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Literacy-based Elementary Music Instruction and English Language Literacy Acquisition

Stefan Wolf
wolfs2@csp.edu

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Stefan Wolf

Concordia University, St. Paul

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Instructor: Prof. Ann Kern

Second reader: Dr. Phyl Burger

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DEDICATION

For Kara and Solveig, the lights of my life.

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A brief acknowledgment is necessary to recognize those who have helped me in my career. This work would not have been possible without the teaching, expertise, advice, and support of all of my previous music instructors, professors, elementary through high school teachers, and colleagues. Thank you.

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Abstract

It is often touted by music educators and proponents of music education in the public school system that music helps improve math and reading achievement and test scores. While this justification has undoubtedly saved some music programs, the purpose of this study is not to establish the usefulness of music education in improving other skills but rather to find parallels and overlaps between music literacy and English language acquisition and the pedagogy used to teach both and to determine what implications these relationships have for music literacy pedagogy for all. The author tentatively postulates that music literacy instruction has some positive effects on English language learning, and that there are significant pedagogical overlaps between music and English literacy instruction. However, the author also finds that there are significant gaps in the research, specifically in studies that take as their experimental variable constructivist music education approaches (Kodály, Orff methodologies and Gordon philosophy) and that are able to generalize the experiment to account for a wider variety of learners beyond a small targeted group. The author concludes that further investigation and studies into this area are indeed warranted in order to draw more concrete conclusions on the causational relationship between constructivitst music literacy instruction and English literacy achievement.

Keywords: music, literacy, Kodály, Orff

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"Let us take our children seriously! Only the best is good enough for a child." -Zoltan Kodály-

In recent history, the inclusion of music education in the general education curriculum has often been justified on the grounds of improving reading and math skills and standardized test scores (NAfME, 2019). While this supposed cause and effect relationship (music instruction equals better test scores) would be, from this writer's point of view, a positive correlation, it is not the justification for music in the schools. Music education is self-justified as a subject in school because musicality is an essential function of humanity. Music is one of the truest expressions of the inherent humanity within all people.

All of that being said, an investigation into the links between music literacy instruction and language literacy achievement is warranted on the grounds that knowledge of connections and mutually beneficial effects would further pedagogical knowledge and instruction in both areas. The following is a brief overview of the current state of research into these correlations and the potential pedagogical implications. The purpose will be to discover the relationships between general music literacy instruction and language literacy achievement in the elementary grades and synthesize the implications the relationships have for music literacy pedagogy for all learners.

This study addresses the connections and correlations between literacy-based, constructivist elementary music instruction and achievement in English language literacy. The studies considered are limited to those dealing with elementary or pre-K aged children and that consider authentic music instruction rather than music-based contrived interventions that are sometimes used as research variables (singing sentences, using melody or rhythm in vocabulary instruction, etc.) The purpose is not to see how music can be subservient to English language

instruction but rather how authentic instruction in both areas can be mutually beneficial and inform pedagogy and skill acquisition in one another.

While the intent of the research is to come to conclusions regarding general music instruction as it occurs in elementary schools that have regular music class taught by a licensed, qualified individual and its links to literacy achievement, the author acknowledges that elementary music instruction varies widely from place to place and that the time spent in instruction, qualifications of the instructors, quality of the curriculum, and other extra-curricular demands are vastly different depending on the school district, building, administration, community, and a host of other variables. In other words, elementary music instruction on its own cannot be taken as a consistent variable. Many studies necessarily focus on small, specific groups of children (English language learners, students in high-poverty situations, etc.) (Cogo-Moreira, et. Al, 2013; Darrow, et. Al, 2009; Gromko, 2005; McCormack & Klopper, 2015) and that large scale, encompassing studies in this area are mostly non-existent (aside from meta-analyses like the one performed by Standley (2008), discussed later). This discussion will attempt to synthesize the information gleaned from the various small-scale studies into a holistic picture of the relationships between general elementary music instruction and literacy and distill that information into actionable next steps for research and implementation.

The current state of research in this area varies widely and generally falls short of providing a large-scale picture of the relationships between elementary music instruction and literacy acquisition. The goal of this study is to attempt to bring together and synthesize the wide range of extant smaller studies and begin to build a picture of the significance of the relationships and correlations between these two fields. While the author does not presume to provide an all-encompassing answer to these questions, the intent is to begin the discussion and analysis so that

students can be more successful in both fields. This study could provide a starting point for future discussions between elementary music specialists and elementary general educators about pedagogical parallels, skill overlaps, and cross-curricular connections that may have been otherwise overlooked because of the historically separate nature of the two disciplines in elementary schools. Some of these studies have already been done in a preliminary sense (Hall & Robinson, 2012). This study seeks to build upon and expand that work.

The primary questions that this study seeks to answer are as follows: what are the relationships between literacy-based, constructivist elementary music instruction and English language literacy instruction, what are the pedagogical parallels between the two disciplines, what skills are necessary for success in both, and what implications for instruction do these relationships and overlaps have for pedagogy in both areas? In light of what we know about differentiated instruction, this study seeks to further illuminate how educators can more effectively teach both elementary music literacy and English language literacy and how instruction in these two disciplines can enhance one another.

Definition of Terms

The following terms will be important to understand the discussion of elementary music education and English language literacy instruction. Specifically, these terms will help the reader understand the context and type of music instruction with which this author is concerned. More importantly, these several definitions explicitly define the terms used frequently in this paper that are more discipline-specific and pertain exclusively to elementary music education.

Constructivist music instruction refers to any music education pedagogical approach that follows the constructivist epistemology, credited to Jean Piaget (Piaget, 1971), wherein students build, or "construct," knowledge via their experiences. Wiggins (2009) states that it is "thinking

about teaching as fostering and enabling learners to construct their own understanding" (p. 4). These theories include the Kodály method and Orff approach, which will be elaborated upon in the next chapter.

