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The Incorporation and Effect of Movement in the Elementary Classroom

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The University of Southern Mississippi

The Incorporation and Effect of Movement in the Elementary Classroom

by

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Abstract

The main purpose of this thesis project was to examine the incorporation of movement in preschool and elementary classrooms and identify its effects. A review of methodology from musicians/educators such as Zoltán Kodály, Carl Orff, and Emile Jacques-Dalcroze provided a foundation for the research topic. Other factors surrounding music and movement included the physical, mental, and developmental aspects. These factors were studied through the lens of authors and researchers such as Howard Gardner.

The practice used was primarily observation, which took place in local music classrooms as well as at a Carl Orff Workshop. Observation led to the conclusion that a variety of movement should be included in education because of its positive effects on students and on education as a whole. Results showed that movement, especially when used in tandem with music, is necessary for brain development and is beneficial for classroom management, retention, and engagement.

Keywords: Movement, Education, Students, Classroom, Carl Orff, Zoltan Kodály, Emile Dalcroze, Howard Gardner

Dedication

To Mom, Dad, Lizzy, and Johnson. My love of music and passion for education has been supported and encouraged by you for a lifetime. Thank you.

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Chapter 1: Introduction

Music Education

To ancient Greek Philosophers, music and other arts were considered a critical aspect of moral development. Music education, however, did not appear in American public schools until the late 1830s (Collins, 2015). From that time, it slowly spread to classrooms across the nation in different forms. It was not for another century that music education was established as a core subject through a revision of the *Goals 2000* Congressional Bill (Mark, 1995). Since then, schools have fought to keep funding for music programs of all sizes. Although its relevance and importance have been widely doubted and debated throughout its history, one thing has remained: music is beneficial to human development and has positive effects on education in general (Feierabend, 1995). The specific effects of music education on students can be researched through the study of great music educators/philosophers such as Zoltán Kodály, Carl Orff, and Emile Jaques-Dalcroze, as well as other scholars and researchers.

One aspect that is lacking from many school classrooms is movement, and yet the incorporation of movement alongside music is natural, effective, and important, especially during early education. Not providing young students with sufficient outlets for exploration and use of energy has led to an overall decline of movement in the American school system. In an article that appeared in the *Washington Post*, Valerie Strauss addresses this prominent issue:

Children are constantly in an upright position these days. It is rare to find children rolling down hills, climbing trees, and spinning in circles just for fun. Merry-go-rounds and teeter-totters are a thing of the past. Recess times have been shortened due to increasing educational demands, and children rarely play outdoors due to parental fears, liability

issues, and the hectic schedules of modern-day society. Let's face it: Children are not nearly moving enough, and it is really starting to become a problem. (Strauss, 2014)

This problem can be addressed and even corrected through the incorporation of movement into early education classrooms. Children establish foundational thoughts and behaviors from birth and develop daily through social, motor, and cognitive skills as they continually learn what their bodies can or cannot do. Moving, dancing, and being creative are not only natural but also beneficial and even necessary. By studying and observing this natural exploration, it becomes evident how music and movement are connected to early learning and can help students in other subject areas. Unfortunately, research surrounding movement in education is most commonly separated into one of two categories: academics and the brain or movement and music. Bridging that gap between these two concepts reveals much potential to be explored.

The purpose of this study is to address these possibilities and arrive at a conclusion about the implementation and resulting effects of incorporating movement into elementary classrooms. Elementary age children—and even younger—need just as much of a quality education as high school or even college-age students because their education lays the foundation for the rest of their lives. This type of attention to early education is not common to the American school system, but there are ways it can be encouraged. Dr. John M. Feierabend, working in Early Childhood Education at The Hartt School University of Hartford, describes it in this way:

Many European countries begin kindergarten as a three-year program for children aged 3 to 5. The style of their curriculum emphasizes learning through doing and interacting with peers and is one of exploration and stimulation without formal understanding. While many kindergarten classes for 5-year-old children in the United States have similar goals, there are many advantages to developing the minds of 3 and 4-year-old children by

placing them in the hands of informed educators during this critical time when the brain is organizing for a lifetime of thinking. This three-year kindergarten model should be considered and adopted for children in the United States. (Feierabend, 1995)

Beginning education earlier and allowing children to learn through experience instead of structure could radically shape the future of young students. This does not mean enrolling students in formal education at a younger age so that they can be prepped for tests and assessments to come. It means allowing them the opportunity to learn about themselves and about interacting with the world around them at a time in their lives when they are naturally inclined to curiosity and discovery. Children are hardwired to learn through *doing*, so how does the incorporation of movement aid in the education of preschool through elementary age children? Carlos Abril, Professor and Director of Undergraduate Music Education at the University of Miami, writes:

In educational settings, movement is used for a variety of reasons. It might be used as a means to develop or reinforce conceptual knowledge, skill, or understanding. For example, music teachers who seek to reinforce the concept of steady beat might ask their students to walk to the beat of a song. Movement can also be used as a nonverbal means to make music perception and interpretation visible. It can also be used as a means for accommodating and/or developing the kinesthetic learning style. (Abril, 2011)

When incorporated into the classroom and paired with music, movement provides an array of instructional tools. It is not limited to a specific group or goal but instead is adaptable to almost any classroom or objective. The educational possibilities enhance learning without limiting the creativity and energy of students. To further answer the question about the incorporation and

effects of movement in elementary classrooms, we must first explore the background of music education, the bond between music and movement, and the brain development of young children.

