before the COVID-19 pandemic, teachers had the time and flexibility to incorporate movement, music, dance, and/or theater practices into their elementary classroom to engage all students, especially those with ADHD or undiagnosed ADHD.

However, the COVID-19 pandemic drastically changed how teachers were able to engage all of their students. Now, in a partially “post-pandemic” environment, teachers are still dealing with the ramifications of the pandemic and are struggling to acquire and maintain the engagement of all students, especially those with ADHD or undiagnosed ADHD.

The teacher-participants in this study have all had extensive teaching careers, ranging in experience from 12 years to more than 30 years. Each participant taught specifically at Westchester Elementary School for at least nine years; one teacher had 27 years of experience. All of the teacher-participants taught 1st grade at Westchester Elementary School pre-pandemic, during the COVID-19 pandemic in a hybrid learning context and are currently teaching there in a partially “post-pandemic” environment.

After conducting and analyzing interviews with these teacher-participants, research findings were categorized into three themes. The first section explores how teachers engaged all students, especially those with ADHD or undiagnosed ADHD using practices from movement, music, dance, and/or theater before the COVID-19 pandemic interrupted instruction in the spring of 2020. The second theme examines how hybrid learning and/or remote instruction during the pandemic impacted student engagement and a teacher’s ability to incorporate kinesthetic learning practices into their pedagogy. The final theme looks at the effects of the pandemic and hybrid instruction on current student engagement.

Pre-Pandemic: Flexibility and Creativity

Before the COVID-19 pandemic, teachers had the time and flexibility to creatively incorporate kinesthetic learning practices into their pedagogy to support all students, especially those with ADHD or undiagnosed ADHD. As one teacher, Katie, put it:

Prior to the pandemic, we did a lot of movement in the classroom, and they had a lot of flexible places where they could go to work. They could get up and move. They were never forced to be in one spot.

Katie is one of two teachers I spoke with who used flexible seating in her classroom. Lauren, another first grade teacher, received flexible furniture two or three years before the pandemic hit. She, too, gave her students choice and flexibility when choosing where to work. Lauren explained:

I incorporated a lot of choices in terms of where kids could work that would be best for them, which really helped students who needed those kinds of body breaks or more of a quiet space. We used to have cushions that kids could take to sit on around the room. We reformatted the tables depending on if they needed to work with a group or individually, and then they had lap trays they could pull. There would be standing desk options if they needed that.

Even teachers who did not have or use flexible seating in their classrooms integrated movement into daily classroom routines. Holly, who has been teaching for 20 years and has a child with ADHD, knows how hard it is for young children to sit still. She would often try to keep her lessons brief and include movement wherever possible. For example, Holly made transitions around the classroom more engaging by asking

students to tiptoe to their seats or hop like a bunny to their tables. When calling for her students' attention, Holly often said something like, "1, 2, 3, eyes on me, hands on your shoulders, hands on your nose." She allowed students who needed more movement the opportunity to go for a walk or run a message as well. "I know that the children need to have that sort of movement and that stimulation in order to pay attention and understand what's going on in the lesson," Holly explained.

In her class, Lauren integrated body breaks for all of her students, especially those with ADHD or undiagnosed ADHD. "Body breaks were incorporated into a lot of plans that I did with students that had that profile," she explained. Some strategies Lauren tried with her students included yoga poses, stretching, and GoNoodle, an online platform of video instructions for movement activities. She also offered "sensory boards for kids that they touch to sort of give them some calming sensations."

Margaret, a teacher with more than 30 years of experience, explained her experience supporting students with ADHD over her extensive career:

ADHD, when I first started here, was not a big thing. They really didn't do anything per se for ADHD, except have you fill out a Conners form and occasionally a psychiatrist or a psychologist would take the kid and try to work with behaviors that would help in the classroom.

Her son, now a grown adult, was diagnosed with ADHD while navigating school and Margaret conducted informal research through the years to find strategies to support her child. "Music and television actually help to calm the brain and retrain the brain," she explained. She incorporated her findings in her own classroom as well:

I used to use music a lot when we had more space and more time and we weren't pressured so much. I'd spread the kids out and they would do research and I would be blasting music and they loved it. I used to do a lot of classical music in my room. It's very calming if you get the right one.

