Music Integration: Educators’ Perceptions of Implementation and Student Achievement in Public School Elementary Education

by

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DEDICATION

This dissertation is dedicated to my incredibly patient family. First, to my husband who continuously lifted my spirits through every phase of coursework and research. Who reminded me that, if it was easy, everybody would have a Ph.D., who always made me feel special by telling friends and family about my work, who understood my obsessive nature when it was time to make deadlines, for believing that what I am passionate about is important, and for just loving me so intensely that I can do and be whatever I dream.

Secondly, to our children, who were ages 7 and 4 when I was accepted into the graduate program and will be 15 and 12 when I graduate. During preliminary coursework for graduate school, I remember the baby kicking papers off my desk during class, sleepless nights as my husband was still miles away finishing medical school, and one night when our 2 ½ year old son crawled up to be near me and inadvertently unplugged the computer . . . before the work was saved.

Since then, both have grown so much. My lengthy Ph.D. journey has taken many detours as they were placed top priority along the way. This is dedicated to them for the countless times they have said goodnight to me at my desk rather than me getting to tuck them into bed, the hours working when they would bring me meals, and the excitement as they would cheer when another step towards completion was made. I hope my drive and dedication to setting big goals, finishing what is started, and dreaming big may influence them in a positive way throughout their lives.

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In closing I must share this; a picture hangs over my desk and has motivated me for many years. It is from my daughter, when she was 6 years old, she drew a picture of me with dark circles under my eyes (whether intentional, I don’t know, see Appendix AA), and an encouraging message:

“good werk all wase pase off.”
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Music Integration: Educators’ Perceptions of Implementation and Student Achievement in Public School Elementary Education

Cynthia Marie Shuck

ABSTRACT

This qualitative case study investigated the levels and frequency of music integration being implemented at a public elementary school in central Florida, what key issues affect the successful implementation of effective music integration, and if music integration has an influence on academic achievement.

This study focused on 14 elementary school educators actively involved with music integration at one public elementary school. The multiple formats of data collection and analysis provided triangulation and increased the viability and transferability of the results. The five data collection formats that were used consisted of surveys, observations, lesson plans, interviews, and student achievement documents. Data results were coded and analyzed for themes, similarities, and differences. Tables, graphs, narratives, and transcription quotes illustrate the data results.

The literature review provides historical and foundational information of how interdisciplinary qualities of music education relate to student achievement. This study offers working integration examples and addresses the important issues and benefits of music integration. With increased high-stakes accountability for student achievement, educators must explore viable curriculum options that aid academic achievement (Arts Education Partnership, 2002; Cutietta, 1996; Hyatt, 2004; Mallery, 2000; Snyder, 2001).

This study found academic benefits are linked to music integration as previous research has found (Bresler, 2002; Brewer, 2002; Drake, 1998; MENC, 2001, 2004; Wiggins & Wiggins, 1997). Perhaps other elementary school personnel working toward higher student achievement
will find the results useful to increase effective music integration at their schools.

The following were major findings of this study: (a) music integration occurred at Levels 1, 4, and 5; (b) awareness and training were the 2 most important issues affecting music integration out of the 12 identified in this study; and (c) educators do perceive music integration to be beneficial to students academically, behaviorally, and emotionally.

Contributions of this research are beyond that typically found in similar literature: (a) a balanced research-practitioner music integration resource; (b) an awareness and training program for school administrators, which includes working models and literature to help educators improve the musically integrative practice in their elementary curriculum; and (c) the development of Music Integration Criteria and an Integration Consortium.
CHAPTER I: INTRODUCTION

A teacher came in to the classroom to take a student out of his music class time for extra reading instruction. Music is only one period of 30 to 45 minutes per week, and this extra tutoring could have been scheduled at a variety of other times; however, when I raised the issue with the reading specialist the comment was that music time is the only “free” time that is okay for the student to miss.

The irony behind the interruption is that this student was experiencing failures, frustration, and behavior problems as a result of reading problems. However, when it came time for music, this student was the first to have his recorder (a small clarinet-like instrument) and music book ready to begin instruction. The child that never smiled or participated willingly in the academic reading activities was now successfully reading music and beaming with pride.

I will never forget the transformation of watching that child shrivel up before my eyes as he was told by the reading specialist to put his music stuff away and go to his reading lesson. In the essence of instructional time owed to the other students that were observing this event and to allow a professional “cooling off” period for myself to decide how to handle the blatant wrong-doing to that student and myself that had occurred, I felt I had to let the child go.

Later, when the inevitable confrontation happened, I was told again how the arts are “fun time” and this student needed to learn. I could not convince that reading specialist that this student was in fact learning to read, experiencing success, and was on the verge of major accomplishments as soon as the linking of reading words and reading music was attained. Unfortunately, my words were not enough to make a difference for that student.

Many viewpoints on the role of music in education exist, and people often act from a lack
of knowledge. Qualitative research such as found in this case study is vital to fill a critical void of knowledge. The knowledge that other music colleagues have struggled with similar issues and continue to do so guides the inquiry of this case study.

Several studies have investigated music education’s role in the implementation of integrated curricula because of its interdisciplinary qualities that facilitate authentic academic connections (Barrett, 2001; Burton, 2001; Ellis & Fouts, 2001; Scripp, 2002). Not all students possess the same strengths or learning styles (Gardner, 1983); therefore, music integration may help some students achieve where other curriculum methods have failed them. Given the increase in literature on interdisciplinary education over the past 20 years, K-12 educators appear to be slowly becoming aware of its academic benefits (Erickson, 1998; Franklin, 2000; Hyatt, 2004; Pate, Homestead, & McGinnis, 1997; Wood, 2001). If elementary school educators are to meet high accountability assessments of student achievement, they must explore all viable possibilities that assist in this goal (Akin, n.d.; Brewer, 2002; Cutietta, 1996; Gwendolyn, 2002; Lucy, 2002; Mallery, 2000).

A philosophy behind interdisciplinary education is that the knowledge and skills being taught to students should reflect that of real life experiences (Davis, 1995; Drake, 1998; Jones, Rasmussen & Moffit, 1997). Life experiences are not compartmentalized—they are connected, and many educators believe the more connected the presentation of knowledge is, the more applicable the learning situation is. Beane (1997), a frequently cited author on integrative practices, stated “Research reviews have indicated young people tend to do at least as well, and often better, on traditional measures of academic achievement and adjustment to further education as the curriculum moves further in the direction of integration” (p. 41).

According to the music education literature, researchers, anthropologists, therapists, and sociologists often theorize on the many functions and values of music to society and the school setting (Gaston, 1968; Kaplan, 1990; Madsen, 1999; Mark, 1999; Weinberger, 1999a). Music
education is often viewed as frivolous entertainment rather than an area of knowledge acquisition (Dickinson, 1993; Weinberger, 1999a). In the past 10 years, academic contributions of music to other domains have become more readily accepted and acknowledged, allowing educators to show increased interest in understanding academic outcomes of music. This research may enlighten those who question the reciprocity of the integrated curricula. Integration, when done well, is not a one-way street. The domain of music also benefits when authentic integration takes place (Barrett, 2001; Burton, 2001; Snyder, 2001; Wiggins, 2001).

It is no longer common acceptance to portray music education’s worth as either for music knowledge or for academic aid; both must be married for the pursuit of higher student academic achievement. Music educators often fear that the promotion of music education’s academic worth in other subjects will result in a diminished appreciation of the importance of music for its own sake. Naturally, music educators are concerned that integration efforts will promote these misconceptions and further diminish music education’s status as an important domain of knowledge and development (Music Educators National Conference (MENC): The National Association for Music Education, 1999a; Radocy & Boyle, 1997; Reimer, 2003; Steele, Bass, & Crook, 1999; Weinberger, 1999a, 2000; Wiggins, 2001). It is important to investigate levels of music integration that best meet student academic needs while preserving the integrity of separate domains within the curriculum, further supporting the need for studies such as this to promote understanding and proper application of music integration (Snyder, 1999, 2003).

Chapter 1 is an overview of this qualitative case study. The purpose and rationale of the study are outlined and the researcher’s perspective and research questions are revealed. The scope and limitations section helps the reader understand the chosen site, participants, and parameters for this research. Working definitions and examples of terms used throughout this inquiry conclude chapter 1 and offer the reader a more descriptive lens from which to view the topic and setting. Chapter 2 is a review of literature that examines interdisciplinary education, music
education, interdisciplinary qualities of music education, and academic achievement. This chapter provides historical perspectives as well as current ones, so the reader may better understand the status of the topic and the lack of research in this area. Chapter 3 presents the research design and methods chosen to help fill the gap of information that exists on music integration implementation. Issues of dependability, credibility, authentication, trustworthiness, and transferability are discussed in this chapter with regards to how the researcher is addressing each. The collection, management, and analysis of data meet the rigorous requirements of qualitative inquiry and are explained here as well.

Chapter 4 reveals the data results from the surveys, observations, lesson plans, students’ work, and interviews. Tables and matrices graphically display data, the levels and frequency of integration, and key factors affecting implementation. Descriptive narratives and transcription quotes present data regarding the influence of music integration on academic achievement and educators’ perceptions on this topic.

In chapter 5, reflections and implications of the data analysis are discussed. Issues affecting the levels, frequency, and success of music integration are explored and directions for future research regarding student achievement and music education are suggested. The chapter concludes with references and appendices to aid the reader in further inquiry on the topic of music integration implementation as it relates to student academic achievement.

Statement of the Problem

Based on a literature review and teaching experience, the researcher had identified two problems as critical focal points to be addressed in this qualitative case study: (a) the virtual lack of awareness concerning music integration and (b) the minimal amount of replicable effective music integration examples available to guide elementary educators. Though more issues than these were noted in the literature, the researcher considered the two problems stated as the fundamental starting place for this inquiry. Both problems, the practical lack of awareness and the
scarcity of replicable examples, hinder the levels of music integration being implemented in public elementary schools and contribute to the issues affecting music integration, and consequently, could limit student academic achievement if not addressed. The qualitative design and purposeful sample of this inquiry answers the call for increased awareness and in-depth description of actual music integration implementation.

Purpose of the Study

The purpose of this study was to increase awareness regarding benefits of music integration in the elementary curriculum for all educators interested in student achievement, to offer educators an effective and efficient approach to meeting accountability expectations, to provide a document with research-based and practitioner-based models of successful music integration, and to share educators’ perceptions and suggestions regarding music integration implementation in hopes of improving the public school elementary curriculum. This qualitative study examined the levels of music integration being implemented at a public elementary school in central Florida and the possible influence the music integration has on student academic achievement.

If academic benefits are linked to music integration in a positive way, as previous research has found (Akin, 1997; Bresler, 2002; Brewer, 2002; Drake, 1998; Erickson, 1998; Franklin, 2000; Hyatt, 2004; MENC, 2001, 2004; Mickela, 2001; Wiggins & Wiggins, 1997), perhaps other elementary school personnel working towards higher student achievement will consider increasing music integration at their schools. This study can provide valuable insight into this topic for elementary educators as it offers not only a working example to learn from, but it also addresses important issues affecting the implementation of music integration in the elementary school setting. These issues include (but are not limited to) awareness, training, planning, and perceived obstacles, and/or benefits.
Rationale of the Study

While much research on music integration’s influence on academic achievement has focused on the secondary school level (Boccuti, 2000; Dickinson, 1993; Harvey, 2001), relatively little study has investigated this topic for the elementary school level (Barrett, 2001; Burton, 2001; Ellis & Fouts, 2001). With increased accountability for high student achievement, elementary school educators must explore viable curriculum options that aid academic achievement (Cutietta, 1996; Gwendolyn, 2002; Mallery, 2000). Statements supporting integrative curricula should be highlighted to assist educators considering the academic possibilities. Drake (1998), an education professor stated, “When students are challenged to move beyond memorizing facts, to pursue a topic in depth, and to see patterns and relationships, they are engaged in constructing knowledge rather than merely accumulating information” (p. 17). The process and results of this investigation may not only increase elementary educators’ awareness of how music integration may influence student achievement, but also that of administration and legislature whose decisions affect elementary curriculum.

This research not only investigated the various levels of music integration being implemented at a public elementary school, it also examined issues of best practices for application purposes. Common components such as philosophy, concept, theory, and pedagogy, found in non-music subjects and in music education, may facilitate authentic connections across subject matter and aid in academic achievement (Akin, n.d.; Drake, 1998; Erickson, 1998; Weinberger, 1999b, 2000; Snyder, 2001; Wiggins & Wiggins, 1997), further warranting research on this topic.

In keeping with qualitative framework, gaining the perspective of educators concerning these common elements may help educators view music integration as a model of interdisciplinary education representing the broader scope of general education. Eisner (1998), a respected scholar in the field of arts education, stated that, before improvements to education can
be made, an organic understanding of the processes in place must occur:

To study schools in this way is likely to require an approach to educational research that is qualitative in character. . . . I know of no way to find out what schools are like except by going to schools themselves to see, to describe, to interpret, and to evaluate what is occurring. (p. 168-169)

Examining this topic through the educators involved, or the experiential perspective, is what Merriam (1995), a qualitative researcher explained when she said, “Qualitative researchers seek to understand the world from the perspective of those in it” (p. 56). As researcher and music teacher, I believe that music integration efforts should be investigated closely at the elementary level as it is a foundational academic “stepping stone” to secondary education. This and similar studies can assist K-5 educators in their quest for effective, reciprocal music integration implementation and higher student achievement.

The Researcher’s Perspective

This researcher realizes personal experiences had an effect on the study at hand. By addressing the researcher’s known interest and concerns, bias may be minimal and the perspective of the research better understood by the reader (Mertens, 1998; Patton, 2002; Peskin, 1988). The fact that I, the researcher, am a Florida certified K-12 music teacher and a past university instructor lends credibility and insightful contribution to this topic of inquiry. Issues of effective music integration, curriculum and instruction development, and initiatives for higher student academic achievement are areas I have worked with for 18 years.

My first teaching position was fresh out of college with my master’s degree in music education. I was a music teacher at a K-12 special education school where students and teachers previously had very low expectations for the level of music knowledge and skills the students could attain. I proceeded, out of necessity, to develop a curriculum with instructional methods to help the students meet their highest level of achievement. The teacher guides at that time were not aligned with the high achievement goals I had set for my students. It is apparent that the lack of integrated curriculum examples and the lack of awareness regarding possible academic benefits
are not new problems. Through the course of my research, I have discovered that my personal mission to help students, teachers, administrators, and parents see the many benefits of music education started with my first teaching job.

We moved away, and I went on to teach K-5 music in the public school system until a few years ago when I dedicated myself to graduate school and the opportunity to teach a required music course for elementary education majors at the university level. The existing curriculum for the course yielded very little exposure to literature and methods on integration for the soon-to-be teachers. The need for training on how to prepare integrative lesson plans that meet the Sunshine State Standards across subject areas seemed obvious to me and became part of the revised course that I taught.

The beliefs I hold of the benefits of music education are founded on years of experience and are supported by much literature, and yet I do not feel I’ve made enough of a contribution to the field of education until I’ve helped raise the awareness and understanding of this topic to more educators and curriculum decision makers. The story shared in the introduction was a pivotal moment in my elementary teaching experience that fueled the fire to pursue this task with fervor. The scenario is one experienced by music teachers and innocent students far too often.

Another researcher perspective important for the reader to know is the metaphorical model that represents music integration. I often use analogies and metaphors when I talk (Lakoff & Johnson, 1980), yet it did not occur to me to apply metaphors to my writing until colleagues told me it helped them understand the topic of this inquiry. Upon reflection, I realized that my worldview for practically everything, especially philosophical issues, is most often from the “wholistic” perspective. Even the concept of whole and parts making up the whole, are metaphorical references.

