

1-1-2016

Effects of a Music Literacy Integration Intervention on Teachers' Self-Efficacy and Proactive Attitudes Toward Music Integration in Classroom Instruction

Mary Louise Keyloun Cruz
Nova Southeastern University, mlcruzlp@gmail.com

This document is a product of extensive research conducted at the Nova Southeastern University [Abraham S. Fischler College of Education](#). For more information on research and degree programs at the NSU Abraham S. Fischler College of Education, please click [here](#).

Follow this and additional works at: https://nsuworks.nova.edu/fse_etd

 Part of the [Education Commons](#), and the [Music Education Commons](#)

Share Feedback About This Item

NSUWorks Citation

Mary Louise Keyloun Cruz. 2016. *Effects of a Music Literacy Integration Intervention on Teachers' Self-Efficacy and Proactive Attitudes Toward Music Integration in Classroom Instruction*. Doctoral dissertation. Nova Southeastern University. Retrieved from NSUWorks, Abraham S. Fischler College of Education. (96)
https://nsuworks.nova.edu/fse_etd/96.

This Dissertation is brought to you by the Abraham S. Fischler College of Education at NSUWorks. It has been accepted for inclusion in Fischler College of Education: Theses and Dissertations by an authorized administrator of NSUWorks. For more information, please contact nsuworks@nova.edu.

Effects of a Music Literacy Integration Intervention on Teachers' Self-Efficacy and
Proactive Attitudes Toward Music Integration in Classroom Instruction

by
Mary Louise Keyloun Cruz

An Applied Dissertation Submitted to the
Abraham S. Fischler College of Education
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

Nova Southeastern University
2016

Approval Page

This applied dissertation was submitted by Mary Louise Keyloun Cruz under the direction of the persons listed below. It was submitted to the Abraham S. Fischler College of Education and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Nova Southeastern University.

Sheila Halpin, EdD
Committee Chair

Kenneth Stothers, EdD
Committee Member

Lynne Schrum, PhD
Dean

Statement of Original Work

I declare the following:

I have read the Code of Student Conduct and Academic Responsibility as described in the *Student Handbook* of Nova Southeastern University. This applied dissertation represents my original work, except where I have acknowledged the ideas, words, or material of other authors.

Where another author's ideas have been presented in this applied dissertation, I have acknowledged the author's ideas by citing them in the required style.

Where another author's words have been presented in this applied dissertation, I have acknowledged the author's words by using appropriate quotation devices and citations in the required style.

I have obtained permission from the author or publisher—in accordance with the required guidelines—to include any copyrighted material (e.g., tables, figures, survey instruments, large portions of text) in this applied dissertation manuscript.

Name

Date

Acknowledgments

I thank my parents, Marie and George, for providing me with a wonderful beginning. I wish to thank the scores of teachers who I met along the way who gave me nurturing and guidance through each part of the journey. I thank my children, Lawrence and Alexandra, for their love and support.

Special thanks to Sheila Halpin, my chairperson, for her strength and wisdom to see this project through. Special thanks to Gary Reglin whose inspiring words of "Hang in there!" saw this project through to fruition. Thank you to the many professors at Nova who were brilliant in their application of their knowledge and steadfast in their resolve to keep this doctorate candidate on course in spite of many attempts to just give up.

Sincere thanks to my principal, Elaine K. Meils, for her unwavering support for music education and for my work. A humble measure of gratitude goes to all the teachers at Tarpon Springs Fundamental Elementary School for their research work in preparing this applied dissertation.

Thank you to Deborah Coyle, Tampa cohort co-ordinator of the Tampa Cohort 10, who called me up 7 years ago in July of 2009 and asked me to join the doctoral program. I am so grateful she called me that day.

I am in constant awe of the Lord above, and I credit Him for all the creative thoughts that made this work possible.

Abstract

Effects of a Music Literacy Integration Intervention on Teachers' Self-Efficacy and Proactive Attitudes Toward Music Integration in Classroom Instruction. Mary Louise Keyloun Cruz, 2016: Applied Dissertation, Nova Southeastern University, Abraham S. Fischler College of Education. Keywords: music education, teacher self-efficacy, teacher attitudes, literacy instruction

With the adoption of the common core state standards, pressure to raise the achievement of young learners was intense. Classroom teachers were scrutinized to teach lessons with high levels of thinking and rigor. Teachers were inclined to eliminate or ignore arts-enriched lessons that would benefit students. The reason for this action was associated with the efficacy of the classroom teacher toward music integration in literacy curriculum. The purpose of the study was to examine the effects of the Music Literacy Integration Intervention (MLII) on the self-efficacy and proactiveness of teachers at a small elementary school in Florida toward integration of music in reading instruction.

There were 3 data-collection instruments. The Teacher Efficacy scale (TES) was used to collect pretest and posttest data for Research Question 1, whereas the Proactiveness Attitude scale (PAS) was used to collect the same type of data for Research Question 2. The Teacher Interview Instrument was used to collect only postimplementation data for Research Question 3. The triangulated data from the 3 instruments were used to respond to Research Question 4. Teacher participants had 272 students in kindergarten-Grade 5. There was a convenience sample of 20 teachers for the survey part of the study. Only 18 teachers returned completed surveys. The sample size for the interviews was 6 teachers randomly selected from 18 teachers.

Quantitative data analysis for the Research Questions 1 and 2 was descriptive statistics (i.e., pretest mean, posttest mean, standard deviation, and effect size indicator). The inferential statistical model for the 2 research questions was the *t* test for paired samples. Qualitative data analysis for Research Question 3 followed a modified version of the constant-comparative, data-analysis procedure. Triangulated survey and interview data were used to respond to Research Question 4.

Findings for Research Question 1 indicated the MLII improved teachers' perceptions on their self-efficacy toward music integration as measured by the TES from pretest to posttest. Results for Research Question 2 suggested the MLII improved teachers' perceptions of their proactive attitudes toward music integration as measured by the PAS. The increases in scores in both research questions showed large effect sizes. Findings for Research Question 3 indicated teachers perceived that the MLII met its objectives of providing useful strategies that facilitated the integration of music literacy into the reading instruction. Results for Research Question 4 showed the qualitative data from Research Question 3 confirmed the quantitative data from Research Questions 1 and 2. An implication was music had a positive effect on students' reading abilities and school leaders should reinvest in music integration into the reading curriculum.

Table of Contents

	Page
Chapter 1: Introduction	1
Statement of the Problem.....	1
Definition of Terms	6
Purpose of the Study	7
Chapter 2: Literature Review	9
Introduction.....	9
Research Questions.....	34
Chapter 3: Methodology	36
Introduction.....	36
Participants.....	36
Instruments.....	37
Procedures.....	41
Chapter 4: Results	49
Introduction.....	49
Findings for Research Question 1	50
Findings for Research Question 2.....	54
Findings for Research Question 3.....	58
Findings for Research Question 4.....	63
Chapter 5: Discussion	66
Introduction.....	66
Overview of the Study	66
Discussion of Findings and Linkage to Relevant Research.....	68
Implications.....	73
Limitations and Delimitations.....	75
Recommendations for Future Research	78
Conclusion	82
References.....	52
Tables	
1 Teacher Efficacy Scale Pretest Score, Posttest Score, and Change Score (<i>N</i> = 18).....	51
2 Descriptive and Inferential Statistics for Teacher Efficacy Scale (<i>N</i> = 18).....	52
3 Proactive Awareness Scale Pretest Score, Posttest Score, and Change Score (<i>N</i> = 18).....	55
4 Descriptive and Inferential Statistics for Proactive Attitude Scale (<i>N</i> = 18).....	56
5 Number of Teachers Who Checked Each Proactive Attitude Scale Statement for Postimplementation (<i>N</i> = 18).....	57
6 Teachers Ratings on the Most Important, Second Most Important, and Third Most Important Music Literacy Integration Intervention Strength	

(*N* = 6) 60

Appendices

A Teacher Efficacy Scale95
B Proactive Attitude Scale.....98
C Music Literacy Intervention Interview Instrument100
D Time Line of Music Literacy Integration Intervention Activities102
E Number of Teachers Who Checked Each Teacher Efficacy Scale
Statement for Postimplementation (*N* = 18).....105

Chapter 1: Introduction

Statement of the Problem

The study of music as a creative discipline of study in contemporary education contributed to the aesthetic refinement of young people. Research on the efficacy of music in the public schools led to major hallmarks of music distinction for the school system. A principal goal of music education was to “develop in children a personal connection, or aesthetic response, to music” (Herrold, 2001, p. 3). Students were taught as early as newborn age with the introduction of tones and beats and literature set to music. Through preschool age, children were learning nursery rhymes and were tapping to a steady beat. By age 9, skills and benchmarks began to emerge with their musical aptitude.

Students should study music because it has a fundamental and intrinsic place in the lives of young people. Its connection to nature and the physical universe is the very reason students study music and why humans respond to music. Pythagoras (as cited in Kalkavage, 2006) discovered this connection merely by stumbling onto it when he took a string and divided it and, to his astonishment, heard the division produced an octave. The nursery rhyme, “Mary Had a Little Lamb,” has notes that sound pleasing together. This discovery was the reason the study of music as a liberal art provides students the opportunities to use strategic thinking and spatial-reasoning skills to define objectives.

Such was the approval classroom teachers found with music and the study of music in the curriculum. Students who studied music were learning critical-thinking strategies, spatial-reasoning skills, and choral-reading skills, thereby, gaining a fundamental acceptance of self-esteem and self-confidence as musicians.

Music was viewed as an issue to be scrutinized; debated; and, in some instances,

financially curtailed based on many moot factors. Music held a “valid place in the contemporary elementary school core curriculum because children developed musically by doing what children naturally like to do” (Herrold, 2001, p. 5). Children benefited naturally through musical study. No one child could exist without music in his or her life because all children are inherently musical.

This researcher worked as a music specialist and arts educator in a fundamental elementary school in south Florida, which was a back-to-basics school, espousing a rigorous curriculum and a rigorous philosophy. Arts education subjects taught included general music theory involving the elements of music as they pertained to literacy as well as staff notation, chorus, violin, and recorder study. Reading, writing, mathematics, sciences, and the arts were also taught. Major emphasis was on the core subjects of reading, writing, mathematics, and science. Kindergarten-Grade 5 were taught, and a gifted program for students was currently underway.

Parents signed the fundamental compact that required mandatory monthly parent-teacher association meetings on the first Tuesday of every month. Homework was binding 4 days a week and sometimes on weekends. Planners and homework were signed nightly, and written warnings were issued for parents who did not meet these required guidelines. The statistic for free and reduced-price lunch was under 5%, and parents provided transportation to and from school. The school employed a part-time curriculum specialist and a full-time guidance counselor. There was no assistant principal because the numbers were small and did not warrant this position. There were two kindergarten classes, 3 first grades, 2 second grades, 2 third grades, 2 fourth grades, and 3 fifth grades. The population was broken down as follows: 90% Caucasian, 6% African American, and 4% Asian American.

The topic. The topic of this study was teacher self-efficacy and proactive attitude toward music integration into classroom reading instruction. There existed a general disconnect between the realization that all disciplines of study should be part of the overall study and music was just a superfluous subject designed to fill in the gaps between formal instruction. A typical classroom teacher perceived music instruction only as having fun in the classroom and was no more concerned with what education their students were given in music than if they were asked to bring students to a required, annual, formal assembly for vision and hearing screenings. The availability of planning time for music integration into the reading instruction was a serious issue for many classroom teachers.

The research problem. The problem was many teachers were not proactive or did not know how to integrate music into the classroom reading instruction to improve young learners' reading skills. Many of the teachers appeared to have low self-efficacy toward music integration into the curriculum (Branscome, 2012; Stavrou, 2013). Skills necessary to foster music development within the core curriculum were nonexistent at the beginning of this study. All of the classroom teachers took their students to music class as prescribed by state mandates, but a majority of the teachers did not use strategies of a musical nature or were inclined not to use music in their lesson plans and chose not to integrate music into the curriculum.

Background and justification. The literature strongly supported the integration of a multidisciplinary, general curriculum and arts curriculum combined where teacher self-efficacy played an integral part in the development of a consistent multi-integrated curriculum (Garvis & Pendergast, 2011). A music arts education integrated with all subjects into the curriculum positively impacted the core curriculum subjects (Stavrou,

2013). Stavrou (2013) suggested test scores tended to increase in these subjects over a 6-month period. Branscome (2012) research showed the gifted teacher maintained an extremely academic program and students were selected from a series of intelligence and ability tests that measured the sensitivity and proclivity of students' relationship with the arts. However, the gifted teacher had no education in music and had no formal training in a musical instrument. The gifted program's testing data increased when an infusion of musical ideas was presented and indoctrinated into the curriculum.

Deficiencies in the evidence. The research was lacking in credible rules of applicability relating to the observations and perceptions of other teachers besides the music teacher in a classroom environment. More evidence should be readily available to substantiate how perceptions of educated school employees could make informed decisions. The existing research was significantly supported by data about the characteristics of motivation for music majors and nonmusic majors alike, but the research was extremely outdated with sources at least 15 to 20 years old. Current research should be undertaken because of the introduction of the common core state standards and new state mandates for accountability testing. More research was needed to explain the relationship between phonemic awareness and the sound properties of the written word. Current research did support findings that phonemic awareness had a musical relationship to reading fluency (Gromko, 2005).

Learning to distinguish tonal and rhythmic patterns and to make the distinction visually with picture symbols supported the development of sound production that was necessary for reading development. Further empirical research was needed to support the classroom teacher in developing lessons that guided the reader to phonemic awareness and word production through musical stories, chants, rhymes, and poems. Waller (2010)

purported music educators should propose a balanced program of music reading called music notation. This music notation should highlight the work initiated by all music educators who sought to bring the study of music into the mainstream curriculum of today.

A dearth of information existed in the literature regarding beginning music teacher perceptions (Conway, 2012). In-service teacher perceptions were surveyed, and the order of importance of ideas was student teaching, preservice fieldwork, and musicianship. These were noted as the most important of a beginning teacher's career in music education. Experienced teachers as well viewed these topics mentioned above to be most crucial and valuable in a teacher's career. Many skills were learned on the job, and these skills were part of the research to facilitate these areas.

Audience. This researcher believed the findings from the study affected the beliefs and positions that parents, teachers, and administrator held about the value of music education in the curriculum. It was necessary to integrate music fully into all aspects of the curriculum on a daily basis and not just on a music day. These findings were anticipated to bring attention for a needs assessment to the arts curriculum to self-validate and promulgate a viable alternative to keeping music accountable in the schools. This researcher's review of the professional literature was intended to provide school faculty with knowledge and understanding of music instruction and how music aided in students' academic success in other subject areas.

Furthermore, this researcher hoped this study resulted in fewer arts programs being eliminated from the curriculum due to the evidence presented about the connection between music instruction and students' overall academic improvement. For parents, the study provided conclusive understanding and preponderance of thought this undervalued

subject was as important as the other subjects they valued for their children. This study realigned and redirected their thoughts to gain a greater appreciation of the contributions made by music as well as other arts in the fields of linguistics, social play, direct and indirect communication, and critical-thinking skills.

For the students, this study provided enough evidence to interest them in music as much as in other subjects. This study illustrated the importance and significance of the discipline of music in the whole-child approach to cognitive learning. Music education played a significant role in the creation formation of interdisciplinary arts learning for the whole-child curriculum.

Definition of Terms

Music literacy. This term refers to using music for reading and writing. Music education is an area of the curriculum that merits more investigation and thorough training of its pedagogy and praxis from all curriculum teachers in education. This researcher realized the need for more independent research and study of the reasons why music is not valued in the curriculum sphere and why nonmusic specialists do not readily understand the subject.

Review of the findings and comparison of the data from pretest to posttest may indicate perceptions of the importance of music integrated across the curriculum stem from the realization of its value or lack of value thereof as a core subject, vis-à-vis the perceptions of the classroom teacher. Music training introduces the study of classroom rules of phonics and fluency while improving on the perceptions involving the aural pathways of musicality (Killian, Dye, & Wayman, 2013).

Teacher self-efficacy. This is the ability to teach a certain task as a result of self-confidence in the classroom (Garvis & Pendergast, 2011). With the choice of many

disciplines to choose as a career, the issue of self-efficacy is a constant and semifoolproof indicator of one's confidence in front of young students in the classroom. Research suggested teachers who express frustration and inability to handle their classes are those classroom teachers who do not possess a wide breadth of the arts (Stunell, 2010). They lack the expertise to think with musical logic even when behaving as nonmusicians is perfectly the routine. In a case study in England, students were taught by classroom teachers known as generalists who believed as if they were not competent enough to teach musicianship in the classroom (Stunell, 2010).

Classroom perceptions. This is using visual and auditory cues to gather data that become the focal point at which assessments of singing, playing, and movement skills emerge. Perceptions about classroom climate and tasks are significant as the learner believes the tasks to be challenging and musically engaging (Marzano, 2007).

Phonemic awareness. Recognizing words that consist of individual sounds blended is an awareness of sound recognition or phoneme recognition.

Prosody. This is the study of the tune and rhythm of speech and how these features contribute to meaning.

Purpose of the Study

The purpose of the study was to examine the effects of the Music Literacy Integration Intervention (MLII) on the self-efficacy and proactiveness of teachers at a small elementary school in south Florida toward integration of music into the reading instruction. Using music to support literacy development had a significant impact on young language learners. Auditory skills were necessary for students to achieve phonemic awareness and reading fluency (Hansen & Milligan, 2012), and music was an aural and auditory art. The study's purpose was to examine the perceptions perceived by

the nonmusical, general classroom teacher and how this attitude directly affected the literacy of students. This study used a concurrent mixed-methods research design and quantitative and qualitative data-collection measures.