Kodály method refers to the music education philosophy developed, originated, and named after Hungarian composer, linguist, and educator Zoltan Kodály in the 1940s and 50s which is based on the child-development approach to learning rather than the subject-logic approach (Choksy, 1974, p. 16). Since Kodály was a linguist by profession rather than a musician, he approached the creation of his music education methodology from a language-acquisition standpoint. The Kodály method emphasizes the concept of sound before sight and understanding of a concept before formal labels are applied. More details on this method will be provided in Chapter 2 of this paper.

Orff approach refers to a music education philosophy originated and named after German composer and educator Carl Orff and further developed with the help of Dorothee Günther and Gunild Keetman. His approach, originally conceived as a way to marry dance and music on stage after folk tradition, was brought into the classroom after Günther started to use some of the music Orff was writing in her instruction. The curriculum was based on an elemental style, meaning that the music and dance were broken down into their simplest possible elements, mastered, and then put back together in a building-block fashion (Choksy, Abramson, Gillespie, and Woods, 1986, p. 93). The re-constructing of these musical elements allows students to build their own knowledge and create in their own way, a method in contrast to the subject-logic-content approach that had previously been more typical in school curricula (Choksy, Abramson, Gillespie, and Woods, 1986, p. 93).

Elementary general music instruction refers to non-instrument specific music instruction provided to all students in a primary to intermediate setting, with no outside music instruction or knowledge being necessary or assumed. The number of times students meet per week and the exact curricula they follow varies widely and depends on locality and instructor.

This introduction has established that this paper is a discussion of the various relationships and overlaps between constructivist general elementary music education and English language literacy instruction in the elementary ages and the pedagogical implications arising from said relationships. The scope of this research has been defined as elementary aged children participating in general music instruction without any outside knowledge assumed. Furthermore, the goal of this specific discussion is to draw conclusions based on regularly offered music instruction as a standalone class rather than music or musical elements as specific interventions in reading instruction.

The rest of this paper will review the extant literature on the topic and provide summaries and areas of future investigation and study. Chapter two will be a literature review with groups of studies focused on elementary music instruction, pre-K music instruction and literacy, and the relationship in pedagogy and skills between music instruction and language instruction. Chapter three will summarize the reviewed literature. Chapter four will be a discussion of the reviewed research along with pedagogical applications and areas for future investigation.

Chapter Two: Literature Review

There is a wide variety of research pertaining to music education as well as English language literacy. The selection of materials dealing with both disciplines is more limited, but still robust. The review of the literature in this paper will be split into three different sections: studies focused exclusively on elementary music education and methodology, studies discussing

pre-K music instruction and literacy, and studies taking the relationship between music literacy and English language literacy as their primary topic. The three different areas will be discussed in relation to one another and synthesized in chapter three to provide a holistic picture of the relationship between music literacy education and language literacy acquisition.

Constructivist Elementary Music Education

The primary topic being addressed in this discussion is a comparison between constructivist music education approaches and English literacy acquisition. Thus, it is necessary to begin with an analysis and overview of constructivism in music education and the primary constructivist methodologies widely employed by music educators. Constructivism, originally articulated by Jean Piaget, is a theory of learning stating that in order to learn, a person must be continually evaluating new experiences against his or her currently held ideas or notions and deciding what to assimilate, delete, or keep, thereby "constructing" new knowledge (Brooks, 2005). In the educational context, the concept of constructivism suggests that it is "the learner's responsibility to construct meaning through reflection on experiences with objects, phenomena or people, and that it is the teacher's responsibility to scaffold learner reflection in a manner that may generate learner analysis, synthesis, and insight" (Brooks, 2005). In other words, students learn by doing and comparing new experiences against previous experiences and knowledge in order to build an understanding of a certain concept. Therefore, the constructivist music classroom is an active one centered on making and exploring music. Wiggins (2009) said that, in order to effectively learn music, learners need to be actively engaged, which means engaging in authentic performing, creating, or listening experiences (p. 25). She further elaborated that music learning must take place in context, because when students are asked to work with musical material out of context, they have a more difficult time finding meaning in the musical

experiences. (Wiggins, 2009, p. 36). The Kodály method and the Orff approach, two of the most common constructivist music education approaches in use today, both put active music making and experience at their core. More importantly, both prioritize music literacy, which is vital to the comparison with language literacy and the premise that there are similar processes and skills at work. Jacobi (2011, p. 12) made it clear that Kodály put it at the center of his methodology and prioritized it above musical activity only.

The Kodály method, developed, originated, and named after Hungarian composer, linguist, and educator Zoltan Kodály in the 1940s and 50s, is based on the child-development approach to learning rather than the subject-logic approach (Choksy, 1974, p. 16). The main instructional methods associated with this approach are *tonic solfa* singing syllables, John Curwen's solfege hand signs, and the use of rhythm syllables invented by Chéve in France (Choksy, Abramson, Gillespie, and Woods, 1986, p. 70). The primary philosophy behind the Kodály approach is that all people capable of language literacy are also capable of learning to read music. (Choksy, Abramson, Gillespie, and Woods, 1986, p. 71). For the purposes of this discussion, that statement could also be inverted to suggest a belief that all students capable of musical literacy are also capable of lingual literacy. In other words, the two are intricately connected. As a linguist by trade, Kodály saw these similarities and structured his approach accordingly.