My operational application of “wholistic” is that an understanding of the parts that make up the whole; and the whole itself, must both be examined if a better understanding of the whole
is to be achieved. Both viewpoints are required and the order of examination often does not matter. Through many teaching experiences I have discovered that not everyone thinks analytically. It is difficult for some people to understand an abstract concept without a concrete model, in such cases metaphors can be very helpful. Hartzell (2002), an education professor stated, “Metaphors are powerfully compact ways of clarifying and communicating complex concepts” (p.1). In an effort to clarify the concept of music integration and facilitate the application of information shared throughout this case study, I offer the following metaphorical foundation.

When I think of the many parts that make up the educational system, I picture it as a three dimensional (3D) puzzle (see Figure 1). It is a 3D wooden puzzle with interlocking wooden pieces. Some wooden pieces stick out more than others, some have a higher profile than others, and some can slide in or out and not affect the overall structure or unity of the puzzle. Some, if removed, create the appearance of the structure to change, and some when removed may cause the entire structure to crumble. Many aspects of education have the same functions as pieces of a 3D wooden puzzle

Think for a moment about No Child Left Behind Act (NCLB), Adequate Yearly Progress (AYP), Florida Comprehensive Assessment Test (FCAT), school grade, funding, training, and many more you can substitute on your own. Analyzing which wooden piece each of these educational issues represents and how each affects the educational structure is a bigger puzzle than we need to solve at his point (Doss, 1998). It will suffice to say that the 3D puzzle described above could represent a statewide education system and is not the focus of this inquiry. However, it is relevant, and the reader is reminded that the examination of the whole and its parts is often a back and forth process for greater understanding. These issues do affect the smaller puzzle of this inquiry.

To maximize the application of the 3D puzzle metaphor, three additional puzzles are later
described; public elementary education, music education, and curricular integration. Metaphors facilitate understanding of one viewpoint from the experience of another (Hartzell, 2002), this is often accomplished “by casting the unknown in terms of the known” (Stone, 1998, p. 1). An interesting connection to note is that metaphors and the transfer of learning theory (see chapter 2) have much in common.

The first 3D puzzle is one in which the puzzle as a whole represents the public elementary curriculum and its wooden pieces are the separate subject areas such as: science, language arts, mathematics, music, art, physical education, and so forth. The separate core subjects are the parts that constitute the whole curriculum.

The next and perhaps most difficult 3D puzzle for many to picture is the one representing music education. The 3D puzzle as a whole is music education, its wooden pieces are science, reading, writing, mathematics, creating, moving, and so forth. Most people expect to see these pieces labeled as sound, reading music by singing or playing instruments, writing musical notation or a musical work, rhythms, composition, performing, and so forth. Note the parallel lists. These are the same core subjects that constitute the whole curriculum. The first list of components uses terminology most often aligned with a general educator, and the second list uses terminology most aligned with a music educator. They are the same subject areas, just a different approach to teaching each of them. Even at this basic level of examination, the music education model includes core subjects, aesthetics, cognitive, motor, and developmental components. It could be said that music education is a model for curricular integration.

Lastly, imagine the 3D puzzle as a whole representing a Sunshine State Standard and its
wooden pieces are the core subjects each presenting the concept to be learned by the student. This is a model of curricular integration. The 3D puzzle can be used as a metaphor to represent many areas of education. The 3D wooden puzzle is chosen because it is more than a word or phrase used to understand an abstract phenomenon, it is a physical object to help the elusive concept of integration become “real” (Chen, 2003).

Kaldeway (2004) gave a description of the 3D wooden puzzle as an interlocking puzzle formed by several pieces, which are connected to each other in a way a solid construction is formed. Consider this researcher’s rewording of the interlocking puzzle definition to see the parallel representation to integration: an interdisciplinary curriculum formed by several core subjects, which are connected to each other in a way a solid constructivist, complete education is formed. The similarities speak for themselves, and hopefully help those previously struggling with the concept of integration.

Research Questions

Many variables contribute to student achievement. Educational literature supports the notion that students benefit from music education and interdisciplinary education in several areas, one of which is higher academic achievement (see Akin, 1997; Drake, 1998; Erickson, 1998; Franklin, 2000; MENC, 2001; Mickela, 2001). Although research is available supporting the academic benefits of music, replicable examples of effective implementation are lacking.

The following research questions guided the inquiry of music integration implementation and student academic achievement in the public school elementary education setting:

1. What levels and frequency of music integration are being implemented at a public elementary school in central Florida? (The researcher applied criteria for data analysis according to Wiggins and Wiggins (1997); see also Definitions of Relevant terms; Appendices A, B, C, and D.)

2. What are some key issues in teacher training, planning, materials, support, and
awareness that affect the successful implementation of effective music integration in public
elementary education? (see Appendices A, C, and D)

3. Do public school elementary educators perceive that music integration has an
influence on academic achievement in music and core subject areas? (see Appendices A, C, D,
and S-V)

Before considering if and how music integration may influence student academic
achievement in music and other subject areas (research question 3), it is best to have a clear
understanding of what levels are considered most effective. After a review of music integration
literature, the descriptions of five levels of music integration by Wiggins and Wiggins (1997),
music education professors, were identified as the best criteria for the purpose of this inquiry and
were employed by this researcher to examine research question 1.

The literature review illuminated the researcher’s rationale for choosing the Wiggins and
Wiggins (1997) criteria for this study. Wiggins and Wiggins referred to each of the five levels of
music integration as a “connection.” This is to emphasize how each discipline is connected and
leading to a “resulting relationship that is created in the learner’s mind” (Wiggins, 2001, p. 42).
The use of the term connection by Wiggins (2001) does not hold the same meaning as when used
by some authors on music integration. The reader is encouraged to consider the terminology and
application of it within the context of the examples given by each cited author.

Abbreviated descriptions of the five levels of music integration identical to the terms on
the participant survey are provided below. Working definitions and examples of practice for each
level can be found in the Definitions of Relevant Terms section of chapter 1. These definitions
were not provided to the participants in the present study. This step was taken in an effort to
capture the most accurate depiction of what level of music integration is actually being
implemented from the participants’ point of view. Literature and preliminary research relating to
this topic indicated that both elementary music teachers and classroom grade level teachers may
be unfamiliar with the Wiggins and Wiggins (1997) criteria. This was true of the participants in this study as well. It is unfortunate that more educators have not been introduced to music integration research. The unfamiliarity identified here further supports the need for descriptive case studies that examine music integration in public elementary education and contribute to the availability of working examples.

The five levels of integration identified by Wiggins and Wiggins (1997) are as follows:

1. Teaching-tool connections—Music “about,” or use of music to memorize information from another discipline.

2. Topic connections—music serves to enrich or clarify another domain.

3. Thematic/content connections—common themes/units.


5. Process connections—the process in one discipline facilitates understanding of another discipline.

According to the literature, these levels of integration are research-based and practice-based and listed in order from the least preferred to the most preferred levels of integration (Wiggins, 2001; Wiggins & Wiggins, 1997). Due to the increased opportunity for transfer of knowledge (Catterall, 2002; Scripp, 2002) and higher order thinking skills that Levels 4 and 5 offer, they are considered the most ideal levels of music integration that educators should strive to attain. Research supports integrative lessons as most effective when knowledge from each domain is grounded (Beane, 1997; Drake, 1998; Jacobs, 1997; MENC, 2001).

Though the first three integrative connections were identified by Wiggins (2001) to be the levels of music integration currently used in schools, the latter two were considered the most effective and beneficial of the five for aiding student academic achievement. Unfortunately, the later two are not being implemented often. This researcher believes identifying levels of integration that are being implemented in public elementary schools is a critical part of the
awareness process. Perhaps even more important than identifying “which” levels is understanding “why” certain music integration levels are being implemented more than others. This next step of inquiry was vital if implications for change are to be made. To address research question 2, the investigative framework of this case study allowed the researcher to develop a deeper understanding of the many facets affecting music integration efforts at the participating school (Merriam, 1995). Though terminology is sometimes different, a consensus of what Wiggins and Wiggins (1997) considered to be effective music integration can be found within the literature (Barrett, 2001; Brewer, 2002; Bresler, 2002; Burton, 2001; Ellis & Fouts, 2001; Snyder, 2001).

This researcher developed a survey, observation and lesson plan checklist, and an interview instrument to be used with the participants in this study to examine the levels of music integration being implemented as well as the frequency of implementation. Development and authentication of the instruments is explained further in Authentication and Trustworthiness, chapter 3. The teacher participants provided insight on the levels of music integration they believe they are implementing based on an abbreviated Wiggins and Wiggins (1997) criteria list. As stated earlier, it was important not to influence the teacher perception data regarding this topic. This qualitative approach helped insure the most authentic snapshot of the study site and illuminated areas that need improvement. Issues concerning successful implementation of music integration were addressed in regard to what was being done at this site along with what should be done differently in the future if educators’ goals are to create the ideal musically-integrated elementary curriculum. This area of focus addressed research question 2.

In summary, this qualitative research investigated what levels of music integration were actually being implemented at this particular Florida public elementary school and the frequency of these levels; what factors influence the successful initiation and maintenance of an effective musically integrative curriculum, addressing such issues as teacher training, planning, materials, support, and awareness; and finally, if and how music integration may influence academic
achievement in music and in other subject areas.

Scope and Limitations

This case study was conducted at one public elementary school in central Florida and consisted of 14 participants, 2 of which participated in the survey only, leaving 12 respondents for the remainder of the study. Considerable attention was given to the site and participant decisions during a proposal concept meeting in which this researcher and graduate committee discussed the possible direction of this study at length. It was recommended that, in keeping with the framework of qualitative research, the researcher should choose one school that is considered by other experts in the field as a school actively attempting music integration in the curriculum. This site was purposefully chosen because of its claimed focus as an arts-infused school (according to the school’s web site). It is a public elementary school that has obtained grants and sought out resources to create an arts-infused curriculum. This school met the criteria set forth by the researcher, committee, and qualitative protocol for gathering rich, in-depth information on this topic (Lincoln & Guba, 1985; Merriam, 1995; Mertens, 1998; Patton, 2002).

All of the participants were certified to teach at the elementary school level in the state of Florida or in the professional educational position they represented in relation to this topic. The participant population was elementary school educators actively involved with music integration at the chosen public elementary school, making them most qualified to provide an experiential perspective of this school site and topic. Two educators that participated in the survey portion of the study were a fourth-grade teacher and a teacher of gifted students. The remaining participants were one music teacher, four classroom teachers (K, 1, 2, and 3 represented), one mathematics coach, one art teacher, two physical education teachers, one curriculum coordinator, one principal, and the music supervisor for the designated school district. The district music supervisor was the only participant who was not at the school site.
Organization of the Study

The researcher telephoned the principal of the chosen school site and spoke briefly about the research. The principal agreed to participate and have this school as the study site. During the phone conversation, it was determined that all subsequent appointments would be scheduled through the curriculum coordinator at the study site since the curriculum coordinator is responsible for scheduling faculty meetings and would also be participating in the study. Through e-mail attachments, the researcher provided the curriculum coordinator and principal each with an informed consent letter (see Appendix F) describing the study and a copy of the music integration survey (see Appendix A). They were to review each instrument to better understand the proposed study and decide if and when the researcher could present her research at a faculty meeting to ask for participation. Although the researcher’s proposed organization of the study stated the presentation to the faculty and data collection would take place within a three week time period, scheduling difficulties required a change of plans. The change in timeline is addressed thoroughly in the following section; however, acknowledging the timeline change in this section is necessary as it affected the organization of the study.

The organization of the study as phase I and phase II is being presented to reflect the two faculty meetings and corresponding data collection. In phase I, the researcher met with K-2 teachers at a primary grade level staff meeting. A 15-minute verbal presentation describing the research and why this school was chosen took place. Teachers were given a copy of the consent form for their records and asked to return the completed consent form and survey within the two-week timeframe to the collection box provided in the school’s main office. Initially, the researcher requested the completion and collection of the two instruments would occur at the end of that staff meeting. However, the teacher in charge of the meeting stated that teachers choosing to participate would do so later. All teachers were encouraged to complete the survey whether or not they intended to participate further.
The researcher conducted an audio-taped interview with the district music supervisor using a newly created instrument (see Authentication and Trustworthiness), the Administrative Music Integration Interview (see Appendix D). The Administrative interview is a combination of survey questions (see Appendix A) and interview questions (see Appendix C). Building upon the most applicable questions from each instrument and considering the administrative perspective required, the researcher constructed the new instrument. Realizing that time constraints would allow only one meeting with each of the three chosen administrative personnel, the need for the new instrument was evident. These three participants were the district music supervisor, the school principal, and the school curriculum coordinator. The music teacher volunteered to be interviewed on the same day that the school site administrative interviews occurred and the opportunity for data collection was scheduled. Even though the music teacher was not an administrator, the researcher determined the administrative interview instrument was most applicable to gain deeper insight from the music teacher perspective. Especially given the fact that there was only one music teacher in the study, the richest data was desired from that participant.

The researcher collected the surveys from phase I and scheduled phase II to include the individual audio-taped interviews with the principal, curriculum coordinator, and the music teacher. The three interviews took approximately 30 minutes each and a faculty meeting presentation took place the same day. The same 15-minute verbal presentation that was made to the phase I primary teachers was made to the entire faculty, including the Intermediate Grades 3 through 5 that had not heard the previous research presentation. The researcher and principal agreed that the entire staff should be present in an effort to increase the percentage of participants. Several teachers volunteered to participate and consent forms and surveys were distributed. A sign up sheet was completed enabling the researcher to contact each participant and schedule the collection of the remaining information. Observations were scheduled and teachers were
requested to have all remaining items ready for collection at the observation appointment. These data items included: the consent form, the survey, lesson plan(s), and student achievement documentation.

The participants were asked to provide two musically integrated lessons that they helped implement during the fall of 2004 school year and perceive to be most academically effective for music and a core subject. All of the teachers said the lesson plans submitted were indicative of lessons they had taught prior to hearing about this research project. One teacher, the mathematics coach, explained that her interest of music integration was peaked during the research study presentation and that she did research on the internet and asked colleagues to help her, in preparation for her lesson to be observed. The resulting data from the mathematics coach’s participation were very important to this study. Five teachers provided a lesson plan that corresponded with the lesson the researcher observed. The kindergarten and first-grade teachers each provided an extra lesson plan for review. The respondents were also asked to provide evidence of student academic achievement perceived by the teacher participant to be influenced by music integration for the corresponding lesson. All identifying marks pertaining to student identity were removed by the participants before presenting them to the researcher.

The researcher used the Music Integration Observation and Lesson Plan Checklist (see Appendix B) to document the level of music integration observed as well as to analyze the lesson plan provided. The music integration checklist designed by the researcher and authenticated (see Authentication and Trustworthiness) by education colleagues is aligned with the Wiggins and Wiggins (1997) criteria (see Appendix B). After the researcher identified the level of music integration that was observed as well as in the lesson plan, a comparison was made between the researcher’s findings and the educators’ perceptions regarding the level of music integration that occurred.

The final step in the data collection was the audio-taped interview (see Appendix C) with
each participating teacher. At the interview, each teacher elaborated on factors affecting music integration, student academic achievement, and other emerging issues involving music integration implementation. The interview process was as short as 10 minutes with a couple teachers and as much as 30 minutes with others. Analyses pertaining to the levels of integration across the four data collection tools (the survey, observation, lesson plan and interview) were conducted. Documentation of academic achievement was analyzed later for similarities (Miles & Huberman, 1994; see also Data Management and Analysis). The results of the collected data and analysis are described in chapter 4.

The participants were contacted four to six times by the researcher during this study, depending on if they were at the first staff meeting and if reminder calls and/or e-mails were necessary. Two contacts were at faculty meetings, and two were visits in person for the observation and interview. At least one contact was made through a reminder placed in their school mailbox, a phone call, or an e-mail message. Total time for participation in this study was less than 2 ½ hours. The survey required approximately 20 minutes to complete. The collection of achievement documentation by the participants should have taken less than the estimated 45 minutes. The observations were all an average of 30 minutes, and the interview times ranged from 10 to 30 minutes each. The amount of time each participant invested was determined greatly by the participant.