Chapter 2: Literature Review

Introduction

The idea central to music education as a connective adaptation and overall interdisciplinary subject congruent to today's curriculum lies in realizing that "allowing full literacy (both reading and writing) only to an elite, while permitting others to learn only to read is a flagrant undemocratic practice" (Waller, 2010, p. 39). The researcher observed perceptions about music curriculum are deemed only central to the study of music in that it relates to reading literacy. Music educators are hopeful that dialogue regarding discourse in the language of improvisation such that two people having a conversation would be palpable for most general classroom teachers. Music educators wish to elaborate on this cultural literacy and the literacy of note reading and rhythm reading as well. This researcher drew parallels from Gee (2004) regarding the application of arts education as a "safe outlet for self-expression (i.e., the release and communication of emotion and ideas)" (p. 13).

The research is divided into six sections that represent a cross-sectional lens into the complex issues that affect the decisions of a general classroom teacher to choose to adopt music into daily lesson plans. The literature under careful perusal and review includes (a) connection to mathematics, (b) the brain and memory retention, (c) songs and stories (preparing to read), (d) curriculum integration, (e) perceptions of the classroom teacher, and (f) teacher self-efficacy. The array of search engines utilized included ERIC, ProQuest, and ProQuest education journals. Many of the music journal research materials were derived from the *Journal of Research in Music Education*, *JSTOR*, *Sage Publications, Inc.*, and *The National Association for Music Education*. This researcher reviewed approximately 56 journal articles and manuscripts from no less than

eight peer-reviewed and researched journals of scholarly distinction.

Scientific data suggesting reasonable music understanding are prevalent among musicians than nonmusicians where a “positive correlation exists between tone identification and discrimination tasks where musicians performed favorably higher than non-musicians” (Wong, Skoe, Russo, Dees, & Kraus, 2007, p. 421). “Parallel skills in music and reading include phonological awareness, phonemic awareness, sight identification, orthographic awareness, cueing systems awareness, and fluency” (Register, Darrow, Standley, & Swedberg, 2007, p. 25). These traits are all of major significance to common core teachers who search the data for numbers that indicate higher rates of fluency in their students.

Arts education stimulates creativity, builds communications skills, promotes teamwork, and engenders the love of learning in all subject areas (Gee, 2004). It behooves the music academicians to translate the power of music to a discipline precisely capable of measuring emotional, critical, and spatial abilities that will cross over to the general curriculum. Creativity is the ability to differentiate ideas and concepts to produce atypical work. Creativity is an inbred trait within all humans, yet, the cultivation of such creativity must be produced by an excellent teacher (Zbainos & Anastasopoulou, 2012). As creativity in learning and with the connection of social media, being creative to devise new solutions is a major consideration of learning today. Recognizing that schools need to produce learners who are creative and make positive solutions, classroom teachers should invest time and attention to securing a strong music foothold in all aspects of the curriculum to ensure creativity is not ignored from lesson plans.

Classroom teachers who teach the core curriculum invariably posit music is a discipline that would be difficult to teach and would require the skill of a music specialist

specifically hired to teach the pedagogy of music. Invariably, the responses of classroom teachers, when asked by this researcher to pinpoint the areas that would help support their classroom teaching, has been to help with reading fluency. Classroom teachers rely upon arts specialists, specifically music specialists, to support the core curriculum by the skillful planning of lessons that incorporate fluency as well as phonemic awareness into the literature (Richards, 2008). Utilizing literature-rich resources designed to engage students to stimulate oral production of sound and awareness of phonemes is indicative of the benchmarks achieved for reading fluency (Zeece, 2006).

The study and discipline of music education in public schools is in a precarious state of low esteem by parents and the general public (Regelski, 2005). The research suggests, although supporting the core curriculum is a function of what arts education is supposed to do, it does not give enough credence to the very essential principles that are understood by music academicians. Creativity and its exact description and definition result from the convergence of utilizing critical and spatial reasoning for the sole purpose in and of itself (Zbainos & Anastasopoulou, 2012). Research supports the ideology that music education stimulates prosodic reading, spatial reasoning, and critical-thinking skills. Opponents of this philosophy believe music education is devoid of promoting creativity and individuality in students and seeks to thwart the very natural interest in music that humans can inherently create within themselves (Regelski, 2005). Improving student academic achievement using culturally responsive strategies is a positive approach to making students aware of the possibilities music has in their lives. Engaging in cultural and linguistic-based music activities supports the diversity that music embraces in the classroom (Kelly-McHale, 2013).

Music and reading share parallel skills such as “phonological awareness,

phonemic awareness, sight word identification, orthographic awareness, cueing systems awareness, and fluency” (Darrow, 2008, p. 32). Music specialists can be greatly beneficial and instrumental in early education, and they support the framework for fluency in reading and in music literacy as well. The single influence in any classroom is the classroom teacher (Dineen & Collins, 2006). The strategies and skill sets teachers learn in college are designed to teach the benchmarks as set forth by the national standards, but there remain gaps where the teaching flow of the day could incorporate music benchmarks as well. Creativity is best met when teaching methods are integrated and the flow is succinct throughout the entire school day. Viewing the overall picture, educators may come to realize the skills in one discipline may carry over into the next area (Powers, 2011).

Connection to mathematics and science. Music, although considered a liberal art in its design, is a discipline that can be studied (Kalkavage, 2006). It possesses a gradual release design that allows for the layering or scaffolding of skills over time. Music has a connection with mathematics by the legendary Greek, Pythagoras (as cited in Kalkavage, 2006). As he studied the phenomena of frequencies and music, he discovered connections between music and mathematics. This experiment solidified the mathematical foothold of music in nature. Preparation to teach students how to read music notation on the staff of five lines and four spaces is a precursor to understanding the melodic contour of a melody and its series of pitches. These pitches can be written on a staff in a musical order in a literary device devised by Hungarian composer, Zoltán Kodály (as cited in Mason, 2012). This series of notated pitches is known as the solfège method and is a fundamental musical order of pitches from high to low that can be notated on the musical staff and read in the direction of the highs and lows of musical

sounds. It was in the early 1930s and the era of the day when musical literacy was taken seriously and was achieved in social circles that would have been construed as a higher echelon of ordinary society (Jacobi, 2012).

The brain and memory retention. The implications of brain research are extensive and lead to the summation that cranial pathways, when activated and stimulated by rote rehearsal or constant practice, heighten the awareness of memory retention and lead to better memory overall (Asbury & Rich, 2008). The crossover skills necessary for fluency in reading are linked to initial research in brain and memory retention. More research is needed to define the “specific relationship between learning to read literary texts, music notation, and music texts” (Hansen, Bernstorff, & Stuber, 2007, p. 21). Research in the level of aural skills presents the belief that music aids the phonological awareness or the ability to interpret the phonetic sound articulation of language (Hansen & Milligan, 2012). Training in the discipline of music influences the ability to discern multiple vibrations in sound such that the auditory brain stem response is prevalent to music and general classrooms alike (Hansen & Milligan, 2012). Brain stem activity and its role in encoding speech may suggest significant patterns that common core teachers would find useful to track and assess (Wong et al., 2007).

Gromko, Hansen, Tortora, Higgins, and Boccia (2009) studied the recalling of specific tones or numbers or nonsense words to be recognized in working memory. Research supports a plausible axiom in music education concerning memory skills developed in one domain. Memory tasks, when developed in one domain, may transfer or apply to skills learned in another domain. Classroom teachers may, in understanding the musical transference within a domain concept, improve listening abilities in young learners by using focused sound patterns taught within a music context and integrated

with their teaching. The ability to identify and recall these specifics in language and mathematics concepts suggests musical sounds aid in the development of tonal discrimination and aural sensory ability in young learners (Gromko et al., 2009). In current scientific circles, music may be at the forefront of study into pathways of the brain that may open new treatments for other emotional illnesses, including posttraumatic stress disorder, anxiety, and depression (Killian et al., 2013).

A perception of music in the brain is reachable through countless experiments involving the introduction of music, specifically with inferences to searching for nuances in cognition and temporal brain patterns. Music is initially perceived as a composite in the brain composed of elements of music such as pitch, rhythm, melody, intervals, harmony, and tempo of the beat. Rhythm can be defined as organized time through space (Summa-Chadwick, 2009). The importance of the beat is not on the beat at the moment given, but it is the space between the beats that gives music its beat dominance.

Songs and stories (preparing to read). Music “contributes to students’ understanding of stories and sequence” (Fisher, 2001, p. 108). Songs and chants reinforce the rhythmic syllabication of phonemes. Rhythmic sequences in poetry and rhyme such as nursery rhymes involve the presence of a steady beat. This beat is the musical beat. Music instruction is “beneficial to the acquisition of reading and other language skills” (Herrera, Lorenzo, Defior, Fernandez-Smith, & Costa-Giomi, 2011, p. 69). Research on the relationship of the effects of music on phonological awareness is limited at this time. Research results suggest phonemic awareness benefits may be quite limited in young students. This perception may be an obstacle to the goal of classroom teachers whose profession includes its efficacy to produce a more positive result in music and reading. Standley (2008) posited the effects of a music intervention during a meta-analysis

associated with phonemic awareness and reading ability. Specific music activities used by the classroom teachers on a daily, weekly, or a combination of short-term durations increased the reading accuracy of young learners (Standley, 2008). The literature suggests music's impact on reading instruction increases the ability of young readers to develop fluency skills when the introduction of music notation is used. As the literature suggests, classroom teachers may work through their lesson plans to incorporate the relationship and studies that show how music performance and academic achievement are paired. Notation reading is the example of this correlational assumption. Continued investigations into the relationship of notation and sight reading to academic achievement in reading and phonics include auditory and spatial orientation skills (Gromko, 2005). These skills are crucial to the development of reading fluency in young learners.

Classroom teachers are trained in early preservice to identify the components of what makes a student able to read independently. Phonemic and phonological awareness, combined with aural skills processing, are crucial for developmental success as an early reader (Hansen & Milligan, 2012). As state and federally mandated programs for the common core and newly founded technological advancements take shape, the role of the music teacher and this position to provide high-quality programs that will support the literacy initiative in the music teacher's school are ever more apparent. Searching for existing tests of measurement as well as novel means of enlisting the common core standards to express the grade-level standards in the music teacher's work is of paramount importance. As music is specifically an aural art, teaching the spatial relationships of sound and pitch is not amusing and temporal but has long lasting effects on the spatial intelligence of the brain. Students realize upon successful application with fidelity and scaffolded training from the first pitch of do to the last pitch of ti that there is

a musical order about the pitches from solfege do through do. This would be from middle C on the piano to eight pitches or an octave higher to high C. According to Hansen and Milligan (2012), sound discrimination is a process that begins in early infancy and is a common manifestation of phonemic awareness and fluency. Sound discrimination is indicative of both processes. This distinction can suggest the music teacher can use discrimination patterns of sound and phonemic awareness to train in fluency and, likewise, the general classroom teacher can use similar lessons adapted from the music teacher's lesson guides and engage students in exercises needed to discriminate in pitch and nuances of sound.

The foundations of music education are firmly rooted in the praxis of the educators who set forth a process of key core components for the development of music appreciation from birth to college age and beyond. These ideas and concepts are manifestations of the praxialism set forth by authors such as Suzuki, Kodály, Orff, and Dalcroze (as cited in Woodward, 2005). These innovators developed their niche in the music education field to set forth a process of philosophy or method by which educators would teach the elements of music. The principles of these many approaches agree the learning for a young student begins as teachers show how to do and use simultaneous imitation, rather than sit and wait for music to begin (Woodward, 2005).

Bruner's (1977) theory of cognitive development suggests music and reading readiness are inextricably linked and mental pictures or images are increasingly detailed as the child matures. Music experiences increase the mental picture capacity of a child with musical movement, body percussion, singing, and playing instruments. The perception of rhythm, combined with reading, chants, and prose, stimulates and helps children construct and organize these sounds into organized time and space. The

foundations of “sound in song and the foundations of sound in reading provide children with increased language skills, increased memory, and increased attention span” (Cooper, 2010, p. 25). Singing and reading are combined to boost brain development, increase awareness of phonemes, and create success with melodic patterns of language (Cooper, 2010). The classroom is the venue where the acquisition of music skills and the subsequent utilization of musical ideas prompted by the music specialist will aid the classroom teacher to increase fluency. Similar research in the fields of songs and chants contributes to the concept of rhyming and sound as an objective through which classroom teachers can utilize to produce phonemic awareness (Hansen & Milligan, 2012).

Similar links between phonemic awareness and musical skills are indicative of the importance of music education. Prosodic skills and phonetic abilities infer music abilities underscore an understanding of the encoding of linguistic patterns. These patterns are revealed in the pattern recitations of nursery rhymes and poems for young readers (Patel & Iversen, 2007). Prosody pitch is the study of how musical tunes, rhythms, and sounds relate to the mechanics of speech. All languages must use prosody to convey discrimination and articulation among word sounds. The placement of the pitch sounds is an important distinction between what makes a prosodic pattern occur. A study conducted to compare prosodic patterns in language showed certain tones called tone languages were spoken and appeared to have an entirely different connotation when spoken in a certain prosodic pattern (Patel & Iversen, 2007). Music teachers and those generalist teachers who teach music education would benefit from the rhythm patterns and fluency noted in the chants, poems, echo stories, and call-and-response nursery rhymes that often support the element of prosody and fluency in reading. Measuring pitch patterns in another study encoded in the mother tongue, specifically Mandarin Chinese

revealed students exposed to music had higher adaptations of cortical reflexes than those of nonmusicians (Wong et al., 2007). Frequent encoding of linguistic pitch suggests consistent, long-term music making may format the basic circuitry of the brain (Wong et al., 2007).

Auditory discrimination in patterns of children's memory has a common underlying mechanism. Research conducted in a kindergarten music class revealed music skills learned in a performance class were copied and transferred to frequency and phonemic awareness tasks in the general education classroom (Register et al., 2007). Students readily showed more progress utilizing music skills that transferred over to phonemic skills than students who did not have music lessons to learn these skills. Phonemic awareness was significantly correlated with first-grade fluency scores in memory retention.

According to Gromko (2005), a meta-analysis conducted to measure phonemic awareness in young readers yielded results among phonemic-awareness delivery of instruction and the connections of sounds paired with letters. Further investigation in this analysis by Gromko resulted in viewing the relationship between "academic achievement and sight-reading in music" (p. 200). Contrary to these findings, Jones (2013) interpreted results of a longitudinal study that gathered data from preservice teachers and their experience, competency, and self-efficacy in the arts. The results posited negative findings from extrapolating the data. In the visual arts category, 60% reported having little or no ability to draw. In the drama and dance category, approximately 46% of preservice teachers had moderate levels in experience in this field. In music and media, 58% of respondents surveyed were moderately or "highly confident" (Jones, 2013, p. 106). The overall pattern of responses indicated preservice teachers lack self-confidence

and possess minimum levels of creativity in the arts. The findings indicated teachers with little or no experience in the arts suggested the lack of experience will transfer over into their classroom teaching. The capacity to strengthen their immersion in the arts and incorporate the transfer to their daily classroom teaching methods will impact their classrooms and enhance the creativity of their students.

Cognitive growth in children is enhanced by technologies that aid the complex structures and environments that emerging readers need to process and organize. This schema will guide them to learn effective reading skills. Bruner (1964) contended an incorporation of systems should have an “amplifier of human motor capacities” (p. 1). Sensory, motor, and critical-thinking skills for the implementation of a child’s world and how he or she perceives it are fundamental and matches the requirements of the incorporation of those systems.

Curriculum integration. Integration of the curriculum is one of the forefront reasons why music is hotly debated as the silent curriculum. It is one of the most widely discussed concepts in education today. Research exists that has shown teachers do value the inclusion of music into the curriculum but some do not feel a pressing need or responsibility to teach music objectives when there is a music specialist in the school. The development of music skills is not enforced or mandated as part of the core curriculum subjects (Giles & Frego, 2004). Music may be “utilized to teach pre-reading and reading skills, utilizing movement, singing and playing an instrument” (Routier, 2003, p. 10). Musical experiences, coupled with reading to children, form the basis for a strategy for development and are necessary to stimulate and maintain high interest in reading. Early childhood teachers need to be aware of how the “blending of literacy and music activities can occur, and to have the musical knowledge and skills needed to

promote musical confidence when teaching” (D. Wiggins, 2007, p. 59). It is by this very experience creativity is invented, developed, and utilized in the general classroom.

Research that investigates connections between academic achievement and music literacy is infused into the curriculum on a widespread level. Academic achievement increases with the use of music literacy in the curriculum today (Johnson & Memmott, 2006). Garvis (2012) pointed out creativity is a significant component of a student’s total education and the initial nurturing process fundamentally impacts the musical development and as even more so in the overall education of the young student. Similar connections are made with learning processes to instill creativity that may foster a student’s self-confidence and self-esteem (Stavrou, 2013).

A study conducted to measure the metacognitive communication between literacy and numeracy started in two kindergarten classes (Garvis, 2012). The focus of the study was to ascertain the development of kindergarteners about music when challenged by a teacher who was competent and who demonstrated self-efficacy in musical concepts in the classroom. Both kindergarten teachers used free play by using song inventions and incorporating transitions and routines into their teaching. Both teachers used higher level reasoning lines of questioning when interacting about song beats. Daily musical lesson plans occurred throughout the day. Incorporating musical-based activities increases the working awareness of self-efficacy and self-competency in the general classroom (Garvis, 2012).

Human beings, for the better of intentions, are sublimely creative (Livingston, 2014). Young children express innate abilities to play and use storytelling and move and sing with amazing features of complexity to their very beings. Creativity in the music classroom can be used to improvise musical endings to stories and to devise new

ostinatos or repeating patterns to a rondo section of an instrumental work. The classroom of a music teacher supposedly should be a place of intricate creativity and self-reflections for activities to meet the challenges of a creative classroom.