In her article concerning the Kodály and Gordon approaches to music education, Lane (2006) summarized that the Kodály approach defines music literacy as the ability to look at a musical score and think the sounds just as easily as one thinks the words on a page of writing (p. 39). In other words, the Kodály approach to music literacy education is constructivist in nature, much like many current reading and mathematics instructional approaches. Jacobi (2011)

highlighted Kodály's emphasis on sound before sight in teaching music literacy, mirroring the way that young children learn words and sounds before learning how to read words and letters on a page (p.11).

The other widely implemented music education method is the Orff approach, originated and named after German composer and educator Carl Orff and further developed with the help of Dorothee Günther and Gunild Keetman. His approach, originally conceived as a way to marry dance and music on stage after folk tradition, was brought into the classroom after Günther started to use some of the music Orff was writing in her instruction. The curriculum was based on an elemental style, meaning that the music and dance were broken down into their simplest possible elements, mastered, and then put back together in a building-block fashion (Choksy, Abramson, Gillespie, and Woods, 1986, p. 93). The Orff process closely mirrors that of initial language acquisition and exploration: observe, imitate, experiment, create. Students start by observing and imitating the teacher directly, then advance to actual experimentation and original creation as they grow more confident and competent (Choksy, Abramson, Gillespie, and Woods, 1986, p. 97). Arvida Steen (1992) also emphasized that, in the Orff approach, children learn best when music is broken down into elements, then reassembled as learning and understanding grows (p. 13).

In their rejection of subject-logic teaching and embrace of constructivist learning philosophies, Kodály and Orff were very similar. Furthermore, these two teaching philosophies also closely mirror constructivist approaches to literacy that allow students to develop their own knowledge by moving from sound to sight, oral/aural skills to symbolic relationships and ultimately improvisation and creation of writing and speech. These parallels will be addressed in a later section of this literature review. First, however, attention must be paid to the foundational

skills required to begin learning how to read music (or language) in the pre-K years. Specifically, the following section will analyze research and information dealing with the developmental stages of the pre-K years and how they relate to music literacy acquisition. The elementary music philosophies and methodologies will then be linked to these studies pertaining to the foundational music and literacy skills gained in pre-K in the final section of chapter two.

Pre-K and Kindergarten Music Instruction

While the primary focus of this paper is to identify links between elementary music instruction and literacy, it will be helpful to have an understanding of the foundational music instruction that occurs in pre-K and kindergarten that leads to the music literacy skills acquired later. Many of the same processes of language acquisition occur in a simplified form in these formative years. Thus, they provide a clear example of how musical language is acquired and will inform later discussion, analysis, and comparisons. Feierabend (2001), in his introduction to his constructivist, Kodály inspired music curriculum, stated that a child needs to learn with his or her ears before the eyes are involved. He compared the process to initial spoken language acquisition, in which children spend five to six years never reading or writing words and only interacting aurally and orally. The same is true for music and learning to read music (p. TM9). This will be the starting point of understanding for this section.

Scott (2004) wrote a brief survey article outlining the various research studies that have been done regarding child development, brain development, and language acquisition. Her central argument, based on the extant research, was that "children must be able to 'speak' music before they can learn to read and write music" (Scott, 2004, p. 20). This concept is nearly identical to Feierabend's (2001, TM9) suggestion referenced previously that links the way children learn language and the way children learn music (sound before sight). She cited the fact

that children, long before they can read or write, are experimenting with the sounds that they are continuously being exposed to by having nonsense conversations with pets or dolls and verbalizing in many different ways (Scott, 2004, p. 20). This is meaningful experimentation with language that will eventually lead into fully developed literacy when reading and writing components are introduced later on. The paper suggested that these foundational skills and experiences with language as well as musical absorption (through listening, singing, playing, etc.) are vital to later musical literacy. She concluded the discussion of this topic by saying,

> children absorb the sounds and, after a period of absorption, respond musically to what they are hearing and feeling. Asking children to read and write music without giving them a chance to explore sound is just as absurd as asking children to read and write before they have experimented with language (Scott, 2004, p. 20).

In her overview of the extant research in the area of emergent language acquisition and music literacy and summary of teaching resources, Wiggins (2007) posited and argued that the integration and inclusion of music into literacy learning settings may help language development while simultaneously promoting music literacy (p. 55). She then discussed several strategies for integrating music and literacy instruction that have mutually beneficial effects on each other. She alluded to standards set forth by the International Reading Association (IRA) and the National Association for the Education of Young Children (NAEYC) (Bredekamp & Kopple, 1997) dealing with early literacy achievement. These standards strongly recommend experiences in pre-K that develop phonemic awareness through participation in singing, fingerplays, games, poems, and stories rich in phonemic patterns such as rhyme and alliteration (Wiggins, 2007, p. 58). After a discussion of various strategies for integrating music and literacy into the pre-K

curriculum, Wiggins (2007) concluded that, based on the research, there are a wide variety of parallel skills in reading a music (auditory and visual discrimination, eye-motor coordination, visual sequential memory, language reception, vocabulary development, phonological and phonemic awareness, and fluency) and that by integrating music and literacy together in the pre-K classroom, instructors can build musical skills and enhance the literacy acquisitions for young learners. While Wiggins' (2007) study discussed the parallels between music instruction and literacy, another group of studies and articles addressed the functional use of music and rhyme in pre-K literacy instruction. Despite the fact that it is not the author's intent to promote the subservience of music to reading as a subject matter, it will be useful to the thoroughness of the study to discuss this set of studies here.

Cardany (2013) took as her subject matter nursery rhymes and their use in both the general education and music classroom. In her very brief discussion and presentation of several lesson plans, Cardany discussed how nursery rhymes act as traditional literature for both general and music teachers, and how these rhymes can be used as foundational teaching tools to inform further study. She drew attention to the fact that nursery rhymes, in addition to being enjoyable and interesting to both children and adults, also enhance a child's understanding of the alphabet, vocabulary, and phonemic awareness, meter, and rhyme (Cardany, 2013, p. 32). In addition, this repertoire is often used in the general elementary classroom and beginning instrumental study (Cardany, 2013, pp. 32-33).