Chapter 2: Review of Music Educators and Resulting Literature

Zoltán Kodály

Zoltán Kodály, a revered music educator and philosopher, was born and raised in Hungary. His biggest contribution to education began when he set out to improve early education by making use of Hungarian Folk songs, which he believed to be more interesting and easier to sing in tune than other elementary songs. Folk music was considered by Kodály to be the best material that could be used to teach singing to young students. In the words of the Organization of American Kodály Educators, “Folk Music has all the basic characteristics needed to teach the foundations of music and to develop a love of music – a love that will last a lifetime” (OAKE, n.d.). With this in mind, Kodály formed several schools in which children were mostly taught singing, stressing the importance of using folk songs that were in the native tongue of the students. The Kodály Educators of Georgia website says:

Traditional folk music provides the best and most natural material for becoming a literate musician. Everyone has a mother tongue—the language spoken at home. The traditional folk music of that language provides the source from which the basic elements of music literacy can be drawn. Following the study of authentic folk songs of the native culture(s), we can then explore the music of other cultures and connect traditional music with all styles of composed music. (KEGA, n.d.)

Because part of Kodály’s philosophy is that music is the *right* of all children, his teaching concept also includes training students in audiation (inner hearing) and music literacy. These skills develop students’ musicianship by equipping them to be independent musicians.

Kodály’s teaching also encouraged musicianship among children through singing because he believed the voice to be the “most accessible, universal instrument” (Musical U,

2017). Alongside this singing Kodály also taught rhythm, from which many other concepts stem.

A quote from the *Bulletin of the Council for Research in Music Education* reads:

Rhythm is learned simultaneously with melody. Children's play songs and games are utilized to teach an understanding of the basic beat and simple rhythmic patterns.

Development of the ear comes first, coordinated with and promoted by much physical movement – clapping, marching, skipping, walking, and dancing. Incorporated in the program is a system of rhythm syllables, similar to the French rhythm syllables but simpler to say and easier to remember. Each rhythm symbol is introduced in a pattern that is placed upon the basic beat. The learning of these patterns progresses slowly and methodically from the extremely simple to the very difficult over a period of three or four years. The patterns are always experienced in song. The child's whole body is used in active movement to the rhythms, which helps to keep the music period interesting for even the usually inattentive child. (Richards, 1966)

Melodic singing, rhythm, and movement are tight knit in Kodály's philosophy. Teaching with a Kodály mindset includes utilizing solfege/Curwen hand signs as well as a variation of the French cheve rhythmic counting system. Solfege, also referred to as Tonic *solfa*, is a system made up of eight syllables (one repeating), each representing a pitch in a diatonic musical scale.¹ All of these syllables can be represented by spoken word, sung pitches, musical notation, or through hand signs² developed by John Curwen (Göktürk, 2012). Unlike fellow music philosophers, however, Kodály's method of teaching is largely based in music theory, which is why it is incredibly helpful in sight-reading as well as aural skills.

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¹ See appendix B

² See appendix C

Kodály firmly believed in the value of educating young students, even saying “what is spoiled or omitted at this age [3 to 7] cannot be put right later on. In these years, Man’s future is decided practically for his whole lifetime” (Lineburgh, 2000). Another passage describes it in this way:

It was for the sake of achieving this noble aim that Zoltán Kodály stressed the necessity of starting music at an early age, in the kindergarten, emphasizing the responsibility of kindergarten teachers and the importance of their musical education. Kindergarten teachers must be enlightened as to their enormous responsibility, and the extent to which they harm the child in his human and Hungarian character if they nurture him on poor songs. And though they can be forgiven if they are not aware of what they are doing, they must be urgently taught how to distinguish between good and bad. By now any of the kindergarten teachers coming from rural parts and trained in short courses have proved competent in practice, even in singing, for they have brought with them a healthy nature and unspoiled taste. Nevertheless, the high-level, intricate work of a kindergarten teacher needs several years of study in many fields and a cultured taste. (Forrai, 1966)

Starting music education at a young age is advantageous and necessary if students are expected to reach their full potential. Kodály’s concern for the education of the students was also applicable to the teachers as well. In order for students to be educated, teachers must be educated, and music is no exception. Teachers will make an impact on students of any age, so it is important to begin early education with a positive one. This means that preschool and elementary teachers need to be trained just as well as those who teach older students. Although it applies to elementary and pre-kindergarten learning, Kodály’s teachings speak also to the importance of music education that occurs before formal schooling begins. He even talks about

the influence of music education prior to birth: when asked to determine at what age music education should begin, his response was “nine months before the child is born” (Richards, 1966). This sense of urgency fuels the passion behind teaching music well instead of simply teaching the bare minimum.

Carl Orff

A Munich native, Carl Orff was a philosopher, educator, and renowned composer whose works are still widely recognized and used. The main idea of Orff’s methodology is to allow children to follow their natural tendencies of play and self-expression while learning. Children need to be provided the opportunity not only to perform but also to compose, arrange, et cetera. Music performance can be a good goal to set, but it is vital to encourage students to also explore, improvise, create, and move:

Music and movement, the two primary art forms in the Schulwerk, are to be considered equal and interdependent. (... this relationship is drawn from traditional cultures in which music and movement are often inseparable.) In music the elemental building blocks include components of all musical elements--melody, rhythm, harmony, form, texture, timbre, and expressive qualities. In movement the blocks include locomotor and non-locomotor movement, use of time, space and energy in free and patterned forms.

(Shamrock, 1997)

As Shamrock describes, music and movement together create a hands-on way in which students can learn and grow in their musicianship. These elements can be used in a number of ways and tie into play as well. The Orff Method, also known as Orff Schulwerk, is relevant to this study due to the wide range of tools it uses. The German term “Schulwerk” translates to “schoolwork,” and is considered a child-centered education in the sense that its approach is based on the needs

of the child and takes their interests and input into account. It combines intellectual, social, emotional, and aesthetic knowledge in order to create an environment conducive to learning (AOSA, n.d.). Carl Orff used the term "elemental music" when describing his methods, and he defined it this way:

What then is elemental music? Elemental music is never music alone but forms a unity with movement, dance and speech. It is music that one makes oneself, in which one takes part not as a listener, but as a participant. It is unsophisticated, employs no big forms and no big architectural structures, and it uses small sequence forms, ostinato and rondo.