Timeline of the Study

The first contact with the school site occurred in early May 2004. At that time, the researcher attempted to schedule the research presentation to the entire staff at a faculty meeting and hoped to complete consent forms and surveys before dismissal of school for the summer break. Due to the end-of-the-school-year demands on the staff as well as demands within the first month of school restarting after summer break, the first presentation was delayed until early September 2004. Although attempts were made by the researcher to present to the entire staff at
one faculty meeting in September, only the primary teachers (K-2) and specialists (P.E., Music, Art, and Gifted) were available.

In order to get the collection process started, the timeline became that of Phase I and Phase II. The teachers at this meeting were asked to complete the consent and survey forms within a two-week period, at which time the researcher was to retrieve the confidential collection box from the school site’s main office. No one had predicted, however, that four hurricanes would hit Florida in as many weeks and that delays would be inevitable. Due to school closures, evacuation mandates, and damages suffered throughout the county, the collection box could not be retrieved until the first week of October that same year. At this point, the entire timeline had shifted by nearly 6 weeks. Scheduling the remainder of the data collection became increasingly difficult as teachers were beginning to plan their instructional time around the Thanksgiving break.

Confirmation to present the research project came 3 weeks later at the end of October, and the researcher was told that the first faculty meeting available for her presentation would be the middle of November 2004. The 15-minute presentation and three administrative interviews occurred in November, marking the beginning of Phase II data collection. When teachers returned from Thanksgiving break the researcher’s efforts to schedule observations resumed. Observations, the collection of lesson plans, student work, and final interviews took place the second and third week of December 2004. Even though most of the data collection only took 2 weeks, the scheduling of it took 6 months of school calendar time (May 2004 through December 2004). The 2 summer months (June and July) were not calculated as they were not available access times for the researcher to contact the staff.

Although the researcher’s proposal and the Institutional Review Board (IRB) process were approved in May 2004, nothing could proceed without the approval of the school site. According to qualitative experts (Lincoln & Guba, 1985; Merriam, 1995; Mullen, 2002), to
increase trustworthiness and decrease distortion of data, all data should reflect the same time period. Therefore, all data collected for this case study represented the fall of the 2004 school year. Additional safeguards to increase trustworthiness and authentication were taken by the researcher such as triangulation of data, peer review, and broad educational perspectives (Lincoln & Guba, 1985). For further review of qualitative measures taken for authentication and trustworthiness, see chapter 3, Authentication and Trustworthiness.

The data collected were organized and analyzed to provide insight and understanding of possible contributing factors and linkages between music integration and higher student academic achievement (Merriam, 1988; Miles & Huberman, 1994; Patton, 2002). While the results may or may not imply a causal relationship, it should be noted that these are interpretations and hypotheses and are believed by some researchers to be limitations of case study design and by others to yield thick descriptive informative data referred to as a distinct quality of case study (Guba & Lincoln, 1981; Merriam, 1995; Patton, 2002). The intent was to examine common themes and issues among integration and achievement that may reveal best practices towards successful implementation of effective musically integrated curricula in the public elementary school setting.

Definitions of Relevant Terms

The following working definitions are provided for clarification of terms used in the context of this case study. The descriptions provided are compilations of several definitions for an overview of meaning unless otherwise noted by direct quotes or reference to a particular source. To protect the identity of the study site, the school administration web site source is not provided. It is acknowledged only so that the reader is aware that many counties offer web sites for educational information. Additional terms are provided in chapter 2 in the context in which they are used throughout the literature review.

*Adequate Yearly Progress (AYP)*: State assessment to determine if a school has made
adequate yearly progress in the proficiency of the State’s academic achievement standards for all
students. AYP measurements target subgroups of student populations. This is a category of the
school grade information derived from the FCAT (school administration website; Florida

Conceptual Connections: Concepts are the focus of the lesson. Students apply the
understanding of a concept from one discipline to another discipline. Students can apply
knowledge of a concept in a familiar discipline to address an unfamiliar, but similar construct in
another discipline. For example, the concept of conflict and resolution can be studied in history,
literature, music, and science. The concept of structure can be studied through architecture,
literature, orchestral symphonies, and democracy. The concept of predicting is taught as
hypothesizing in science and estimating in mathematics. This is an example of Level 4 music
integration (Wiggins & Wiggins, 1997).

Curriculum Coordinator: Person certified in education in the state of Florida responsible
for coordinating the curriculum between grade levels and/or subject matter. The curriculum
coordinator is often a former or current teacher that has certification and/or credentials stating
qualifications to make curriculum decisions (school administration website).

District Music Supervisor: Person certified in education in the state of Florida. Has
certification and/or credentials stating qualifications to hold elementary music supervisor
administrative position (school administration website).

Elementary Music Teacher/Music Specialist: Person certified to teach the music
education curriculum in Grades K-5 in the state of Florida. Expected to teach the Sunshine State
Standards in the chosen certification area (Florida Department of Education, 2003a; Sunshine

Florida Comprehensive Achievement Test (FCAT): Annual assessment administered by
the state of Florida to every student. Primary purpose is to measure achievement in the Sunshine
State Standards for Reading, Writing, Mathematics, and Social Studies with a criterion-referenced test (CRT). Secondary purpose is to compare the performance of Florida students with other students across the nation using the norm-referenced test (NRT) (school administration website, Florida Department of Education, 2003a).

**Integration**: Skill and knowledge application across and beyond two discipline or subject areas (Beane, 1997; Drake, 1998).

**Interdisciplinary education**: “Of or involving two or more usually distinct academic disciplines” (Pickett, 2000). It is a holistic approach to education that involves two or more academic disciplines through a conceptual focus (Chubin, Porter, Rossini, & Connolly, 1986).

**K-5 classroom teacher**: Person certified to teach the core curriculum in Grades K-5 in the state of Florida. This teacher is expected to teach the Sunshine State Standards in the chosen certification area (Florida Department of Education, 2003a).

**Lesson plans**: Plan written by the teacher that outlines objectives, materials, methods, procedures, concepts, skills, behaviors, and other pertinent areas concerning what is to be taught to students (Florida Department of Education, 2003a).

**Music integration**: The combination of philosophical, conceptual, theoretical, pedagogical, methodological components of music education and another subject area or domain of knowledge. The extent of the connection across each discipline varies. Ideal music integration preserves the integrity and validity of music through authentic application (Burton, 2001; Snyder, 1999).

**No Child Left Behind Act of 2001 (NCLB)**: To ensure that all children have an equal, fair, and significant opportunity to obtain a high-quality education and reach proficiency on state academic achievement standards and state academic assessments. The NCLB act is closely connected with the Adequate Yearly Progress used to track the effectiveness of schools in Florida. The NCLB act contains “four basic education reform principles: stronger accountability
for results, increased flexibility and local control, expanded options for parents, and an emphasis on teaching methods that have been proven to work” (Florida Department of Education, 2003b; U.S. Department of Education, 2004).

Principal: Person certified in education in the state of Florida. Has certification and/or credentials stating qualifications to hold principal administrative position at the elementary school level (school administration website).

Process Connections: Refers to the process students use to engage in the subject matter. Many processes are common across disciplines and when students are aware of how a process functions in one discipline, they can apply that knowledge and better understand another discipline. Some examples are sequencing, organizing, patterning, connecting, interpreting, symbolizing, and classifying. These few processes mentioned can connect each subject area required in the Sunshine State Standards (Sunshine State Standards, 1996). This is an example of Level 5 music integration (Wiggins & Wiggins, 1997).

Public elementary school: Government funded school serving students in kindergarten through fifth grade.

Stanford Achievement Test (SAT): Norm referenced standardized test administered annually to students (Florida Department of Education, 2003a).

Sunshine State Standards (SSS): Standards outlining expectations of Florida student achievement in seven subject areas, each divided into four separate grade clusters (PreK-2, 3-5, 6-8, and 9-12). Approved by the State Board of Education in 1996 (school administration website, Florida Department of Education, 2003a; Sunshine State Standards, 1996).

Teaching-tool Connections: Referred to as a subservient approach. One discipline is considered less important and serves another as a vehicle for memorization or the learning of facts. For example, singing a song about mathematics facts, the alphabet, or state capitals. This is an example of Level 1 music integration (Wiggins & Wiggins, 1997).
Thematic/Content Connections: When two or more disciplines are addressed in the form of a thematic unit. Often themes focus on less important content or concepts, losing intensity of the substance. For example a thematic unit on animals could be shallow if using mere pictures, songs, and stories to learn about the animals. However, more meaningful connections can be made if students apply their skills of drawing the animals, analyzing high and low pitches of animal sounds, and create descriptive writing samples depicting the animals. This is an example of Level 3 music integration (Wiggins & Wiggins, 1997).

Topic Connections: When one discipline is used to enrich or clarify the subject matter of another without reciprocity. For example, reading a play about a famous historical figure enriches the history lesson but does not enrich the art lesson (how the playwright uses art form to express the human condition). This is an example of Level 2 music integration (Wiggins & Wiggins, 1997).

Transfer of knowledge: The improvement or facilitation of one cognitive ability or motor skill by applying prior learning or practice from another (Catterall, 2002; Mark, 1996; Scripp, 2002; Weinberger, 1999b; Wiggins, 2001).
CHAPTER II: LITERATURE REVIEW

Introduction

Three main focal points of inquiry are found in this case study: (a) music integration, (b) implementation, and (c) student achievement. Historical and foundational information on interdisciplinary education and music education is critical if the reader is to understand how the interdisciplinary education and music connect. Once a basic understanding is achieved, the reader may see more clearly how the interdisciplinary qualities of music allow for music integration implementation so appropriately in the elementary curriculum.

This chapter contains four major sections: (a) Interdisciplinary Education, (b) Music Education, (c) Interdisciplinary Qualities of Music Education, and (d) Reflections on the Literature. The first three sections contain approximately nine subsections addressing issues pertinent to that educational focus. The final section reflects on the literature presented in this chapter in regard to the topic of this case study.

Many educators may think integration is a new approach to education and curriculum design based on the minimal attention and implementation it has received in the past (Beane, 1997; Drake, 1998; Mallery, 2000). With the increase in interdisciplinary literature over the past 20 years, the exposure of this approach to curriculum design is expanding. Educators are presented literature on integrative practices and its proposed benefits even more today (Erickson, 1998; Franklin, 2000; Hyatt, 2004; Pate, Homestead, & McGinnis, 1997; Wood, 2001).

Though the educational literature predominately underscores benefits of interdisciplinary education (Beane, 1997; Drake, 1998, Erickson, 1998; Jacobs, 1997), reports of limitations and challenges also exist (Boccuti, 2000; Ellis & Fouts, 2001; Wineburg & Grossman, 2000). Many resources lend support to interdisciplinary education as a positive alternative to traditional
education delivery systems. Advocates for integrative curricula promote interdisciplinary education’s positive impact on student achievement as a reason for exploring this approach (Davis, 1995; Jones, Rasmussen, & Moffitt, 1997; Mallery, 2000; Wood, 2001). Several studies investigated music education’s role in the implementation of integrated curricula because of its interdisciplinary qualities (Barrett, 2001; Burton, 2001; Ellis & Fouts, 2001). Literature in this area is expanding as music education’s connections to interdisciplinary education become evident (Hyatt, 2004; Jensen, 2000; Snyder, 2001; Wiggins, 2001).

Despite the overlapping areas of inquiry between the interdisciplinary education literature and the music education literature, a gap is apparent. This gap that remains pertains to how best to integrate music into the curriculum to achieve the higher student achievement benefits cited by both. This literature review presents historical and current perspectives of interdisciplinary education to offer a better understanding of how music integration has and continues to evolve. Particular effort was given to find consensus on what effective music integration is and how best to implement it. To achieve this, a thorough review of pertinent literature was necessary.

Many researchers provided definitions, interpretations and application of terms relating to interdisciplinary education. The meaning of terms varies according to the context in which they are used. Terms and their definition are provided in context throughout this chapter. The reader is reminded that similar and/or same terminology is used throughout this document and should be interpreted in the context by which each author cited is using it. The ambiguity of terms often hinders implementation, as it is difficult for educators to agree, understand, and act on the same integrative terms. This literature review serves to illuminate such ambiguities to raise the reader’s awareness to a broader level of understanding, one that reveals effective integration implementation regardless of the words used to describe it.

A definition of discipline of knowledge is provided next and is found often throughout integration literature because the word discipline is embedded in various terms related to this
topic. The literature describes a discipline of knowledge as a field of inquiry, a lens in which to view the world (Davis, 1995; Wiggins, 2001). A discipline of knowledge uses techniques and processes to analyze, interpret, understand and explain the world (Beane, 1997; Burton, 2001). *The American Heritage Dictionary* (Pickett, 2000) defines discipline as a branch of knowledge or teaching; to train by instruction and practice.

To aid the reader in understanding the term interdisciplinary, the definition has intentionally been oversimplified as follows: *Inter*, meaning between, and *disciplinary*, meaning area of knowledge. The definition of interdisciplinary given by *The American Heritage Dictionary* (Pickett, 2000) is that of or involving two or more usually distinct academic disciplines. Further explanation from the literature describes interdisciplinary as a holistic approach to education that involves two or more academic disciplines through a conceptual focus (Beane, 1997; Davis, 1995; Wiggins, 2001).

The philosophy behind interdisciplinary education is that the knowledge and skills being taught to students should reflect that of real life experiences. Because life experiences are not compartmentalized, neither should be the presentation of knowledge (Beane, 1997). Studies indicate that the holistic approach to education is a key component to increased student achievement because educators implementing it consider the whole-child while presenting knowledge in real-life contexts (Beane, 1997; Davis, 1995; Drake, 1998; Erickson, 1998). Teachers using the interdisciplinary approach present concepts and skills as they naturally apply to various disciplines, not as exclusive pieces of knowledge. Beane (1997), a well-cited expert in the field of interdisciplinary education, captured the integrative philosophy well: “In this way, we come to understand and use knowledge not in terms of the differentiated compartments by which it is labeled in school, but rather as it is ‘integrated’ in the context of the real problems and issues” (p. 7). Though possibly taught by one teacher, interdisciplinary education is most often accomplished with team-teaching. Teaching methods include the following: (a) making
connections outside the primary discipline; (b) linking disciplinary frameworks with common themes, issues, and problems; and (c) using more than one discipline to pursue an inquiry (Boccuti, 2000; Burton, 2001; Davis, 1995; Drake, 1998; Erickson, 1998).

Structure Concept

This researcher believes at least four categories make up the structure of music education that are common to other disciplines, thus making alignment between subject matter possible. The common categories to be examined here are Philosophies, Concepts, Theories, and Pedagogy. While this common structure was not clearly identified in the prior literature, this researcher suggests these categories can be examined within each discipline separately as well as across from one discipline to another. Viewing the two or more disciplines from these two perspectives, “within” and “across,” allows educators to examine them vertically as well as horizontally. That such alignment exists substantiates the claim that music education is both a discipline of knowledge and an ideal tool for interdisciplinary education.

Alignment between disciplines should be identified and understood by educators as a basis for planning integrated curricula such as interdisciplinary education (Drake, 1998; Erickson, 1998; Jacobs, 1997; Wood, 2001). To ensure success of an interdisciplinary education program, authentic connections across disciplines must be forged and the integrity of the disciplines must be maintained (Akin, n.d.; Snyder, 1999, 2001; Wiggins, 2001). These two issues, authenticity and integrity, must be addressed when educators pursue integrative curricula (Barrett, 2001; Burton, 2001; Ellis & Fouts, 2001; Weinberger, 1999a, 2000). Examples of authentic connections between music and other disciplines are provided later in this chapter in Programmatic Studies.