Hill-Clarke and Robinson (2004) promoted teaching literacy through music education. In their discussion of the place of music in the general and literacy curriculum, the authors suggested that music is indeed an integral part of the young child's day and that it is an intrinsic part of their play (Hill-Clarke & Robinson, 2004, p. 92). In addition to being a natural way for

young children to move through the world, the authors asserted that singing and listening to nursery songs, folk songs, and jingles can help students grow their vocabulary and develop listening and comprehension skills. Learning through music can improve listening skills, abstract thinking, memory, and encourage the use of more complex words, rhymes, and images (Hill-Clarke & Robinson, 2004, p. 92). Drawing upon a variety of contemporary research, the authors promoted the idea that the two areas can be interwoven into the child's day and are mutually beneficial to one another.

In her review of the literature and brief case study, Singer (2008) promoted the idea that the musical intelligence, as articulated by Gardner (1991), can and should be cultivated in early childhood education in order to enhance learning in all content areas. Her brief study was comprised of a brief review of the literature, followed by a short case study and suggested applications for the educator. In the case study, a sixth grade boy who had previously developed musical competence and aptitude early in his schooling was discussed. This boy, lacking any formal learning disability diagnosis, had severe information recall issues. Despite a small class size, stable home, and one to two hours per day of one on one support with resource teachers, this boy could not recall information or make progress on his studies. However, after it was discovered that he was an accomplished singer and could perform for well over an hour and a half from memory, it was suggested that he sing the information he was attempting to learn as well as sing it back to himself during his examination. His scores jumped from failing to over 85% in just a couple of weeks (Singer, 2008, p. 53). Singer took this information and extrapolated a variety of suggested applications for the early childhood teacher, including listening to stories told to music, singing children's books, reciting factual information in poetic or rhythmic form, and reading to music (Singer, 2008, p. 54). These applications were suggested

as ways of tapping into students' musical intelligence rather than exclusively verbal/linguistic and mathematical intelligences (p. 49).

In an in-depth review and analysis of the literature, Tomlinson (2013) discussed the manner in which children, especially pre-primary children, construct musical knowledge utilizing a multimodal lens. In her review, Tomlinson emphasized the point that students need multi-modal instruction and experiences in order to construct their own understandings of both music and language (p. 6). She drew a parallel between music and language when she said that "Children's text making is evident in their verbal recounts of prior experiences. It is also apparent in music activities when the select available instruments…to invent new sounds and convey meaning" (p. 2). After a thorough discussion of the literature relating to multimodal design and its applications to music and language education, she concluded that children's active engagement in music activity and creation enhances their conceptual understanding of music (Tomlinson, 2013, p.7). In other words, children, especially young children, construct their understanding of music through experience in a variety of ways, or modes, and formulate musical knowledge based on these experiences and understandings.

While the previously discussed studies are helpful in understanding the context of early childhood music education and the potential of music to inform literacy skills, they are more narrative and argumentative in nature rather than experimental. To understand how music functions in a pre-primary setting from an objective standpoint, it is necessary to analyze quantitative information as well. While there are very few of these studies readily accessible, there is some work that can be tangentially related to pre-K literacy and music. Tendall (2009), in a doctoral dissertation studying the effects of singing and movement in a K-1 program, did just that. While not dealing exclusively with pre-primary students, this study fits in this section

because of the foundational nature of the skills discussed. The study involved twenty-five students at an urban reading first school in the upper Midwest. The control group received interactive reading instruction twice weekly for seven weeks, while the experimental group received extra-curricular general music instruction twice weekly for the same amount of time. After the seven week experimental period, test scores measuring the phonemic awareness and fluency of the students were compared. This data was gathered using the Phonological Awareness Test and the Mann-Whitney *U*- test (pp. 14-15). The results showed no difference in the achievement of the two groups (p. 70). Despite the fact that the students in the control group were receiving explicit instruction in sight words and literacy concepts, while the experimental group received music instruction containing the content but not explicitly referencing it, the results were the same. This seems to suggest that either method was equally effective at enhancing literacy instruction (Tendall, 2009, p. 76). The researcher did note that, while there was no average difference in the two groups, there were three students in the experimental group who exhibited surprising individual gains. Two of these students were English language learners (Tendall, 2009, p.77). The researcher noted that these students could warrant further investigation, especially into the area of music and second language acquisition. This study, while illuminating in the possible effects of music instruction in early years, also had its limitations in the context of this discussion, chief among them the fact that it did not use any specific constructivist, literacy-based elementary music instruction but instead used vaguely defined “common music class activities and games” (Tendall, 2009, p. 82). More details would be needed to draw parallels with the methodologies outlined in the first section of this literature review.

Most important to note in all of these articles and studies is the focus on learning through doing, especially in the pre-primary years. Kodály, Orff, Gordon, Wiggins, as well as the various authors listed above all talked about the need to involve the child in music making in order to develop skills and understandings. The sound-before-sight approach holds sway, especially at this early developmental age. Forrai (1998) was clear in her instruction to pre-primary teachers:

> The elements of music should be distilled from live music and singing; the children should themselves recognize basic musical concepts through direct experience and active involvement. It is not necessary to explain every instructional procedure. Instead of giving verbal explanations, we should become involved in experiencing the games and singing the songs (pp. 29-30).

In the previous two sections, an outline of constructivist, literacy-based elementary music education was provided, as well as a discussion of various articles and studies concerning music education in pre-primary education. The final section of the literature review will deal with the primary question of this study, the parallels in skills and processes in music and language literacy and the pedagogical implications of these similarities for the music and literacy educator.