Elemental music is near the earth, natural, physical, to be learned and experienced by everyone, suitable to the child. (Orff, 1973)

Orff Schulwerk, often referred to as “music through experience,” can be divided into three categories: singing, playing, and moving. Put concisely, two of the main objectives of this method are “to use the speech and movement natural to the child as the springboard for musical experiences” and “to encourage the feeling that speech, movement, play, and song are one” (Göktürk, 2012).

Orff is also known for the way he incorporated a variety of instruments, pitched and unpitched, to aid students in improvisation, sight-reading, and music notation (AOSA.org, 2019). Similar to Kodály’s methods, Orff Schulwerk often includes solfege to encourage improvisation as well as music literacy, although this is not the ultimate goal. Orff was very aware of the fact that singing, playing instruments, and moving should be used in tandem to be most beneficial.³ The best way to grasp the thought-process and the goals of Carl Orff is to understand the overarching objectives of his Schulwerk, which are as follows:

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³ See appendix D

1. To use the speech and movement natural to the child as the springboard for musical experiences.
2. To give an immediacy of enjoyment and meaning to the child through active participation in all experiences.
3. To encourage the feeling that speech, movement, play, and song are one.
4. To give a completely physical, nonintellectual background in rhythm and melody, thus laying the foundation of experience so necessary to a later understanding of music and musical notation.
5. To give experience in the component parts of the basic elements of music: in rhythmic experiences, by beginning with the rhythmic pattern of a word, then two words, gradually building in complexity into the phrase and period; in melodic experiences, by beginning with the natural chant of childhood (the falling minor third), gradually adding other tones of the pentatonic scale, tones of the other modes, and finally the major and minor scales.
6. To cultivate the musical imagination—both rhythmic and melodic—and thus to develop the ability to improvise.
7. To cultivate individual creativity as well as a feeling for, and the ability to participate in, ensemble activities. (Göktürk, 2012)

These objectives give a clear description of what Orff wanted students to be able to do and experience. The theme that ties these goals together is that music education should be natural, enjoyable, and physical for children to learn and grow.

Emile Jaques-Dalcroze

Similar to the other two philosophers who have been discussed thus far, Emile Dalcroze was a composer and educator who contributed groundbreaking research to the field of music

education. Born in Switzerland, Dalcroze became interested in one rudimentary but essential element of music: rhythm. To further his study in rhythm he developed the idea of “eurhythmics,” a learning strategy that essentially forces students or musicians to feel the embodiment of the music. In her book *Rhythm and Movement: Applications of Dalcroze Eurhythmics*, Elsa Findlay lays the groundwork for the argument of including movement (or “motor expression”) in classrooms as it relates to music: “Since motor skill plays such a large part in musical performance and rhythmic sensitivity in musical interpretation, it is curious that rhythm and its correlated motor expression are so often neglected by music educators” (Findlay, 1971). Not only does she state that movement should indeed be included in education, but Findlay goes on to add that movement merits a significant position in the curriculum.

The Dalcroze Society of America defines his philosophy by describing what it looks like in the classroom: Dalcroze students are constantly using different body parts to move through games and songs. Being aware of basic elements of music such as tempo, dynamics, phrasing, and style allows students to demonstrate and explore bodily movement through music (DSA, 2019). Dalcroze worked most of his life in order to bridge the obvious gap that exists between movement, music, and education. His eurhythmics studies are based on seven objectives, all thorough and interconnected. As a brief example, here are portions of the objectives that pertain directly to this project:

3. Bodily movement acts as a reference for the interpretation of rhythm symbols
5. Body, mind, and emotion are integrated in rhythmic expression
7. Learning becomes joyous and meaningful when it evolves from human needs. The child who has danced his way to music will never turn a deaf ear to the greatest of all the arts (Findlay, 1971)

Findlay's book highlights the fact that movement is natural to young children, is permanently interconnected with music, and aids in the retention of musical knowledge. Dalcroze believed that both music *and* the musician should be moving, which is why he included rhythm as a key element of his philosophy (Frego, n.d.). Dalcroze understood the value of movement and astutely understood music, so the connection of these two concepts was only logical. By not separating these natural partners he created a rational, efficient, and effective method of teaching. This type of experiential learning is a good prototype for elementary classrooms everywhere because it uses the elements of movement and music to their fullest potential.

Dalcroze also utilized solfege, similar to Orff and Kodály, although his use was tied even more strongly to movement than the other two. It can be explained in this way: “What makes Rhythmic Solfege unique is that it is always combined with rhythm and movement, both locomotor and non-locomotor” (Frego, n.d.). Virginia Hoge Mead adds that “Solfege (sight-singing and ear-training), improvisation, and purposeful movement together work to improve expressive musicality and enhance intellectual understanding” (Mead 1996). When used in tandem with movement, solfege has even more potential. Employing both of these elements in the music classroom provides numerous learning experiences that not only address learning styles (visual, auditory, kinesthetic) but also combine music literacy, aural skills, and locomotor skills, uniting the mind and body.

Movement

Looking further into education uncovers even more extensive research that acknowledges the benefits of having movement as a core element in early education. The inclusion of movement is beneficial to students physically, emotionally, academically, and socially.

Author/researcher Chewang Doma Bhutia expands on the idea of movement aiding students developmentally in all of these areas, thus benefitting the educational process as a whole:

Physical activity can have a profound effect on the development of these behavioral domains (thus enhancing total development), for movement is the child's natural learning medium (Gabbard, Leblanc & Lowy, 1987) ... It has also been found that between 4-10% of children aged below five years are not meeting physical activity guidelines that suggested engaging in 180 minutes of physical activity a day (Goldfield et. al., 2012) ... Inactive lifestyle (decrease outdoor play) and increase in technology trend (electronic gadgets- video games, television, etc.) in children have major risk factors for the development of posture deformity, unhealthy social behavior, nutritional deficiency. It is also important for the child to develop an understanding of the body's need for the activity. Each person controls the development of his or her self-concept through action or some conceptual reorganization; each of us has an inner drive for self-fulfillment.