Perceptions of the classroom teacher. The problem to address was the failure of generalist teachers to comprehend and understand music is fundamentally inclusive within the general curriculum and should be intertwined, interwoven, and blended into the curriculum on a daily basis. Teachers must strive through in-service training to adopt music activities that teach pitch, rhythm, meter, and dynamics to be part of the schema for reading, science, writing, and mathematics lessons daily. It would seem almost monumental teachers should be asked of this creativity piece within their teaching, but to withhold it suggests a lack of attention to all things musical and creative within the curriculum. If a teacher has not experienced these educational abstracts to the whole teaching process, then, it would stand to reason that a generalist teacher might not understand how to infuse music into the daily curriculum. By aiding the generalist teacher to see the importance of music in the curriculum, educators see expression in students' learning and their interpretation of complex problems and problem-solving abilities foster a healthy environment for the young learner (Garvis, 2012). The dearth of training lies with the colleges' and universities' programs that instill and inculcate the doctrines of education but lack the sufficient training to teach creativity and music-related avenues to approach the curriculum (Johnson & Memmott, 2006).

To understand the lack of motivation in fully integrating music into the curriculum is a function of classroom teacher's lack of enthusiasm, objectivity, and perceptions of exactly where the result of music immersion will aid or advance the progressions of early readers' skills. Epistemologies, cultivated from the perceptions of

creativity, have spawned a generation of teachers whose resistance to arts education in their own undergraduate work has rendered them arts incompetent, and, hence, the duty of arts instruction and music performances invariably defaults in the lap of the of the music teacher (Jones, 2013). Jones (2013) gathered data on the perceptions and observations of preservice teachers or future professionals in the fields of their choice. The perceptions of creativity and applicability of creative perceptions toward their group environment were analyzed. Respondents to data pertaining to the natural environment and importance of creativity in their professional work resulted in 52% acknowledging creativity is important. In the visual arts category, 60% who had no or little skill in art paintings or drawings reported a moderate skill base in this area. Preconceived conceptions are a manifestation of the self-efficacy of the teacher and the development of the music literacy experience needed to support competence and skill adaptability for the classroom teacher to the musical setting. A similar study demonstrated perceptions of classroom teachers had significant similarities with perceptions of music teachers (Stunell, 2010). Generalist teachers tend to choose or look away from all things musical and shun any activities that involve a music-making activity to stress a fluency area in a lecture.

Bandura (2001) stated humans have a need to control their emotions and have personal self-influence over how they feel. Teachers' perceptions of their emotions may have connections with a lack of formal schooling in the arts fields. This dearth of musical training may result in classroom teachers who feel ill-equipped to teach or incorporate musical vocabulary or songs into their reading and mathematics lessons. Some teachers may have initiated an interest in the arts during their college years and responded with self-efficacy in these classes, but a majority of students have withdrawn from expressing

creativity in the musical and visual arts (Jones, 2013). Teachers who participated in music ensembles in their college years perceived this opportunity as a time to socialize and get to know people with similar mindsets in music. They wished to meet and greet new friends, build relationships and acquaintances, and learn to work effectively as a team. Learning to collaborate for the common good of the members was highly regarded by the student participants who, without a musical purpose for meeting such as pianists who play separately, would not have engaged in a group ensemble.

Research points to the discipline of music as the central component for activities that involve playing instruments, composing songs, and learning to sing on pitch. A study conducted in two kindergarten classrooms was evaluated to determine the amount of music activities employed in each classroom (Garvis, 2012). Both kindergarten teachers were excited about music making in their classroom, and both intrinsically understood the long-lasting effects singing nursery rhymes and word chants would benefit the students in their early childhood years.

The study of music perceptions by the music teacher and the classroom teacher can be viewed from a purely utopian view of social proportions. Utopia is a word that suggests purity or nirvana. A utopian society is one considered free from utilitarian errors or faults (Benedict, 2012). It is a source of peaceful tranquility, and, sometimes, it can be misconstrued as a teaching tool that compels one to view the world in a multidimensional way. Utopian standards in music are built upon responses that music educators see as free from the traditional path on which the general studies classes are built (Benedict, 2012). The National Association for Music Education (2011) incorporated a vision into its mission plan that holds music teachers accountable to a high expectation to provide a “comprehensive, balanced, and sequential program of music” (p. 2) for all students whom

they teach on a daily basis. It would be expected from administrators and academicians who seek highly trained music teachers the criteria for selection would be based on the standards set forth by the National Association for Music Education. Those teachers who teach with a balanced, progressive, and sequential style but are using the methods of a different culture may not be part of the group of utopian extensions of music into the community. Benedict (2012) maintained utopianism must ideally root its foundation in the notion music education is as equally deserving to be in the ranks of other subjects insofar as integration into the curriculum is concerned. Perceptions and realizations of higher level thinking strategies can be linked to a phenomenon entitled social intelligence (Juchniewicz, 2010). Social intelligence is identified by the ability to map out certain signals and accurately interpret data while reapplying the same data in a different circumstance (Goleman, 2006).

Teacher self-efficacy. A belief in the value of one's work and the beliefs one maintains regarding one's work is called self-efficacy. Teaching beliefs stem from a strong competency level to perform skills and tasks in an educational setting (Garvis & Pendergast, 2011). Teacher self-efficacy is a function of strong competency beliefs. Weak teacher beliefs signify a low competency for teaching in the field, whereas high teacher self-efficacy indicates a strong competency in developing strategies and implementing skills learned in a preservice setting. Teacher self-efficacy forms within the first several years of teaching. Moreover, it is in this initial phase teachers formulate a set of efficacy beliefs as they reflect on their craft in arts education or in subjects unrelated to arts education. According to Bandura (2001), teacher self-efficacy, in the initial phase, appears resistant to change.

Change and the resistance to change are firmly rooted in the literature. As more

children become less interested in traditional songs and folk stories in early childhood, a newer culture of popular media begins to emerge. Students who are disenfranchised with the traditional culture and curriculum or everyday school programs tend to listen to mass media productions and cultural plays of youth. Listening, analyzing, and reading and writing of musical texts will engage youth and provide a foundation that will instill the appreciation of music in the early childhood years (Bosacki, Murray, Pollon, & Elliott, 2006).

The self-efficacy of teachers has its roots in teacher preservice education. Preservice education is the training and inculcation of ideas to fledgling teachers before they start out to begin their teaching careers in the field (World Health Organization, 2014). Stavrou (2013) addressed the complexities of the creativity and preservice teacher dyad in a compelling study that attempted to measure the creative abilities in preservice teachers and allowed them to discover it for themselves through the course of their preservice training. The teachers in this study were asked the questions of why creativity was so important for teaching and why was creativity important for teaching music education in schools. Other schools of thought reject the acceptance of creativity being of great importance. In the discipline of music, it is often observed teachers lack self-confidence and the creativity to teach lessons of a musical nature (Webster, 2003). Teachers may seek other means to teach such as knowledge acquisition and the ability to develop instrumental skills than to use creativity.

A major component central to the premise of music teachers are needed where the generalist teachers do not ascribe to using music-related activities in the curriculum is evident in many teaching points. Reading ability identified with rhythm, tempo, and duration of sounds in patterns is called prosody (Hansen & Milligan, 2012). It is a

prosodic development that is crucial to the reading phonemic awareness of young children. Reading of phrases, clauses, and semantic idioms relates to speech. The nature of the text and the speed in which it is read are indicators of phonemic awareness, fluency, and prosody. These are the tools or building blocks and experiences musicians use to describe the intricacies of sound. From the perspective of learning music and learning how to read, musicians may concur if learning to read music and learning to read text can be taught by the same teacher. Learning music is to build minute dimensions of scaffolded layers of understanding in such a way as to create a whole entity (J. Wiggins, 2007). Engaging in music involves the following three processes: performing, listening, and creating. This literature maintains the ability to teach music must rest with an experienced individual who is skilled in the nuances of music technique and leadership.

Most preservice training prior to the graduation of an experienced music education graduate would be required to take foundation courses in harmony and counterpoint in addition to form and analysis and choral and instrumental practicums. These would recognize a teacher to specialize in his or her field and to choose if he or she were to pursue performing, education, or composition. Teachers who have weak self-efficacy believe they lack the competence to teach music effectually across all of the national standards (Garvis & Pendergast, 2011). If they have strong self-efficacy, they believe they can teach music effectively and include integrated arts into the classroom. The deficiencies in the quality of music immersion into the curriculum stem from a lack of self-efficacy and self-value on the part of the generalist teacher. The research suggests, if self-efficacy can be maintained by a generalist teacher with a kindergarten population, more research is needed as to why a music-integrated classroom has yet to be adapted for a primary classroom as well. Much more research is needed into the exploration of ways

in which music can be fundamentally integrated with a seamless curriculum to enhance and also to raise the academic achievement of all young learners.

Music teaching incorporates many outside factors that propel or compel a teacher to teach his or her craft. Juchniewicz (2010) portended internal components such as the delivery of instruction, pacing, withitness, the ability to keep the class engaged, effective delivery, and high rigor of material are what make a teacher's evaluation rise from effective to highly effective. Hundreds of milliseconds of high-speed information are transferring from teacher to student in the delivery of an orchestral work or conducting a song for a two-part harmony. Music teaching, therefore, is highly complex with many different strata of multilevel understanding layering between the strands. Music teachers should possess natural abilities of social behavior; they are social beings and are reacting and engaging young minds with concepts and material that will sustain and improve young minds for future musical and nonmusical challenges in their lives. This concept of social intelligence is perceived as the innate ability to decipher and decode information in order to invoke a positive response from students. The social intelligence theory is rooted in the axiomatic beliefs from the utopian society proposed by Benedict (2012) as well. Similarities exist as these authors maintain teachers have a complex job to perform and, at times, the study of music is not fully recognized as a major part of the curriculum as it should be.

Social intelligence is demonstrated through the trained ability to perceive or deduce codes or signals from others and accurately dismantle the code to share it efficiently with others (Juchniewicz, 2010). Social intelligence is a refined set of traits, which is to understand and command these skills necessary to manage personal relationships with others. Researchers have investigated social intelligence by simply

observing teachers at work. Researchers have advanced to develop tests to assess social skills through a traditional testing platform. In all of the many tests developed by scores of researchers, they attempted to answer the following questions: “Is social intelligence a component of effective music teaching? [and] Can experienced music educators and undergraduate preservice music teachers identify social intelligence in their evaluations of music educators?” (Juchniewicz, 2010, pp. 278-279).

Influences of music teacher beliefs and practices serve to affect the general symbiosis of the class structure in an elementary general education classroom. According to Kelly-McHale (2013), findings indicated the importance of the teacher’s role as an educator and musician set the environment and created a music-friendly environment that met the required goals initially set forth by the teacher in order to deliver instruction. A formal assessment was administered to drive this particular instruction. The expressions of music in identity and the identity of music were analyzed and studied for students of second-generation families. The data revealed important findings regarding the teacher and the delivery of instruction that would impact students. Data suggested the choice of the approach outlined by the teacher on a personal level would result in a regressive musical experience where isolation between the students and the teacher would occur based on the material covered. The music covered was not of a cultural, linguistic, and favorite music of national origin to the culturally chosen group at the time.

In an earlier study, student and teacher perceptions were analyzed at a teaching university in Ontario, Canada. This study attempted to explain the instruction given to adult learners in Celtic instrumental traditions from “Ireland, Scotland, Wales, England, and the Canadian provinces of Newfoundland, Nova Scotia, Manitoba, Quebec, Prince Edward Island, and Ontario” (Waldron, 2009, p. 51). Research suggested students

developed self-teaching strategies designed to augment their existing modes and styles of teaching instruction and supplement with practices designed for this intensive Celtic instruction. The goal of the research was to ascertain if significant student learning gains would be made with the addition of Celtic music activities. The traditional music teacher's role has been constant over time. Instruction for the instrumental theory was initiated, and far more formal teaching styles were applied. Results described how the experience affected participants and if these additional activities should be applied to their regular music-making activities (Kelly-McHale, 2013). The body of literature is expanded as it makes claim teacher perceptions and observations drive instruction in the classroom and increase student improvement gains with quality instruction.

Teacher self-efficacy beliefs and their measures to work within the confines of specific teaching and learning-related tasks became part of an instrument used to develop the Teacher Efficacy Beliefs System (TEBS)-Self Form (Dellinger, Bobbet, Olivier, & Ellett, 2008). The TEBS-Self Form accurately summates Bandura's (2001) definition of self-efficacy. Because teacher self-efficacy is defined as teachers' beliefs in the ability to affect student learning, strong teacher self-efficacy for arts education must have built-in systems of self-check to gauge beginning teachers with how well they manage their success (Garvis & Pendergast, 2011).

Whitaker (2011) proposed high school band students and directors teach with perceptions of verbal and nonverbal teaching behaviors that predominantly affect and impact the manner of instruction and, ultimately, the quality of the program. Effective teaching should be representative of the hallmark of appropriate and sequenced instruction that will engage and maximize learning for all students. Students may be presented with the following three learning steps: (a) The teacher initiates a task for

completion, (b) students answer the task, and (3) the teacher outlines immediate feedback to the students (Whitaker, 2011). The need for research exists to determine if general education teachers can apply the same three steps using music-related activities of song, chants, and rhythm patterns to maximize student learning.

How a teacher communicates to students may affect their ability to gain musical skills and knowledge. Examining teaching behaviors such as eye contact and less teacher talk between activities would lessen the nontask time and improve quality instruction. General education teachers may take notice to incorporate more eye contact through nonverbal behaviors, verbal clarity, enthusiasm in the voice, and learning pacing of instruction.

The benefit to students engaged in music making are varied and diverse (Kokotsaki & Hallam, 2007). Active engagement with music increases self-esteem in children and adults, and instrumental teachers believe playing a musical instrument builds self-confidence, timing, self-esteem, social skills when playing in a group or ensemble, and gaining a love for music making and producing beautiful sounds. This is the essence of what classroom teachers should be providing to students, and, by instilling a passion for music making in their students, they are improving the rate of literacy and phonemic awareness in young learners.

Student teachers also exhibit difficulty with recognizing teacher perceptions in the classroom. The ability to focus on one's own adequacies or inadequacies as the situation arises is a significant factor in perceptions held in the classroom. Focusing on the initial tasks, coupled with the impact an educator has on students, can make a positive or negative effect on the perceptions a teacher can hold to himself or herself in the classroom (Killian et al., 2013). A study on participating teachers and the level of

confidence in teacher self-efficacy showed low self-esteem about beliefs with respect to the pedagogy of music (Stunell, 2010). Teachers expressed a need to learn and control their understanding of music, yet, their understanding of how to do so precluded any attempts to learn how to be self-confident while teaching music.

Teacher self-efficacy is a belief process involving the subjective perceptions or the inner mental workings of the teacher. Bandura (2001) defined the phrase of self-efficacy as “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” (p. 3). Teacher efficacy beliefs are measured by forms (e.g., TEBS-Self Form) in which individual beliefs about the inner confidence one maintains to be an effective teacher (Dellinger et al., 2008). To a degree, self-efficacy patterns are inherent in every teacher and compose a major set of preferences and choices a teacher will make about predictions and inferences toward a student’s development. Self-efficacy thought processes influence emotions that enable people to change the environment they create, reach for new goals and release setbacks, and follow a new system of beliefs (Bandura, 2001).

Such confidences and abilities may vary from teacher to teacher. Two types of teacher self-efficacy exist. Teacher efficacy is the ability to impact a student’s performance (Hoy & Woolfolk, 1993). Teacher efficacy focuses directly on impacting student performance as a condition of teacher behaviors where a successful outcome is expected. Teacher self-efficacy is the ability to teach specific tasks in the present classroom situation that a teacher is employed in (Dellinger et al., 2008). Distinctions between self-efficacy expectations and outcome expectations depend on certain intrinsic beliefs. Efficacy expectations focus on the degree in which behaviors are performed versus the outcome and expectations that focus on the positivity and negativity of certain

outcomes of performance (Dellinger et al., 2008).

Music teachers have career choices in teaching and must self-examine their own reasons for choosing to teach or choosing to perform music. Although self-efficacy is a major component of achievement and performance among music performance majors, these students choose to perform music because of their love for music and their music performance instructors (McPherson & McCormick, 2006). Six motivational tiers or constructs compose the expectancy model of motivation (Parkes & Jones, 2012). This research sought to examine the six constructs of expectancy, ability, intrinsic interest value, attainment value, social utility value, and cost-impacted motivational choice among music performance majors and music education majors.

Creativity and the immersion or lack of immersion in creative thoughts, ideas, and perceptions play a pivotal role in the self-efficacy of the classroom teacher to integrate musical ideas into a class lesson. Research conducted in a study of beginning preservice teachers showed 43% thought creativity on the part of teachers to be decisive (Jones, 2013). Fifty-two percent thought creativity was extremely important. The overall pattern of responses in this study demonstrated preservice teachers in their first 3 years of teaching lacked skills in their own confidences in the arts and did not see themselves as creative (Jones, 2013). In all creative categories of visual arts, drama, dance, music, and media, most respondents indicated they had some but little creativity in drawing, painting, and sculpturing. A majority believed they were most creative in the home environment but did not think of themselves as possessing creative thinking.

The literature strongly supports the contribution of music education to the cognitive, emotive, and social components that compose the sum total of a human being's intelligence. Self-esteem and values of cultural diversity within school populations are

derivatives of the effects music can have for young learners. Studies, including meta-analyses, showed music had a positive effect on cognitive development (Portowitz, Lichtenstein, Egorova, & Brand, 2009). Musical activities enhance creativity and spark interest in drama, literature, and writing skills. Young learners are naturally inquisitive and highly creative (Livingston, 2014). Classroom teachers can enhance the curriculum by having students work in collaborative groups. Seeking creative solutions to problem solving and reading to students followed by directing a choral read would be highly productive. A choral read is an exercise of reading one line of prose by each student until the prose is completed. All take a turn, and all are accounted for.

As music teachers are keenly educated in pinpointing the many nuances of the craft that support this research, it is the wish of this researcher to train other generalists in the transference of musical skills that cultivate higher thinking skills in mathematics, writing, social studies, and the sciences. Music may not always be viewed as a supportive curriculum but should stand on its own merits as a scientific discipline with social and mathematical properties. Applied music where students are studying instruments begins to differentiate between pitch, tempo, rhythm, dynamics, and harmony, and they learn to discern the intricate differences of how the parts are the sum of the whole (Portowitz et al., 2009).