Interdisciplinary Education

*What is Interdisciplinary Education?*

Interdisciplinary education is not an easy concept to understand, given the overuse and multiple meanings of the term *interdisciplinary*. One analogy for integration is that of analyzing
the body versus its body parts. The body parts represent the separate discipline approach to education, and the whole body represents the interdisciplinary approach. A metaphor that Hass, Hursh, and Moore (Davis, 1995) used is helpful when describing the concept of interdisciplinary education in this way: If four different pieces of fruit were placed side by side on a table, the first impulse would likely be to describe each one separately. The authors pointed out that the presentation of the fruit invites discrimination. Further examination may lead to conversation of similarities and differences among the fruit. This level of examination is only the beginning of an interdisciplinary conversation. If the fruit were placed in a basket, the examiners would recognize that a new entity was created and thus, new perspectives as well. This new set of relationships invites new descriptions because what were once four entities is now one new construct.

The previous analogies imply the concept of integration that is most aligned with the interdisciplinary approach to education discussed throughout this chapter. Integration, as applied in this study, refers to the authentic combining of philosophies, concepts, theories, and methods across disciplines, at varying degrees. Continuums are most often the model used to describe the varying degrees of an integrated curriculum. As Davis (1995), an interdisciplinary educator pointed out, new educational perspectives can be gained through integration: “If there is a key characteristic of interdisciplinary courses, it is ‘integration’, or scholars working together to pool their interests, insights, and methods, usually with the hope of gaining and presenting new understandings that could not be derived from working alone” (p. 6).

Educators have been trained to organize curricula as separate areas of knowledge with separate time slots for each. This approach minimizes opportunities for meaningful learning experiences and connections across disciplines. The traditional format takes students from one level of knowledge to another as if each is an implicit, separate acquired level of knowledge, an end in and of itself. Experts addressed this constricted view of knowledge as a contributing factor to today’s education problems (Drake, 1998). Experts suggested that, if academic improvements
are desired, changes in paradigms and philosophies may be necessary (Drake, 1998; Mallery, 2000; Weinberger, 1999a).

Curriculum and Instruction experts encourage educators to think outside the “traditional curriculum” box to develop curricula that blur the lines of disciplines. In addition to the academic and non-academic benefits believed to result from the various integrated programs, research indicates that a combination of both the separate and the integrated discipline approach may be best for knowledge acquisition (Drake, 1998; Richlin, 1993; Wineburg & Grossman, 2000).

The ability to synthesize and apply information across disciplines and to other areas of life is an educational goal encouraged by many educational institutions, regardless of the grade level of its students. In that respect, many educators accept the philosophy and goals of interdisciplinary education. However, accepting the concept of interdisciplinary education and pursuing its implementation are not synonymous. The historical perspective reveals some of the reasons interdisciplinary education has been cast aside in the past and offers insights that may aid its revival in the future.

*Historical Influences of Interdisciplinary Education*

References to interdisciplinary education and the relationship between various forms of knowledge are found dating back to Plato and Aristotle. Other well-known philosophers such as Bacon, Descartes, Dewey, Kant, and Hegel addressed the concern of the fragmentation of knowledge, and the need for unity (Davis, 1995). Interdisciplinary education is not a new concept; it has been struggled with since the pursuit of knowledge. The time period most referred to in literature on early interdisciplinary education initiatives is the early to mid-20th Century. This period is known as the progressive era in education (Beane, 1997; Davis, 1995; Dewey, 1956; Drake, 1998; Mallery, 2000).

There is a resonance of familiarity in today’s educational reform issues to that of the progressive era in regards to examining curriculum content and delivery. For example, the
progressive education movement in the 1930s proposed that rote memorization and separate
domain knowledge acquisition were not effective methods of education (Beane, 1997). Current
educational reforms argue the same point when speaking of high stakes testing issues (Drake,
1998; Popham, 2004). Perhaps the resurgence of interest in interdisciplinary education is a side
effect of today’s state of educational systems, just as it was at the turn of the 20th Century.

Another issue that led the way for progressive education initiatives in the past and
continues to add support for interdisciplinary education today is the consideration of how children
best learn. European educational psychologists Herbert, Pestalozzi, and Froebel helped move the
progressive education movement toward the correlation of subject matter in elementary schools
(Boccuti, 2000). Activists such as Francis Parker and John Dewey led many in the crusade for a
connected comprehensive approach to education. To them and many others, the artificial
separation of concepts or knowledge into isolated compartments of teaching and learning time
created a learning environment unlike real-life experiences (Beane, 1997; Davis, 1995; Dewey,
1938).

Interesting to note is the similarity of Dewey’s Laboratory School of 1896 to Gardner’s
Key School, which is still in operation today. Dewey’s school focused on the interests and
purposes of learners and Gardner’s school focuses on the students’ areas of interest and
intelligences. Both schools supported interdisciplinary, thematic investigations in curriculum
schools designed such as these are beneficial to student achievement and development, few
currently exist (Wineburg & Grossman, 2000).

Even before the progressive era, educators realized that curriculum design and content
needed to be carefully organized. Publications from the Committee of Ten on Secondary School
Studies [1893], the Committee of Fifteen on Elementary Education [1895], and the Eight Year
Study [1930] hold significance in the impact of curriculum decision-making. The Eight Year
Study provided evidence that the integrated approach has merit. It is frequently referenced in interdisciplinary literature for influencing changes in traditional organization of educational systems. Of the schools that participated in The Eight Year Study, those with the most integrated interdisciplinary curricula reported higher student achievement that schools with less integrated curricula (Boccuti, 2000; Drake, 1998).

Timing of world events put the results of the Eight Year Study and other important educational breakthroughs in the backs of many minds (Beane, 1997; Boccuti, 2000; Davis, 1995; Drake, 1998). Due to World War II in 1941 and the launching of Sputnik in 1957, those of separate-subject curriculum designs overshadowed educational recommendations for comprehensive integrated curricula. The push for specialization in mathematics and sciences drove traditional structures to the forefront. Funding and time allotted for the promotion of these areas caused declines in other academic areas leading many people to believe them less important.

Educational systems are still fighting the ill effects of specialization today. Many programs remain in critical condition partly because of lack of information linking them to academic importance. The arts, in particular music education, have suffered greatly and continue to struggle to gain validation in the school curriculum (Mark, 1999; Music Educators National Conference (MENC): The National Association for Music Education, 2001). Efforts to overcome the image that music education is not “academic” include national standards, research, and other advocacy actions. These and similar issues are discussed in more detail near the end of this chapter.

Impetus for Change

The decade leading into the new millennium has produced the most widespread acceptance of interdisciplinary education thus far. The literature indicated this approach will have a strong influence on education in the future (Franklin, 2000; Mallery, 2000; Wood, 2001).
Educators are looking for ways educational systems can improve, and the integrated curriculum approach is one many are considering. This search for something better is contributing to the increase in attention to curricular integration (Jones, Rasmussen, & Moffitt, 1997; Wineburg & Grossman, 2000).

What has prompted this need for change? Educators realize education systems need to better prepare students for life beyond the classroom. A big challenge for today’s educators is to determine the best content and delivery methods to assist students in attaining and applying new knowledge. An example of the growing concern for meeting the educational expectations that every child deserves emerged fairly recently when President Bush signed the No Child Left Behind Act (NCLB) into law (U.S. Department of Education, 2004). The primary purpose of NCLB is to ensure that all children have an equal opportunity to reach proficiency on state academic standards and assessments and obtain a high-quality education. Educators and lawmakers realize an increase in attention to key areas of educational systems must occur if schools are to meet the high standards of effective and efficient education with which they are challenged (Florida Department of Education, 2003a).

The Florida Department of Education (2003b) provides insight on NCLB and stated, “[It] contains the most sweeping changes to the Elementary and Secondary Education Act since it was enacted in 1965” (par. 2). According to the U.S. Department of Education web site (2004), NCLB is “groundbreaking educational reform” based on the following four ideals: (a) Stronger accountability for results, (b) more freedom for States and communities, (c) more choices for parents, and (d) encouragement of proven education methods.

As time passes and accountability issues take their toll, NCLB experiences notable opposition. There is concern by some educators, particularly music educators that curriculum decision-makers may overlook the verbiage stating the arts are a core academic subject under NCLB (Howes, 2004). Such fears are substantiated by test preparatory actions that many schools
are taking, which minimize time for the arts in the curriculum.

Howes (2004), the 2003-2004 president of the Florida Music Educators’ Association, stated that Shuler, a keynote speaker for the 2004 Florida Music Educators Association Conference, talks of NCLB as “No Curriculum is Left Balanced” when the needs of children are left behind. In pursuit of a complete education for children, many educators would agree with Shuler’s summation.

Recent studies on the public opinion of NCLB reveal that the percentage of voters who oppose NCLB has grown substantially from 8% in 2003 to 28% in 2004 (Azzam, 2004). Questions of appropriate Adequate Yearly Progress (AYP) testing and accountability measures are among parental and educator concerns. Popham (2004), a professor of education stated, “Accountability systems implemented with inappropriate achievement tests harm students instead of helping them” (p. 86). A positive trait to note is that NCLB supports research to determine effective educational programs and practices (U.S. Department of Education, 2004). According to the U.S. Department of Education web site, research illuminating student academic achievement is desired, making this case study of music integration and academic achievement pertinent to current educational reform issues.

Alternative educational structures may be a key component to improving student preparation (Mallery, 2000; SERVE, 1997). Education reform makers contemplate whether a new paradigm of curriculum design or just an adjustment of the old paradigm is necessary to meet this challenge. Some law makers believe NCLB and Florida Comprehensive Achievement Test (FCAT) initiatives will bring about the long-awaited changes that previous educational reform movements failed to achieve (U.S. Department of Education, 2004), while educators in the schools required to adopt such reform practices are likely to express concerns of reform failure “reruns.”

The term reform is used quite often when discussing proposed changes. Areas in need of
change are frequently identified and discussed in education. Many educators have proposed the terms *renewal or reconstruction* in place of *reform* to indicate the occurrence of something different taking place (Davis, 1995; Drake, 1998). Further supporting the idea that changes in education require changes in accountability systems, Wineburg and Grossman (2000), professors and authors on interdisciplinary curricula, stated, “Thinking about renewal as the operative change model instead of reform suggests a major deconstruction of traditional accountability notions” (p. xi).

Those involved with reforms toward interdisciplinary education should consider structural, cultural, and political dimensions (Davis, 1995; Mallery, 2000; Wineburg & Grossman, 2000). Often changes in these and other dimensions of education must take place throughout the school system in order for educational demands to be met. The need for structural changes at many levels of education systems is often overlooked, which leads to failed interdisciplinary initiatives (Franklin, 2000; Pate, Homestead, & McGinnis, 1997). Education system changes involve much more than mere on-site planning and are beyond the attainable scope of teachers alone.

*Life Beyond School*

Many educators and citizens are realizing educational change is necessary and that the separate domain method may not be the best approach to meet the demanding educational needs of today (Erickson, 1998; Jones, Rasmussen, & Moffitt, 1997; Wineburg & Grossman, 2000). Thus supporters of the integrated approach to education, work toward furthering a “vision of the fullest human potential through interdisciplinary pursuit of the academic disciplines” (Franklin, 2000, p. 149). When businesses were asked what they look for when hiring new employees fresh out of high school or college, they listed skills that are fostered by integration.

Necessary Skills) report, and a 2000 SCANS report on What Work Requires of Schools. All three reports indicate that the interdisciplinary approach to education is aligned with employer expectations. Drake (1998) found similar expectations in a 1992 Employability Skills Profile report from Canada and concluded, “These work-related skills are cross-disciplinary and not connected to any particular subject area” (p. 12). A multitude of studies seem to support the interdisciplinary approach to education as a means for preparing students for employment even though they are not directly stating this is the case.

Research indicates that music may assist in attaining desired work skills (Harvey, 2001). In his report on music in education, Harvey, a newscaster and supporter of music, implied that schools are refining intellects while neglecting other perhaps more important areas. Harvey credits music education for teaching students self-discipline and implied that a curriculum without it is negligent, risking graduating young people who are “right-brain damaged.” Harvey argued for the benefits of music, holding that music can meet the needs of students in important ways and cited case histories on file with the National Commission on Music Education that uncover exciting correlation between the study of music and such critical work-place performance factors as self-esteem, self-discipline, the ability to work in groups and higher cognitive and analytical skills.

Evidence suggests that the expectations of employers, parents, and society in general are being met when the interdisciplinary approach is used. Drake (1998) claimed, “Ultimately, when students can transfer learning, they are more employable and they are more likely to become lifelong learners” (p. 18). While employers do not label expectations as outcomes of education, it is obvious that specialized training in particular domains of knowledge is farther down on the list of sought-after abilities.

Students are expected to succeed beyond the boundaries of the school system. In order to do this they must have training and experience in higher-order thinking and problem-solving.
skills. As Jones, Rasmussen, and Moffitt (1997), interdisciplinary educators, explained acquiring knowledge about something is not enough for students to be considered knowledgeable, students must be able to apply knowledge in many settings in today’s society.

The interdisciplinary approach helps students develop analysis and synthesis skills that make learning a meaningful and useful endeavor. When elementary students demonstrate knowledge and transfer skills across disciplines, they can more clearly see the usefulness of that knowledge; the learning experience is more meaningful as the knowledge is applied (Drake, 1998; Drake & Burns, 2004; Erickson, 1995; Wood, 2001). For example, when students analyze the concept of numbers and their assigned values, they can synthesize information and apply it to other areas in their lives such as understanding time, money, and distance values (Drake, 1998; Erickson, 1998; Snyder, 2001; Wiggins, 2001; Yoh, 1996).

It is apparent that today’s workforce and society in general are not content with “in the box” thinking as once believed (Davis, 1995; Wineburg & Grossman, 2000; Wood, 2001). Employers want self-thinkers able to apply knowledge from one situation to another; therefore, we can not continue with the curriculum structures that exist in most schools today. Educators must provide students with the skills and experience to pursue new ways of thinking rather than teach them to accept the most common solutions to problems (Mallery, 2000).

Need Integrated and Single-Subject Curriculum

Studies reveal that the organization of the curriculum is an important aspect for successful integrated programs. Several sources referred to two major problems affecting curriculum organization for integrated programs, the “potpourri problem” and the “polarity problem” (Boccuti, 2000, p.152). The potpourri problem was described as a random sampling of knowledge instead of careful combination of knowledge from various disciplines, absence of structures of knowledge as well as focus. The polarity problem was referred to as an “either/or” approach to integration, causing limited consideration of possible connections across disciplines.
Teachers often inadvertently cause the polarity problem by striving to preserve their discipline of knowledge. The subject matter then becomes a territorial issue rather than an opportunity to present connections across disciplines. Many factors contribute to these two problems, but as more research is conducted and data reveal the value of incorporating both interdisciplinary and separate-subject approaches, more solutions can be explored.

Common arguments are cited in the literature for both approaches (Beane, 1997; Drake, 1998). One argument is the need for skill development and concept knowledge within separate disciplines in order for the analysis and synthesis process across disciplines to be effective (Erickson, 1998). Another reason cited for using both the discipline and interdisciplinary approach is to provide a balanced curriculum (Richlin, 1993). Among the reasons supporting both approaches are the need for integrity and authenticity in the curriculum.

When the integrity of the discipline is preserved and authentic connections across disciplines are applied, a balanced curriculum can flourish. This balance ensures the reciprocity of benefits for all disciplines involved with the integrative process. Scripp (2002), a music educator, explained how disciplines can benefit each other by reinforcing and deepening the learning from one discipline to another. Scripp found that reciprocity is possible because music is likely to benefit from strong instruction in the academics and academic performance is likely to benefit from strong musical instruction. Richlin (1993), a university educator, summarized the need for both approaches: “Integration in education must be characterized by a cooperative effort to create something new, while continuing to appreciate the integrity of the separate components” (p. 68).

*Interdisciplinary Education Curriculum*

The separate-subject approach is a selective, more discrete category of knowledge usually taught in time blocks separate from other disciplines. According to Beane (1997), this artificial separation of content and time has caused educators and students to lose sight of important
knowledge. Beane concluded, “The separate-subject approach, as a selective representation of disciplines of knowledge, has incorrectly portrayed the latter as ‘ends’ rather than ‘means’ of education” (p. 41). Beane’s viewpoint has merit in today’s education reform arguments regarding issues of memorization, fact learning, and expert test taking (Azzam, 2004; Popham, 2004). These are concerns educators continue to face.