Parallels in Skills and Processes in Music and Language Literacy

In the previous two sections, the parallels between processes used to learn language and music have been extensively discussed in a several contexts (elementary music education, pre-primary music and language education). The language acquisition theory of sound-before-sight has been discussed in depth with reference to leading thinkers in the field, including Kodály, Choksy (1974, 1986), Gordon (1997), and Feierabend (1997, 2001). The following articles will

not only continue to highlight the parallels in processes between the two disciplines, but will also demonstrate the skill overlap between music literacy and reading and how acquisition of one potentially aids and compliments learning of the other.

In addition to being taught using similar processes, reading music and language require a similar set of skills. Bugaj & Brenner (2011) pointed out that both music and language are arrangements of sounds pulled from a much larger set of possibilities, constructed in such a way as to convey some sort of meaning (p. 98). In their review of the extant literature on the subject, the researchers focused on music instruction's effect on cognitive performance, spatial-temporal development, and the development of reading skills (Bugaj & Brenner, 2011, p. 89). According to the researchers, both systems attempt to convey different meanings, yet both must be approached and discovered in a similar way by a beginner. The listener must become familiar with and explore the various sound possibilities before being able to discern pattern and meaning. These researchers concluded that, based on a survey of extant work, the closest relationships between music and literacy were in the areas of spatial-temporal reasoning abilities, phonological awareness, and rhythmic discrimination (p. 101).

Hall and Robinson (2012) also discussed the skill overlap between reading and music. Music and reading are closely related and share many commonalities, including listening, rhythm, communication, creating, thinking, expression and memorization, vocabulary, audiovisual characteristics, and perceptions (McIntire, 2007). In addition to these overarching similarities, the two forms of literacy also share three primary learning processes: auditory, or the ability to hear and understand sound, symbolic representation, whether it be text or notation, and coding and decoding systems to construct meaning (Hall & Robinson, 2012, p.13). The authors then highlighted the parallels between music and the five components of reading instruction as

outlined by the National Reading Panel (2000): phonemic awareness, phonics, fluency, vocabulary, and comprehension (Hall & Robinson, 2012, p. 13). Like Bugaj and Brenner (2011), Hall and Robinson (2012) also emphasized that phonemic awareness and fluency are key similarities between music and literacy. They suggested that both areas require a sound before sight approach to develop phonemic awareness before assigning symbolic relationships to words (or pitches) (p.14).

Tsang and Conrad (2011) also echoed the assertions of other researchers that phonological processing skills and phonemic awareness are predictors of reading success and use many of the same auditory processing skills in both music and reading (p. 157). However, they noted a gap in the research in that many studies did not determine whether formal music training had an effect on the correlation between musical skills and literacy skills. To answer this question, they did a study with seventy children ages 5 through 9, forty-three of which had had no formal music lessons. The researchers gave each student a battery of tests for reading and cognitive skills (Peabody Picture Vocabulary test and Woodcock Reading Mastery test), melodic discrimination, and rhythmic discrimination (Bentley and Gordon's Primary Measures of Music Audiation). They found that students with formal music training had significantly higher scores in areas of phonological skill, pitch discrimination, and rhythmic discrimination (p. 160). While it would be expected that the students with formal training be better at musical tasks, it is not so evident that the phonological skills would transfer. Thus, the researchers concluded, "the association between pitch perception and phonological skill in the present study bolsters the notion put forward by many researchers that basic auditory processing skills are strongly correlated with basic reading skills" (p. 161). However, they did caution that, because their

study was a correlational one between musical training and reading skills, causal conclusions cannot be drawn directly between the two disciplines and further research is needed.

Because the relationships between music and language literacy are skills-based rather than directly causal and it is near-impossible to control for all variables in a school setting, extant scientific studies on the topic are not easily generalizable. However, there are many individual studies that show some relevant results, albeit with small, specifically-targeted populations. Gromko (2005) studied the effects of music instruction on the phonological awareness of four classes of kindergarten students in a Midwestern town with a nearby university. Phonological awareness, defined by Gromko as "the ability to recognize that a spoken word consists of individual sounds or phonemes" (p. 201), is a key area of overlap between music and language literacy (Bugaj & Brenner, 2011). To measure this skill, Gromko used the Dynamic Indicators of Basic Early Literacy Skills test. Students in the experimental classes were given weekly 30 minute music lessons from advanced music methods students from a nearby university based on Jerome Bruner's theory of cognitive development (p. 202), a constructivist approach to education and one that aligns closely with Kodály's scaffolded, constructivist vision for elementary music education. Gromko found that students who received four months of this type of music education in addition to regular literacy and reading instruction showed significant gains on the phonological awareness test as compared to their peers who did not receive any music instruction. While these results were some of the most illuminating from the studies surveyed in this discussion, they represent a small sample size and necessitate further exploration.

In her extensive meta-analysis of research on the topic, Standley (2008) performed exhaustive searches of the *Journal of Music Therapy*, *Music Therapy Perspectives*, *Journal of Research in Music Education*, *Dissertation Abstracts*, ERIC, PsychInfo, and FirstSearch using

the keywords *literacy*, *reading*, *academic achievement*, and *music* (p. 20). The search results were limited to controlled, scientific studies with quantifiable data encompassing studies designed to teach reading or pre-reading skills with music as an independent variable contrasted with a no-music instruction control group. Standley then converted the value of the primary dependent variable from the study into an estimated effect size numerical value (p. 21). Naturally, the applicability of studies of this nature is questionable because the environment and scenarios within are quite different than typical school settings. However, the results of the meta-analysis were positive, showing a modest increase in reading skills and ability when music was introduced as a controlled intervention.