Music education is a scaffolded set of experiences built on previous years of learning of set and applied musical elements. Music is intrinsically woven into the experiences and sights and sounds of the very young learner (Salmon, 2010). Research showed music is a language in its own distinction and fosters a development to learn reading, writing, speaking, and drawing (Cummins, 2007). General classroom teachers should seriously consider their own fundamental knowledge from in-service training in

music to activate their students' sequential knowledge and prior experiences. Teachers should introduce and integrate music activities of choral reading, singing nursery rhymes, echo-speaking musical rounds, or canons. This will augment student learning (Salmon, 2010).

Music aids in the general development to focus and pay attention to detail. Research suggests generations of students with special needs can benefit from music instruction because music pathways elicit the brain to positive responses. Learning music stimulates brain growth in a way that will mainstream the students into the general learning population. Pursuing creativity channels and strategies that engage speech and sound discrimination will activate critical thinking, spatial imagery, writing, reading, and mathematical skills.

Attention control is an important benchmark for cognition development and a significant protocol for individuals with selective, divided, and alternating attention deficits. Selective attention is the choosing of one stimulus while another stimulus is present and vying for the attention of another. Divided attention is the ability to choose one stimulus over several stimuli. Alternating attention is the ability to shift back and forth between two stimuli (Summa-Chadwick, 2009).

Studies showed music training stimulated the brain and its sensory coding with pitch patterns during early brain development (Patel & Iversen, 2007). Music and language depend on highly structured sound sequences in the early stages of development. More research is needed to study the cognitive and neural relations between music and language development.

Research Questions

In conducting this research study about music education, the researcher sought

answers within the literature to address the following research questions:

1. Does the MLII change the teachers' overall self-efficacy toward music integration as measured by the Teacher Efficacy scale (TES) from pretest to posttest?
2. Does the MLII change the teachers' perceptions of their proactiveness toward wanting to integrate music into their instruction as measured by the Proactive Attitude scale (PAS) from pretest to posttest?
3. What do the teachers report as the strengths and weaknesses of the MLII, and what do teachers report as recommendations to improve the intervention to facilitate student learning better?
4. To what extent do the qualitative data in Research Question 3 confirm the quantitative data in Research Questions 1 and 2?

Chapter 3: Methodology

Introduction

The purpose of the study was to examine the effects of a MLII on the self-efficacy and proactiveness of teachers at an elementary school in south Florida. The study used a concurrent mixed-methods research design and quantitative and qualitative data-collection measures. There were three data-collection instruments. The TES was used to collect pretest and posttest quantitative data for Research Question 1 (see Appendix A). The PAS collected pretest and posttest quantitative data for Research Question 2 (see Appendix B), and the Teacher Interview Instrument (TII) collected only postimplementation qualitative data for Research Question 3. The triangulated data from the three instruments were used to respond to Research Question 4.

The concurrent mixed-methods design was the most appropriate design to answer the four research questions because the use of a quantitative and qualitative approach in combination provided a much better understanding of the research problem. Validity is a concern in any research study; however, a mixed-methods research design that involves quantitative and qualitative data calls for even more vigilance and enhances validity through triangulation (Gall, Borg, & Gall, 2007).

Participants

This section describes the quantitative and qualitative samples for the teacher participants. Teacher participants came from one small elementary school in the southern part of the United States that had 272 students in kindergarten-Grade 5. The school was a magnet school wherein students were selected based on a computer lottery system. Of 272 students, 234 students (86%) were White, and 24 students (9%) were Hispanic. The remaining 14 students (5%) were other ethnicities such as African American, Asian, and

American Indian. The teacher population of the school was 20 teachers; 18 of 20 teachers participated in the quantitative part of the study.

Quantitative sample. Convenience sampling was a nonprobability sampling technique where subjects were selected because of their convenient accessibility and proximity to the researcher (Springer, 2010). The sample in the study was a convenience sample of 20 teachers in kindergarten-Grade 5 of whom 18 teachers (90%) were female and two teachers (10%) were males.

All teachers were certified to teach kindergarten-Grade 5. All teachers possessed bachelor's degrees; 10 teachers had advanced degrees such as master's degrees, Educational Specialist certification, and Educational Doctorates. Also, eight teachers had English for speakers of other languages endorsement, and two teachers had national board certification. Regarding teaching experience in the elementary schools, one teacher had less than 1 year, six teachers had 1 to 5 years, 11 teachers had 6 to 14 years, and two teachers had 15 years or more.

Qualitative sample. The sample size for the qualitative portion of the study was six teachers who were selected from 18 of 20 teachers who returned the surveys by using the simple random selection method (Creswell, 2008). The names of 18 teachers were placed in a hat. The researcher blindly selected six names from the hat. These six teachers were invited to participate in one-on-one interviews at the end of the school day. This researcher conducted all interviews.

Instruments

In the study were three data-collection instruments. The first 2 instruments were quantitative surveys. The last instrument was a qualitative interview instrument. Each instrument was described, and information on validity and reliability was provided for the

three instruments.

TES. This was originally created by Gibson and Dembo (as cited in Brenner, 2013) in 1984 (see Appendix A). It was based on Bandura's theory (as cited in Labone, 2004) individuals' behavior and affect were influenced by their sense of self-efficacy. Self-efficacy is defined as one's belief in his or her ability to be successful. Teachers' self-efficacy is the belief in the ability to educate all students effectively, given the resources at hand (McCormick, Ayres, & Beechey, 2006). Teachers' self-efficacy plays an important role in an individual's goal setting, effort expended to meet those goals, and persistency in achieving those goals (Margolis & McCabe, 2006).

The original version of the TES, developed by Gibson and Dembo (as cited in Brenner, 2013), consisted of 30 Likert-type questions on a 6-point scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Following the use of the scale with elementary teachers, it was revised to consist of 16 items. Both versions contained questions targeted to assessing teacher efficacy and personal efficacy. The 16-item TES demonstrated sufficient reliability of .79 (Brenner, 2013). Reliability coefficients for the nine questions pertaining to personal teaching efficacy and seven questions pertaining to general teaching efficacy were evaluated separately and were documented at .79 and .75, respectively (Brenner, 2013). Furthermore, Brenner (2013) noted the two dimensions of personal and general teaching efficacy were not significantly correlated with each other ($r = .53$) but, rather, were two distinct dimensions that were related but impacted outcomes separately. Hoy and Woolfolk (1993) adapted the TES to a shortened, 10-question form with five questions each addressing personal and general teaching efficacy. The items selected were chosen due to their high factor loadings in earlier research. This 10-item version of the TES was found to have alpha coefficients of .77 for personal teaching

efficacy and .72 for general teaching efficacy (Hoy, Sweetland, & Smith, 2002). Content validity was established on the TES using university professors, school administrators, and teachers at all grade levels to pilot, review, and analyze the instrument over many years (Hoy et al., 2002). The experts deemed the TES had acceptable content validity.

The 10-item version of the TES was used in the study (see Appendix A). It was organized into three sections. Section I had the directions, a purpose statement, and confidentiality statements. Section II had the coded response-option key (*strongly agree*, *moderately agree*, *agree slightly more than disagree*, *disagree slightly more than agree*, *moderately disagree*, and *strongly disagree*). Section III had 10 items on a 6-point Likert scale. An example of a statement was, “If I really try hard, I can get through to even the most difficult or unmotivated students.” At the end of the TES were directions for scoring.

PAS. This was a personality characteristic scale that had implications for motivation and action (see Appendix B). The PAS had nine items that reflected the belief in the rich potential of changes that could be made to improve oneself and one’s environment. “The PAS assessed four areas or domains which were resourcefulness, responsibility, values, and vision” (Schmitz & Schwarzer, 1999, p. 3). It was organized into three sections. Section I had the directions, a purpose statement, and confidentiality statements. Section II had the coded response-option key of 1 (*not at all true*), 2 (*barely true*), 3 (*moderately true*), and 4 (*exactly true*). In Section III, there were nine items (statements) on a 4-point Likert scale. An example of a statement was, “I feel in charge to make things happen.” Participants were asked to rate items on a 4-point Likert scale with the possible total scores ranging from 9 to 36.

The following is a short description of the four domains. In the domain of

resourcefulness, the proactive individual believed in the existence of sufficient resources, which could be external or internal (Margolis & McCabe, 2006). Goods, services, and people were out there and could be influenced to support goal attainment. Intelligence, courage, and strength, for example, reside within and allow goal setting and persistence (Margolis & McCabe, 2006).

In the domain of responsibility, the proactive individual took responsibility for his or her own growth (Margolis & McCabe, 2006). The proactive individual faced reality and adopted a balanced view of self-blame and blaming others in the case of negative events. The proactive individual focused on solutions for problems no matter whether the problems had been caused by himself, by herself, or by others (Margolis & McCabe, 2006). In the domain of values, the proactive individual was driven by values. Others' behavior might be determined by their social environment, whereas proactive persons were, in contrast, mindful of their values and chose their path of action accordingly. For the domain of vision, the proactive individual had a vision. He or she created meaning in life by striving for ambitious goals. Proactive individuals had an imagination of what could be, and they set goals in line with their vision (Margolis & McCabe, 2006).

Schmitz and Schwarzer (1999) found the PAS's internal consistency reliability to be acceptable. The internal consistency reliability coefficient calculated was Cronbach alpha. Cronbach alpha was .75, indicating good reliability. Validity was assessed using the concurrent validity procedure and the valid and reliable General Self-Efficacy (GSE) scale. The GSE had 10 items relating to people's feelings of mastery in a variety of situations. The association found between the PAS and GSE was .80, indicating high concurrent validity.

III. This was organized into two sections. Section I was the interview protocol

with directions (reminders) for the interviewer (see Appendix C). This researcher served as the interviewer and conducted all interviews. Section II had six open-ended questions that required brief responses. An example of a question was, “In priority order, list and then briefly comment on the most important strategies or strengths in the TII. The most important strength should be listed first; the second most important strength should be listed second, etc.”

The TII was developed by the researcher of this study from interview questions discovered in the literature (Margolis & McCabe, 2006; Schwarzer & Hallum, 2008, D. Wiggins, 2007). Content validity was established on the MLII with a panel of three experts. The experts were the director of the school district’s research and evaluation department and two teacher education university professors from a nearby college. The experts were tasked with critiquing the TII for vague questions, vague words, and appropriateness for the sample of 23 elementary school teachers. Experts wrote all comments on the instruments and returned completed TIIs to the researcher for further review. Creswell (2008) indicated the content validity procedure by a panel of experts is an appropriate validity procedure for surveys and interviews. Additionally, five elementary school teachers from a nearby school who were not participants in the study pilot tested the TII. These teachers wrote their feedback on the TIIs and returned them to the researcher. Feedback from the three experts and five teachers was screened, and the appropriate feedback incorporated in the final revision of the TII so that it was more appropriate for the sample of 20 teachers in the study (Creswell & Plano-Clark, 2011).

Procedures

In this section is an explanation of the generic research design (concurrent mixed methods) and the two specific research designs used to guide the study through the data-

collection and data-analysis process for the four research questions. The 14 steps that compose the quantitative data-collection procedures are presented as well as the 13 steps that compose the qualitative data-collection procedures. The section ends with a presentation of the quantitative and qualitative data-analysis procedures.

The generic research design for the four research questions was the concurrent mixed-methods design. In this design, the quantitative data and the qualitative data had equal weights in the mixing of the data. The rationale for the selection of the concurrent mixed-methods design was the data-collection strategies validated one form of data (qualitative) with the other form (quantitative) to transform the data for comparison and to address different types of questions (Creswell & Plano-Clark, 2011). Further, the qualitative data, combined with the quantitative data, provided a profound understanding of the research problem (Springer, 2010).

Quantitative research methodology and the single-group pretest and posttest research design guided for data collection and data analysis for quantitative Research Questions 1 and 2. The single-group pretest and posttest design used a single group given a pretest before the treatment and, subsequently, a posttest after the implementation of a treatment (Creswell, 2008). The treatment or independent variable was the MLII. There were two dependent variables: the TES scores and the PAS scores.

Quantitative data. After approval of the proposal by the applied dissertation committee and the university's Institutional Review Board, the following 14 steps were conducted for the quantitative data-collection procedures:

1. A meeting was held with the principal of the school and the school district director. The goal of the meeting was to inform them of the intent to commence the research.

2. A meeting was held with 20 teachers in the media center. The goals of the meeting were to (a) explain the project and answer any questions teachers had about their role in the project; (b) promulgate dates, times, and location for the MLII professional development; and (c) promulgate dates, times, and locations for pretest and posttest data collection.

3. Pretest data collection using the TES and the PAS commenced 1 week prior to the implementation of the MLII.

4. During the pretest data-collection week on a Monday after school at 3 p.m., the researcher met with 20 teachers as a group in the media center and administered the TES and the PAS. Teachers were asked not to write names or any identifying information on the instruments. The administration of the two instruments lasted a total of 30 min.

5. At the end of the pretest administration, all TES and PAS instruments were collected by the researcher and reviewed to ensure there were no missing items.

6. The two instruments were coded for each of teachers. An example of the pretest coding was 1TES pre, 2 TES pre, 3 TES pre, and 20 TES pre where 1 TES pre represented the TES pretest score for Teacher 1 and 20 TES pre represented the TES pretest score for Teacher 20. The PAS had a similar coding. The purpose of the coding was to facilitate confidentiality of data and aid in tracking the survey scores.

7. The instruments were stored in a locked file cabinet in the researcher's office to protect confidentiality of data until the time for data analysis. Only this researcher had the key to the lock.

8. Implementation of the MLII commenced for 9 weeks (see Appendix D).

9. Posttest data collection commenced using the TES and the PAS within 2 days after completion of the implementation of the MLII. Posttest data collection for Research

Questions 1 and 2 closely followed the same format as the pretest data collection for these two research questions. Teachers met as a group on a Monday in the media center after school at 3 p.m. for 30 min for posttesting.

10. At the end of the posttest session, all TES and PAS instruments were collected by the researcher and reviewed to ensure there were no missing items.

11. The two instruments were coded for each of 20 teachers. An example of the posttest coding was 1 TES post, 2 TES post, 3 TES post, and 20 TES post where 1 TES post represented the TES posttest score for Teacher 1 and 20 TES post represented the TES posttest score for Teacher 20.

12. All instruments were stored in a locked file cabinet in the researcher's office to protect confidentiality of data until the time for data analysis. Only this researcher had the key to the lock.

13. Data analyses commenced using the Statistical Package for Social Sciences, Version 19.0 to compute descriptive statistics and inferential statistics (i.e., *t* test for paired samples).

14. The analyzed TES and PAS data were used to respond to Research Questions 1 and 2 and to support the preparation of Chapters 4 and 5 of the study.

The previous 14 steps were designed to facilitate a high response rate for the two surveys. Gall et al. (2007) reported the percentage of people who responded to a survey was called the response rate; the response rate was important and was not left to chance. High survey response rates helped to ensure survey results were representative of the target sample (Gall et al., 2007). A survey must have a good response rate in order to produce accurate and useful results. Creswell (2008) indicated a researcher could obtain the response rate by dividing the number of people who submitted a completed survey

(80% or more of questions answered) by the number of people the researcher attempted to contact. For instance, if the researcher asked 185 participants to complete the survey and 107 responded, the response rate was 107 divided by 185 or 58% (Creswell, 2008).

Gall et al. (2007) revealed acceptable response rates varied by how the survey was administered. These researchers' guide to acceptable response rates were (a) 50% for surveys administered through the mail, (b) 80% for phone surveys, (c) 50% for e-mailed surveys, (d) 50% for classroom paper surveys, and (e) 80% for face-to-face surveys. Using the guidance of Creswell (2008) and Gall et al. in this research study, the target response rate was 18 of 20 surveys. Because surveys were administered face-to-face by this researcher in the study, the 90% target rate was higher than the 80% rate suggested by Gall et al. for an acceptable rate of return of surveys.

Qualitative data. Qualitative research methodology and the descriptive-interview research design were the guides for data collection and data analysis for Research Question 3. Creswell and Plano-Clark (2011) indicated, in the descriptive-interview research design, interview procedures were followed by the researcher. The interview procedures might be one-on-one interviews or focus-group interviews. Next, after the interviews were completed, the researcher analyzed the verbal data using qualitative data-analysis procedures (Gall et al., 2007). Typically, according to these three researchers, the qualitative data were analyzed using some modified version of the constant-comparative, data-analysis procedure that included (a) organizing the data into categories, (b) searching the categories for common themes, (c) summarizing the themes, and (d) using the summaries to respond to the pertinent research question. The study followed the guidance of Gall et al. (2007) about the use of the constant-comparative, data-analysis procedure.

There were specific steps in to guide the qualitative portion of the study. After the end of the implementation period of the MLII, the following 13 steps were conducted for the qualitative data-collection procedures:

1. Content validity commenced for the TII using a panel of three experts who were one school district-level director and two university professors. The TII was e-mailed to the experts who critiqued the instrument and returned it to the researcher with their feedback.

2. Pilot testing commenced immediately after completion of the content validity phase with five elementary school teachers. The TII was e-mailed to the teachers to review and return to the researcher with their feedback.

3. The researcher incorporated the experts' and teachers' feedback in the TII.

4. Six teachers were selected from 18 teachers who returned surveys to participate in the interviews. The selection was guided by the simple random selection method.

5. A meeting was held with six teachers in the media center. The goals of the meeting were to (a) distribute the interview schedule; (b) explain the three interview sessions in the schedule and answer any questions teachers might have about the schedule; and (c) resolve any conflicts with dates, times, and location in the schedule.

6. The first interview session occurred during the 1st week following the end of the MLII treatment period. One teacher was interviewed on a Tuesday, Wednesday, and Thursday from 3 p.m. to 3:25 p.m.

7. The second interview session also occurred during the 2nd week. One teacher was interviewed on a Tuesday, Wednesday, and Thursday from 3:30 p.m. to 3:55 p.m.