The curricula designs discussed in this section allude to the variability and adaptability of integrated curricula. An in-depth review of interdisciplinary designs is recommended for a better understanding of integrative possibilities. Educators are encouraged to examine curricula designs from least- to most-desired, regarding how each may pertain to a school’s needs. The point most resources make is that such efforts are to be encouraged and the position one takes to do so must be determined by the context in which the approach is to be used.

Holistic Learning Model and the Whole Child Approach

Literature on interdisciplinary education often refers to the holistic qualities of this educational approach. According to The American Heritage Dictionary (Pickett, 2000), the term holistic means a theory or belief emphasizing the importance of the whole and the interdependence of its parts. A frequently cited benefit of interdisciplinary education is its relevance to life beyond the classroom (Erickson, 1998; Jones, Rasmussen, & Moffitt, 1997; Mallery, 2000). An example of educational relevance is given by Wood (2001). He stated, “Holistic studies of themes help students to note the interrelationships among the disciplines and to realize that they often need to apply the skills from more than one discipline whenever they study a topic or need to solve a problem in real life” (p. 145). Integrated curricula offer students more tools and broader perspectives from which to explore new ways of thinking. The holistic curricula model is similar to the multiple intelligence theory in that it too allows students to use strengths and interests for their inquiry. When reviewing literature on holistic curriculum and the whole child approach to teaching, it is evident that an integrated curriculum is necessary if an
education is to meet the needs of students (Beane, 1997; Pate, Homestead, & McGinnis, 1997).

According to Hendrick (1980b), an educator in early child development, there are three steps in developing an effective cognitive curriculum intended to meet the needs of the whole child: (a) identifying what interests the child, (b) developing a horizontal curriculum, and (c) developing a vertical curriculum. She stated and literature supports that the curriculum is most effective when actual reality-based experiences are provided (Beane, 1997; Franklin, 2000; Hendrick, 1980a). Presenting information to students without meaningful connections and opportunities to relate knowledge across domains is unnatural and unenjoyable (Beane, 1997; Franklin, 2000; Pate, Homestead, & McGinnis, 1997). Jones, Rasmussen, and Moffitt (1997) reported that cognitive science research reveals that rote learning may be effective in the short run for many routine tasks and tests, but it is not effective for deep understanding and retention of complex information or problem solving. The acquisition of new facts and skills leads to the important step of applying such facts and skills. This application process is referred to as critical thinking or higher-order thinking (Davis, 1995; Franklin, 2000).

Hendrick (1980a) suggested that, if educational environments are to foster learning and growth, the following “five selves of the child” should be addressed: (a) physical, (b) emotional, (c) social, (d) creative, and (e) cognitive. Hendrick’s list parallels several items on Gardner’s Multiple Intelligences list (see Learning Theories). Supporting Hendrick and Gardner’s holistic viewpoints, Franklin (2000), an author on curricular issues, wrote, “In order to give students the vision needed to develop toward a full unfolding of their potential, the curriculum must integrate its scientific, aesthetic, philosophical, and ethical branches” (p. 193).

The importance of addressing these areas listed by Hendrick, Gardner, and Franklin was reiterated by Pate, Homestead, and McGinnis (1997), interdisciplinary educators, in their description of a holistic curriculum. They described the holistic curriculum as one that promoted making connections, focused on depth versus breadth, and accounted for emerging knowledge;
this meant it took into account current learning theories and students’ cognitive, physical, emotional, and social needs.

*General Design Information*

Examples of what integrated curriculum contain in general were given by three practitioners in the field of integration, Wiggins (2001), Burton (2001), and Snyder (2001). Readers will begin to see similarities in what experts claimed fosters effective integration. Wiggins (2001) presented three areas of concern relating to designing an integrated curriculum:

1. Theoretical—teachers must agree on the theory of integration to work towards as there are many to consider.

2. Curricular—teachers must address curricular benefits using integrated and single-subject components of distinct disciplines.

3. Instructional—teachers must plan lessons that reflect the integration goals.

Wiggins promoted the notion that neglect in any of these areas could violate the integrity of the disciplines involved, create more challenges for teachers, and provide fewer benefits to students. A discussion on how best to manage the above mentioned areas is found later in this chapter in the Interdisciplinary Qualities of Music Education section.

According to Burton (2001), interdisciplinary curriculum designs should be based on one of three levels of integration: (a) thematic, (b) knowledge, or (c) learner-initiated. In the thematic integration model, themes are the curriculum organizers. While this approach helps students understand about a selected theme, it provides little knowledge or skill connections between disciplines. The knowledge integration model utilizes interactive relationships across disciplines by using knowledge and skills as linkages. Some areas of knowledge are unique and require individual discipline attention. Linkages are made only when they are authentic and assist in the learning goal. Burton supports the claim made earlier that both approaches to curriculum design are essential and cautions against forced linkages that detract from the intended outcome.
Burton considered the third model of integration, the learner-initiated integration model, the most important form of integration because it uses higher-order thinking and requires the student to make life-related connections among the disciplines. This model is driven by student inquiry and is believed to prepare students best for life beyond the classroom. Of Burton’s integrated curriculum designs, it is the model most aligned with the philosophies of interdisciplinary education.

Snyder (2001) stated, “Connection, correlation, and integration are three meaningful ways to link disciplines or intelligences, including the linking of music with other disciplines” (p. 34). She places these three as progressive levels or stages of development toward curriculum integration. Snyder said the “connection” level of integration is the least desired because one discipline is merely used to reinforce another discipline, as in the subservient role discussed by Wiggins (2001). Though connections can be excellent learning tools, she stated they cannot substitute for sequential teaching and learning of a discipline’s concepts and skills. When content and skills of disciplines are addressed equally in the integrated curriculum, correlation takes place. Materials and activities are shared to address the same topics in the same time frame. Snyder (1999, 2001) described an integrated curriculum as ideal providing that the integrity of each intelligence and discipline is maintained.

According to Snyder, questions should guide teachers in choosing a broad theme or central idea to be explored through the application and synthesis of one discipline to another. Students are a part of this planning process and teachers adapt the “big” questions to their own discipline to maximize authentic linkages. She stated that the discussions generated by the linkages lead to comparing and contrasting of ideas, which utilizes critical thinking skills in students. Snyder (2001) captures the essence of the music educator’s role in the integration process by suggesting the teacher ask how the chosen theme can be explained, explored, or elaborated on through music, and vice versa. In this integrated model, learning occurs in, about,
and through the arts. Snyder’s approach supports and confirms the reciprocal benefits of integration.

Specific Design Information

One of the most cited sources for interdisciplinary curriculum designs is a book by Jacobs (1989) on design and implementation. Researchers have credited her work on interdisciplinary curricula as an impetus for additional integrated curriculum models (Boccuti, 2000; Drake, 1998; Mallery, 2000). Jacobs offered six interdisciplinary curriculum design options: (a) discipline-based, (b) parallel, (c) multidisciplinary, (d) interdisciplinary, (e) integrated day, and (f) field-based. These six options can be categorized as a continuum of “less integrated to more integrated” models, requiring more students responsibilities in the process as integration progresses. In a more recent book by Jacobs (1997), a frequently cited interdisciplinary educator, “mapping” is portrayed as a tool for developing linkages across disciplines. Making maps of when and what content is being taught gives teachers insight to the overlaps of information that can be eliminated and/or capitalized on. This insight allows for more effective and efficient teaching to take place.

As integrated curricula gained attention, researchers noted the lack of models for teachers to reference. This prompted Drake (1993) to develop three curriculum frameworks as guides to assist those interested in developing interdisciplinary curricula. The Multidisciplinary Approach, according to Drake, is the best one to start with because it requires the teachers to analyze what is important to learn within the disciplines. The Interdisciplinary Skills Approach is the next level of development because it asks the more in-depth question of how teachers can teach students higher-order competencies. This approach focuses on commonalities across disciplines, not merely applying themes of subject areas. The final approach, the Transdisciplinary/Real-World Approach, is the most extensive of the three integrated frameworks offered by Drake because the setting, themes, strategies, and skills merge naturally and emphasis is often on personal growth
and social responsibility.

These are only a few models available and several challenges to keep in mind when considering the implementation of an interdisciplinary curriculum. Erickson (1998), an integrative educator, noted that understanding what an integrated curriculum can look like is only one of those challenges; knowing what steps to take next is yet another. Recurring issues found among the literature regarding the design process of integrated curriculum are understanding curriculum integration, assessing readiness for curriculum integration, preparing curriculum integration teams, and accessing helpful resources.

Erickson provided rationale and examples of different levels of integration, and explained which terminology best describes various curriculum examples. Teachers should be aware of many levels and contexts of integrated curriculum, and Erickson discussed the most common integration models throughout the book. Coordinated multidisciplinary units are compared and contrasted with integrated interdisciplinary units. Erickson provided convincing arguments on how the integrated interdisciplinary approach is more effective and efficient than the coordinated multidisciplinary units. Erickson (1998) stated, “There is a conceptual lens that forces thinking above the fact base” (p. 64). Students involved in this kind of conceptual thinking and transfer of knowledge experience the depth, rigor, and personal relevance learning has to offer. Students learn to develop and support their own analysis of issues. They learn to think, not just regurgitate information (Erickson, 1998).

Erickson also suggested that curriculum designs should shift from a topical focus to a conceptual focus, stating that, for students to understand increasingly complex social, political, and economic relationships in this world of rapid change, expanding knowledge, and global interaction, students need conceptual thinking abilities. Now, more than ever, students need to apply critical, creative, and integrated thinking skills.
Supportive Literature

Student achievement, among other benefits, has been linked to the whole-child approach to education and real-life learning experiences, both of which are practiced in integrated curricula (Davis, 1995; Erickson, 1998; Hendrick, 1980a). Literature indicates increased benefits may be possible with interdisciplinary education and attempts toward interdisciplinary implementation seem a step in the right direction (Davis, 1995; Erickson, 1998; Mallery, 2000; Wood, 2001).

Dill (1982), a college educator, contributed well to the field of interdisciplinary education at the elementary education level even though his primary educational focus is the college level curriculum. Dill proposed that the existence of many versions of interdisciplinary education programs cause confusion, making the concept difficult for some educators to understand. Regardless of the interdisciplinary education design examined, however, common conceptual ideas are evident. Support for interdisciplinary education encourages students to perceive the various entities of human knowledge within a larger holistic framework; interdisciplinary education stimulates a greater freedom of inquiry than conventional disciplinary education; and interdisciplinary education allows students to break out of narrow, conventional lines of thinking and to attain something akin to original insights.

Knowledge is compounded when opportunities to practice and further develop skills are available. Wiggins (2001) saw an example of this when he observed first graders using knowledge of retrograde movement in dance to identify melodic retrograde in music class. Wiggins noted that students applied their retrograde knowledge to complete mathematical “fact family” activities in their mathematics lessons (e.g., 7 - 2 = 5 and 5 + 2 = 7).

One problem educators are faced with today is the “teaching to the test” issue, even though studies show that almost any subject is best taught when it is needed to accomplish something else (Wood, 2001). A parallel problem is when teachers feel they must assign homework on specific skills to promote knowledge about a specific domain. Research has shown
that the “drill and grill” approach is less effective than once thought (Azzam, 2004; Drake, 1998; Erickson, 1998; Popham, 2004; Wood, 2001). Interdisciplinary experts predict that, as more teachers become aware of and implement integrated curriculum, more efficient and effective learning activities will take place (Beane, 1997; Snyder, 2001; Jacobs, 1997). Additionally, Wood (2001) claimed, “Teachers who have previously used artificial duplicated materials and other conventional practice items, which isolate skills from meaningful context, will no longer feel the need to use those materials” (p. 8). When more teachers realize how the integrated curriculum can combine educational goals and tasks, the vision of effectiveness and efficiency will become clearer.

Benefits to Student Learning and Development

Researchers credit interdisciplinary education for academic and non-academic student benefits (Jacobs, 1997; Mallery, 2000; Wood, 2001). Researchers studying student achievement have long discovered that personal factors play an important role in achievement. Personal issues have been found to affect schools in the following areas: (a) attendance, (b) discipline, participation, (c) attitudes toward learning, and (d) school atmosphere (Hyatt, 2004; Mickela, 2001; Reynolds, 1992; Richlin, 1993). Drake (1998) and other educators credited an integrated curriculum for improvements in personal issues such as self-esteem, enthusiasm, motivation, and respect, stating that gains in these areas have resulted in a better-quality learning environment.

The purpose of learning skills and information is questioned less by students and further learning is propelled. Assessment studies have shown that students who participate in interdisciplinary programs have the following qualities: (a) greater sensitivity to ethical issues, (b) greater ability to synthesize or integrate, (c) greater awareness of public issues, (d) more creative or unconventional thinking, (e) more humility and listening skills, and (f) greater sensitivity to assumption and biases. (Richlin, 1993, pp. 66-67)

Benefits of integration such as these seem tossed aside as unimportant even though it is
apparent that the integrated approach fosters other qualities that influence achievement and
development. The need for more qualitative case studies on related issues such as these is evident
to this researcher. Unfortunately, history reveals that curriculum decision makers seldom apply
qualitative study findings to curriculum and instruction changes. While the non-academic benefits
improve the learning environment, society still places more importance on evidence of academic
gains. Because more confidence is placed on standardized test scores as determinants of student
achievement, it is no wonder that studies regarding academic achievement hold more weight with
decision makers. As stated earlier, interdisciplinary education is credited for higher student
achievement. It is important, then, to consider how student achievement is determined.

Standardized tests are often used to determine student achievement. Studies reported
higher test scores on the California Achievement Test and the Iowa Test of Basic Skills by
students in the integrated programs over those students in traditional programs (Drake, 1998). No
studies reported lower test scores or grades by the experimental groups, only by the control
groups of students not participating in integrated curricula. The studies also reported that the
longer students remain in the integrated programs, the more gains are made, thus reporting
continual improvement over time.

A 10-year study on a Los Angeles Interdisciplinary Humanities Program reported,
“[There was] statistically significant improvement in student writing and increased content
knowledge over a year. . . . The more time students spent in the program, the more their writing
skills and knowledge improved, attendance improved, and drop-out rates decreased” (Drake,
1998, p. 34). Several articles on this topic support the belief that students involved in integrated
curricula perform as well as, if not better than, students in conventional programs on standardized
tests and course grades (see Beane, 1995; Ellis & Fouts, 2001; Vars, 1996, 1997, 2000). Based on
these and similar studies, benefits beyond improved test scores is evident.

Benefits from the interdisciplinary approach stem from its philosophical and theoretical
bases of meaningful learning experiences. Curricula that are aligned with how students construct meaning and view the curriculum, and how the brain functions, produce greater learning (Beane, 1997; Drake, 1998). According to Ellis and Fouts (2001), advocates for interdisciplinary education claim that such curricula improve higher-order thinking skills and motivation to learn. They also stated that the integrated curriculum provides real-world applications, multiple perspective, and transfer of learning opportunities (Catterall, 2002; Erickson, 1998; Scripp, 2002).

Though advocates for interdisciplinary education produce arguments supporting the benefits for students, critics want substantiated data. Skeptics question the increased student achievement and request specific data supporting interdisciplinary education as the cause of the positive difference in the identified areas (Drake, 1998). Researchers are cautious not to report such findings as cause and effect studies. Support for interdisciplinary education can be found both in quantitative and qualitative studies as found throughout this chapter.

Drake (1998) anchors claims of student achievement with examples of studies on the topic. One study revealed more positive attitudes toward science, higher performance on science process skills, and a four-percentile positive difference on Stanford Achievement Test by those students of the Integrated Science program over those in the control group. Another study of a similar technology program revealed students experience twice the gain in grade level achievement in word recognition skills over the control group using conventional reading methods.