(Bhutia, C.D., & Nair, U.S., n.d.)

The data from these studies answers the question of “what are [some of] the effects of movement in education” by addressing what happens when it is *not* present in the lives of young students. On the other hand, when movement *is* included in the classroom, teachers begin to see more focus, less distraction. Rebecca Bright considers multiple studies in which teachers modify their classroom, even slightly, to provide opportunities for students to “fidget”:

Movement, when channeled correctly, can actually enhance learning. Whether through [modified] desks like [teacher Abby] Brown's, or do-it-yourself tools and activities like exercise equipment or yoga, teachers have found innovative ways to get students active and improve focus—without derailing the learning process...A 2008 study found that

children need to move to focus during a complicated mental task. The children in the study—especially those with attention-deficit/hyperactivity disorder (ADHD)—fidgeted more when a task required them to store and process information rather than just hold it. This is why students are often restless while doing math or reading, but not while watching a movie... (Bright, n.d.)

By utilizing what is already in the classroom or by making slight modifications, teachers can drastically increase productivity in a given school day. Additionally, suppressing even small, natural movement such as fidgeting often means suppressing focus or concentration.

Not only is movement helpful to learning in early education, it is also physically advantageous as students grow. Lack of movement can contribute to students feeling awkward or clumsy because, as their bodies and capabilities expand, they require time to explore (Lamassa, C. and Tipton S., 2014). To establish and maintain a healthy lifestyle, both physically and mentally, people of all ages must stay active in some form. It is detrimental to students, especially young children, when they are deprived of this activity. And this is no small issue, but rather one that is unfortunately common in classrooms. The Centers for Disease Control and Prevention estimates that only approximately 21% of students, from children to adolescents, are achieving the recommended level of physical activity. In order to grow and develop, children ages 3-5 should be active in some form throughout the entire day. (Centers for Disease Control and Prevention, 2020)

It is clear that movement is necessary and beneficial in any classroom, but movement and music work together on an even more fundamental level. This excerpt from a Dartmouth College School of Music article describes the connection well:

Music moves us, literally. All human cultures dance to music and music's kinetic faculty is exploited in everything from military marches and political rallies to social gatherings and romance. This cross-modal relationship is so fundamental that in many languages the words for music and dance are often interchangeable, if not the same. We speak of music "moving" us and we describe emotions themselves with music and movement words like "bouncy" and "upbeat." Despite its centrality to human experience, an explanation for the music-movement link has been elusive. Here we offer empirical evidence that sheds new light on this ancient marriage: music and movement share a dynamic structure. A shared structure is consistent with several findings from research with infants. It is now well established that very young infants—even neonates—are predisposed to group metrically regular, auditory events similarly to adults (4, 5). Moreover, infants also infer meter from movement. In one study, 7-month-old infants were bounced in duple or triple meter while listening to an ambiguous rhythm pattern (6). When hearing the same pattern later without movement, infants preferred the pattern with intensity (auditory) accents that matched the particular metric pattern at which they were previously bounced. Thus, the perception of a "beat," established by movement or by music, transfers across modalities. Infant preferences suggest that perceptual correspondences between music and movement, at least for beat perception, are predisposed and therefore likely universal. (Sievers, B., Polansky, L. Casey, M., & Wheatley, T., 2013)

From birth, humans instinctively connect music and movement, so why should they be separated in education? Starting in the early stages of life, children learn from play, which can include singing, dancing, and creating. Although children's songs and activities may seem trivial to an

outsider, young students build important foundations and gain knowledge through these experiences (Palmer, 2008). Carlos Abril writes:

Music and movement of the body are two naturally linked phenomena of human proportions. This is evident from the earliest years of life when infants orient their heads toward a music-generating sound source (e.g., Fassbender, 1996), to later years, when children move their bodies to music with greater control and in culturally stylized ways (e.g., Blacking, 1967; Campbell, 1998; Moog, 1976) or adults move to music for therapeutic purposes. (Abril, 2011)

Some studies have even gone as far as to suggest that movement and music could be essentially the same type of behavior. Detaching movement from music or leaving movement out of education all together is depriving students. Movement is an innate response to music, so it should be utilized to its fullest potential by implementing it into classroom instruction. The fact that children instinctively explore movement even from infancy shows the link from movement and music to movement and the brain.

Brain Development

Another reason physical activity is effective in the classroom is that movement is instinctive and aids in development, especially in young children. Author and researcher Chewang Doma Bhutia eloquently describes the developmental impact of movement:

It is obvious that motor play has a significant function in total growth and development. There is also a time during infancy and early childhood when physical development through motor play is intimately related to other forms of development, including cognitive and socioeconomic development. (Bhutia, C.D., & Nair, U.S., n.d.)

This “motor play” is the type of movement that is possible and advantageous to implement into classrooms. Taking the ideas from Doma’s paper even deeper, it is helpful to explore the “Theory of Multiple Intelligences.” This theory, created by prolific research professor and developmental psychologist Howard Gardner, includes eight various categories of intelligence: Linguistic, Logical-mathematical, Spatial, Bodily-Kinesthetic, Musical, Interpersonal, Intrapersonal, and Naturalist. In his book, *Frames of Mind: The Theory of Multiple Intelligences*, Gardner explores and explains each of these and, more importantly, how they all relate. These ideas of Bodily-Kinesthetic, Spatial, and Musical intelligence promote the argument that movement should be included in education as well as the hypothesis that bodily movement, music, and intelligence work together.