Interestingly, almost all of the teachers I spoke with discussed how they used music, dance, and/or theater practices in their classroom before the COVID-19 pandemic. One year, Margaret had a parent who was a dance teacher and, since students' families were allowed to come into the classroom back then, the parents used to give the group dance lessons. Margaret would later use those movements as body breaks for her students when needed. Lauren told me about her experience:

Pre-pandemic, they wrote songs with the music teacher and they got to sing them for their parents as an end of the year showcase. Before the pandemic, we had a poem that we did every week, and by the end of the week, the kids would be reciting it on their own. If it was a song, they would be singing it. We would act out the poem and incorporate some hand motions along with the poem.

Katie described how beneficial Reader's Theater was for the engagement of the students in her classroom:

They could interact with each other a lot more. They would do [Reader's Theater] for shared reading or poetry and put on little plays and little skits and make props and really act it out, which, for those students, was really helpful rather than just hearing me read to them.

Hybrid Learning and Remote Instruction: Stop, Look, and Listen...No Way

When the COVID-19 pandemic hit in the spring of 2020, much of what teachers thought they knew about engaging their students was no longer effective. During the 2020-2021 school year, Westchester Elementary School offered hybrid learning. Families had the option to send their children to school in-person two days a week and participate in remote instruction the other three days or keep them entirely remote for the school year. During in-person instruction, the physical space of the room became a real challenge for teachers and students alike and interaction between peers and colleagues became slim to none. “When the pandemic came, it was more ‘stay in one spot,’” Katie explained. Lauren described some of the changes teachers and classrooms experienced:

The rug was taken out. I couldn't use cushions anymore. The flexible furniture really didn't become flexible. It stayed in whatever place depending on the social distancing measures. There was less use of the physical space and the environment to really help students with those needs.

When discussing how the engagement of her students changed during the pandemic, Holly explained, “It was harder to keep their attention, motivate them, and deal with impulsivities and hyperactivities when some of them were at home and you had very little control to help them.” While some students may have been engaging in distance learning from a quiet, focused space at home, others attended a program at a local gymnasium with children from all different grades and classrooms. Katie told me how difficult it was to keep her students in front of the computer screen and engaged on

Zoom – “Some would have headphones, some would not. The students that were not at home in a quiet area where they could focus were just all over the place. The attention to me on the screen was non-existent.”

Still, teachers tried any strategies they could to keep their students engaged. “We still did try to take body breaks and things like that,” Lauren recounted. Margaret and Holly reverted to a lot of yoga and exercise during the pandemic. Holly, in particular, showed a lot more GoNoodle videos for dance and stretch breaks. “It was not as physical. It was harder to incorporate a lot of those things,” Holly explained. Lauren had similar feelings. “We had a combination of kids in class and out of class, so even though we were taking those body movement breaks it wasn’t really the same as how it was before the pandemic.” During hybrid learning, Margaret felt she could no longer play music for her students – “At home, it’s very hard because you can’t really play music and stuff because the parents are there. They’re listening. They’re very opinionated.”

Although the pandemic and hybrid instruction made engaging all students, especially those with ADHD or undiagnosed ADHD, incredibly challenging, Holly felt one benefit arose from the unexpected teaching context:

When they were in school and we had smaller class sizes, it was easier to manage because I had seven or eight children. They could get more attention and more redirection and more one-on-one and more focus when there were just seven children in my classroom.

Pressure in a Partially “Post Pandemic” World

Now that schools have gone back to in-person instruction during the 2021-2022 school year, the expectation is that learning has resumed in pre-pandemic fashion. However, that could not be further from the truth. Today, teachers are faced with unprecedented pressure to make up for presumed “learning loss” and close a hypothetical academic achievement gap. Lauren explained the message many teachers have been receiving:

There’s this need now to close this gap of learning that took place where there was a bit of a pause or kids were just not routinely enough in school to learn the way that we’ve always taught. They knew remote learning was not working for kids and was not going to help kids to learn.

Lauren feels that part of the problem is that the state tests have not disappeared. “There’s an emphasis on reading and math, especially within our district. There’s this push for that. They’re still emphasizing the need for students to do well on these tests,” she explained.