Though research is limited and often inconclusive regarding the actual cause for student achievement, none of the literature reviewed for this research produced evidence of detrimental effects on students associated with the interdisciplinary approach to education. Educators opposing interdisciplinary education cite concerns of implementation limitations and discipline integrity, both of which are addressed in the following section. More important is that evidence of interdisciplinary education’s positive effects is available. The literature indicates that an
integrated education is beneficial to student academic achievement and non-academic
development (Jacobs, 1997; Mallery, 2000; Wood, 2001).

**Oppositional Literature**

Oppositional literature on interdisciplinary education is addressed most often from one of
two perspectives: (a) research or literature against interdisciplinary education (Ellis & Fouts,
2001), or (b) research or literature emphasizing implementation limitations (Erickson, 1998;
Jacob, 1997; Wineburg & Grossman, 2000). There is very little literature available on the first
perspective. Researchers have deduced that weaknesses and constraints of scientific research have
resulted in the void found here (Beane, 1997; Ellis & Fouts, 2001).

Though the claims that interdisciplinary education positively affects student academic
achievement have been questioned and investigated, little evidence against such claims is
produced (Drake, 1998). It is not to be assumed that a lack of literature “against” interdisciplinary
education implies only positive attributes regarding interdisciplinary education. Conversely, a
lack of research “for” interdisciplinary education should not imply that interdisciplinary
education should be avoided.

Although finding oppositional comments about the implementation of integration proved
difficult, a strong viewpoint against integrated curricula was found by Ellis and Fouts (2001),
professors of education, who examined benefits and drawbacks to music integration. They shared
that Thomas Sowell claimed interdisciplinary education is a passing phase that should really be
called *nondisciplinary*. Ellis and Fouts examined both sides of the argument presenting viable
considerations.

Other educators share the view that the interdisciplinary education approach shortchanges
students in regards to depth of subject matter, sequencing of skills, and other issues of discipline
coverage. Those opposing the interdisciplinary approach to education say good teachers have
always made connections across disciplines while preserving the separate discipline approach and
that an interdisciplinary curriculum will take away from the benefits found in traditional separate discipline delivery (Ellis & Fouts, 2001).

Implementation Limitations

Educators often resist alternative education initiatives (Drake, 1998). Resistance is often due to the change process involved, not opposition to the actual educational approach. Naturally such apprehension minimizes support for interdisciplinary education initiatives. A lack of support during the change process limits implementation progress.

The following issues for resistance to change are not unique to education, instead they are typical reasons found when discussing resistance to change in any profession. These issues involve support, research, time, money, patience, fear, training, and integrity (Ellis & Fouts, 2001; Mallery, 2000; Wineburg & Grossman, 2000; Wood, 2001). Based on the literature reviewed, when all people involved in the process do not adequately address issues such as the ones listed, the implementation of integration initiatives suffers. Many in the field of interdisciplinary education propose that increased literature and research on interdisciplinary education will lead to improvements in areas that have previously hindered the implementation of the approach (Barrett, 2001; Klester, 1998; Pate, Homestead, & McGinnis, 1997).

Music Education

Historical Influences of Music Education

A historical review of education reveals music has been a part of education for centuries. Plato said, “I would teach the children music, physics and philosophy, but the most important is music, for in the patterns of the arts are the keys to all learning” (Music Is . . . and the Value of Music in Education, 2000a). Unfortunately, many do not share Plato’s opinion of the importance of music in education.

The field of music education struggles for validation in education today, and history indicates this is not a new problem (Bowman, 1998; Eisner, 1998; Mark, 1996, 1999; Reimer,
The fight for a solid place in the curriculum for music education is partly due to what this researcher identifies as the dichotomy of music education’s value, which is, ironically often perpetuated by music educators. The music education dichotomy evolved from arguments that music is deemed worthy in education for either “music for musical value” or “music for non-musical value” (Bowman, 1998; Lees, 1994; Mark, 1996; Reimer, 2003). Rather than considering both as viable justifications, this struggle continues today.

Weinberger (1996), a cited authority on music and brain research, presented a scenario of music education “purist” and “utilitarians” in effort to foster attention and growth to music research. The following quote supports this researcher’s observation and confusion regarding some music educator’s position on the role of music in education; Weinberger stated:

Recently, I was astonished to learn that many music educators are either disinterested in or even quite negative about certain areas of music research. . . . For example, they appear to be quite unhappy about studies that investigate the potential beneficial effects of music education on child development and cognition ... Why should anyone object to studies which support the hypothesis that music education improves listening skills, reading ability, reasoning, etc.? As I understand it, the argument goes something like this. Music should be studied for its own sake, not because of its effects on other aspects of education. Studies that seek such effects undermine this foundational premise. They reduce music education to an adjunct of non-arts subjects that are alleged to be more important. Music and arts education thus become a means to an end rather than an end in themselves. (par. 1-4)

Weinberger (1999a) has several articles on this issue and related topics that have contributed greatly to music education. Both philosophical approaches of music education contribute to the education and development of human beings and neither should be cast aside as less important. Weinberger stated that attention to this issue continues to increase, and can ultimately benefit the education of students. A parallel worth noting is that similar arguments are found among the literature discussing separate-subject curriculum versus integrated curriculum, which you may recall is the polarization issue in interdisciplinary education.

Educational reform issues often have a negative impact on music education. Reform movements have historically drawn support away from the arts programs and to traditional
academic areas (Boccuti, 2000; Eisner, 1998; MENC, 2001). It is not surprising that there are differing opinions among music educators of how best to promote the vital role of music in the curriculum. Whether it be music for intrinsic worth or music for extra curricular contributions, the struggle for a permanent place in the curriculum is one all too familiar to the profession (Music Is, 2000b; Reimer, 2003; Weinberger, 1999a). Music educators and support organizations have dealt with similar issues for many years (Mark, 1996, 1999). A historical view of symposia and efforts to advance music education allow for a better understanding of music education’s development.

Music education symposia from the 1967 Tanglewood Symposium to the recent Vision 20/20 reveal recurring themes and concerns in music education (Mark, 1999). It is not uncommon that music education be underrepresented in educational reforms; evidence of lack of representation dates back to the 1963 Yale Seminar in which many areas of educational systems were examined. The lack of representation by music educators and community members at the Yale Seminar was noted by music educators and rectified at the Tanglewood Symposium in 1967 and the following symposia. A deficiency in representation was addressed to include music educators, sociologists, psychologists, and philosophers as well as input from business, industry, and government constituents (Campbell, 1991; Mark, 1996, 1999).

Statements summarizing music education’s role in the holistic approach to the education of children evolved from the Tanglewood Symposium and served as a foundation for future symposia (Campbell, 1991; Mark, 1996, 1999). The 1969 GO Project developed goals and objectives for the music education profession to accomplish in an effort to establish music education’s role in the school curriculum. Many items on the GO Project’s list can be found in some form in today’s National Standards.

The 1978, 1979, and 1982 Ann Arbor Symposia marked the inclusion of psychologists and cognitive attention to the field of music education. Important issues were identified and
studied in music that were only previously addressed in non-music academic areas. Those issues included learning processes, motor skill development, cognitive skills, memory and information processing, affect and motivation, and child development (Campbell, 1991; Mark, 1996). The Ann Arbor Symposia are credited with expanding the view of music education beyond that of aesthetic education alone (Campbell, 1991; Mark, 1996). The acknowledgement of music education’s impact and contribution beyond traditional musical values (its own discipline) began opening doors for music educators.

It is the opinion of this researcher that if the non-music contributions of music education had been capitalized on at that time, the Ann Arbor Symposia would have had a more positive impact on the role of music in the American curriculum. A review of literature on policies and philosophies indicates that despite the outcomes of the Ann Arbor Symposia, the polarized viewpoints of the value of music continued (Colwell, 1992; Eisner, 1998; Mark, 1996).

The symposia mentioned here greatly influenced the writing of the National Standards for Music Education accepted in 1994. MENC and other professional arts organizations spearheaded the movement for those interested in including arts education in their curricula. Arts initiatives and the persistence of music educators to be recognized in the core curriculum led to the development of Goals 2000 and brought arts the academic recognition that was previously missing (Mark, 1996, 1999).

The Goals 2000 Congressional Mandate requiring that goals and standards of arts education be put with those of other content areas, raised awareness of the arts for many in education. The inclusion of the arts into the curricular materials accessed by non-music educators provides benchmarks for all to see. Though few non-music teachers may access the information on music education, it is available to all educators and may assist the educators that are interested in integration initiatives.

Perhaps the most recent symposium to take place is Vision 20/20 (Madsen, 1999; MENC,
The Housewright Declaration is a vision statement that reflects the work of the symposium and reveals similarities between Vision 20/20 and the Tanglewood Symposium. The two involved similar constituent representation and addressed essentially the same issues in that current influences are considered and the future of music education is projected.

The Vision 20/20 symposium is considered by some to be the most important event for the advancement of music education in curricula of today and the future (Madsen, 1999; Mark, 1999; MENC, 1999). The topics addressed by Vision 20/20 suggest the potential of music education’s role in the implementation of interdisciplinary education; however, minimal initiatives linking Vision 20/20 to interdisciplinary education have occurred thus far.

While many improvements to music education have been made as a result of these historical events, a few shortcomings have hindered progress toward the stability of music education as a vital component in the curriculum. Many of the symposia intentionally focused on music education’s role within its own discipline of music. In that regard, the shortcomings are minimal. Criticism is addressed to the lack of attention historical symposia gave to music education’s role beyond its own discipline.

This laxity is perpetuated today by insufficient research and literature on music’s contributions to developmental, cognitive, and educational expectations (Weinberger, 1999a, 1999b, 2000; VH1, 2001). Recent literature indicates that the music profession and organizations interested in the advancement of education have begun more research and are providing much needed information on this topic (Akin, n.d.; Barrett, 2001; Burton, 2001; Ellis & Fouts, 2001; Snyder, 2001; Wiggins, 2001).

**Student Benefits**

As suggested earlier, even music educators struggle with which music value philosophy to anchor arguments (Eisner, 1998; Reimer, 2003; Weinberger, 1999a). Research is growing to include support for both viewpoints; the intrinsic and extrinsic values of music. Topics of interest
include the functions, values, and cognitive aspects of music (Mickela, 2000; Yoh, 1996: Linkin, 1981; Music Is, 2000). These qualities are presented in context throughout the proposal as they apply to the topic of music integration and student achievement. A brief review of literature on the functions and values of music is provided in the next section to give the reader some historical and foundational perspective of these qualities.

As for the cognitive values, research on the academic benefits of music has increased noticeably in the past ten years (Akin, n.d.; Hyatt, 2004; MENC, 2001, 2004; Weinberger, 1999a, 1999b, 2000). In the past, research was limited and only offered a “general” perspective into the benefits of music on cognition and child development. The fact that music contributes to a variety of areas believed to influence academic achievement explains why this topic is gaining attention. Now extensive research is occurring in many areas of brain development, specific subject area enhancement, and skill development (Jensen, 1996, 2000; Ko, 1999; Leng & Shaw, 1991; Vars & Beane, 2000; Weinberger, 1999b, 2000).

Until recently, beliefs of benefits of music to students were subjective and without statistical evidence. A recent report by MENC (2001), grouped music education’s benefits in to four categories: success in society, success in school, success in developing intelligence, and success in life. In efforts to save music education programs in schools, Video Headquarters (VH1, 2001), a multimedia entertainment company, launched an advocacy campaign that has brought awareness of music education’s benefits and viability struggles to the attention of the public (see Advocacy Efforts). In a section of their web pages on the benefits of music they boldly state, “Music education improves: Early cognitive development, basic mathematics and reading ability, spatial reasoning skills, SAT scores, school attendance, ability to work in teams, self-esteem, self-discipline, creativity, and knowledge of other cultures and history” (p. 1). Literature is slowly growing, adding support to the claims made by VH1 (Arts Education Partnership [AEP], 2002; Bresler, 2002; Brewer, 2002).
Akin (1987), a music educator, advocates for more research and presented the following research data on behalf of the benefits of music education:

1. Arts Education and Academic Achievement. Sixty-seven studies in California reveal higher achievement in reading, writing, mathematics, foreign language, increased attention in learning, increased college enrollment, and accelerated learning in students that participated in arts curricula.

2. Music Education and Academic Achievement. Studies conducted in child development, neurology, and other health-related professions show students learning to play musical instruments hold higher grade point averages; develop faster physically, mentally, emotionally, and socially; and enjoy increases in ability in concentration, memory, eyesight, and hearing.

3. Music in Reading Instruction. Reading scores of low-achieving readers increase dramatically when music and related arts are in the curriculum.

4. Music and Mathematics Achievement. The Alternatives in Education Program of the California Arts Council reports that children have made an average gain of one and one-half times the normal rate in mathematics (0.75 years in 6 months) when music periods have been increased (Akin, 1987).

The Accelerated Learning Program, originating in Bulgaria, credits music with benefiting students in many areas and allowing them to learn at an accelerated pace. Music is used to adjust classroom atmosphere and meet curriculum needs. Students typically complete 2-year curriculum programs in 4 months, first graders learn to read and write in just weeks, and third graders study intermediate level algebra. Dr. Lozanov’s method showed improvements in student behavior, self-esteem, self-confidence, and motivation, stating these contribute to improved learning atmosphere. Personnel from schools in the United States that are using the accelerated learning model reported similar results and also credit music for many contributing benefits (Akin, n.d.).
There is a relationship between how students feel about themselves and how they perform academically. In studies examining this issue, underprivileged, underachieving youth were given music lessons and began to display increased interest in learning activities. Students given music education opportunities showed improvement in skill development, test scores, fewer tardies, a lower rate of absenteeism, and overall improvement in academic attitude and aspirations (Akin, n.d.; Mickela, 2001; Reynolds, 1992). Direct effects of music instruction to academic achievement cannot be determined; however, the implication is that music aids the decrease of student problems, which often leads to an increase in academic achievement (Legette, 1993)

Functions and Values of Music

In historical music literature as well as current, music is identified as one of the many factors that influence human behavior (Eisner, 1998; Gaston, 1951/1952; Linkin, 1981; Reynolds, 1992; Reimer, 2003). Philosophers, sociologists, educators, and psychologists have studied people and how music functions in their lives in hopes of better understanding this phenomenon (Bowman, 1998; Campbell, 1991; Lees, 1994: Radocy & Boyle, 1997; Reimer, 2003). With the goal of creating meaningful learning experiences, educators acknowledge that the way music functions in our lives is related to its educational contributions. Consider, for example, the places music is heard throughout our everyday lives and the many purposes music serves (Linkin, 1981). Music is often used as a tool to teach facts or concepts, as an aid with special needs students, and as a relaxation tool to calm students down or relax them before a test (Akin, n.d.; Barrett, 2001). Though these educational examples are of the subservient interdisciplinary nature, they are important functions of music.

Sociologists’ viewpoints regarding functions of music indicate that sociological, cultural, and individual influences should be considered when examining how music functions in human lives (Campbell, 1991; Kaplan, 1990; Radocy & Boyle, 1997; Reimer, 2003). In the educational setting, questions of educational intent and content of music must also be considered (Reimer,
Philosophers and educators have struggled with the task of identifying the value of music for years. A look at life values identified as important across many cultures reveals the pursuit of health, happiness, self-growth, self-knowledge, self-esteem, freedom, and fellowship as common (Bowman, 1998; Radocy & Boyle, 1997; Reimer, 2003). Historical references claim the purpose of school is to provide students with an education that enables them to pursue life values, along with others of citizenry and employment (Johanningmeier, 1980; Shapiro, Benjamin, & Hunt, 1995). There are persuasive arguments that the life values mentioned here are crucial in the pursuit of academic excellence, and that music aids in the attainment of such values (Akin, 1987; Linkin, 1981; MENC, 2001; Music Is, 2000; VH1, 2001; Weinberger, 2000).