8. In both interview sessions, teachers were asked not to write names or identifying information on the TIIs. Each of the interviews lasted about 25 min.

9. At the end of the two interview sessions, TIIs were collected by the researcher and reviewed to ensure they were completed correctly and teachers responded to all interview questions.

10. The six TIIs were coded. An example of the coding was 1 TII, 2 TII, 3 TII, and 6 TII where 1 TII represented the interview data for Teacher 1 and 6 TII represented the interview the data for Teacher 6. The purpose of the coding was to facilitate confidentiality of data and aid in tracking the interview data.

11. The TIIs were stored in a locked file cabinet in the researcher's office to protect confidentiality of data until the time for data analysis. Only this researcher had the key to the lock.

12. Data analyses commenced using a modified version of the constant-comparative, data-analysis procedure as stated earlier in the study.

13. The analyzed TII data were used to respond to Research Question 3 and to support the preparation of Chapters 4 and 5.

Data analysis. Quantitative data for the Research Questions 1 and 2 were analyzed using the Statistical Package for Social Sciences, Version 19.0. Descriptive statistics calculated for the two research questions included the minimum score, the maximum score, the range, the pretest mean, the posttest mean, and the standard deviation. The major inferential statistical model for Research Questions 1 and 2 was the *t* test for paired samples. The *t* test for paired samples is justified when there are two observations (e.g., pretest and posttest) for each subject (Creswell & Plano-Clark, 2011). Consequently, this *t* test was appropriate for the single-group pretest and posttest experimental research design (Creswell, 2008).

The *t* test for paired samples was used to ascertain if the difference between the

pretest and posttest means on each of the two quantitative dependent variables showed a statistically significant difference or a difference occurred through chance factors. From the t test, the researcher reported and discussed the t value, the probability value, the degrees of freedom, the mean difference, and the effect size. The probability value generated by the t test was compared to the alpha value (.05) to ascertain if each of the mean differences was a statistically significant difference or a difference due to chance factors.

As stated earlier, qualitative data analysis for Research Question 3 followed a modified version of the constant-comparative, data-analysis procedure. The interview data for each of six teachers were transcribed from the TIIs, organized by interview question, and placed in categories that were searched for common themes, and the themes were summarized and used to respond to Research Question 3 (Gall et al., 2007).

Chapter 4: Results

Introduction

In Chapter 4, the researcher presents the results for four research questions. Two surveys (i.e., the TES and the PAS) and one interview instrument (i.e., the MLIII) were used to collect data for the four research questions. The TES collected data for Research Question 1, and the PAS was for Research Question 2. The MLIII served as the data-collection instrument for Research Question 3. Research Question 4 was a mixed-methods question.

The primary research design that guided data collection and data analysis was a concurrent mixed-methods design. Primary descriptive statistics computed included change scores from pretests to posttests, pretest means, posttest means, standard deviations, Cohen's *d* effect size indicators, and frequencies (i.e., counts of the number of teachers who checked each TES and PAS item) for Research Questions 1 and 2. The inferential statistical model for these two research questions was the two-tailed *t* test for paired samples. Research Questions 1 and 2 were tested at an alpha level of .05.

A modified version of the constant-comparative, data-analysis procedure was used to analyze data for Research Question 3, where, when possible, the interview data were searched for themes. Major themes were summarized and used to answer Research Question 3. Pertinent findings for Research Questions 1 through 3 were summarized and used to answer each of the three research questions.

Quantitative findings from Research Questions 1 and 2 were triangulated with the qualitative findings from Research Question 3 to determine if the qualitative results confirmed, refuted, or explained the quantitative results. The triangulated data were summarized and used to answer Research Question 4.

Findings for Research Question 1

Research Question 1 examined the extent to which the MLII changed the teachers' overall self-efficacy toward music integration as measured by the TES from pretest to posttest. Data for this question came from 18 of 20 kindergarten-Grade 5 teachers (90%) in the sample. Two teachers did not return surveys, even after several follow-up attempts to contact them. Data were collected using the 10 items on the TES.

The items were converted from an ordinal level of measurement to an interval level of measurement to permit the computation of parametric statistics (Brenner, 2013; Hoy et al., 2002; Springer, 2010). After the conversion, the highest score a teacher could make over the 10 items was 60, whereas the lowest score was 6. The interval-level range for the scores was 6 to 60 (Brenner, 2013).

Table 1 shows a presentation of each of 18 teachers' TES interval-level pretest scores, posttest scores, and the amount of change from pretest to posttest. An examination of the table shows 15 of 18 teachers (83.33%) had increases in TES scores from pretest to posttest. Additionally, Teachers 6 and 14 had the same pretest and posttest scores, whereas Teacher 10 decreased scores from pretest to posttest by 2 points. Likewise, the highest increase (13) was for Teacher 11, and the second highest (10) for Teacher 16. Teacher 4 showed an increase of 9 points.

Additional interval-level descriptive statistics and inferential statistics calculated for Research Question 1 are displayed in Table 2. An examination of the table indicates the range for the pretest scores was 6. The range for the posttest scores was 12.

Trends show the two ranges are far apart with a 6-point difference. The Cohen's *d* effect-size indicator was computed. The effect-size indicator signifies the magnitude of the difference between the pretest and posttest means.

Table 1

Teacher Efficacy Scale Pretest Score, Posttest Score, and Change Score (N = 18)

Teacher	TES pretest score	TES posttest score	Change score
1	40	44	4
2	39	42	3
3	45	51	6
4	41	50	9
5	40	44	4
6	43	43	0
7	39	43	4
8	42	48	6
9	41	46	5
10	42	40	-2
11	39	52	13
12	41	47	6
13	43	48	5
14	45	45	0
15	43	47	4
16	39	49	10
17	39	44	5
18	42	45	3

Note. TES = Teacher Efficacy scale.

Springer (2010) reported effect-size indexes of about 0.20 are typically regarded as small effects, of about 0.50 are considered to be medium or moderate effects, and of about 0.80 or above are considered to be large effects. Results of the effect-size calculation yield a Cohen's d of 1.20. The value of 1.20 suggested the strength of the difference (4.72) between the two means as a large practical strength (see Table 2).

Table 2

Descriptive and Inferential Statistics for Teacher Efficacy Scale (N = 18)

Test	Minimum	Maximum	M	SD	t	p	df	d
Pretest	39	46	41.28	2.00				
Posttest	40	52	46.00	3.25	5.60	.00	17	1.20

Inferential statistics suggested the pretest and posttest mean difference of 4.72 showed statistical significance, $t(17) = 5.60, p < .001$. Results of the inferential statistical analysis revealed there was a statistically significant relationship between the TES pretest and posttest scores. The significant increase of 4.72 in the TES scores from pretest to posttest was attributed to the effects of the MLII (Creswell & Plano-Clark, 2011).

The final analysis for Research Question 1 displays 10 TES statements and the six response options for each statement (see Appendix E). The response options were *strongly agree, moderately agree, agree slightly more than disagree, disagree slightly more than agree, moderately disagree, and strongly disagree*. Appendix E presents the number of teachers who checked each response option for each of 10 TES statements after the implementation of the MLII.

An examination of the findings, as displayed in Appendix E, shows when the two

categories of *strongly agree* and *moderately agree* were combined, more than 50.00% of the teachers checked *strongly agree* and *moderately agree* for nine of 10 statements (90.00%). Also, five of 18 teachers (27.78%) checked *strongly agree* and *moderately agree* for Statement 8 (“If one of my students could not do a class assignment, I would be able to assess accurately whether the assignment was at the correct level of difficulty”).

No teacher checked the response option of *strongly disagree* for any of the 10 statements. However, one teacher checked *moderately disagree* for Statement 3 (“When I really try, I can get through to most difficult students”), whereas only two teachers checked *moderately disagree* for Statement 6 (“If a student did not remember information I gave in a previous lesson, I would know how to increase his or her retention in the next lesson”). Similarly, two teachers reported moderately disagreeing with Statement 8 (If one of my students couldn’t do a class assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty).

To answer Research Question 1 with the analyzed data, the MLII improved teachers’ perceptions on their self-efficacy toward music integration as measured by the TES from pretest to posttest. For instance, 15 of 18 teachers (83.33%) had increases in TES scores from pretest to posttest.

Inferential statistics suggested the pretest and posttest mean difference of 4.72 showed statistical significance, $t(17) = 5.60, p < .001$. There was a statistically significant relationship between the TES pretest and posttest scores. The increase in scores had a large effect size. An examination of the postimplementation scores indicated that more than 50.00% of the teachers checked *strongly agree* and *moderately agree* for 9 of 10 statements (90.00%). No teacher checked the response option of *strongly disagree* for any of the 10 statements.

Findings for Research Question 2

Research Question 2 examined the extent to which the MLII changed the teachers' perceptions of their proactive attitudes toward wanting to integrate music into their instruction as measured by the PAS from pretest to posttest. Data for this research question came from 18 kindergarten-Grade 5 teachers. Data were collected with the nine items on the PAS. The items were converted from an ordinal level of measurement to an interval level of measurement to permit the computation of parametric statistics (Brenner, 2013; Hoy et al., 2002; Springer, 2010).

After the conversion, the highest score a teacher could make over the nine items was 36, whereas the lowest score was 9. The interval-level range for the scores was 9 to 36 (Margolis & McCabe, 2006). Table 3 has a presentation of each of 18 teachers' PAS interval-level pretest scores, posttest scores, and the amount of change from pretest to posttest. An examination of Table 3 revealed 15 of 18 teachers (83.33%) had increases in PAS scores from pretest to posttest. For the remaining three teachers, Teacher 7 had the same pretest and posttest scores, and Teachers 10 and 13 decreased their scores from pretest to posttest by 1 point. Likewise, the highest increase (12) was for Teacher 14, and the second highest increase (10) was for Teacher 11. Teacher 12 showed an increase of 9 points.

Additional interval-level descriptive statistics and inferential statistics calculated for Research Question 2 are displayed in Table 4. An examination of Table 4 indicated the range for the pretest scores was 10. The range for the posttest scores was 4. Trends showed the two ranges were far apart with a 6-point difference. Further analysis showed the mean difference between the pretest mean of 29.83 and the posttest mean of 34.39 was 4.56.

Table 3

Proactive Attitude Scale Pretest Score, Posttest Score, and Change Score (N= 18)

Teacher	PAS pretest score	PAS posttest score	Change
1	28	35	7
2	30	34	4
3	28	36	8
4	29	34	5
5	31	34	3
6	32	33	1
7	34	34	0
8	27	33	6
9	30	34	4
10	34	33	-1
11	26	36	10
12	27	36	9
13	33	32	-1
14	24	36	12
15	30	35	6
16	29	34	5
17	33	36	3
18	32	34	2

Note. PAS = Proactive Attitude scale.

Table 4

Descriptive and Inferential Statistics for Proactive Attitude Scale (N = 18)

Test	Minimum	Maximum	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>	<i>df</i>	<i>d</i>
Pretest	24	34	29.83	2.86				
Posttest	32	36	34.39	1.24	5.22	.00	17	1.11

Results of the effect-size calculation yield a Cohen's *d* of 1.11. The value of 1.11 suggested the strength of the difference between the two means was a large practical strength. Inferential statistics suggested the pretest and posttest mean difference of 4.56 showed statistical significance, $t(17) = 5.22$, $p < .001$. Results of the inferential statistical analysis revealed there was a statistically significant relationship between the pretest and posttest PAS scores. There was a significant increase of 4.56 in the PAS scores from pretest to posttest, and the increase was attributed to the effects of the MLII (Creswell & Plano-Clark, 2011).

The final analysis for Research Question 2 displayed nine PAS statements and the four response options for each statement. The response options were *exactly true*, *moderately true*, *barely true*, and *not at all true*. Table 5 presents the number of teachers who checked each response option for each PAS statement after the implementation of the MLII.

An inspection of the findings in Table 5 showed nearly 75% or greater than 75% of the teachers checked the response option of *exactly true* for each of the 10 PAS statements. The highest number of teachers (17) reporting *exactly true* was for Statements 5 ("I take the initiative myself, rather than wait for something to happen") and 7 ("I am

able to choose my own actions, respectively”). The second highest number (16) was for Statement 3 (“I feel responsible for my own life”). Interesting, no teacher checked the response option of *not at all true* for any of the nine statements, whereas only one of the teachers checked *barely true* for Statement 6 (“I am driven by a sense of purpose”).

Table 5

Number of Teachers Who Checked Each Proactive Attitude Scale Statement for Postimplementation (N = 18)

Statement	Not at all true	Barely true	Moderately true	Exactly true
I spend time to identify long-range goals for myself	0	0	4	14
I feel in charge to make things happen	0	0	3	15
I feel responsible for my own life	0	0	2	16
I feel driven by my personal values	0	0	5	13
I take the initiative myself, rather than wait for something to happen	0	0	1	17
I am driven by a sense of purpose	0	1	4	14
I am able to choose my own actions	0	0	1	17
I feel like I am the programmer instead of being programmed	0	0	5	13
There are abundant opportunities that await me	0	0	4	14

To answer Research Question 2 with the findings, the MLII improved teachers’ perceptions of their proactive attitudes toward music integration as measured by the PAS from pretest to posttest. Results showed 15 of 18 teachers (83.33%) had increases in PAS scores from pretest to posttest. The mean difference between the pretest mean of 29.83

and the posttest mean of 34.39 was 4.56. The mean difference showed statistical significance with a large effect size. An examination of the postimplementation PAS scores revealed nearly 75% or greater than 75% of the teachers checked the response option of *exactly true* for each of the 10 PAS statements. No teacher checked the response option of *not at all true* for any of the nine statements.

Findings for Research Question 3

Research Question 3 examined what teachers reported as the strengths and weaknesses of the MLII, and what teachers reported as recommendations to improve the intervention to facilitate student learning. Data for this research question came from six teachers. Data were collected using the six interview questions on the MLII.

Interview Item 1. This item was, “Do you believe the MLII met its overall objectives of providing you useful information and strategies that facilitate the integration of music literacy into your instruction? Briefly, elaborate on your response.” One theme emerged from Interview Item 1 data. The theme was the MLII met its overall objectives of providing useful information and strategies that facilitated the integration of music literacy into the teachers’ reading instruction. All six teachers’ comments suggested the theme. Four comments were reported as examples of interview responses conveying the theme.

Illustrating the theme, a respondent wrote, “Yes, the MLII met the overall objective; further, I used the music as the underpinning to enhance students’ motivation to write and to work on vocabulary assignments.” Likewise, another teacher commented, “Yes, the MLII certainly met the overall objective and kept students highly engaged and interested in their writing activities.” A different teacher responded, “The overall objective were met plus the students appeared more focused and attentive to detail in the

reading instruction.” Another teacher commented,

Yes, the MLII certainly achieved the overall objective; literacy is naturally developed through music and the Bugz show intervention in the MLII definitely helped my students with classroom skills such as rhyme, rhythm, and the literacy standards associated with communication, reading, and writing.

Interview Item 2. This item was, “In priority order, list and, then, briefly comment on the most important strategies or strengths in the MLII.” The most important strength should be listed first, the second most important strategy or strength should be listed second, and so forth?”

One theme emerged from Interview Item 2 data. The theme was, generally, teachers perceived there were different strategies or strengths in the MLII. Teachers seldom reported the same type of strategy or strength.

Table 6 presents the most important, second most important, and third most important strategies or strengths reported by each of the teachers. Under the category of most important strength or strategy in Column 2, none of six teachers listed the same strategy or strength as being the most important. The most important strategies or strengths reported in Table 6 were (a) MLII facilitated the students to understand music benefits such that they could relate music to the classroom literacy activities; (b) quality of the content of the music and instruction in the MLII was clear and excellent; (c) repetition strategy associated with the music helped students to retain the knowledge conveyed in the literacy activities; (d) beat of the music facilitated students to be more focused, interested, and engaged in the literacy activities; (e) auditory and harmony features of the music promoted students’ concentration on the literacy materials; and (f) singing and dancing to the music helped students’ oral language development.

Table 6

Teachers' Ratings on the Most Important, Second Most Important, and Third Most Important Music Literacy Integration Intervention Strength (N= 6)

Teacher	Most important	2nd most important	3rd most important
1	Understand music benefits	Match melody to lyric	Singing while moving
2	Quality of the content	Foster engagement	Facilitate time on task
3	Repetition	Beat	Quality of the content
4	Beat	Pitch	Singing while moving
5	Auditory elements & harmony	Musical canons	No response
6	Oral language development	Mathematics	Vocabulary

Similarly, an inspection of the second most important strategy or strength in Column 3 revealed each of six teachers' perceptions differed in this category. However, the data showed Teacher 4 reported the beat of the music as being the most important strategy or strength, whereas Teacher 3 reported the beat of the music as being the second most important strategy or strength.

Likewise, an examination of the third most important strategy or strength reported by Teacher 1 and Teacher 4 showed singing while moving helped to foster students' engagement and interest in the literacy activities. Teacher 5 did not report a third most important strength or strategy. Teacher 2 perceived the third most important was the MLII focus on facilitating time on task, whereas Teacher 6 responded the MLII enhanced the vocabulary of the young students. Teacher 3 responded the third most important

strategy or strength of the MLII was the quality of the content of the music and instruction in the MLII was excellent. Interesting, Teacher 3's response in Column 4 was the same as Teacher 2's response in Column 2 concerning the most important strategy or strength.

Interview Item 3. This item was, "In priority order, list and, then, briefly comment on the least important strategies or strengths of the MLII?" One theme emerged from Interview Item 3 data. The theme was most teachers perceived there were no least important strengths or strategies. Four teachers reported all strategies and strengths were appropriate for reading instruction. Relative to the remaining two teachers, one teacher said, "The MLII materials and resources should be organized to reflect the ability levels of the students." The other teacher responded, "There should be more time for the MLII activities in the classroom instruction."