Margaret, Holly, and Katie felt one of the biggest challenges they and their students face is the dichotomy of a need for movement and a lack of time to implement kinesthetic learning practices into their pedagogy due to academic pressure. “It’s a real big struggle for them because they need to engage in movement and activities, and with the demands of having to get everything done throughout the day, it doesn’t allow for much time to do that,” Katie explained. Holly added, “We have a very strict schedule that we have to adhere to. We don’t have the flexibility we used to have where we could incorporate more into the curriculum.” Lauren concurred – “Our schedules are just so

jam packed and it's not really with tasks that are creative, that let them work together or move around as they once were able to."

Additionally, many teachers may feel that the pressure to close the perceived academic achievement gap has resulted in rushed, surface-level instruction. Holly opined:

Administration and parents are very concerned about learning loss, which then trickles down to, we have to do more and teach them more, faster, as opposed to meeting them where they are and going slowly and deeply. There's no free time. There's no flexibility to do anything that is not strictly academic, which is unfortunate because I don't see it as a huge loss. I think that if we could go slowly and in depth, the kids would benefit in the long run.

For students with ADHD or undiagnosed ADHD, rushing through curriculum and not incorporating kinesthetic learning practices provides additional challenges. As Katie expressed,

It hinders their experience and makes it more difficult for them to focus and stay focused through the whole academic day. I think the demands we place on them are also challenging because they need to let it out a little bit more and they can't because we just don't allow time for that.

Holly added:

Rushing the curriculum and having so much information presented in such a short amount of time is hard for them to process. It provides them with stress and anxiety and their executive functioning skills are not as strong as their neurotypical peers. We're racing them and rushing them to do multi-step tasks and multi-step directions that they're just not physically, mentally, and emotionally able to do.

Holly feels it has been a harder transition for these children into first grade because they did not have the experience and the exposure to the expectations and the requirements of "regular school" last year. "Without the experience last year, some of those executive functioning problems are manifested even more so because it's all new and they don't know where things are or the steps to take," Holly explained. Lauren feels like arts-based programs are being pushed to the side because academics is at the forefront of everybody's minds and that not being able to incorporate movement, music, dance, or theater practices into her classroom inadvertently harms her students, especially those with ADHD or undiagnosed ADHD. She elaborated as follows:

I think for kids like that, exploring their creative side, the physicality of moving around, I think they can find strength in those things. When you don't provide those opportunities to them, you're not really allowing them to get a feel for what works for them, what's right for them, what helps them. They need motivation, maybe more so than other students because things can be more challenging for them throughout the day and to take away those opportunities, I think it really is a disservice to them.

These findings are made more worrisome by the fact that all of the teacher-participants I spoke with felt that they have more students than ever before who are exhibiting characteristics of ADHD (or undiagnosed ADHD). “I feel like all of these kids have ADHD at this point,” Margaret said. She noticed her students have more difficulty problem solving and focusing than students from previous years. Lauren has observed increased impulsivity and a need for “instant gratification of getting something or learning something or completing a task.” Margaret has a theory as to why teachers are seeing more students with undiagnosed ADHD:

I believe it's because of the pandemic. They're not used to listening to the human voice and seeing the person and doing the kind of work that we do in the classroom versus pressing buttons on the computer and having either a teacher or somebody there supporting them all the time. We have to remember these first graders haven't had much school experience.

Although teachers are under an unprecedented amount of pressure and more students are struggling with focus and attention than normally expected, the teacher-participants I spoke with are doing their best to incorporate movement, music, dance, and/or theater practices into their classrooms whenever possible. Margaret told me how she sometimes has her students march around the room or do the chicken dance to “get their blood flowing and get them moving.” She also tries to include breath work and exercise throughout the day. Holly is relying less on GoNoodle videos and more on “authentic movements that the kids enjoy and engage with.” Just the other day, Katie had her students act out the different parts in a shared reading text while she played the narrator. She told me how great it went:

They were able to move around the classroom acting like a fox, like a chicken, like a goose and they really enjoyed it. They didn't want to stop to go to special. I think they actually got more out of that shared reading than me reading it to them.