Since Standley's (2008) meta-analysis was performed and written, more studies have been published demonstrating similar modest gains in reading skills and ability when music was introduced as an intervention. Darrow, Cassidy, Flowers, Register, Sims, Standley, Menard, and Swedberg (2009) performed five individual, but related, studies investigating the effects of the Register music/reading curriculum on reading achievement in second graders. Effectiveness of the intervention was measured with the Gates-MacGinitie Reading Test before and after the music/reading curriculum was delivered (p. 12). In four out of the five studies, results showed that the experimental group, those students receiving the music/reading curriculum, scored somewhat higher on the post-test, but not significantly so (p. 12). Modest gains were made using this curriculum, but it should be noted that this specific curriculum replaced other reading and language instruction for the experimental time frame. Thus, it is difficult to generalize these findings to a situation where students receive music instruction in addition to regular language and literacy instruction.

This lack of generalizability is one that Cogo-Moreirar, Brandão de Ávila, Ploubdis, and Jesus Mari (2013) attempted to answer with their study of the effects of music education on the improvement of reading skills in young, poor readers. The researchers studied the effects of targeted music instruction in 235 children with reading difficulties in and around Sáo Paulo, Brazil to determine whether general music instruction was an effective intervention to help young, disadvantaged students improve reading skills. To test the effectiveness of the intervention (music lessons three times weekly for five months), the researchers used the Test of Phonological Awareness before and after the study, as compared to a control group of students from the same schools and with similar backgrounds who did not receive the music instruction. The researchers found some small gains in phonological awareness among the experimental group but, in their words, not enough to recommend music instruction as national policy with the aim of increasing literacy achievement (p. 7). While this study did account for the fact that general music is most often delivered in addition to regular literacy instruction, the researchers did not specify the methodology utilized by the various music educators, only that it was based on reading and writing music in the Western tradition (p. 3). Because music instruction can vary widely in approach and technique, methodology is important and could have a meaningful impact on whether or not music is effective as an intervention.

Another area of literacy potentially overlapping with music is that of oracy, or the ability to express oneself in and understand speech. McCormack and Klopper (2016) studied whether specific, targeted music instruction could possibly aid students with English as an additional language improve their oracy and therefore their language acquisition and comprehension. In a qualitative, convenience sample study, the researchers taught six Western folk songs to six individual EAL learners once a week for six weeks, followed by questions and discussions

facilitated by the researcher (p. 422). The lessons were based on Edwin Gordon's Music Learning theory, a process related to Kodály in that it is also constructivist in nature and has a broad definition of music literacy encompassing reading, writing, and audiation (Lane, 2006, p. 40). Data was taken in the form of observations and informal interviews with other staff members at the school concerning the oracy and fluency of the targeted learners. After six weeks, the researchers concluded that the targeted intervention of Western folk song potentially enhanced the English language oracy of the students by allowing them to consciously and unconsciously rehearse English-language words and phrases and develop the necessary audiation skills required to form sentences before speaking (McCormack & Klopper, 2016, p. 430). These results again pointed to the potential of music to increase literacy in specific groups of students, but are hampered by the very small sample size that is not representative of a larger population and the purpose-specific musical intervention, which is not the norm in most educational settings.

Corrigall and Trainor (2011), in their review of the extant research, noted that, while there are many studies pertaining to near-transfer skills of word decoding and phonemic awareness associated with early to emerging reading skills, there has not been much work to determine whether music instruction enhances far-transfer skills such as reading comprehension. They stated that near transfer is when training in one skill leads to improvements in a closely related skill, like music training affecting the auditory skills associated with music and language. Far transfer, on the other hand, occurs when training in one skill leads to improvements in seemingly unrelated or tangentially related skills (pp. 147-148). The researchers argued that reading skill has almost always been measured by how well students can sound out and understand words (decoding and phonemic awareness) rather than how well they actually

understand what they are reading (p. 148). Forty-six children from ages 6 to 9 enrolled in music lessons were given a battery of assessments to test for reading skills. These tests included a parental questionnaire, the Gordon Intermediate Measures of Music Audiation, the Wechsler Intelligence Scale for Children, and the Woodcock Reading Mastery Test. The researchers found that, on all of these tests, mean scores from the children were significantly higher than published norms. Thus, they concluded that there is a "very robust association between the length of music training and reading comprehension" (p. 152). They suggested that this correlation may exist because music training might teach children self-discipline and attentional skills that help them concentrate for longer periods of time, thereby increasing reading comprehension (p. 153).

Summary of Reviewed Literature

In the previous pages, a wide variety of literature concerning music and literacy was summarized and reviewed. The first section of the chapter dealt with constructivist, literacy-based music education approaches, chief among them the Kodály method and the Orff approach. First, constructivism, as articulated by Piaget (1971), was defined and discussed in reference to the work of Wiggins (2009) as it relates to music education. Then, the two primary methodologies were defined and their pedagogical methods explained as it pertains to the acquisition of the musical language. The second section of the review discussed music education in the pre-primary years and how music and language acquisition interact during this foundational time. References were made to nursery rhymes and repertoire, the foundational skill overlap, especially phonemic awareness and fluency, and the effects of music instruction versus additional reading and language instruction on standardized reading test scores. It was emphasized that music instruction in the pre-primary years be experiential in nature, focused

more on learning through making music and doing rather than traditional subject-logic approaches that do not tap into a child's previous experiences or context. The third and final section of chapter two dealt with the primary research question, namely the parallels between music literacy acquisition and English language acquisition and the implied pedagogical implications. The next chapter will delve more deeply into the material from chapter two and illuminate the key findings and implications contained therein.