The value of music can be assessed by its contribution to human values and various student benefits. An analysis of music education philosophies provides an educational perspective of the value of music. Three viewpoints most referred to when examining the value of music are the Referentialist, the Formalist, and the Expressionist (Mark, 1996; Reimer, 2003). The Referentialist values music for its abilities to refer to objects outside the music. The Referentialist credits music for improving people and their lives in non-musical ways. The Formalist values music for its structural or formal elements, believing worth is found in the actual music. Formalists hold an intellectual appreciation of the form of music for its own sake. The Expressionist philosophy finds a middle ground, taking into account internal and external influences involved when a person is experiencing music.

Considering the purpose of education as previously stated and the philosophy of interdisciplinary education, the Expressionist viewpoint is best suited for the school setting. It allows for mass education and is a reflection of societal influences. The Expressionist view of the value of music allows for integrity of the music discipline to be maintained while promoting the interdisciplinary contributions of music education (Klester, 1998; MENC, 2001; Snyder, 2003).

To many in society, the aesthetic elements of music are more readily understood than its
academic factors. History has shown us, however, that aesthetic value and function of music has often not been enough to secure a respected place in the curriculum. This is in part due to music’s subjective nature but is also due to education’s emphasis on objective academic accountability. Even though Reimer (2003), a philosopher and music educator, places less value on the non-music integrative qualities of music in education, he does state the need for a philosophy that meets the educational purpose of music education while also meeting the needs of society. It is possible that as more literature is shared about interdisciplinary education’s qualities, educators and members of society will better understand music education.

Cognitive Issues

Radocy and Boyle (1997), music educators and authors on musical behavior, defined cognition as an internal process of memory and thinking that may be a behavior in a covert sense but that it can only be studied by its overt manifestations. With this definition in mind, it is difficult to separate behavior and cognition as if they are independent of one another. Behavior and cognition are integrally related, mutually interdependent, and therefore inseparable.

Many in the field of education do not recognize the cognitive components of music because most descriptions of music are behavioral in nature, such as singing, listening, and playing instruments. Music is not typically considered a “thinking” or an “academic” subject (MENC, 2001; Weinberger, 2000). This is a shortcoming in need of attention according to Dickinson (1993), a music educator. Dickinson warned, “If we are to make a strong case for music education, we cannot do so merely by focusing on its cultural value to civilization. We cannot do so by just discussing what it does for the human spirit. We must begin to use the information at hand from the cognitive sciences” (p. 3).

Music cognition can be examined in very specific areas, such as a person’s knowledge of musical concepts and skills. Music educators often shift back and forth between the “whole to part” and the “part to whole” method or presentation of information (Mark, 1996). To better
understand the context of the pedagogical shift referred to, this researcher offers a musical scenario. For example, in order for a student to play a song on an instrument, many separate areas of musical knowledge and skill development are necessary. These “parts” of the lesson will be used simultaneously to create a bigger construct or “whole” product. At any point in the learning process the teacher may introduce the student to the “whole” or desired end product through a listening activity or visual presentation of the musical work.

Varying approaches allow the student to experience the product from many perspectives. It may be necessary to work on the separate sub-concepts (such as beat, notation, rhythm) periodically when trying to play the musical work as its whole entity. Both approaches, the whole and its parts, are necessary. The music teacher adjusts the learning environment to the needs of the students. The pedagogical shift of focus creates the connections and meaningful learning experience that bring together the multitude of skills being taught. The prior scenario is representative of many music education experiences and is aligned with the interdisciplinary education structure (Barrett, 2001; Snyder, 2001; Wiggins, 2001).

Child Development

Research indicates emotional, intellectual, and physical development relate to each other, and affect knowledge and skill acquisition (Beane, 1997; Klester, 1998; Mark, 1996; McKenzie, 2001). Literature by Piaget, Bruner, Gardner, and others are cited often as authorities on child development and learning theories. Decision makers should consider child development theories and learning theories when organizing curricula because both are interrelated and effect learning (Gardner, 1983; Hendrick, 1980; McKenzie, 1999; Piaget, 1950, 1969; Schlinger, 1995).

Music plays an important role in these areas and should be a part of every child’s education (MENC, 2001; Reimer, 2003; Yoh, 1996). Studies claiming that music can enhance child development (Feierabend, 1990; Mickela, 2000) and statements such as this one by Harvey (2001) have increased society’s interest in this topic: “For anyone to grow up complete, music
education is imperative” (p. 1). By examining how children experience musical concepts, educators can better understand how music affects developmental milestones and adapt learning activities to meet their interest and abilities. Feierabend (1990), a music educator, found music activities in early childhood education foster a variety of developmental benchmarks that are prerequisites for academic achievement. Those with a vested interest in higher academic achievement for children must take the contributions of music to child development and learning into account (Harvey, 1997; Harvey, 2001; MENC, 2001; Music Is, 2000b; Vars & Beane, 2000; Weinberger, 2000).

Learning Theories

It is common to find reference to Constructivism, Multiple Intelligence Theory, and Transfer of Learning in conjunction with interdisciplinary curricula because they each contain elements of the whole child approach to education. Further, they allow for meaningful learning experiences through real-life applications and are representative of the holistic approach to education. Many educational decision makers are not aware that music educators apply the same holistic learning theories (Bowman, 1998; Mark, 1996; Radocy & Boyle, 1997; Reimer, 2003). The common theoretical practices identified supports the claim that music is not only a discipline of knowledge itself, but that music education is also a model of interdisciplinary education (Mark, 1996; Wiggins & Wiggins, 1997).

Constructivism

The term constructivism (or constructivist theory) is used in education when describing the construct of knowledge. Interdisciplinary literature refers to construction of knowledge when a student uses procedural or conceptual knowledge learned in one domain and applies it in another domain (Catterall, 2002; Scripp, 2002). The student constructs knowledge in a new area based on what is learned in another situation. This higher-order thinking skill is a benefit of integration and an example of constructivism at work. This theory is similar to the transfer of
learning theory to be discussed later in this chapter. One way to categorize the two is that the constructivist theory often refers to a conceptual or procedural knowledge, and the transfer of learning theory is most often referred to on a skill level.

Another way to view constructivism is to consider how meaning and understanding of the world are interpretations of one’s society, culture, experiences, and previous knowledge (Beane, 1997; Drake, 1998; Fiske, 1996; Radocy & Boyle, 1997). According to Beane (1997), the constructivist theory suggests that new ideas and skills are most likely internalized and carried forward when they are encountered in relation to previous experience, meaningful contexts, and whole ideas rather than when they are taught as abstract, fragmented parts.

**Multiple Intelligences**

Gardner (1983), a developmental psychologist and neuropsychologist, presented the theory of multiple intelligences (MI) to the fields of education, cognitive science, and developmental psychology. Gardner’s MI theory was not widely accepted then and is still questioned by some in those same fields today. Currently, the MI theory is highly referenced across many research topics. The theory of multiple intelligences suggests distinct forms of intelligence that vary in degree from one person to the next. Gardner is credited with identifying nine intelligences: (a) Visual/Spatial, (b) Verbal/Linguistic, (c) Mathematical /Logical, (d) Bodily/Kinesthetic, (e) Musical/Rhythmic, (f) Intrapersonal, (g) Interpersonal, (h) Naturalist, and (i) Existentialist. In the early 1980s, only seven were identified; the last two were named only recently (McKenzie, 1999).

Gardner’s MI Theory encourages teachers to consider various intelligences when planning curriculum content and methods and suggests that when teachers are aware of a student’s various intelligences, they can better accommodate a student’s learning styles and needs. As Drake (1998) explained, “When teachers employ strategies that include all these intelligences, the curriculum becomes interdisciplinary and allows for students with different
The following concepts of how children experience music is similar to that of Gardner’s MI Theory: (a) visually, (b) aurally, (c) motorically, (d) verbally, (e) t tactily, (f) vocally, and (g) cognitively (Bowman, 1998; Mark, 1996; Radocy & Boyle, 1997). Identifying these commonalities helps educators recognize student learning styles. The list, in essence, is one of several tools that offer teachers better understanding of their students, which enables them to plan more effective educational experiences. When teachers understand their students better, the likelihood for success is increased. Wood (2001), an author on integration instruction, supports the alignment of integrated curriculum and the MI theory: “The interdisciplinary method naturally provides for individual development in the different intelligence areas that Gardner proposes” (p. 6). Studies that investigate the use of the MI curriculum report higher student achievement as a result of the integrated approach (Drake, 1998).

Transfer of Learning

The term transfer of learning is increasingly referred to in literature on integrated curricula (Catterall, 2002; Erickson, 1998; Scripp, 2002; Wiggins, 2001). Transfer of learning refers to the improvement or facilitation of one cognitive ability or motor skill by applying prior learning or practice from another. An example of transfer of learning is when a child knows how to ride a bike; that child can apply the same concepts and skills of balance, left/right movement of legs, and body position, to learning how to skate. Transfer of learning applies not only to motor skills but also applies to cognitive abilities.

Weinberger (1999a) stated, “Transfer effects are well-known in psychology and cognitive sciences. . . . What is relatively new in the public’s eye is that transfer effects are being reported for music” (par. 8). For instance, reading and mathematics skills learned in the general classroom lesson can be applied to reading music and playing rhythms in the music lesson, and the ability to identify patterns in music notation can transfer to identifying patterns in words or colors (for
In an essay of research on music and learning, Scripp (2002) discussed several meta-analysis studies supporting the concept of learning transfer. One theme outlined in his article is “Generative neurological and cognitive frameworks for learning transfer have emerged from research on music and learning” (p. 133). Scripp’s article cautions against cause and effect conclusions, yet offers many examples of reciprocal learning transfer between music and other subject matters. This cross-task facilitation is based on similarities in skills between the original and recipient knowledge (Mark, 1996; Weinberger, 1999a, 1999b; Wiggins, 2001).

Interdisciplinary Qualities of Music Education

Supportive Literature

Numerous resources supporting the benefits of music education exist. Some literature went beyond that of supporting music education and stated that schools with minimal music in their curriculum are failing to meet student needs. Music education programs need support to ensure a complete education for students (Harvey, 2001; Howes, 2004). Harvey bluntly accused school systems without music programs of being negligent of their responsibilities. Gardner (1989) argued that school districts that ‘lop off’ music in a child’s education are simply ‘arrogant’ and unmindful of how humans have developed with music brains and intelligences.

Klester (1998), a music educator, also builds an argument for how schools without music programs are failing their duties stating that music programs should be at the heart of the curriculum, fostering the “feelingful” intelligence and providing the total education students need. Weinberger (1999b) summarized the vital contribution of music education, “Contemporary research shows that music is important. The fact that music also provides an opportunity to capitalize on a biological predisposition to aid education further indicated its potential utility in having children develop their intellects to the fullest” (p. 4).

The accessibility of supportive literature on music education’s contribution to student
development and achievement is improving as professional organization Internet sites develop. Professional organizations such as MENC, AEP, the American Music Conference, and the American Educational Research Association provide literature on this topic in the form of hard copy and internet access journal articles, internet video and audio links, national organization conference presentations, and workshops. These organization’s web sites are beneficial to many educators by offering a venue in which studies, results, and implications for application and replication are easily shared.

It should be noted that many music educators credit MENC not only for providing internet resources but also for promoting music education in American education to the level it is today. Mark (1999), a professor of music, stated that MENC has enabled the music education profession to maintain its ability to help fulfill the musical needs of individuals, communities, and the nation. Mark claimed, “It has empowered the profession to remain a diverse and dynamic component of American education” (p. 1). He explained how the impact of MENC to the profession prompted a change in name to more accurately project its purpose. The name changed in 1998 from the “Music Educators National Conference” to “Music Educators National Conference (MENC): The National Association for Music Education.”

A closer look at the AEP is helpful to better appreciate the recent attention the arts are receiving through this organization. The AEP was formed in 1995 and is a partnership among arts, education, business, philanthropic, and government organizations. This national arts coalition was developed through an agreement among the National Endowment for the Arts, the U.S. Department of Education, the National Assembly of State Arts Agencies, and the Council of Chief State School Officers” (AEP, 2004). Each year the participating organizations form task forces to address issues pertaining to advocacy, research, assessment, and children’s learning and the arts. Each task force develops an annual action agenda to focus on national and state issues relating to arts education. AEP members meet quarterly to discuss their progress and provide
Several articles on academic achievement and music were found by cross-referencing the MENC and the AEP website. Literature from both organizations as well as the Florida Music Educators Association (FMEA, 2004) conference materials refers the reader to the Compendium on the arts and achievement (AEP, 2002). Many resources available at this site serve to this topic well. The focus of a 2003 publication is particularly applicable for this literature review as it highlights integrating the arts into the curriculum. There are excellent articles with web site links that allow the reader not only to read about the research on this topic but to access lesson plans, resources, reports, materials, and further documentation supporting the integrated curriculum (AEP, 2004).

An interesting addition to the literature pool is that which was distributed at the opening forum and subsequent workshops of the annual FMEA state conference held in January of 2004. The FMEA and the Florida Elementary Music Educators Association meet annually at this conference and experts in the field present research and educational initiatives. This year’s opening session had the highest attendance rate reported in the past several years, the topic was “Reading and Music: A Winning Combination.” Materials, live student examples, and PowerPoint presentations were used to demonstrate the following five messages on this topic.

There are national and state mandates for higher student literacy in schools that educators must meet. Music teachers can improve student reading skills during music class while addressing the Sunshine State Standards (Sunshine State Standards, 1996). The integrated approach can bring dimension to lessons, educators can integrate music and reading with integrity in each domain, and music educators can assist schools in the achievement of higher literacy standards and FCAT scores. These statements made by presenters at the FMEA opening session before a packed auditorium of music educators facilitated the awareness of music integration and encouraged the acknowledgement of the benefits music education can offer beyond the music.
classroom. Snyder (2003) provided additional information on meeting the Sunshine State Standards through music integration.

Counterpoints to Consider

The misused and misunderstood functions and values of music contribute to the misconceptions of music education’s academic worth (Dickinson, 1993; Weinberger, 1999a). The lack of understanding among music educators and non-music educators on this topic strengthens the problem statement further. A concern is that many educators and curriculum decision makers will not know what effective integration is unless examples are found and shared.

Naturally music educators are concerned that poor integration efforts will promote these misconceptions and further diminish music education as an important area of knowledge and development. Grounds for these concerns are found in literature on music education and integrated curricula (MENC, 1999; Radocy & Boyle, 1997; Reimer, 2003; Steele, Bass, Crook, 1999; Weinberger, 1996; Wiggins, 2001).

Wiggins (2001) reported on a study in which four forms of integration were noted. The study revealed attention to curricular goals in an instructional setting was missing in both the arts program and in the other subjects. The following four kinds of integration are reported: (a) Subservient—music used to make other areas more interesting, (b) Co-Equal—cognitive integration of arts concepts and skills combined with other subjects, (c) Affective—music used to create a mood, and used to express creativity, and (d) Social—music performance used to build school spirit and community relations.

The Co-Equal integration is the most desired of the four, yet it takes place the least according to a report by Wiggins (2001). Time and training constraints are identified as reasons few schools incorporate this form of integration. In the cases examined by Wiggins, authentic concept and skill connections between music and other disciplines were overlooked and the integrity of music education and the other disciplines was lost. These are not examples of
effective integration.

Many music educators believe the music education profession should proceed with caution in regard to integrated curricula. Educators are challenged to prevent music from being viewed as a mere “aid for academic achievement,” especially at the expense of the intrinsic qualities of music (MENC, 1999; Weinberger, 1999a, 1999b, 2000).

Programmatic Studies

Programmatic studies on interdisciplinary qualities of music education reveal positive reasons for its inclusion in the elementary curriculum. Music educators claim to create positive learning environments that maintain music as its own discipline while promoting its non-music contributions. Practitioner-based studies provide examples of successful integrated music curricula (Snyder, 2001; Wiggins, 2001; Yoh, 1996). Research-based studies offer data and results of contributions of music beyond that of its own discipline (Begley, 1996; Harvey, 1997; Hopkins, 1999; Ko, 1999; Leng & Shaw, 1991).