Conclusion

This qualitative research project sought to understand how teachers engage students with ADHD or children with common characteristics or behaviors of ADHD (undiagnosed ADHD) in an elementary classroom, especially during the COVID-19 pandemic, using practices from movement, dance, and musical theater, as well as how the COVID-19 pandemic and hybrid learning affected and continues to impact the engagement of elementary school children, especially those with attention and focus challenges. The findings illustrate how teachers incorporated practices from movement, dance, and musical theater in their elementary classrooms. As was evident through interviews, before the pandemic, teachers had ample opportunity to incorporate kinesthetic learning practices such as movement, music, dance, and theater activities into their first-grade classrooms to engage all students. However, the pandemic stripped teachers of most of the tools and resources they previously employed to engage their students and added unprecedented challenges in the form of hybrid learning, remote instruction, and social distancing. Now, in a partially “post-pandemic” environment, teachers are under unparalleled pressure to make up for “learning loss” and close a perceived achievement gap by delivering a vast amount of content in a jam-packed schedule, all while attempting to capture and maintain the attention and focus of their students, more of which than ever before exhibit characteristics of ADHD.

Chapter 5: Discussion

The findings from this study show the importance of incorporating kinesthetic learning into the elementary classroom, especially for children with ADHD. Several findings directly aligned with themes generated from the review of literature. Specifically, this study's findings and the review of literature show how beneficial movement, music, dance, and theater practices are for engaging students as well as increasing academic participation and achievement.

The educators involved in this project and the scholars referenced in the literature explained the characteristics of ADHD and how ADHD relates to a child's self-competence. Mulrine et al. (2008) suggests that individuals with ADHD exhibit a "persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequently displayed and more severe than is typically observed in individuals at a comparable level of development" (p. 16). Individuals with ADHD often demonstrate deficient study skills and general disorganization that cause significant academic, behavioral, and social problems stemming from the inability to pay attention (Mulrine et al., 2008). When discussing how the engagement of her students changed during the pandemic, Holly explained how hard it was to keep her students' attention, motivate them, and "deal with impulsivities and hyperactivities." Katie described how difficult it was to keep her students in front of the computer screen and engaged on Zoom – "The attention to me on the screen was non-existent." Margaret noticed her students have more difficulty problem solving and focusing than students from previous years. Lauren observed increased impulsivity and a need for "instant gratification."

Some scholars note that certain regions of the brain in children with ADHD are less active than those of typically developing children (Reddy, 2015). Teachers, such as Holly, note these differences among students. For example, Holly argued that rushing through curriculum and presenting so much information in a short amount of time is difficult for students with ADHD to process because their executive functioning skills are not as strong as their neurotypical peers.

Hanc and Brzezinska (2009) posit that students with ADHD feel less competent and have lower self-esteem than their non-ADHD peers, specifically in their feeling of acknowledgement by people they deem important (i.e., parents, teachers, peers) and their sense of their own knowledge and skills. Hanc and Brzezinska (2009) suggest this is because children with ADHD or undiagnosed ADHD often receive signals from parents, teachers, and peers that they are unable to do things as well as other children, which frequently results in the child being convinced of their own incompetence. The teachers involved in this project discussed this issue. Lauren felt that not being able to incorporate movement, music, dance, or theater practices in her classroom inadvertently harms her students, especially those with ADHD because it takes away a student's opportunity to explore their creative side, which often provides strength to many children, especially those with ADHD or undiagnosed ADHD, who have more challenges engaging and interacting with curriculum throughout the day.

The reviewed literature and findings from this study are aligned regarding the benefits of incorporating kinesthetic learning into elementary classrooms and curriculum. Ludlow (2020) defines kinesthetic learning as "an activity that physically engages students in the learning process" (p. 7). Practices can range from gross motor

supports such as flexible seating, resistance bands, yoga, dance, and theater, to fine motor scaffolds which may include doodling, fidget toys, squish balls, and putty. Katie and Lauren are two teachers I spoke with who used flexible seating in their classrooms. These first-grade teachers gave students choice and flexibility when choosing where to work. Lauren explained that it “really helped students who needed those kinds of body breaks or more of a quiet space.”