Interview Item 4. This item was, "In your opinion, how can we improve the MLII so future teachers and students can benefit from the intervention?" Two themes emerged from Interview Item 4 data. One theme was the music should be integrated with classroom reading instruction on a more frequent basis. This theme was reflected in the responses of two teachers. For instance, reflecting this theme, one teacher wrote, "I truly believe music should be part of the classroom literacy instruction, and there should be a major focus on integrating music and literacy instruction at least once each week."

The second theme was music should be integrated into the mathematics instruction. Two teachers echoed this theme. Representative of this theme, a teacher responded, "I sincerely believe the music in the MLII should be shared with the mathematics department; they should be encouraged to integrate the musical activities in the curriculum guides."

For the remaining two teachers, one teacher commented, “The MLII materials and resources should be labeled by students’ ability levels; the content of the MLII materials and resources should be visible on the labels.” The other teacher stated, “There should be monthly communications between the music teacher and the classroom teachers.”

Interview Item 5. This item was, “What are your perceptions on teaching the strategies in the MLII to your students, and do you perceive teaching these strategies will result in improved learning for your students?” Two themes emerged from Interview Item 5 data.

The first theme was the MLII strategies should be taught to all students. This theme was evident in the comments of all six teachers. Suggesting the first theme, one teacher reported, “All students should be taught to read musical lyrics in class and sing as they read, write, and work on literacy activities.” Similarly, another teacher responded, “All research-based music supported instruction should be integrated in classroom instruction, such that all students could improve their literacy skills.”

The second theme was the MLII strategies will result in improved learning for all students. Similarly, the second theme was evident in the comments of all six teachers. Suggestive of the second theme, a teacher said, “Music integrated into literacy instruction improved students’ learning because the music helped the students become more interested and engaged in the reading instruction.” Likewise, another teacher commented, “The MLII strategies resulted in improved learning for the students and made them more relaxed and more anxious to learn.”

Interview Item 6. I This item was, “What other comments or suggestions do you have about the MLII that are not stated above?” No themes evolved from Interview Item 6 data. Each teacher shared one suggestion. The six suggestions were (a) integrate music

into the mathematics block, (b) music would be great to help students learn multiplication facts, (c) music is important as an outlet for students to express themselves, (d) music could be used to reinforce good character traits in students, and (e) music could be used to help students detect spelling patterns.

To answer Research Question 3 with the analyzed data from Interview Items 1 to 6, teachers reported the MLII met its overall objectives of providing useful information and strategies that facilitated the integration of music literacy into the reading instruction. They identified the most important MLII strategies or strengths as follows: (a) MLII facilitated the students to understand the music such that they could relate it to the classroom literacy activities; (b) quality of the content of the music and instruction in the MLII was clear and excellent; (c) repetition strategy associated with the music helped students to retain the knowledge conveyed in the literacy activities; (d) beat of the music facilitated students to be more focused, interested, and engaged in the literacy activities; (e) auditory features of the music promoted students' concentration on the literacy materials; and (f) singing and dancing to the music helped students' oral language development.

Teachers reported there were no least important MLII strategies or strengths. All strategies and strengths were appropriate for classroom reading instruction. Teachers reported music should be integrated with classroom reading instruction on a more frequent basis as well as integrated into the mathematics instruction. They believed the MLII music strategies should be taught to all students because the strategies resulted in improved learning for all students.

Findings for Research Question 4

Research Question 4 examined the extent to which the qualitative data in

Research Question 3 confirmed the quantitative data in Research Questions 1 and 2.

Primary findings for Research Question 1. The quantitative findings for Research Question 1 suggested the MLII improved teachers' perceptions on their self-efficacy toward music integration as measured by the TES from pretest to posttest. The majority of the teachers had increases in TES scores from pretest to posttest. Inferential statistics suggested the pretest and posttest mean difference showed statistical significance. The increase in scores had a large effect size.

Primary findings for Research Question 2. The quantitative findings for Research Question 2 indicated the MLII improved teachers' perceptions of their proactive attitudes toward music integration as measured by the PAS from pretest to posttest. Results showed the majority of teachers had increases in PAS scores from pretest to posttest. The mean difference between the pretest mean and posttest mean showed statistical significance with a large effect size.

Primary findings for Research Question 3. The qualitative findings for Research Question 3 showed the perception was the MLII met its overall objectives of providing useful information and strategies that facilitated the integration of music literacy into the reading instruction. There appeared to be no least important MLII strategies or strengths. All strategies or strengths were deemed to be appropriate for reading instruction. Suggestions were made that music should be integrated with classroom reading instruction on a more frequent basis as well as integrated into the mathematics instruction. Additionally, it was perceived the MLII music strategies should be taught to all students because the strategies resulted in improved learning for all students.

Convergence of the findings. The qualitative and quantitative findings showed

convergence. Qualitative findings were consistent with the quantitative findings. For instance, the qualitative data in Research Questions 1 and 2 showed statistically significant increases in the TES and PAS scores from pretest to posttest with large effect sizes. The qualitative data in Research Question 3 suggested teachers perceived the MLII met its overall objectives of providing useful information and strategies that facilitated the integration of music literacy into the reading instruction. Teachers reported there were no least important MLII strategies or strengths. All strategies and strengths were appropriate for classroom reading instruction. Teachers reported music should be integrated with classroom reading instruction on a more frequent basis as well as integrated into the mathematics instruction.

Chapter 5: Discussion

Introduction

The mixed-methods study was designed to investigate whether the MLII had a measurable effect on teachers' self-efficacy and proactive attitudes toward music integration into the reading instruction. Presented is a summary of the results by research question and linkage of the findings to relevant research studies. Implications from the findings are provided as well as recommendations for future researchers who wish to extend this study. Limitations to internal and external validities are discussed, and conclusions are drawn from the findings.

Overview of the Study

With the adoption of the common core state standards, pressure to raise the achievement levels of young learners was intense. Classroom teachers were under scrutiny to teach lessons with higher levels of thinking and much rigor in each lesson. Teachers had a preponderance to eliminate or ignore entirely those arts-enriched lessons that would benefit students. The reason for justifying this action was associated with the efficacy of the classroom teacher toward music integration into the literacy curriculum. The purpose of the study was to examine the effects of a MLII on the self-efficacy and proactiveness of teachers at a small elementary school in south Florida toward integration of music into the reading instruction.

The following three data-collection instruments were implemented: The TES was used to collect pretest and posttest data for Research Question 1, the PAS was used to collect the same type of data for Research Question 2, and the TII was used to collect only postimplementation data for Research Question 3. The triangulated data from the three instruments were used to respond to Research Question 4.

Teacher participants taught 272 students in kindergarten-Grade 5. There was a convenience sample of 20 teachers for the survey part of the study. Only 18 teachers returned completed surveys. The sample size for the interviews was six teachers randomly selected from 18 teachers. The study used a the generic, concurrent, mixed-methods research design for the four research questions. Specific designs to guide data collection and data analysis were the single-group pretest and posttest design for Research Questions 1 and 2 and the descriptive-interview design for Research Question 3.

Quantitative data for the Research Questions 1 and 2 were analyzed using the Statistical Package for Social Sciences, Version 22.0. Descriptive statistics calculated included pretest mean, posttest mean, standard deviation, and effect size indicator. Major inferential statistical model for the two research questions was the *t* test for paired samples. Qualitative data analysis for Research Question 3 followed a modified version of the constant-comparative, data-analysis procedure with a focus on identifying and using common themes. Triangulated survey and interview data were used to respond to Research Question 4. The following research questions guided the study:

1. Does the MLII change the teachers' overall self-efficacy toward music integration as measured by the TES from pretest to posttest?

2. Does the MLII change the teachers' perceptions of their proactiveness toward wanting to integrate music into their instruction as measured by the PAS from pretest to posttest?

3. What do the teachers report as the strengths and weaknesses of the MLII, and what do teachers report as recommendations to improve the intervention to facilitate student learning better?

4. To what extent do the qualitative data in Research Question 3 confirm the quantitative data in Research Questions 1 and 2?

Discussion of Findings and Linkage to Relevant Research

Not surprising, the quantitative and qualitative findings for the applied dissertation study were in agreement that the MLII increased teachers' overall self-efficacy and proactive attitudes toward integrating music in the reading instruction. For instance, the primary findings from Research Question 1 showed the MLII improved teachers' perceptions on their self-efficacy toward music integration as measured by the TES from pretest to posttest. The majority of 18 teachers had increases in TES scores from pretest to posttest. Inferential statistics suggested the pretest and posttest mean difference showed statistical significance. There was a statistically significant relationship between the TES pretest and posttest scores. The increase in scores had a large effect size. An examination of the postimplementation scores indicated more than half of the teachers checked *strongly agree* and *moderately agree* for 90% of the TES statements. No teacher checked the response option of *strongly disagree* for any of the 10 statements.

The primary findings for Research Question 2 suggested the MLII improved teachers' perceptions of their proactive attitudes toward music integration as measured by the PAS from pretest to posttest. Results showed the most of the teachers had increases in PAS scores from pretest to posttest. The mean difference between the pretest mean showed statistical significance with a large effect size. An examination of the PAS postimplementation scores revealed most teachers checked the response option of *exactly true* for each of the nine PAS statements. No teacher checked the response option of *not at all true* for any of the nine statements.

The primary findings for Research Question 3 suggested that teachers perceived the MLII met its overall objectives of providing useful information and strategies that facilitated the integration of music literacy into the reading instruction. They identified the most important MLII strategies or strengths such as the MLII facilitated the students to understand the music and students could relate it to the classroom literacy activities.

Teachers reported there were no least important MLII strategies or strengths. All strategies and strengths were appropriate for classroom reading instruction. Teachers reported music should be integrated with classroom reading instruction on a more frequent basis as well as integrated into the mathematics instruction. They believed the MLII music strategies should be taught to all students because the strategies resulted in improved learning for all students. The qualitative and quantitative findings showed convergence in Research Question 4. Qualitative findings were consistent with the quantitative findings.

The primary findings from Research Questions 1 to 3 showed support for Bruner's (1977) theory of cognitive development. The theory suggested music experiences increased the mental picture capacity of a student with musical movement, body percussion, and songs. When teachers had high self-efficacy and proactive attitudes toward integration of music in the reading curriculum, they tended to integrate elements of music in the instruction more than teachers who did not have these traits (Cooper, 2010). As a result, rhythm, combined with reading, chants, and prose, stimulated and helped students construct and organize sounds into organized time and space in the classrooms. According to Cooper (2010), the students were more focused on reading skills in the lesson and had increased reading scores and enhanced reading motivation.

Chemi (2014) suggested the theory of cognitive development revealed sound in

song and the foundations of sound in reading provided at-risk students with better reading skills, increased memory, and increased attention span. Singing and reading could be combined to boost brain development, increase awareness of phonemes, and create success with melodic patterns of language.

Teachers acquired good skills and strategies through their participation in the MLII professional development provided by this researcher, and the musical strategies enhanced their lessons and aided them in improving the reading skills of the students. Interview responses from teachers suggested all MLII strategies were effective in improving the reading skills of students. Teachers benefited from the rhythm patterns and fluency noted in the chants, poems, echo stories, and call-and-response nursery rhymes that often supported the element of prosody and fluency in reading.

Findings in Research Questions 1 to 3 were consistent with the research conducted in a kindergarten music class that revealed music skills learned in a performance class were copied and transferred to frequency and phonemic awareness tasks in the general education classroom (Register et al., 2007). In this study, according to Register et al. (2007), students readily showed more progress utilizing music skills that transferred over to phonemic skills than students who did not have music lessons to learn these skills. Phonemic awareness was significantly correlated with first-grade fluency scores in memory retention (Branscome, 2012; Register et al., 2007).

There was support in the applied dissertation study for other studies. Perceptual evidence from Research Question 1 revealed teachers' overall self-efficacy increased from pretest to posttest as a result of their participation in the MLII. Music education can stimulate creativity, build communications skills, promote teamwork, and engender the love of learning in all subject areas. After participation in the MLII, teachers responded

they devoted more time to identify long-range goals, felt in charge to make things happen, felt responsible for their life, were driven by personal values, and took more initiatives to improve students' reading skills.

In addition, self-efficacy results in the applied dissertation study showed more teachers perceived being driven by a sense of purpose and were able to choose their own actions and there were abundant opportunities that awaited them. The music integrated into the reading instruction contributed to students' understanding of stories and sequence. Further, songs and chants reinforced the rhythmic syllabication of phonemes (Mark, 2012). Rhythmic sequences in poetry and rhyme such as nursery rhymes involve the presence of a steady beat (i.e., the musical beat). Music instruction supported the acquisition of reading skills (May, 2013).

Randall (2012) asserted early childhood teachers need to be aware of how the blending of literacy and music activities could occur and to have the musical knowledge and skills needed to promote musical confidence when teaching. Agreeing with Randall, Rinne, Gregory, Yarmolinskaya, and Hardiman (2011) added it was by this very experience that creativity was invented, developed, and utilized in the general education classrooms.

Perceptual evidence in Research Question 2 revealed teachers' proactive attitudes toward music integration in classroom instruction increased from pretest to posttest as a result of their participation in the MLII. Economidou, Chrysostomou, and Socratous, (2011) asserted music education stimulated creativity, fostered communications skills, promoted teamwork, engendered the love of learning in all subject areas for young students, and improved the attitudes of their teachers. Cox and Stevens (2010) added utilizing literature-rich resources designed to engage students to stimulate oral production

of sound and awareness of phonemes was supportive of good reading fluency.

Consistent with the premise of Economidou et al. (2011) and Cox and Stevens (2010), after their participation in the MLII, more teachers reported the academic knowledge and reading skills a student learned were not primarily related to family background. If students were disciplined at home, they were likely to accept discipline in the school, teachers could get through to the most difficult students, and teachers were not limited in what they could achieve with students.

Other perceptual evidence in Research Questions 2 showed teachers believed home environment was a large influence on students' achievement, teachers knew how to increase students' retention in the lesson, and teachers were assured they knew some techniques to redirect noisy students quickly. After their participation in the MLII, more teachers responded they experienced fewer misbehaviors from students and more students were engaged in the lesson and appeared to enjoy the reading assignments. Holmes and VanAlstine (2014) suggested, with music integration in the reading instruction, teachers improved listening abilities in young learners by using focused sound patterns taught within a music context and integrated with their teaching. The ability to identify and recall these specifics in language and reading concepts suggested musical sounds aid in the development of tonal discrimination and aural sensory ability in young learners (Hallam, 2010).

Findings in Research Question 3 were reflected in the findings in Research Questions 1 and 2 and showed the MLII met its overall objectives of providing useful information and strategies that facilitated the integration of music literacy into the reading instruction. All MLII strategies or strengths were deemed to be appropriate for reading instruction. Teachers responded they desired for music to be integrated with classroom

reading instruction on a more frequent basis as well as integrated into the mathematics instruction. The qualitative and quantitative findings showed convergence in Research Question 4. Qualitative findings were consistent with the quantitative findings.

Implications

The following were the implications from this study:

1. One implication was, because this study and other studies by Pergola and Ober (2012), May (2013), and Willis (2011) revealed music had a positive effect on young students' reading abilities, school leaders should reinvest in music education. If a school could not afford to hire a music teacher to teach music for intrinsic value, reading teachers and classroom teachers should take advantage of the extrinsic value of music by integrating music into the reading curriculum to enhance students' reading achievement.

2. Instead of viewing music as a problem or a barrier to student success, music integration into instruction should be viewed as a solution. School leaders should consider sending classroom and reading teachers to professional development on the integration of music in the reading curriculum.

3. Educators must always be aware of the importance of introducing music in the lesson. The importance of musical exposure is it connects neurons in the brain that are involved in cognitive functions such as attention, memory, motivation, and learning (Mark, 2012). Students learn concepts taught through jingles and songs; jingles and songs facilitate students to retain information, phonemic awareness, fluency, comprehension strategies, and listening skills.

4. For years, research about education was conducted by researchers, not teachers, but, in the past 2 decades, there has been a growing trend for teachers to research their own work (Mark, 2012). Most teachers analyze their work on some level every day by

asking themselves questions such as “Did the musical strategies facilitate students learning what I wanted them to in the reading lesson?” and “How can I teach this reading assignment more effectively tomorrow using different musical strategies?” But as resources are not usually set aside to support more formal inquiries, most teachers do not pursue these questions further. Teacher education programs have opportunities to increase the amount and effectiveness of action research conducted in classrooms by preparing preservice teachers to engage in such research before they enter the classroom. When preservice teachers are educated about and participate in action research, it raises awareness of the critical and transformative aspects of teaching and learning. There is certainly a need for more action research on the integration of music in the reading instruction.

5. Students are not simply motivated to read or not motivated to read, but they are, instead, motivated to read for different purposes at different times (Anderson, 2014). As each class and each student is different, teachers must take the time each year and even throughout the same school year to determine what activities, songs, dances, and other related experiences motivate their particular group of students to do their best on reading assignments. It is especially important that teachers take advantage of opportunities to motivate students to read. By knowing students’ needs and interests, teachers could more easily provide a variety of activities, songs, dances, and meaningful choices so each student was more likely to become engaged in and enthusiastic about reading at some point during reading instruction.

6. Perhaps, the most important implication was teachers took time to listen to their students and talk one-on-one with them whenever possible. Taking this time showed students teachers cared about them and wanted them to succeed in classroom reading

tasks.

Limitations and Delimitations

This section describes the limitations related to internal validity and delimitations (limitations related to external validity). Limitations could have impacted the quality of the findings and the ability to generalize the findings beyond the study's research setting. This researcher explains her strategies to reduce the effects of the limitations threatening internal validity.

Limitations to internal validity. There were several limitations to the study that associated with internal validity. Internal validity is the extent to which extraneous variables are controlled by the researcher so any observed effects can be attributed to the independent variable (Lodico, Spaulding, & Voegtle, 2010). In this study, the independent variable was the MLII. The MLII treatment period of 9 weeks may not have allowed for a large statistically significant difference between the pretest and posttest means on the quantitative dependent variables of the TES and the PAS scores. A longer intervention treatment period beyond 9 weeks may have caused more hours of exposure for the teacher participants to the MLII treatment, resulting in a better significant difference between pretest and posttest means (Lodico et al., 2010).