Gardner’s theory also helps explain why it is crucial to begin music education while children are young, even before they are considered “school-age.” Part of this reasoning has to do with Logical-Mathematical intelligence, as it deals with brain development. Human development specialist Judith Graham briefly explains the synapses of a human brain in an article from the University of Maine:

The brain starts forming prenatally, about three weeks after conception. Before birth, the brain produces trillions more neurons and “synapses” (connections between the brain cells) than it needs. During the first years of life, the brain undergoes a series of extraordinary changes...As the neurons mature, more and more synapses are made. At birth, the number of synapses per neuron is 2,500, but by age two or three, it’s about 15,000 per neuron. The brain eliminates connections that are seldom or never used, which is a normal part of brain development. “Windows of opportunity” are sensitive periods in children’s lives when specific types of learning take place...Early stimulation sets the

stage for how children will learn and interact with others throughout life. A child's experiences, good or bad, influence the wiring of his brain and the connection in his nervous system... Connections that are used become permanent. If a child receives little stimulation early on, the synapses will not develop, and the brain will make fewer connections. (Graham, J., & Forstadt, L.A., 2011)

Because of the vast number of synapses early on, young children are able to learn and retain skills more rapidly than mature adults. As Kodály put it, "What a child has heard in his first six years of life cannot be eradicated later. Thus it is too late to begin teaching at school, because a child stores a mass of musical impressions before school age, and if what is bad predominates, then his fate, as far as music is concerned, has been sealed for a lifetime" (Szabó, 1969). The brain changes more rapidly and more frequently in those first few critical years, and it should be taken advantage of if children are to be fully prepared for formal education, musical or not. If interactions are not created and maintained when students are young, the child's brain will simply delete the connections as it develops, leaving great opportunity untouched.

Chapter 3: Methods

Orff Schulwerk Class

Observation was the main type of methodology for this project, and the greatest portion was conducted at an Orff Schulwerk workshop at Florida State University. Undergraduate and graduate students who completed the workshop earned Orff Level I certification, and classroom teachers earned Continuing Education Units (CEUs). As this course was centered around the ideas and strategies of Carl Orff, it involved playing Orff instruments,⁴ learning dances, responding to stories, and creating improvisational movement as well as music (both vocal and instrumental).

On the majority of days, the workshop began with a clinician leading participants in a movement activity. This segment could be as simple as mirroring the leader or as elaborate as individuals creating and sharing their own movement patterns that incorporated elements such as clapping, striking a pose, or only using specific body parts. One particular day opened with learning the simple song “Let’s Get Ready for a Hoedown” by chunking,⁵ or teaching the song by rote (moving piece-by-piece or line-by-line). After participants became familiar with the lyrics and melody to the song, the clinician introduced corresponding movement, which allowed the class to interact with several different partners. Now equipped with the lyrics, melody, and dance, the class moved on to instruments. Recorders, which the class had learned to play together, were used for the melody, and other instruments such as xylophones and glockenspiels were added. This was an activity that built on retention as well as enhanced skills such as instrumental, vocal, motor, and social. It is also a fairly basic progression that participants can

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⁴ See Appendix E

⁵ See Appendix F

use in their own classrooms. This method, adjustable for time constraints, was used during the course of the Orff Schulwerk workshop with different songs, dances, and stories.

Throughout the Orff Schulwerk class, it became evident that even adults were more engaged when rhythmic movement and music were connected through stories and lessons. Some of the most productive moments were those in which participants were working/discussing with a partner, creating dance or movement, or choosing and playing an instrument. Activities that exemplify this idea occurred every day, but two stood out because of the levels of engagement and thought they produced. Both involved the use of colorful juggling scarves. In one activity, music was played and participants were asked to freely create movement using their scarves and bodies, paying attention to when the music changed. They were asked to move around the room and use the space creatively until the music stopped. The next part of the task was to find a partner and, still using the scarves, take turns mirroring the movements each one created. The other class activity that stood out was similar, but instead of just music being played, a story was also read. With a soundtrack playing in the background, the clinician read to the class as they watched and listened. The clinician then repeated this action while the class moved in ways that represented what they heard, again using the scarves. Finally, only the soundtrack and pictures were used, and the class had to “tell” the story through their movement. Both of these seemingly simple activities engaged a roomful of adults for a significant period of time. Afterwards, the participants discussed what type of movements they used and saw, which parameters were more challenging, and how the lesson could be used in their classrooms. Observation of these activities made it evident that they helped participants make and express connections between the movement, music, and words.

Field Observation

Other classroom observations occurred in the course of this project outside of the Orff Schulwerk workshop. The majority of these observation hours took place in elementary or middle school classrooms, including students in a children's choir consisting of grades 2 through 6. The methodology, sometimes guided through University courses, included observation, note-taking, and participation through leading or joining the class for activities. Movement (or the lack thereof) was a common factor tied to attention and management. Classrooms that did not have the resources, space, or personnel to accommodate movement activities were, in general, more chaotic, lethargic, or poorly managed. Observation showed that a more active class period led to more engaged and productive students.

The idea that controlled movement can help garner student attention and aid in classroom management was confirmed as more observation took place. In one of the choirs, ages 4th through 6th grade, students came in from running, talking, and playing outside. They were then asked to sit or stand quietly while listening to the teacher and learning about the music, a task that proved difficult because of insufficient transition time. While it is certainly important that students have time to expend energy how they choose, they must also be able to control themselves in a classroom setting. The issue arises, however, when sufficient communication and transition time do not exist. Students who come straight into a traditional instructional setting from being physically active must have time to shift mindsets. Teachers should be able to utilize movement to their advantage here by taking free play, giving it parameters, and using it in the classroom to direct the focus and energy of students.

One way in which an observed teacher created a smooth transition was by playing an "echo" game: the teacher would do a simple movement for four beats, which the students would mimic as she moved on. This activity did not require talking but pushed students to engage their

bodies and their brains. The brain was occupied with a type of puzzle, as students were four beats behind the teacher, performing one movement while paying attention to a separate pattern to be achieved next. Beginning class with this game and mixing vocal warm-ups into it captured the attention of students and shifted their focus onto music.