According to Ludlow (2020), studies have indicated that movement and music help students learn important skills and manage their brain and body physically, mentally, and emotionally. In fact, brain breaks improve overall behavior by increasing the amount of time students are on-task and focusing on instruction (Ludlow, 2020). Ludlow (2020) also argues that physical activity helps develop bodily awareness. In her class, Lauren integrated body and brain breaks for all of her students, especially those with ADHD behaviors. In fact, teachers reported using a variety of body movement strategies including yoga poses, stretching, and GoNoodle (an online platform of video instructions for movement activities). Findings from this study also showed that teachers used sensory boards to help children calm their bodies and/or focused on keeping lessons brief while including movement breaks when possible. For example, one teacher made transitions around the classroom more engaging by asking students to tiptoe to their seats or hop like a bunny to their tables.

This study’s findings and the reviewed literature point to the benefits of incorporating theater practices on academic engagement and achievement. According to Rajan and Ranga (2015), the use of reader’s theater supports emerging readings in augmenting reading fluency. Young et al. (2020) propose that reader’s theater improves

overall reading achievement and promotes “linguistic awareness, which is known to correlate with reading and writing achievement,” (pp. 348-352) and can be a motivating, engaging, and enjoyable activity, even for reluctant or struggling readers. One teacher, Katie, discussed Reader’s Theater as beneficial for student engagement.

In fact, all teachers reported using Reader’s Theater, as well as music, dance, or other theater practices in their classroom before the COVID-19 pandemic.

Implications for the Literature

While many studies have examined the benefits of movement and kinesthetic learning on the engagement of all elementary school-aged children, especially those with ADHD, less research existed on how the COVID-19 pandemic and hybrid learning affected and continues to impact the engagement of children, especially those with ADHD or exhibiting behaviors related to decreased focus and attention.

When the COVID-19 pandemic hit in the spring of 2020, many of the tools and resources teachers were used to employing to engage their students were either no longer available or no longer successful. When discussing how the engagement of her students changed during the pandemic, Holly explained, “It was harder to keep their attention, motivate them, and deal with impulsivities and hyperactivities when some of them were at home and you had very little control to help them.” While some students may have been engaging in distance learning from a quiet, focused space at home, others attended a program at a local gymnasium with children from all different grades and classrooms.

The research findings suggested that these children are experiencing a harder transition into first grade because they did not have the experience and the exposure to the expectations and the requirements of “regular school” last year. Additionally, all of the teachers interviewed felt that they have more students than ever before who are exhibiting characteristics of ADHD. Margaret believes the pandemic is to blame for why teachers are seeing more students with characteristics of ADHD. Her theory is that these children are not used to learning from an actual teacher but rather have more experience pushing buttons and interacting with a computer screen and are used to instant gratification and constant attention from caretakers at home all the time.

The implications for the literature are that additional attention should be given to how the COVID-19 pandemic’s rapid shift to remote and hybrid learning impacted and continues to impact the engagement, attention, and focus of all students, especially those with ADHD or undiagnosed ADHD.

Implications for Practice and Policy

The findings of this research suggest a variety of practical implications for practice and policy. With more students than ever before exhibiting characteristics of ADHD, it is vital that teachers have the tools and resources to engage all types of learners. Kinesthetic learning practices, especially those that include music, dance, and/or theater, are beneficial for all students, including those with ADHD or those who require support with attention and/or focus. In fact, scholars report that integrating these kinesthetic practices leads to increased academic engagement and achievement.

Today, teachers are faced with unprecedented pressure to make up for presumed “learning loss” and close a hypothetical academic achievement gap by delivering a vast amount of content in a tight schedule, all while attempting to capture and maintain the attention and focus of their students, more of which than ever before exhibit characteristics of ADHD. Margaret, Holly, and Katie felt one of the biggest challenges they and their students face is the dichotomy of a need for movement and a lack of time to implement kinesthetic learning practices into their pedagogy due to academic pressure. All of the teachers interviewed mentioned a schedule they must adhere to, which does not allow time to incorporate kinesthetic learning practices. Holly explained, “We have a very strict schedule that we have to adhere to. We don’t have the flexibility we used to have where we could incorporate more into the curriculum.” Lauren concurred – “Our schedules are just so jam packed and it’s not really with tasks that are creative, that let them work together or move around as they once were able to.” But for students with ADHD or undiagnosed ADHD, rushing through curriculum and not incorporating kinesthetic learning practices provides additional challenges. It not only makes content hard to process, but it also contributes to stress and anxiety for students who do not have the same executive functioning skills as their neurotypical peers. The teachers involved in this study understand that we are going to be seeing the implications of the pandemic, remote instruction, and hybrid learning for years to come.