Another threat to internal validity was the single-group, pretest and posttest research design did not control for all sources of internal invalidity. Due to the elementary school's administrative constraints and the small number of teachers at the school, the use of a two-group comparison design was not possible in the study. The single-group, pretest and posttest research design had threats to internal validity such as history and instrumentation. History effects were related to 18 elementary school teachers' learning music literacy knowledge and music literacy integration best practices

for their classrooms at times other than during the 9-week treatment period. This threat to internal validity was reduced through the researcher's close involvement and monitoring of all activities in the study. For instance, the researcher was involved in the survey and interview administrations to ensure these instruments were administered properly and administration conditions did not cause anxiety or stress in the participants, which could have resulted in them not being co-operative in the study.

Another threat to internal validity was the TES, the PAS, and TII were self-report instruments (Gall et al., 2007). If teachers did not accurately report their perceptions and attitudes, then, these self-report instruments' findings did not reflect teachers' true perceptions and attitudes. Additionally, there was a potential for teachers to respond emotionally due to self-reporting. The researcher minimized this threat by assuring teachers in the directions on the instruments responses remained confidential and asking teachers to respond honestly to all survey and interview items (Gall et al., 2007).

A limitation to internal validity was related to response bias of surveys (Springer, 2010). Response bias might have affected the return rate of the surveys (Creswell & Plano-Clark, 2011). Response bias is a type of cognitive bias that can affect the results of a statistical survey such as the TES and the PAS. The cognitive bias is evident if respondents answer questions because they differ in willingness to respond to the survey or differ in the way they think the questioner wants them to answer, rather than according to their true beliefs (Creswell & Plano-Clark, 2011). As an example, 18 teachers who responded to the survey in the study might have been more inclined to respond because of enthusiasm, previous professional development in music literacy, or outstanding university-level courses for guiding students in the area of music literacy. The two teachers who did not respond to the survey might have been less inclined to respond

because of minimum enthusiasm, little professional development in music literacy, and weak or no university-level courses that prepared them to guide students in the area of music literacy.

It was also important to clarify the bias the researcher may have caused in the study. Bias refers to ways in which data collection or analysis are distorted by the researcher's theory, value, or preconceptions (McMillan, 2008). The researcher served as the music specialist and arts educator in the school. She worked closely with the study's teacher participants and their 272 students. It may have been impossible for the researcher to eliminate any preconceptions completely regarding teachers and students; however, it was necessary to understand and be aware of potential biases. Self-reflection aided in creating an honest response to the issue (McMillan, 2008). A final threat to the study was the reliability of the instruments. Although all primary instruments (i.e., TES and PAS) were carefully selected to have acceptable validity and reliability, there still existed a potential for improper interpretation of the items on the instruments that could have skewed the results (Creswell & Plano-Clark, 2011). To control for the threats, the researcher closely supervised the research project, collected the pretest and posttest data, monitored the project activities closely, and analyzed all data.

Delimitations. There were delimitations to the study that could have impacted external validity. Delimitations were the extent to which the results of the research study could be generalized to elementary teachers beyond teachers at the target elementary school (Creswell, 2008). The number of teacher participants was limited to 20 teachers because of the small number of teachers at the school. Of 20 teachers, 18 teachers returned completed surveys. The small participant sample may not have yielded results that were representative of the larger population of elementary school teachers

throughout the school district. This delimitation may also have limited statistical power (Springer, 2010).

A delimitation was the Hawthorne effect. The Hawthorne effect might have limited the study's generalizability by causing teachers to respond in a way they believed the researcher was expecting simply because they were participants in the study. The study was limited to one elementary school in south Florida that was one of the smallest schools in the school district. The school was also a magnet school, and the curriculum emphasized the fundamentals (i.e., back to basics). Because of these limitations, readers of the study should be cautious when trying to generalize the study's findings to research settings that do not closely approximate the elementary school research setting for this study.

Recommendations for Future Research

There are important recommendations for future researchers who desire to replicate or extend the study. The following recommendations evolved from the limitations in the study:

1. The design for Research Questions 1 and 2 was the single-group, pretest and posttest experimental design. The design guided data collection and data analysis with 18 elementary school teachers (Johnson & Christensen, 2011). There was no comparison group of elementary school teachers. Future researchers could use a comparison group of demographically similar teachers who were not exposed to the MLII strategies.

The experimental and control groups of teacher participants could be compared on TES and PAS scores. Creswell and Plano-Clark (2011) reported two-group studies tend to be more powerful than one-group studies. Similarly, because two-group true experimental designs are challenging to conduct in an elementary school setting due to

the requirements of random selection of a sample of teachers from a defined population and random assignment of teachers to two groups, the nonequivalent control group design is recommended for interested researchers. In the nonequivalent control group design, as stated by Springer (2010), intact groups of teachers from one or two demographically similar schools in the school district could be used as the comparison groups as long as the two groups of teachers are similar on key variables such as gender, ethnicity, years of experience, and type of degree. Nonequivalent control studies are quasi-experimental studies commonly used in the public school system and in applied research (Lodico et al., 2010).

2. This researcher collected only perceptual data from 18 elementary school teachers about their self-efficacy and proactive attitudes toward music integration into reading instruction. There were additional important people in the school and the community with knowledge on this topic, including students, counselors, parents, volunteers, and school administrators. The key stakeholders could be surveyed with a modified version of the TES and the PAS. They could be interviewed and journaled to obtain their insights into why some teachers are reluctant and some teachers are not reluctant to integrate music literacy in the elementary school curriculum. The field notes and qualitative data would help confirm, refute, or explain the teachers' perceptual data on music literacy integration.

3. In the applied dissertation study, because of the small sample size of 18 teachers, there were no research questions to investigate the differences in demographic subgroups (e.g., gender, ethnicity, highest degree obtained, and years of teaching experience) for the participants on the TES and PAS scores. Future researchers could examine the differences, for example, to determine if there were statistically significant

differences between the perceptual data of the demographic subgroups and the magnitude of the differences based on the Cohen's *d* effect size indicators (Creswell, 2008).

4. The applied dissertation study had no classroom observation component. Additional studies might add an observation component with reliable classroom observation instruments targeting the teachers and students. Future researchers could observe students' behaviors while the students were in the classrooms learning the reading instruction with the music integration strategies. The purpose of the observational data would be to observe and document students' levels of motivation, enthusiasm, time on task, and fluency development. Similarly, teachers could be observed to document the effectiveness of their use of the different MLII strategies, enthusiasm in conveying the strategies, and the amount of time devoted to each strategy.

5. The applied dissertation study did not have research questions to investigate the fidelity of implementation of the MLII. Future researchers might replicate the study and add research questions (e.g., Was the MLII implemented as it was designed to be implemented based on the methodology in Chapter 3 and the time line in the appendices?) to confirm the fidelity of implementation. An elementary school teacher not associated with the study, school district elementary school co-ordinator, or school administrator could monitor the implementation of the MLII two times each week of the 9-week implementation period to determine if the activities were implemented as designed to be implemented in Chapter 3 of the applied dissertation study and the time line in Appendix D. A fidelity component would enhance the credibility of the findings.

6. The applied dissertation study had a brief treatment period of 9 weeks of MLII activities. Future studies could have longer treatment periods such as 6 months or one school year. A longer treatment period might provide the elementary school teachers and

their students with additional exposure to the MLII and might add more validity to the results. The findings would be valuable to school board members, school administrators, and school district-level supervisors on funding and expanding the MLII beyond the 9-week implementation period. Livingston (2014) asserted more research studies should have a longer intervention period to document evidence of the effectiveness of long-term exposure to an intervention.

7. More studies into practices employed by outstanding elementary school teachers who were successful in implementing the MLII activities in the reading instruction and, as a result, had young readers with high levels of fluency development. The studies would be helpful for beginning teachers with weak pedagogical skills and poor classroom management skills. The studies should be productive for teachers with many years of service who were reluctant to implement new and innovative strategies in the classrooms because of limited professional development and weak college courses that inadequately prepared them to teach literacy skills to young students. The outstanding teachers' best practices using music integration into the instruction could be audiotaped and videotaped. These data could be used by school district-level trainers in professional development sessions and highlighted by teacher education professors in the college methods of teaching courses. The best practices could be shared with all elementary school teachers at staff meetings, parent and teacher conferences, and conferences hosted by professional educational associations.

8. The applied dissertation study focused on only one intervention (i.e., the MLII). Future researchers could compare different types of elementary school music integration interventions that were in use throughout the school district and state. The comparison would help determine the most effective intervention to improve reading instruction and

reading fluency development (Killian et al., 2013). The strategies in the interventions could be identified and shared with other school districts struggling with students' reading fluency.

9. Studies that include outcome measures for music integration into reading instruction other than teachers' self-efficacy and teachers' proactive attitudes toward music integration into the curriculum could be conducted. Examples of the outcome measures could be students' school attendance, reading standardized tests scores, time on task, reading motivation, and classroom misbehaviors.

Conclusion

This researcher believes educators can plant the seeds of change in education one class at a time. This study was an effort to effect change in the elementary schools. Even introducing lessons or brief exercises in the elementary school classrooms that frame musicality as an issue, rather than a given, and clearly communicates a valuing of students' own musical practices would be a good start at making sure music education is inclusive, rather than exclusive.

Educators must consider their responsibility in offering a well-rounded education (Battersby, 2014). Young students of all ages are curious and seek ways in which to express themselves. Educators want students prepared for the global society and to possess skills that are adequate to communicate, collaborate, and read with others. It is these skills that are nurtured as students participate in music integrated into a reading curriculum such as what happened in the MLII.

In preparation for this study in the literature review, there was evidence student participation in reading instruction integrated with music had nonacademic benefits (e.g., increased self-esteem) as well as cognitive benefits. Killian et al. (2013) asserted music

integration was viewed as a possible solution for increasing test scores in mathematics and reading. In the applied dissertation study, teachers perceived students improved their reading skills and, from a musical perspective, the students acquired an extensive musical vocabulary. They learned about using sound expressively and listening perceptively. They practiced their vocal and instrumental technique. Students were a part of a musical community that shared, compromised, helped, and supported one another. They realized everyone had unique musical talents (Willis, 2011).

Students realized success and joy in these experiences, thereby, deepening their love of music and reading. They discovered connections between music and reading that could enhance their learning for a lifetime. School leaders and educators should be careful not to measure music's importance by only its potential effects upon achievement in other content areas (Mark & Madura, 2010). Music should be included as a part of the core curriculum because the skills and concepts learned are valuable on their own. It is only through music that the aesthetic nature as an art form can be experienced.

Music should not be viewed as only a supplemental instructional strategy. With knowledge that music may improve reading ability as well as the fact that many students are struggling to learn how to read, school leaders should ensure music has a place in the U.S. public school curriculum. Not only were the students in this study having fun and were engaged in music-infused reading lessons, but also teachers were creating phonological awareness and improving reading ability. Music was clearly part of the solution, not the problem.

As an experienced music educator, this researcher understands the importance of providing a variety of activities and meaningful choices that encourage all students to enjoy reading. In the midst of a fast-paced curriculum, this researcher knows the value of

providing time each day for students to enjoy the quiet, magical experience of choosing and reading a book for fun without worksheets, strategy lessons, or required responses.

Most important, the researcher knows from her experiences even small changes can make a big difference in reading motivation, in academic success, and in the lives of students.

References

- Anderson, W. E. (2014). *Introducing music into the elementary school classroom* (9th ed.). Farmington Hills, MI: Cengage Learning.
- Asbury, C., & Rich, B. (Eds.). (2008). *Learning, arts, and the brain: The Dana Consortium Report on Arts and Cognition*. New York, NY: Dana Press.
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, *52*, 1-26.
- Battersby, S. L. (2014). Preservice classroom teachers' preconceived attitudes, confidence, beliefs, and self-efficacy toward integrating music in the elementary curriculum. *Applications of Research in Music Education*, *32*(2), 52-59. doi:10.1177/8755123314521033
- Benedict, C. (2012). Utopian visions: Emancipatory possibilities. *National Society for the Study of Education*, *111*(1), 146-159.
- Bosacki, S., Murray, N. F., Pollon, D. E., & Elliott, A. (2006). Sounds good to me: Canadian children's perceptions of popular music. *Music Education Research*, *8*, 359-385. doi:10.1080/1463800600957495
- Branscome, E. (2012). The impact of education reform on music education: Paradigm shifts in music education curriculum, advocacy, and philosophy from sputnik to race to the top. *Arts Education Policy Review*, *113*(3), 112-118. doi:10.1080/10632913.2012.687341
- Brenner, K. (2013). *The relationship between elementary general education teachers and teachers' self-efficacy and attitude toward changed* (Doctoral dissertation). Retrieved from ProQuest database. (UMI No. 3562113)
- Bruner, J. S. (1964). Course on cognitive growth. *American Psychologist*, *19*, 1-15. doi:

10.1037/h0044160

Bruner, J. S. (1977). *The process of education*. Cambridge, MA: Harvard University Press.

Chemi, T. (2014). The artful teacher: A conceptual model for arts integration in schools. *Studies in Art Education: A Journal of Issues and Research*, 56, 370-383.

Retrieved from [http://www.vbn.aau.dk/en/publications/the-artful-teacher\(1f250f4aeb8d-44f5-80a0-5dde1bcd6e44\).html](http://www.vbn.aau.dk/en/publications/the-artful-teacher(1f250f4aeb8d-44f5-80a0-5dde1bcd6e44).html)

Conway, C. M. (2012). Ten years later: Teachers reflect on perceptions of beginning teachers, their mentors, and administrator regarding preservice music teacher preparation. *Journal of Research in Music Education*, 60, 324-338. doi:10.1177/0022429412453601

Cooper, S. (2010). Lighting up the brain with songs and stories. *General Music Today*, 23(2), 24-30.

Cox, G., & Stevens, R. (2010). *The origins and foundations of music education: Cross cultural historical studies of music in compulsory schooling*. New York, NY: Continuum International.

Creswell, J. (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, NJ: Pearson/Merrill Prentice-Hall.

Creswell, J., & Plano-Clark, V. (2011). *Designing and conducting mixed-method research*. Thousand Oaks, CA: Sage.

Cummins, J. (2007). Pedagogies for the poor? Realigning reading instruction for low-income students with scientifically based reading research. *Educational Researchers*, 36, 564-572.

- Darrow, A.-A. (2008). Music and literacy. *General Music Today*, 21(32), 32-34. doi:10.1177/1048371308316411
- Dellinger, A. B., Bobbet, J. J., Olivier, D. F., & Ellett, C. D. (2008). Measuring teachers' self-efficacy beliefs: Development and use of the TEBS-Self. *Teaching and Teacher Education*, 24, 751-766. doi:10.1016/j.tate.2007/02.010
- Dineen, R., & Collins, E. (2006). Killing the goose: Conflicts between pedagogy and politics in the delivery of a creative education. *Journal of Art and Design*, 24(1), 43-52.
- Economidou, N., Chrysostomou, S., & Socratous, H. (2011). Music learning in the early years: Interdisciplinary approaches based on multiple intelligences. *Journal for Learning Through the Arts*, 7(1), 1-14. Retrieved from <http://www.files.eric.ed.gov/fulltext/EJ985607.pdf>
- Fisher, D. M. (2001). The intersection between music and early literacy instruction: Listening to literacy! *Reading Improvement*, 38(3), 106-115.
- Gall, M., Borg, W., & Gall, J. (2007). *Educational research* (8th ed.). Boston, MA: Pearson.
- Garvis, S. (2012). You are my sunshine my only sunshine: Current music activities in kindergarten classrooms in Queensland, Australia. *Australian Journal of Music Education*, 2012(1), 14-21.
- Garvis, S., & Pendergast, D. (2011). An investigation of early childhood teacher self-efficacy beliefs in the teaching of arts education. *International Journal of Education and the Arts*, 12(9), 1-16.
- Gee, C. B. (2004). Spirit, mind, and body: Arts education the redeemer. In E. Eisner & M. Day (Eds.), *Handbook of research and policy in art education* (pp. 9-22).

Mahwah, NJ: Lawrence Erlbaum.

- Giles, A. M., & Frego, J. D. (2004). An inventory of music activities used by elementary classroom teachers: An exploratory study. *Update: Applications of Research in Music Education, 22*(2), 13-22.
- Goleman, D. (2006). *Social intelligence*. New York, NY: Bantam Dell.
- Gromko, J. E. (2005). The effect of music instruction on phonemic awareness in beginning readers. *Journal of Research in Music Education, 53*, 199-209.
- Gromko, J. E., Hansen, D., Tortora, A. H., Higgins, D., & Boccia, E. (2009). Effects of temporal sequencing and auditory discrimination on children's memory patterns for tones, numbers, and nonsense words. *Journal of Research in Music Education, 57*, 140-151. doi:10.1177/0022429409335891
- Hallam, S. (2010). The power of music: Its impact on the intellectual, social, and personal development of children and young people. *International Journal of Music Education, 49*, 269-289. doi:10.1177/0255761410370658
- Hansen, D., Bernstorff, E., & Stuber, G. M. (2007). *The music and literacy connection*. Reston, VA: The National Association for Music Education.
- Hansen, D., & Milligan, S. A. (2012). Aural skills: At the juncture of research in early reading and music literacy. *Music Educators Journal, 99*(75), 75-80. doi:10.1177/0027432112462894
- Herrera, L., Lorenzo, O., Defior, S., Fernandez-Smith, G., & Costa-Giomi, E. (2011). Effects of phonological and musical training on the reading readiness of native and foreign Spanish-speaking children. *Psychology of Music, 39*(1), 68-81.
- Herrold, R. M. (2001). *New approaches to elementary classroom music* (3rd ed.). Upper Saddle River, NJ: Prentice-Hall.