Alternatively, if a class has "downtime," valuable time is wasted bringing students back to order or correcting behavior that should not have occurred in the first place. If this is a common incident, students quickly lose interest in that class and take advantage of the teacher's perceived weakness. This is one of the reasons why teachers need to be aware of how much time is spent on lecturing or explaining. It is, of course, necessary for teachers to talk in many lessons, but studies have found that extended "teacher talk time" is not as beneficial or efficient as it may seem. According to Catherine Gewertz,

Research documents the dominance of teacher voices in classrooms. Hattie's [Laureate professor at the University of Melbourne in Australia] synthesis of studies on the topic, detailed in his 2012 book, *Visible Learning for Teachers*, found that teachers talk for 70 percent to 80 percent of class time on average. His own research produced an even higher average: 89 percent. All that talking doesn't necessarily produce good learning. One study tracked middle and high school students and found their engagement flagged the most when their teachers were talking. Others show that most of teachers' questions seek lower-order responses like factual recall. (Gewertz, 2020)

Of the teachers whose classrooms were used for this project, one in particular demonstrated how crucial it is to maintain a balanced ratio of teacher talking to students doing. His feedback and instruction were concise, and he kept the class moving quickly. One of the many benefits of this

is that the students had very little time to get off task, meaning more time was spent fixing vocal issues or engaging students with choreography, motions, and other connected movements.

During classroom observations, engaging the body not only aided with classroom management in this way, but it also helped musically. In each setting, there were examples in which the teacher/director used physical motions to improve sound quality. Sometimes this was displayed through having students place their hands on their mouth to form a certain vowel. Other times it included students mimicking throwing a ball or frisbee in order to "distract" them into relaxing their body, thus producing a more confident, sometimes extended, tone and range of pitches. At least two of the instructors observed also used the Curwen hand signs to help students commit the idea of solfege to memory. One of the vocal warm-ups⁶ that stood out in observations used all of the solfege, ascending and descending. It was difficult for some students to keep up or keep track of which syllable they were on, but having to use the corresponding hand motions helped them stay on track. Another way in which observation proved that movement helped in the classroom was through memory work. Even students as young as four and five displayed increased understanding and retention of words, concepts, or directions when motion was involved. This was seen through teacher-created motions to accompany songs as well as student-created motions to remember keywords in songs or other academic memorization.

In these observations, a few specific students stood out for various behavioral reasons, which were discovered to be regular occurrences. One student challenged the director by visibly showing disinterest, moving seats, disrupting classmates, or asking during every rehearsal to use the restroom or get a drink of water. Addressing his conduct or answering irrelevant questions

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⁶ See appendix G

took valuable time and focus away from learning music. One other student in the class was prone to behavioral disorders. The disruption he caused in class ranged from minor issues, such as talking out of turn or choosing not to participate, to major issues, such as yelling, leaving the room, or hitting. A common theme in the behavior of this student was that his frequent desire to move, which he displayed by kicking chairs within reach, standing up, or running around. One of the contributing issues was the lack of opportunity to create movement during class; instead, he was asked to sit down and pay attention. Both of these students, however, proved to be clever and creative when they did participate, and one way they engaged was through a rhythm game where a leader created rhythms while the class echoed. The first student enjoyed the game and even volunteered to be the leader, eager to create intricate rhythm patterns. The second student was distracted at first, not participating, but eventually became interested when adults and peers were all absorbed in concentration. These observations help understand how movement must be employed in creative ways instead of discouraged in order to work cohesively with learning.

Chapter 4: Results

From the research conducted, it is evident that incorporating movement into music classrooms provides social, emotional, physical, and mental benefits to students. From birth (and even before), movement is a natural response to hearing music and a way in which the body and mind are able to focus. Direct observation has concluded that young students naturally want to expend energy and that learning can be impaired when this response is stifled.

Repeated observation of several classes allowed a familiarization with common behaviors, procedures, and capabilities, which revealed the differences between productive and unproductive musical rehearsals. Focus and engagement most commonly waned during the times students were expected to sit still, leading to a lack of productivity. When physical movement was incorporated through dancing, playing games, stretching or other activities, students were much more engaged and willing to participate. The integration of movement does not, however, have to include intricate or large-scale activities. Notes from observation as well as research from other studies consistently show that even small efforts to integrate movement into the classroom can reap long-lasting benefits.

As more research was conducted, the incorporation aspect of the thesis proved more influential than first realized. In order for movement to have an effect, teachers must learn to incorporate and encourage movement in a manner appropriate to their setting. Sufficient time, space, and personnel are beneficial to aid movement in “doing its job,” but it is most important that the teacher be mentally equipped to successfully incorporate movement. In observations, it was evident which teachers and directors knowingly used movement as a tool and which ones were overwhelmed by their students’ need to move. Because of restrictions such as short class periods and cramped spaces, teachers sometimes have to be creative in order to incorporate

movement and equip students. For some teachers, this might include finding alternative seating for students that allows standing, sitting, or lying comfortably while working. For elementary music, the ideal classroom is one in which children can freely explore movement, create movement sequences, and respond to musical statements with movement.

Chapter 5: Discussion and Implications

Discussion

Throughout this project, one of the goals has been to explore and explain why and how physical activity, movement, and “motor play” should be introduced to and maintained in classrooms. Another goal was to delve into how this implementation affects classrooms, students, and teachers. Both were pursued through observations as well as in-depth research of relevant studies that were conducted previously. The results concluded that the incorporation of physical movement into the elementary classroom can help students pay attention, stay engaged, and remember content more effectively. An excerpt from an article submission to the *Frontiers of Psychology Journal* details this idea well, saying:

Briefly, embodied cognition suggests that physical properties of the human body, particularly the perceptual and motor systems, play an important role in cognition—the body influences the mind just as the mind influences the body. This approach is further supported by findings that individual body properties such as handedness can influence how individuals understand abstract concepts (Casasanto, 2009, 2011). One particularly interesting facet of the idea that our body can affect cognition is the influence of actions, gestures, and exercise on memory performance: the hypothesis is that our physical movements, and even the amount that we exercise, can affect our ability to remember.