It is important to remember that ADHD is protected under Section 504 of the Vocational Rehabilitation Act of 1973, a civil rights law that “prohibits programs that receive federal funds from discriminating against children with disabilities and, under certain circumstances, requires school districts to make accommodations for the ADHD

student” (Frontline, 2014). The objective of Section 504 and of the Individuals with Disabilities Education Act (IDEA) is to provide accommodations for students whose disability affects their academic performance and offer them an equal chance to perform in their regular classes (Frontline, 2014). Implications for policy are that incorporating kinesthetic learning practices is part of providing accommodations (as required by Section 504) for students who struggle with attention and focus. Supporting all learners, which is the aim of equitable, social justice education, means providing all students, regardless of learning challenges, the opportunity to access curriculum and instruction.

Limitations of the Study

While the findings led to meaningful implications for practice, including incorporating kinesthetic practices into elementary classrooms, this study had some limitations. The following sections discuss these limitations and offer possible avenues for further research.

One of the major limitations of this study was the sample, which was limited to only four first grade teachers at one elementary school. Expanding the research pool to include more teachers across different grade levels, as well as including special subject-area teachers, may have provided additional, diverse viewpoints. Additionally, this study was conducted within a short time frame (a few months) and was not tracked over several years.

Another limitation to consider is that all of the teacher-participants in this study work in a high-performing district with intense academic pressure from multiple stakeholders. This district, in particular, has also invested an exorbitant amount of money on multiple components of curriculum that do not lend themselves to

incorporating kinesthetic learning. Had this research been conducted in a different school district, some findings may have been different.

My own bias and positionality could have also impacted the findings in this study. As a first-grade teacher, I taught before the COVID-19 pandemic, during the pandemic in a hybrid context, and currently teach in a partially “post-pandemic” environment. I experienced, firsthand, the implications of this research, and although I made a conscious effort to ask broad, open-ended questions, my interview questions may have been skewed in a way that supported my own thoughts and feelings toward the topic in question.

Directions for Future Research

Future research could explore the impact of kinesthetic learning on the engagement and academic achievement of all students, especially those with ADHD or students with behaviors indicating decreased focus and/or attention. While it was clear that incorporating kinesthetic learning practices and theater activities increased the engagement of students, further research could examine how those practices improve academic performance and achievement. Additional research could also compare the academic performance of students on the same task, some of which incorporated kinesthetic learning practices or theater activities into the curriculum, while others did not.

Conclusion

The purpose of this qualitative study was to investigate how teachers engage elementary-aged students, particularly those with ADHD or undiagnosed ADHD, in an elementary classroom using practices from movement, music, dance, and theater,

especially during COVID-19. This study made clear the importance of incorporating kinesthetic learning practices, especially music, dance, and theater, into elementary classrooms. Before the COVID-19 pandemic, teachers had time and flexibility to engage all students, especially those with ADHD and/or limited attention or focus, using kinesthetic practices. But when the pandemic hit, the landscape of teaching changed drastically. Now, teachers are under unprecedented amounts of pressure to make up for “learning loss” by delivering extensive amounts of curriculum within tight schedules, all while attempting to gain and maintain the attention and focus of their students, more of which than ever before seem to exhibit behaviors aligned with ADHD. Kinesthetic learning practices are essential for engaging all students, especially those with ADHD. It is vital that teachers have the tools and resources to engage all types of learners. Any academic achievement gaps or “learning loss” will not be corrected until all learners are supported and this begins by meeting the needs of our learners where they are. Students need time to process the increasing amount of information. We need to slow down and focus on depth rather than breadth. Our students will not learn anything if they cannot process the information we are throwing their way. Like the old saying goes, “Slow and steady wins the race.”

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Appendix A: Blank Informed Consent Form

Dominican University of California
Consent to be a Research Participant

I understand that Claudia Freedman is a graduate student in the School of Education at Dominican University of California. Claudia Freedman is conducting a research study designed to better understand how teachers engage students with ADHD or borderline ADHD using practices from movement, music, dance, and theater, especially during the COVID-19 pandemic.