- Holmes, A., & VanAlstine, S. (2014). From I to international: Toward international mindedness through interdisciplinary music instruction. *Music Educators Journal*, *101*(2), 45-50. doi:10.1177/0027432114556182
- Hoy, W., Sweetland, S., & Smith, P. (2002). Toward an organizational model of achievement in high schools: The significance of collective efficacy. *Educational Administration Quarterly*, *38*(1), 77-93.
- Hoy, W., & Woolfolk, A. (1993). Teachers' sense of efficacy and the organizational health of schools. *Elementary School Journal*, *93*, 355-373.
- Jacobi, B. S. (2012). Kodály, literacy, and the brain: Preparing young music students to read pitch on the staff. *General Music Today*, *25*(11), 11-18. doi:10.1177/1048371311414182
- Johnson, B., & Christensen, L. (2011). *Educational research: Quantitative, qualitative, and mixed approaches* (2nd ed.). Boston, MA: Allyn & Bacon.
- Johnson, C. M., & Memmott, J. E. (2006). Examination of relationships between participation in school music programs of differing quality and standardized test results. *Journal of Research in Music Education*, *54*, 293-307.
- Jones, J. K. (2013). Re-discovering the arts: The impact of engagement in a natural environment upon preservice teacher perceptions of creativity. *Thinking Skills and Creativity*, *8*, 102-108.
- Juchniewicz, J. (2010). The influence of social intelligence on effective music teaching. *Journal of Research in Music Education*, *58*, 276-293. doi:10.1177/0022429410378368
- Kalkavage, P. (2006). The neglected muse: Why music is an essential liberal art. *American Educator*, *30*(3), 10-17.

- Kelly-McHale, J. (2013). The influence of music teacher beliefs and practices on the expressions of music identity in an elementary general music classroom. *Journal of Research in Music Education, 61*, 195-216. doi:10.1177/0022429413485439
- Killian, J. N., Dye, K. G., & Wayman, J. B. (2013). Music student teachers: Prestudent teaching concerns and poststudent teaching perceptions over a 5-year period. *Journal of Research in Music Education, 61*, 63-79. doi:10.1177/0022429412474314
- Kokotsaki, D., & Hallam, S. (2007). Higher education music students' perceptions of the benefits of participative music making. *Music Education Research, 9*(1), 93-109. doi:10.1080/14613800601127577
- Labone, E. (2004). Teacher efficacy: Maturing the construct through research in alternative paradigms. *Teaching and Teacher Education, 20*, 341-359.
- Livingston, L. (2014). Teaching creativity. *Arts Education Policy Review, 111*(2), 59-62. doi:10.1080/10632910903455884
- Lodico, M., Spaulding, D., & Voegtler, K. (2010). *Methods in educational research: From theory to practice*. San Francisco: CA: Jossey-Bass.
- Margolis, H., & McCabe, P. (2006). Improving self-efficacy and motivation: What to do, what to say. *Intervention in School and Clinic, 41*, 218-227.
- Mark, M. (2012). *Contemporary music education* (4th ed.). Independence, KY: Cengage Learning.
- Mark, M., & Madura, P. (2010). *Music education in your hands: An introduction for future teachers*. New York, NY: Routledge.
- Marzano, R. J. (2007). *The art and science of teaching*. Alexandria, VA: Association for Supervision and Curriculum Development.

- Mason, E. (2012). Idea bank: Using Kodály to promote music literacy skills. *Music Educators Journal*, 99(28), 27-31. doi:10.1177/0027432112456967
- May, B. N. (2013). Arts integration: What's the problem? *General Music Today*, 26(2), 5-8. doi:10.1177/1048371312464374
- McCormick, J., Ayres, P., & Beechey, B. (2006). Teaching self-efficacy, stress, and coping in a major curriculum reform: Applying theory to context. *Journal of Educational Administration*, 44, 53-70.
- McMillan, J. (2008). *Educational research: Fundamentals for the consumer*. Boston, MA: Pearson Education.
- McPherson, G., & McCormick, J. (2006). Self-efficacy and music performance. *Psychology of Music*, 34, 322-336. doi:10.1177/0305735606064841
- National Association for Music Education. (2011). *National Association for Music Education strategic plan*. Retrieved from <http://www.nafme.org/documents/2011statplanfinal.pdf>
- Parkes, K. A., & Jones, B. D. (2012). Motivational constructs influencing undergraduate students' choice to become classroom music teachers or music performers. *Journal of Research in Music Education*, 60, 101-123. doi:10.1177/0022429411435512
- Patel, A. D., & Iversen, J. R. (2007). The linguistic benefits of musical abilities. *Trends in Cognitive Sciences*, 11, 369-372.
- Pergola, J. T., & Ober, G. (2012). *Music education in crisis: Practical strategies in an era of budget cuts*. Bloomington, IN: AuthorHouse.
- Portowitz, A., Lichtenstein, O., Egorova, L., & Brand, E. (2009). Underlying mechanisms linking music education and cognitive modifiability. *Research Studies in Music*

Education, 31(2), 107-128. doi:10.1177/1321103X09344378

Powers, K. (2011). Going mental: How music education can help develop critical thinking.

Teaching Music, 18(6), 40-44.

Randall, M. (2012). Putting music and classroom teachers side by side. *Teaching Music*,

20(2), 52. Retrieved from <http://www.wccnafme.weebly.com/uploads/1/2/9/1/129>

15361/teaching_music_october_2012_51-60.pdf

Regelski, T. A. (2005). Critical theory as a foundation for critical thinking in music education [Special ed.]. *Visions of Research in Music Education*, 6, 1-16.

Retrieved from <http://www.rider.edu/~vrme>

Register, D., Darrow, A.-A., Standley, J., & Swedberg, O. (2007). The use of music to enhance reading skills of second-grade students and students with reading

disabilities. *Journal of Music Therapy*, 44(1), 23-37.

Richards, J. C. (2008). Evidence-based and child-friendly: Shared book reading with chants support young children's language and literacy development. *Reading*

Improvement, 47, 188-200.

Rinne, L., Gregory, E., Yarmolinskaya, J., & Hardiman, M. (2011). Why arts integration improves long term retention of content. *Mind, Brain, and Education*, 5(2), 89-96.

doi:10.1111/j.1751-228X.2011.01114.x

Routier, W. (2003). *Read me a song: Teaching reading using picture book songs*.

Milwaukee: University of Wisconsin-Milwaukee.

Salmon, A. (2010). Using music to promote children's thinking and enhance their literacy development. *Early Child Development and Care*, 180, 937-945. doi:10.1080/030

04430802550755

Schmitz, G., & Schwarzer, R. (1999). Teachers' proactive attitude: Construct description

- and psychometric analyses. *Zeitschrift fur Empirische Padagogik*, 13(1), 3-27.
- Schwarzer, R., & Hallum, S. (2008). Perceived teacher self-efficacy as a predictor of job stress and burnout: Mediation analyses [Special issue]. *Applied Psychology: An International Review*, 57, 152-171. doi:10.1111/j.1464-0597.2008.00359.x
- Springer, K. (2010). *Educational research: A contextual approach*. Hoboken, NJ: John Wiley & Sons.
- Standley, J. M. (2008). Does music instruction help children learn to read? Evidence of a meta-analysis. *Update: Applications of Research in Music Education*, 27(1), 17-32. doi:10.1177/8755123308322270
- Stavrou, N. E. (2013). Fostering musical creativity in preservice teacher education: Challenges and possibilities. *International Journal of Music Education*, 31(1), 35-52. doi:10.1177/0255761411431391
- Stunell, G. (2010). Not musical? Identity perceptions of generalist primary school teachers in relation to classroom music teaching in England. *Action, Criticism, and Theory for Music Education*, 9(2), 78-107.
- Summa-Chadwick, M. (2009). The power of music: The use of music protocols to enhance neurological function. *The Exceptional Parent*, 39(6/7), 70-74.
- Waldron, J. (2009). Teacher and student perceptions of music teaching and learning at the Goderich Celtic College, Goderich, Ontario, Canada. *Council for Research in Music Education*, 182, 51-64.
- Waller, D. (2010). Language literacy and music literacy: A pedagogical asymmetry. *Philosophy of Music Education Review*, 18(1), 26-44.
- Webster, P. (2003). Asking music students to reflect on their creative work: Encouraging the revision process. *Music Education Research*, 5, 243-248.

- Whitaker, J. A. (2011). High school band students' and directors' perceptions of verbal and nonverbal teaching behaviors. *Journal of Research in Music Education, 59*, 290-309. doi:10.1177/0022429411414910
- Wiggins, D. (2007). Pre-k music and the emergent reader: Promoting literacy in a music-enhanced environment. *Early Childhood Education Journal, 35*(1), 55-64.
- Wiggins, J. (2007). Authentic practice and process in music teacher education. *Music Educators Journal, 93*(36), 36-42.
- Willis, R. (2011). The magic of music: A study into the promotion of children's well-being through singing. *International Journal of Children's Spirituality, 16*(1), 37-46.
- Wong, P. C., Skoe, E., Russo, N. M., Dees, T., & Kraus, N. (2007). Musical experience shapes human brainstem encoding of linguistic pitch patterns. *Nature Neuroscience, 10*, 420-422. doi:10.1038/mn1872
- Woodward, S. C. (2005). Critical matters in early childhood music education. In D. J. Elliott (Ed.), *Praxial music education: Reflections and dialogues* (pp. 249-266). New York, NY: Oxford University Press.
- World Health Organization. (2014). *Child health and development*. Retrieved from <http://www.emro.who.int/child-health/IMCI-preservice-training/what-is-it>
- Zbainos, D., & Anastasopoulou, A. (2012). Creativity in Greek music curricula and pedagogy: An investigation of Greek music teachers' perceptions. *Creative Education, 3*(1), 55-60. doi:10.4236/ce.2012.31009
- Zeece, P. (2006). Sound reading and reading sounds: The case for phonemic awareness. *Early Childhood Education Journal, 34*(2), 169-175.

Appendix A
Teacher Efficacy Scale

Teacher Efficacy Scale

Section I – Directions, Purpose Statement, and Confidentiality Statements: The Teacher Efficacy Scale has 10 statements about organizations, people, and teaching. The purpose is to gather information regarding the actual attitudes of educators concerning these statements. It will be administered prior to your participation in the Music Literacy Intervention and again at the end of the implementation period of the Music Literacy Intervention. There are no correct or incorrect answers. We are interested in only your honest opinions. Your responses will remain confidential and anonymous. Please do not write any names or school-identifying data on the survey. Please indicate your personal opinion about each statement by circling the appropriate response at the right of each statement.

Section II - Key: 6 = *strongly agree* 5 = *moderately agree* 4 = *agree slightly more than disagree* 3 = *disagree slightly more than agree* 2 = *moderately disagree* 1 = *strongly disagree*

Section III – Teacher Efficacy Scale Items

1. The amount a student can learn is not primarily related to family background.

1 2 3 4 5 6

2. If students are disciplined at home, they are likely to accept discipline in the school.

1 2 3 4 5 6

3. When I really try, I can get through to most difficult students. 1 2 3 4 5 6

4. A teacher is not limited in what he or she can achieve even though a student's home environment is a large influence on his or her achievement. 1 2 3 4 5 6

5 I could do more for the children, even if parents do not do more for their children.

1 2 3 4 5 6

6. If a student did not remember information I gave in a previous lesson, I would know how to increase his or her retention in the next lesson. 1 2 3 4 5 6
7. If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him or her quickly. 1 2 3 4 5 6
8. If one of my students couldn't do a class assignment, I would be able to assess accurately whether the assignment was at the correct level of difficulty. 1 2 3 4 5 6
9. If I really try hard, I can get through to even the most difficult or unmotivated students.
1 2 3 4 5 6
10. When it comes right down to it, a teacher can do a lot even if a student's motivation and performance is low because of his or her home environment. 1 2 3 4 5 6

Appendix B
Proactive Attitude Scale

Proactive Attitude Scale

Section I – Directions, Purpose Statement, and Confidentiality Statements: The Proactive Attitude scale has nine items. The purpose is to gather information regarding your proactiveness toward music literacy integration in your courses. It will be administered prior to your participation in the Music Literacy Intervention and again at the end of the implementation period of the Music Literacy Intervention. There are no correct or incorrect answers. We are interested in only your honest opinions. Your responses will remain confidential and anonymous. Please do not write any names or school-identifying data on the survey. Please indicate your personal opinion about each statement by circling the appropriate response at the right of each statement.

Section II – Key (Response Categories):

1 = not at all true, 2 = barely true, 3 = moderately true, 4 = exactly true

Section III – Proactive Attitude Scale Items:

- | | |
|--|---------|
| 1. I spend time to identify long-range goals for myself. | 1 2 3 4 |
| 2. I feel in charge to make things happen. | 1 2 3 4 |
| 3. I feel responsible for my own life. | 1 2 3 4 |
| 4. I feel driven by my personal values. | 1 2 3 4 |
| 5. I take the initiative myself, rather than wait for something to happen. | 1 2 3 4 |
| 6. I am driven by a sense of purpose. | 1 2 3 4 |
| 7. I am able to choose my own actions. | 1 2 3 4 |
| 8. I feel like I am being programmed instead of being the programmer myself. | 1 2 3 4 |
| 9. There are abundant opportunities that await me. | 1 2 3 4 |

Appendix C

Music Literacy Intervention Interview Instrument

Music Literacy Intervention Interview Instrument

I. Interview Protocol

The researcher will conduct a brief fun icebreaker to relieve any tension or stress in a teacher. Next, the researcher will explain the purpose of the interview process to the teacher and will explain each interview question. Teachers will be reminded not to write names or identifying teacher or school data on the Music Literacy Intervention Interview. The researcher will respond to any questions teachers might have for the researcher. At the end of the interview session, all instruments will be collected and thanks conveyed to the participants for their participation!

II. Interview Questions

1. Do you believe the Music Literacy Integration Intervention met its overall objectives of providing you useful information and strategies that facilitate the integration of music literacy into your instruction? Briefly, elaborate on your response.
2. In priority order, list and, then, briefly comment on the most important strategies or strengths in the Music Literacy Integration Intervention. The most important strength should be listed first, the second most important strength should be listed second, and so forth.
3. In priority order, list and, then, briefly comment on the least important strategies or strengths of the Music Literacy Integration Intervention. The least important strength should be listed first, the second least important strength should be listed second, and so forth.
4. In your opinion, how can we improve the Music Literacy Integration Intervention so that future teachers and students can benefit from the intervention?
5. What are your perceptions on teaching the strategies in the Music Literacy Integration Intervention to your students, and do you perceive teaching these strategies will result in improved learning for your students?
6. What other comments or suggestions do you have about the Music Literacy Integration Intervention that are not stated above?

Appendix D

Time Line of Music Literacy Integration Intervention Activities

Time Line of Music Literacy Integration Intervention Activities

- I. Pretest – Pretest with the Teacher Efficacy scale and Proactive Attitude scale will occur

- II. Objectives – The objectives of the Music Literacy Integration Intervention activities are to introduce music literacy in the curriculum to help students to retain learned knowledge and for teachers to engage students better in the learning process. By accomplishing these objectives, teachers’ self-efficacy will increase as well as teachers’ proactiveness to integrate music literacy into their courses.

- III. Activities – Activities will occur during the 9-week Music Literacy Integration Intervention implementation period
 - Week 1. PowerPoint presentation and small group discussion on brain-based research
 - Week 2. Journal article readings on the values and benefits from the infusion of music activities in the core curriculum
 - Weeks 2. Small group Internet search and discussion on the benefits and efficacy of a music education integrated across the curriculum
 - Weeks 3. Demonstrations of musical canons designed for students to keep students engaged in the learning process
 - Weeks 3. Demonstrations of actual song and musical activities that can be infused into the curriculum for each grade level
 - Week 4. Demonstration of how to introduce meter into rhyme and music to help students retain learned knowledge
 - Week 4. Small group and Internet activities on one of the five basic elements of music (rhythm)

Week 5. Small group activity on one of the five basic elements of music (melody)

Week 6. Instructor-led presentation on one of the five basic elements of music (harmony)

Week 7. Instructor-led presentation on one of the five basic elements of music (timbre)

Week 8. Small group activity and Internet activities on one of the five basic elements of music (timbre)

Week 9. Review of Weeks 1 to 8

IV. Posttest – Posttest with the Teacher Efficacy scale and Proactive Attitude scale will occur

V. One-on-one interview sessions. Interviews will occur with the Music Literacy Integration Intervention commencing in

** Music Literacy Integration Intervention activities are based on the widely used and research-based formalized curriculum developed by Anderson (2014), 9th edition of publication

Reference

Anderson, W. E. (2014). *Introducing music into the elementary school classroom* (9th ed.). Farmington Hills, MI: Cengage Learning.

Appendix E

Number of Teachers Who Checked Each Teacher Efficacy Scale Statement
for Postimplementation ($N = 18$)

Number of Teachers Who Checked Each Teacher Efficacy Scale Statement
for Postimplementation ($N = 18$)

Statement	SD	MD	DSA	ASA	MA	SA
The amount a student can learn is not primarily related to family background	0	0	1	2	8	8
If students are disciplined at home, they are likely to accept discipline in the school	0	0	2	6	4	6
When I really try, I can get through to most difficult students	0	1	1	3	5	8
A teacher is not limited in what he or she can achieve even though a student's home environment is a large influence on his or her achievement	0	0	3	4	7	4
I could do more for the children, even if parents do not do more for their children	0	0	1	4	8	5
If a student did not remember information I gave in a previous lesson, I would know how to increase his or her retention in the next lesson	0	2	3	3	7	3
If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him or her quickly	0	0	2	4	7	5
If one of my students couldn't do a class assignment, I would be able to assess accurately whether the assignment was at the correct level of difficulty	0	2	6	5	3	2

If I really try hard, I can get through to even the most difficult or unmotivated students	0	0	1	1	12	4
When it comes right down to it, a teacher can do a lot even if a student's motivation and performance is low because of his or her home environment	0	0	1	4	6	7

Note. SA = *strongly agree*; MA = *moderately agree*; ASD = *agree slightly more than disagree*; DSA = *disagree slightly more than agree*; MD = *moderately disagree*; SD = *strongly disagree*.