(Madan, C.R. and Singhal, A. 2012)

Results indicated that the hypothesis from this article is true, and that providing opportunities for students to stand up, play, and exercise is helpful in many ways. Movement is natural to young students, is intertwined with music on a fundamental level, can be used to enhance learning, and should be a standard in early education.

Implications:

This project was pursued with an overarching goal of bettering the education of young students by becoming more aware and attempting to encourage change where change is necessary. This is important because there are clear issues within the education system, some of which can be alleviated through implementing something as rudimentary as physical movement. The research and subsequent results address physical, emotional, and educational needs faced by young students as well as a challenge faced by instructors.

Furthermore, the outcomes are not only applicable to students in music classrooms but education as a whole. Studies that connect movement, mentality, and education can become the starting point of something great. As Jacques Dalcroze states in *Eurhythmics, Art, and Education*:

The rhythmic instinct is the ability, which our muscular system possesses, of perceiving the duration and the gradations of bodily movements, and that the science of rhythm is the power of appreciating the relations of movements to one control of the mind. Rhythm, consequently, is by no means an exclusive apanage of the musical art. Indeed, the teaching of rhythmic movement, although based on music, is not solely a preparation for musical studies, but rather a system of general culture. (Jaques-Dalcroze, 1972)

Movement is valuable cognitively as well as culturally, and its wide applicability benefits teaching in different ways because of the variety among teachers, students, school districts, curriculums, and other restraints. What does not change is the fact that having movement as a core element of early education is beneficial to students physically, emotionally, academically, and socially. Given the importance of movement to student development, the results from this and similar projects are critically important and should be considered for the future.

Chapter 6: Conclusion

Limitations

Research for this project has led to a deeper understanding of many of the issues that music education faces and provided the opportunity to explore solutions. As in most studies, however, there were limitations while conducting research. Limitations such as time constraints and issues of consent were commonplace but necessary. Without these restrictions this project could be expanded through more in-depth research, including observation of teachers and students from across the country or across the globe for comparison. Because of the extensiveness of the topics and questions, the results and answers were not entirely comprehensive. The research provided some conclusiveness while also revealing other areas in which further work could be conducted.

Future Research

Many studies have been conducted concerning the effect of music on the brain or academics, and the resulting research is powerful, helpful, and diverse, but lacks connection. This research does not often address music, movement, and education in direct correlation with one another, but because of its great potential, this topic deserves to be studied more in-depth. Observation for this study allowed insight into real-life issues and solutions, but also pointed to the fact that gaps in research remain and can be pursued. Of particular interest is how this movement could specifically aid certain groups of students, such as those with mental, learning, or behavioral disorders. More studies such as these would be especially relevant now with the ever-rising number of students being diagnosed with these disorders, as Strauss points out in her *Washington Post* publication (Strauss, 2014). Further observation and experimentation can and should be conducted in classrooms of various sizes and locations with students of various ages,

backgrounds, and interests. For now, whether musicians or not, educators or not, one can take away the fundamental importance of music education and the indisputable need for movement in all classrooms starting at a young age.

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Appendix A: IRB Approval

IRB-19-178 - Initial: Sacco Committee Letter - Expedited and Full

irb@usm.edu

Thu 7/11/2019 2:14 PM

To: Caroline Rhett <Caroline.Rhett@usm.edu>; Jonathan Kilgore <Jonathan.Kilgore@usm.edu>; HC Keystone <hc_keystone@usm.edu>

**Office of
Research Integrity**



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NOTICE OF INSTITUTIONAL REVIEW BOARD ACTION

The project below has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services regulations (45 CFR Part 46), and University Policy to ensure:

- The risks to subjects are minimized and reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered involving risks to subjects must be reported immediately. Problems should be reported to ORI via the Incident template on Cayuse IRB.
- The period of approval is twelve months. An application for renewal must be submitted for projects exceeding twelve months.

PROTOCOL NUMBER: IRB-19-178

PROJECT TITLE: The Use and Effect of Movement in the Early Music Education Classroom

SCHOOL/PROGRAM: Music

RESEARCHER(S): Caroline Rhett, Jonathan Kilgore

IRB COMMITTEE ACTION: Approved

CATEGORY: Expedited

6. Collection of data from voice, video, digital, or image recordings made for research purposes.
7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

PERIOD OF APPROVAL: July 11, 2019 to July 10, 2020

A handwritten signature in cursive script, reading "Donald Sacco".

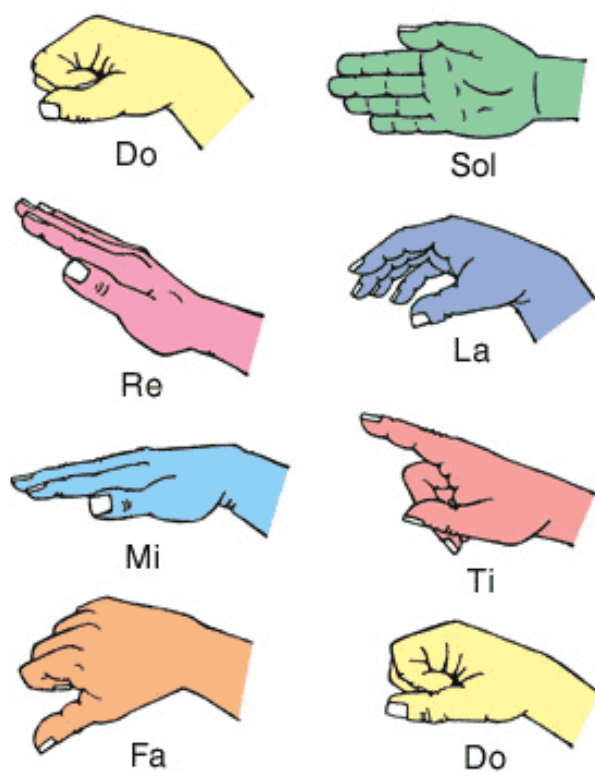
**Donald Sacco, Ph.D.
Institutional Review Board Chairperson**