I am being asked to participate in this study because I am a teacher that taught pre-pandemic, during the pandemic in a hybrid context, and still currently teach in a partially post-pandemic environment, and I may also use practices from movement, music, dance, and/or theater in my classroom.

Procedures

If I agree to participate in the study, the following will happen:

1. I will participate in a 30–60-minute interview, which will include questions about how to engage students using practices of movement, music, dance, and/or theater.
2. All names, personal references, and identifying information will be eliminated in the final thesis and no subject will be identified by name, thereby ensuring confidentiality regarding the subject's responses. Interviews will be recorded on the researcher's iPhone that is password protected and interview notes will not include any names or identifying information (e.g., specific grade level taught, address, phone number, personal references). One year after the completion of the research all written materials will be destroyed.

3. Concord Road Elementary School may be furnished with a written summary of the relevant findings and conclusions of the thesis, but the thesis will not include anyone's name or any identifying information. This thesis will not be available for up to six months.

Risks and/or Discomforts

1. My participation involves no physical risk, but there is the possibility that some psychological discomfort may occur due to the personal nature of the questions in the interview.
2. I have the right to refuse to answer any question that causes discomfort or seems to be an invasion of privacy. I may stop the interview at any time and I may refuse to participate before or after the study without any adverse effects to my standing at Concord Road Elementary School.

Benefits

There will be no direct benefit from participating in this study. The anticipated benefit of this study is a better understanding of how to engage students with ADHD or borderline ADHD in an elementary classroom through the use of movement, music, dance and/or theater.

Questions

I have talked to Claudia Freedman about this study and have had my questions answered. If I have further questions about the study, I may contact her at cfreedman@ardsleyschools.org or her research supervisor, Dr. Katherine Lewis, Assistant Professor of Education, Faculty Development Director, and Director of the Multiple Subject Program at Dominican University of California at katherine.lewis@dominican.edu.

If I have any questions or comments about participation in this study, I should talk first with the researcher and the research supervisor. If for some reason I do not wish to do this, I may contact the Dominican University of California Institutional Review Board for the Protection of Human Subjects (IRBPHS), which is concerned with the protection of volunteers in research projects. I may research the IRBPHS Office by calling (415) 257-0168 and leaving a voicemail message, by FAX at (415) 458-3755 or by writing to the IRBPHS, Office of the Associate Vice President for Academic Affairs, Dominican University of California, 50 Acacia Avenue, San Rafael, CA 94901.

Consent

I have been given a copy of this consent form, signed and dated, to keep.

PARTICIPATION IN THIS RESEARCH IS VOLUNTARY. I am free to decline to be in this study or withdraw my participation at any time without fear of adverse consequences.

My signature below indicates that I agree to participate in the study.

Signature of the Research Participant

Date

Signature of the Researcher

Date

Appendix B: Interview Questions for Teachers

1. How long have you taught elementary school?
2. How long have you been at Concord Road?
3. How long did you teach before the COVID-19 pandemic interrupted instruction in spring 2020?
4. What was your experience with students with ADHD or characteristics of ADHD (borderline ADHD) before the COVID-19 pandemic?
5. What was your experience with students with ADHD or characteristics of ADHD (borderline ADHD) while teaching in a hybrid context during the COVID-19 pandemic?
6. What is your current experience with students with ADHD or characteristics of ADHD (borderline ADHD) now that you are teaching a partially post-pandemic environment?
7. Before the COVID-19 pandemic, how did you incorporate movement, music, dance, and/or theater into your teaching practice?
 - a. How did it affect your students, especially those with ADHD or characteristics of ADHD (borderline ADHD)?
8. During the COVID-19 pandemic, while teaching in a hybrid context, how did you incorporate movement, music, dance, and/or theater into your teaching practice?
 - a. How did it affect your students, especially those with ADHD or characteristics of ADHD (borderline ADHD)?

9. Currently, while teaching in a partially post-pandemic environment, how do you incorporate movement, music, dance, and/or theater into your teaching practice?
 - a. How is it affecting your students, especially those with ADHD or characteristics of ADHD (borderline ADHD)?
10. Is there anything else you'd like to add?