Chapter Three: Summary

In chapter two, a range of studies were discussed and analyzed that relate to the primary topic of relationships between music literacy and English language acquisition. These studies fell into one of three categories: general studies and descriptions of elementary music pedagogy and methodology, studies concerned with pre-primary music education and literacy acquisition, and studies comparing the various processes and skills involved in learning both music and language. In the course of this discussion, several primary themes emerged. First, constructivist-based music education approaches and English language pedagogy share many similarities in process (Cardany, 2013; Choksy, 1971, 1986; Feierabend, 1997, 2001; Forrai, 1998; Hall & Robinson, 2012; Jacobi, 2011; Scott, 2004; Steen, 1992; Wiggins, D.G,. 2007; Wiggins, J., 2009). Language, like music, is constructed through experience and experiential learning. Students learn when they understand the concept inherently before putting formal labels and visual information to it (sound before sight). Secondly, there are many skill overlaps between the two subject areas (Bugaj & Brenner, 2011; Cardany, 2013; Cogo-Moreira, et. Al, 2013; Corrigall & Trainor, 2011; Darrow, et. Al., 2009; Diamantes, et. Al., 2002; Feierabend, 1997; Gromko, 2005; Hall & Robinson, 2009, 2012; McCormack & Klopper, 2015; McIntire, 2007; Richards, 2010; Wiggins, 2007). These skills include spatial-temporal reasoning,

phonemic awareness, phonological awareness, rhythmic discrimination, and encoding and decoding. Finally, the results of the research studies were mixed as it relates to positive correlations between music literacy instruction and literacy acquisition.

At the beginning of this discussion, it was established that the primary purpose was to seek out and address parallels in the processes and skill overlaps between music literacy acquisition and English language literacy learning. Specifically, the previous pages have attempted to answer the following questions: what are the relationships between literacy-based, constructivist elementary music instruction and English language literacy instruction, what are the pedagogical parallels between the two disciplines, what skills are necessary for success in both, and what implications for instruction do these relationships and overlaps have for pedagogy in both areas? In light of what we know about differentiated instruction, this study has endeavored to further illuminate how educators can more effectively teach both elementary music literacy and English language literacy and how instruction in these two disciplines can enhance one another.

These questions are important because answering them will help to better understand the pedagogy in both elementary music education and English literacy instruction. Professionals in both disciplines can benefit from better understanding the parallels in pedagogy and skills and how they relate to one another. By better understanding the skill and process overlaps between music and literacy, teachers will be able to better serve students and use extant skills in one area to help address potential deficiencies in other areas. Taking skills and proficiencies in multiple areas outside of the core curriculum allows educators to see a more well-rounded picture of the

student and identify strengths that may not be seen on standardized tests or other core-curriculum measures.

At the beginning of this discussion, it was stated that the purpose was to find and analyze parallels and overlaps between the skills needed for and the pedagogy associated with music literacy acquisition and English language acquisition. Throughout the course of this paper, a wide variety of literature was reviewed covering three main topic areas: constructivist elementary music approaches, pre-K music instruction and literacy, and the skill and pedagogy relationships between music literacy instruction and reading instruction.

The first section, concerned with constructivist elementary music approaches, found that there are many similarities between various music pedagogies, especially the Kodály method and the Orff approach. Both methods moved away from a subject-logic approach and into a child-centered, experiential approach based on learning through doing. This approach to teaching and learning would later be identified and codified by Piaget and others as constructivism, or allowing students to construct their own learning through experiences. Furthermore, both pedagogies start with the concept of sound before sight, or experience before notation is ever introduced. According to these methodologies, students should know all about a concept and understand it in their bodies before ever attaching formal labels. Many of these studies also briefly mentioned the idea that music is a language and, as such, its acquisition often mirrors that of spoken language.

The second section of the literature review focused on pre-K and kindergarten music education and how it relates to language literacy. In addition to discussing the constructivist music pedagogies in a pre-K context, this set of articles emphasized the necessity for the youngest learners to experience music in many different modalities (singing, playing, reading,

writing, moving, etc.) in order to fully develop an understanding of musical concepts. Active music making was the focus of all of these articles. Furthermore, most of the authors also took pains to stress the parallels between early literacy acquisition and music literacy and how they can compliment each other in the classroom. The use of music, rhyme, and rhythm was promoted as an effective way to help students develop musical skills as well as language literacy and fluency.

The final section of the literature review focused on the parallels between music literacy acquisition and English language literacy. The bulk of the research fell in this area. Throughout the review of the literature, several themes emerged. First, it could be tentatively suggested that elementary music instruction has some benefits for language literacy acquisition. That being said, the studies that did take general music instruction as the experimental intervention were only able to draw tenuous conclusions about its efficacy because the relationship between instruction in one class and instruction in another is merely correlational rather than causal and therefore not enough from which to draw hard conclusions. The only causal relationships that could be found in the studies contained within this discussion were based on purpose-specific music interventions, which could be valuable but are not necessarily authentic or the targeted topic of this paper. Secondly, it was shown that there are a wide variety of skill and pedagogical overlaps between the two subject areas. Specifically, fluency, phonemic awareness, auditory processing, and coding/decoding of systems were skills important to both reading and music acquisition.

While the main points of the literature review were not overwhelmingly conclusive one way or another, there are some intriguing strands and areas for future investigation. These

themes, as well as the implications for pedagogy and educators, will be discussed in the final chapter of this paper.

Chapter Four: Discussion/Application and Future Studies

The preceding has been a thorough review of the literature relating to constructivist elementary music education and the parallels, overlaps, and effects on English language literacy acquisition. While there were no studies that overwhelmingly suggest a positive or negative correlation or causation between the two subject areas, there were some intriguing trends that emerged throughout the research.