Appendix B: Tonic Solfa Scale



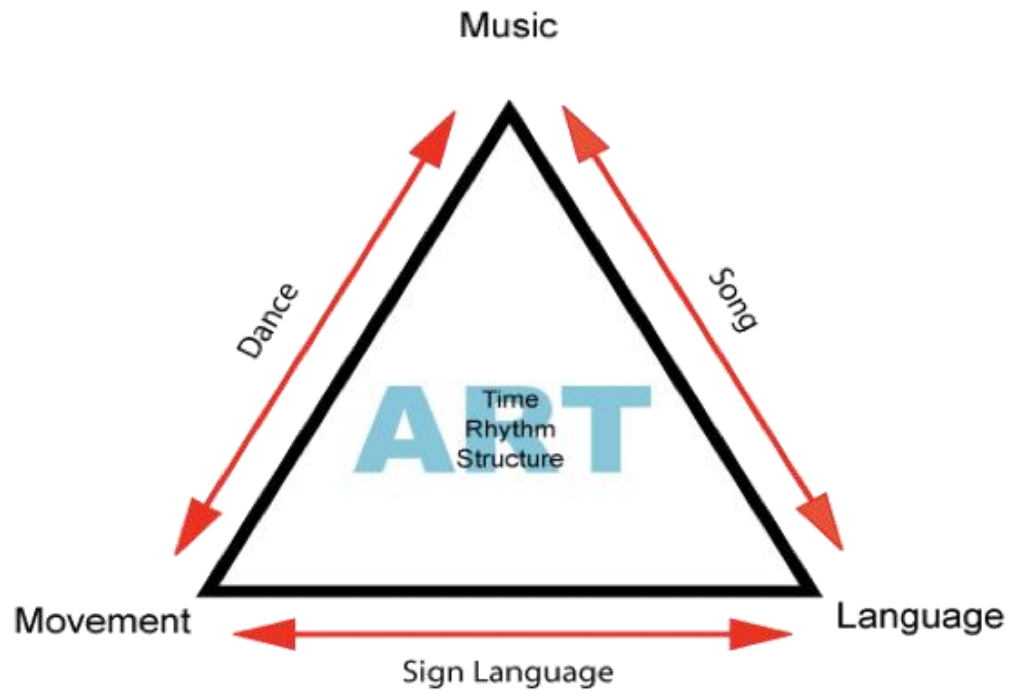
Resource: <http://www.arts.jrank.org/pages/6845/Tonic-Sol-fa.html>

Appendix C: Solfege/Curwen Hand Signs



Resource: <http://www.classicsforkids.com/teachers/images/handsigns.gif>

Appendix D: Orff Schulwerk Diagram



Resource: <http://www.rainbowsongs.com>

Appendix E: Orff instruments



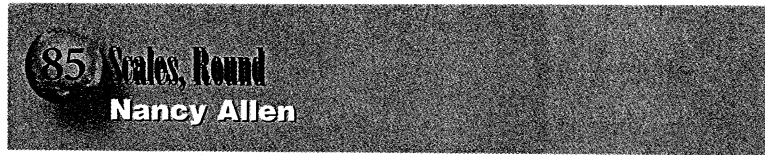
<https://teachingwithorff.com/build-instrumentarium/>

Examples: Xylophones, glockenspiels, rhythm sticks, nested hand drums, triangles, woodblocks, guiros, cabasas, tambourines, maracas, temple block set, suspended cymbals, wind chimes, gong, tunable tubanos.

Appendix F: “Let’s Get Ready for a Hoedown” Song with Corresponding Solfege

Let’s get ready for a hoedown,
(*mi re do do la la sol sol*)
Sweep the floor and roll the rug.
(*la la sol sol la la sol*)
Let’s get ready for a hoedown,
(*mi re do do la la sol sol*)
Come on, folks, let’s have some fun.
(*la la sol sol la do do*)

Appendix G: Solfege Vocal Warm-Up



Use numbers or solfège syllables for these scale patterns. Change keys as needed to suit your ensemble. To vary the exercise,

sing in rounds, with different groups entering every two beats.

A

1 1 2 1 1 2 3 2 1 1 2 3 4 3 2 1 1 2 3 4
Do, do re do, do re mi re do, do re mi fa mi re do, do re mi fa

5 4 3 2 1 1 2 3 4 5 6 5 4 3 2 1 1 2 3 4 5 6
sol fa mi re do, do re mi fa sol la sol fa mi re do, do re mi fa sol la

B

7 6 5 4 3 2 1 1 2 3 4 5 6 7 8 8 8 7 8 8 7
ti la sol fa mi re do, do re mi fa sol la ti do. Do, do ti do, do ti

6 7 8 8 7 6 5 6 7 8 8 7 6 5 4 5 6 7 8 8 7
la ti do, do ti la sol la ti do, do ti la sol fa sol la ti do, do ti

6 5 4 3 4 5 6 7 8 8 7 6 5 4 3 2 3 4 5 6 7 8
la sol fa mi fa sol la ti do, do ti la sol fa mi re mi fa sol la ti do.

Coda

8 7 6 5 4 3 2 1 1 8 1
do ti la sol fa mi re do, do do do. ↑ ↓

Andy Beck

Andy Beck also uses this exercise, varying style, articulation, and dynamics. After learning the exercise, half the choir sings

the A section and half sings the B section, then all sing the Coda together. Be sure to switch parts and tune the *do*'s each time.



Scales