First, it seems likely that there is some sort of positive correlation between constructivist, literacy-based elementary music education and English language acquisition. Multiple researchers found modest gains in language achievement for students who also received some sort of music instruction. However, that conclusion comes with several important caveats. First, the studies surveyed (and many other extant studies consulted) use very different musical instruction as experimental interventions. These vary from traditional instrumental and ensemble instruction to classroom general music instruction based on widely accepted methodologies to purpose-specific music instruction designed specifically to enhance literacy achievement but not necessarily authentic in the sense that it is "naturally occurring" in many school settings. The methods vary greatly. Considering that this author desired to explore the effects of constructivist, sequential general music instruction on literacy achievement, it will be necessary to seek out more studies that take as their intervention this type of music instruction. The closest type of musical intervention consistently tested was private musical training. However, this is still not consistent with what is generally offered in elementary schools and is something not widely available to students of all socioeconomic backgrounds.

Secondly, it was shown that music and language share many similar pedagogical methods. Students, especially the youngest learners, first learn language by hearing words, associating words with objects, naming objects, and eventually verbally interacting with language. For the first five or six years of life, this is exclusively how children learn language. It is not until the first school years that they actually start to associate symbols (i.e. words, punctuation, sentences, etc.) with the sounds and things that they already know and understand. The same can be said regarding music. Music is a language in and of itself, and is learned in much the same way as spoken language. Students sing, experiment with sounds, move rhythmically, and improvise all before ever associating symbols (in this case, musical notation) with those sounds. Just like in the case of language, students inherently understand the musical concepts before they name them or put a formal symbolic designation to them. Both music and language follow a pedagogical model informally called sound-before-sight, and both are taught with a gradual release of control by the teacher.

These findings could be useful to educational practitioners as well as policy makers in a number of ways. First, the suggestion that increased musical instruction can help students improve literacy achievement serves as an important point to note for administrators, politicians, and policy makers who decide what programs are included and excluded from school curricula. While it is not the goal of this researcher to make music subservient to the core subject areas of reading and math and justify its inclusion in school solely on the basis of increases in these areas, it is still valuable to understand that music instruction has a positive impact on other areas, both academic and non-academic (not discussed in this paper).

Teachers could also take these results as an impetus for further communication and collaboration between disciplines. Pedagogical methods and processes could be shared,

compared, and collaboratively created by both elementary music specialists and literacy teachers for the benefit of both. Knowing that there are positive impacts on both music and literacy achievement when knowledge from both areas is accessed, teachers and students stand to benefit from a closer and more collaborative relationship between the two. This is not to say that curricula should be changed in either area to better serve the other, but rather that successful ideas and processes from each could be pulled out and applied more globally for mutual benefit.

Understanding the parallels and overlaps between music and language pedagogy also could serve as a motivation for music instructors to base their teaching on constructivist, literacy-based music methodologies like the Kodáky method and the Orff approach. Knowing that music is a language, and constructivist, scaffolded approaches work in helping students acquire new languages could provide the impetus for teachers to adopt these rigorous, structured approaches and move away from subject-logic based pedagogies or even curricula without a clear literacy thrust. The benefits for students in both music and literacy are clear enough to potentially encourage teachers to better understand these methodologies and perhaps incorporate aspects of them into their teaching.

Finally, this discussion serves to underscore the importance of music's inclusion in the elementary curriculum. The fact that it can have positive impacts on a child's language acquisition serves as a strong reminder of the importance and benefits of cross-disciplinary learning and inquiry, and the benefits to students of short- and long-transfer skills like fluency, phonemic awareness, vocabulary acquisition, and coding/decoding symbolic systems. While not discussed here, the intangible benefits of music have also been widely investigated, including social, emotional, and creative areas.

While a wide variety of studies have been consulted for this discussion, there is still room for further investigation in the area of music literacy acquisition and English language literacy learning. More investigation is necessary, specifically seeking out research that takes as its experimental variable sequential, constructivist music education (Kodály, Orff methodologies and Gordon philosophy) and is able to generalize the experiment to account for a wider variety of learners beyond a small targeted group. Current research makes it very hard to generate useable, concrete practices that can be applied to both the music and reading classrooms to further enhance both subject areas. Mere correlation does not dictate action. Thus, this author's suggestion would be for research with a wide range of elementary aged students receiving regular, highly structured constructivist music education on a regular basis over a long period of time. With an experimental group such as this, more concrete conclusions regarding the links between music instruction and literacy could be drawn and pedagogical implications could be drawn.

Another area for future inquiry could also be the non-academic benefits/impacts of elementary music education, including social/emotional learning, creativity, student engagement, or attendance, among other things. While the impact on literacy achievement is important, it is not the primary reason for the inclusion of music in the school curricula. Investigation into other areas of benefit would certainly be enlightening and could help in advocacy for music programs, especially in areas where they are under threat.

This study could also be improved to better understand the topic at hand. In the future, the researcher would be even more intentional about including every available study on the subject matter. An exhaustive meta-analysis/literature review would be helpful in understanding the greater trends associated with the topic. While this has been done by several researchers

referenced in this paper, specifically Standley (2011), it would be useful to do it again in order to account for newer research on the topic. Investigations into the psychology of music education and literacy acquisition could also be included to better understand how students learn music and what physiological parallels exist. Perhaps a better understanding of the actual processes occurring in the brain at the time of music instruction and language instruction would be enlightening for educators and help to guide the creation of pedagogical processes that would be mutually beneficial.

These are just several of the myriad options for further investigating the topic at hand. While this discussion has been based on only a selection of the available literature, this author has postulated that there are potential positive correlations between constructivist, literacy-based music education and English language achievement. More investigation, of course, is always warranted, and could lead to a greater understanding between two very different, yet seemingly closely related disciplines, for their continuing mutual benefit.

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