Practitioner Based

Integration of disciplines. Music education has connections to general education beyond the philosophical and theoretical levels; it offers linkages across disciplines through concepts and skills as well. Barrett (2001), a music educator, claimed, “A comprehensive music education embraces valid interdisciplinary relationships” (p. 28). Barrett provided practitioner-based ideas for how the music teacher can address music goals and national standards through an interdisciplinary approach. Barrett suggested that teachers need to fully understand the multiple dimensions of a musical piece or the concept to be taught in order to find authentic connections between it and other disciplines. Though general associations and references between music and other disciplines are often made, studying specific works with specific authentic connections is more beneficial.

Barrett (2001) shared classroom examples of how an integrated gemstone lesson applies
contextual, elemental/structural, and expressive facets. Barrett explained how these categories can expand the range of pedagogical ideas to be used as frameworks to guide inquiry for authentic interdisciplinary connections. The contextual facet aids the lesson by situating a work in its time and place of origin, rather than experiencing the work as mere pitches and rhythms; the elemental and structural facet raises awareness of how musical elements and structures evolve from the preferences and influences of different cultures. Connections can then expand to elemental and structural influences beyond music; the expressive facet fosters creative and collaborative efforts at different levels, allowing exploration of the opportunities and variety of expressiveness found between two students, groups, cultures, and disciplines.

Yoh (1996), a music educator, offered a music practitioner perspective with examples of how music connects across disciplines. Yoh explained music as a specialized science that deals with the qualities of sound, sound production, acoustics, volume, frequency, and environmental connections. When teaching the values of rhythmic notation, we develop and reinforce the concepts of addition, subtraction, multiplication, and division. When analyzing a music composition, the performer may note the relationship of the concerto/symphonic from with that of the basic essay format emphasized in writing classes.

Although a simple framework, the standard exposition-developmental-recapitulation construction of music has a direct correlation with an author’s thesis statement-development-conclusion. The phrasing of the musical line in a performance has a direct relationship with the vocal inflections emphasizing portions of the basic sentence. Reading skills such as vocabulary, comprehension, and sequencing are also reinforced. As with sports organizations, the concepts of teamwork and cooperation are exploited in the band, orchestra, and chorus setting.

Through research and consultant work on curriculum integration, music education experts Wiggins and Wiggins (1997) have identified five levels of integration that takes place in schools today. The first three, Teaching-tool Connections (Level 1), Topic Connections (Level 2),
and Thematic or Content connections (Level 3) are the least preferred methods of integration because they do not address concepts and skills of music. The lack of attention to one discipline as a result of these three forms of integration could happen to any discipline, not just music.

The first three levels of integration do not meet the desired integrative criteria for interdisciplinary education. This is not to say teachers implementing Levels 1 through 3 are ineffective teachers, but rather they are less effective than those teachers implementing Conceptual Connections (Level 4) and Process Connections (Level 5). Literature indicates lessons moving in the direction of integration are more effective than those not applying integrative techniques at all. Music integration Levels 1 through 3 are less desirable than Levels 4 and 5 because the reciprocity of knowledge gained in each domain is diminished in Levels 1, 2, and 3. According to Wiggins and Wiggins (1997), the two remaining levels of integration represent ideal integration. The premise of Level 4 and Level 5 is that the processes for making intellectual or cognitive decisions are similar across disciplines. Wiggins and Wiggins surmised, “How the mind functions becomes the common denominator” (p. 42).

Some conceptual connections for Level 4 include the following:

1. Prediction–predicting in reading is similar to hypothesizing in science or estimating in mathematics.

2. Conflict and resolution can be studied through harmonic resolution in music and in literature.

3. Structure can be examined through structural frameworks in music, mathematics’ geometric structures, and language arts’ story structure.

Not only do these conceptual connections show students different perspectives in which to think from, they also allow students opportunities to apply knowledge and skills learned from one area to another. This level promotes the transfer of learning as applied in an integrated curriculum.
Process connections for Level 5 focus on how students engage with subject matter. Examples include the following: (a) classifying, (b) connecting, (d) sequencing, (e) symbolizing, (f) visualizing, (g) organizing, (h) interpreting, and (i) reflecting. These processes are common across disciplines, and understanding how they function in one can help the student understand another. The processes of reading, writing, and listening can be used to help students derive meaning rather than just word-reading, and they can also be used in music to help the student achieve an understanding of music, not just note-reading. These processes help develop skills in verbal literacy and music literacy.

An advantage to the last two of the five methods of integration given by Wiggins & Wiggins (1997) is that the integrity of the individual disciplines is maintained. Authentic connections can be made, allowing for reciprocal knowledge gains between disciplines. Utilization of Levels 4 and 5 enable effective and efficient teaching and learning opportunities. Levels 4 and 5 of music integration described by Wiggins and Wiggins (1997) allow for multiple perspectives and meaningful experiences with real application to life.

Snyder (2001) offered another practitioner example of successful music integration when the third-grade team brainstormed on a thematic unit to develop the “big” questions that would guide an integrated lesson. The team chose Natural and Man-made Structures. The big questions were refined as common concepts and skills to be addressed across disciplines in the following ways: (a) man-made conceptual structures—discipline, government, social interactions; (b) man-made physical structures—architecture (e.g., dams, buildings, bridges), dance, music, art forms, and transportation devices; and (c) natural structures—landforms, animals, plants, and spatial concepts.

The music teacher then adapted these concepts to meet music curriculum needs:

1. What is musical form (structure)?

2. Where are there structures in music?
3. Where are there connections between musical structures and structures in other disciplines?

4. What are some ways in which conflicts and tensions can be expressed through music (how is this the same/different in other languages)?

Snyder (2001) explained that this approach is very different from merely singing a song about structure or using music to memorize facts about structure. According to Snyder, the authentic connections allow students to use concepts and skills in and from another discipline as well as use the artistic process of creating, performing, and responding through musical structures.

The literature reviewed indicates that most integrated curricula currently in practice yield little evidence of music concepts and skill development. If music education is to benefit from interdisciplinary education, as it has the potential to do, music specialists must be involved in integrated curriculum decision-making (Akin, 1987; Barrett, 2001; Burton, 2001; Ellis & Fouts, 2001; Snyder, 2001; Weinberger, 1999a; Wiggins, 2001).

Research Based

Brain development. Brain development has an impact on a student’s potential academic achievement. Music is found to have a positive influence on brain development. Educators making decisions on curricula with higher student achievement as their goal may find research on this topic beneficial (Begley, 1996; Flohr, 1996; Leng & Shaw, 1991; MENC, 1999; Sarnthein, Stein, Rappelsberger, Petsche, Rauscher, & Shaw, 1997; Weinberger, 1999a, 1999b, 2000).

Brain imagery has shown differences in brain structure between children participating in music instrument instruction and those not exposed to such learning experiences. Those with music instruction have thicker neural fibers connecting the two sides of the brain and an increase in parts of the cerebral hemisphere (Begley, 1996, 2000; MENC, 1999; Weinberger, 1999b). Flohr (1996), a professor of music, examined the electrophysiological differences between
baseline Electroencephalogram (EEG) frequencies and EEG frequencies obtained while listening to music stimuli. The results of that study indicate that the group that received music produced significantly different EEG frequencies, particularly within the frequencies associated with increased cognitive processing. Flohr (1996) suggested that understanding the manifestation of music tasks in the electrical activity of the brain can assist in the development of instructional strategies.

Diverse processes such as language, mathematics, and music have a great impact on neuron growth and activity (Begley, 1996, 2000). Experience with such processes results in receptive programming necessary for higher-order thinking skills. Rauscher (a university professor in experimental psychology), Shaw and Ky (1995) referred to music as an exercise for “exciting and priming” the cortical firing patterns responsible for higher brain function.

Weinberger (1999b) has done extensive research on benefits of music to the brain and is a well-cited authority on this topic. Weinberger’s article focused on two areas: (a) benefits of music on cognitive development and (b) brain research linking musical capabilities and benefits for learning and education. Weinberger’s brain studies have shown that basic music elements, such as melody, rhythm, harmony, and timbre, are processed by different, specialized parts of the brain. Music involves both hemispheres of the brain, even more brain involvement than language processing. These findings reveal large-scale involvement and specialization in brain organization when processing music.

Weinberger’s (1999b) research and that of other researchers (Hopkins, 1999; Jensen, 1996, 2000; Mickela, 2001; Reynolds, 1992) reveal that music experiences affect behavior and cognitive processes. Further, connections or “synapses” between brain cells and their operation are altered by what humans sense, think, and do. This alteration influences brain function, so maintaining and increasing synaptic strength is important for cognitive activity and motor function. The question of how music affects synaptic interactions is an important one.
According to Weinberger, there are eight major components of the brain/mind as: (a) sensory and perceptual, (b) cognitive, (c) planning movements, (d) motor, (e) feedback/evaluation, (f) motivational, (g) learning, and (h) memory. Music uses all of these areas of the brain, providing a type of brain “workout.” Music facilitates interactions between cells and strengthens synapses, resulting in improved brain function (Weinberger, 1999b). Weinberger suggested these findings could explain creativity and transfer of learning effects and argued, “If brain circuits concerned with mathematical computation, for instance, are strengthened by music education, then they would be more effective during other tasks or situations requiring such mental abilities” (p. 32).

Mickela (2001), a music educator, presented studies proposing evidence of improved brain development with music experiences. A study by Whitwell on the left brain/right brain issue claimed that music impacts brain development, uses both hemispheres, and is necessary for complete development. Wilson, a neurology clinical professor, reported similar results and claimed these findings would lead to an understanding that music is an absolute necessity for the total development of the brain and the individual (Mickela, 2001). Children without access to music programs may actually be damaging their brains because they are missing exposure to non-verbal modes of learning that help them learn skills like reading, writing, and mathematics more easily. Positions such as these resonate throughout the reviewed literature (Dickinson, 1993; Drake, 1998; Erickson, 1998; Harvey, 1997; Hopkins, 1999; Jensen, 1996, 2000).

The Mozart effect. Although a change in music research began approximately 30 years ago when psychologists became interested in the effects of music on human beings; this topic did not gain serious attention until word of the Mozart Effect circulated throughout the research community (Linton, 1999; Nantais, 1997; Rauscher & Shaw, 1998; Steele, Bass, Crook, 1999). Research often referred to when discussing music and academics is that associated with the Mozart Effect.
The term *Mozart Effect* evolved from a study by Rauscher, Shaw, and Ky (1993) that produced evidence of significant short-term enhancement of spatial-temporal reasoning in college students after listening to a Mozart piano sonata. Although the Mozart Effect originally referred to music and spatial-temporal study results, it has recently become a common reference to other academic and developmental topics in which music is believed to have a positive effect.

Literature can be found both supporting and questioning the claim that music does have a positive influence on academic achievement (American Music Conference, 1999; Linton, 1999; Nantais, 1997; Steele, Bass, Crook, 1999; Steele, Brown, Stoecker, 1999).

An overview of the original study referred to as The Mozart Effect is as follows.

Rauscher, Shaw, and Ky (1993) conducted a study on whether brief exposure to certain music could increase cognitive ability. The study consisted of 36 college students divided into three groups for 10 minutes of one of three listening conditions (Mozart’s sonata for two pianos in D, K448; tape of relaxation instructions; and silence). Following the listening conditions, they were tested on spatial/temporal reasoning. This was measured by subtests from the Stanford-Binet test. The subtest receiving the most attention was the PF/C test, paper folding and cutting task.

Students were to imagine the paper folded and cut and had to predict the pattern of cutouts that would result when the paper was unfolded. Results were significantly higher scores for group one, the Mozart listening group, with spatial IQ scores 8 to 9 points higher than the other groups. Note, however, that the effect was brief and did not last beyond 10 to 15 minutes. Cause for concern came when the Mozart Effect was interpreted as meaning brief exposure to Mozart’s music increases intelligence (American Music Conference, 1999; MENC, 1999).

Readers and researchers are cautioned not to take such implications or study results to extremes. In a society eager for quick fixes, the Mozart Effect was seen as a means for academic gain with minimal effort. The Mozart Effect has even become commercialized. Complete sections of music stores promote music (predominantly classical and much is Mozart) for non-music
outcomes. While this may increase the number of people exposed to classical music, it leads many to believe the benefits of music can be easily attained. This threatens music education by implying extensive long-term instruction is not necessary. Further, it presumes that passive learning is acceptable in place of the active thinking that music education requires.

Long-lasting effects do require deeper and longer involvement in music making and music study. Many studies have attempted to replicate the original Mozart Effect research, and though some have found similar results (Linton, 1999; Nantais, 1997), many have not (American Music Conference, 1999; Steele, Bass, Crook, 1999; Steele, Brown, Stoecker, 1999).

Brief exposure only yields brief benefits. The question other researchers are asking is if longer exposure results in longer benefits. While not all researchers agree the Mozart Effect is plausible, many do believe it warrants further research. The attention it has caused cannot be denied. Despite the possible negative effects of the Mozart Effect to music education, it has opened the door for much needed research in the area of music instruction and non-music achievement.

Academic achievement. An increase in research on the contribution of music to non-music academic achievement has brought attention to the field of music education. Research results such as the ones reviewed in this section establish that such contributions exist and provide a foundation for analysis into what about music education fosters higher student academic achievement. Such a foundation is important for cross analysis of music education and interdisciplinary education to occur.

MENC and other arts advocacy organizations have produced journal inserts, pamphlets, videos, and commercials on these findings. Many articles are found in the newspapers and have spanned a much broader range of journals than those of music orientation. As a profession struggling for curricula validity and survival, these findings are significant (American Music Conference, 2005a). Some more pertinent research results relating to music education and
academic achievement are provided below.

The studies cited in this paragraph are from MENC (1999). The first follow up (1990) to NELS: 88 by the National Center for Education Statistics revealed music participants received more academic honors, awards, and grades of A, A/B, and B than non-music participants. In the second follow up (1992) to NELS: 88, the percentage of students with disruptive behavior was lower in students that participated in music than those that did not.

According to the College Board (1998), students of the arts continue to outperform their non-arts peers on the SAT by scoring 52 points higher on the verbal portion and 37 points higher on the mathematics portion. The College Board (1999) produced similar results as the 1998 study. Students participating in music appreciation courses scored even higher, 61 and 42 respectively.

The journal *Nature* (1996) reported under-achieving first graders were given seven months of music and visual arts training; at the end of the study they caught up with their peers (non-music arts group) in reading and surpassed them by 22% in mathematics. Neurological Research (1999) cited a study in which second- and third-grade students were taught fractions with basic music rhythm notation while peers were taught traditional fraction instruction. The rhythm notation group scored 100% higher on a fraction test than those taught conventionally.

According to Cutietta (1996), a college music educator, a study in 1988 investigating music sight-reading ability and four general areas of achievement (reading achievement, grade point average, written word sensory mode preference, and mathematics achievement), a significant relationship was evident. Two standardized tests were administered for achievement data. The Watkins-Farnum Performance Scale and the Comprehensive Tests of Basic Skills. The results from this study indicate that the academic areas analyzed are indeed related to the ability to read music.

Studies by Rauscher (1997) confirmed that, because of music training, improvements in spatial-temporal reasoning equivalent to a 35% increase in percentile ranking on the Wechsler
Preschool and Primary Scale of Intelligence test have been reported (Rauscher, Shaw, Levine, Wright, Dennis, & Newcomb, 1997). A comparison of students from different fields of study revealed that music students’ scores were higher than the scores of their peers in other fields such as biology, chemistry, English, and mathematics (Cutietta, 1996).

Advocacy Efforts

Many organizations advocating educational issues are not linked specifically to education; they exist to allow representation from constituents of education’s outcomes (American Music Conference, 2005a; Drake, 1998; MENC, 2001; VH1, 2001). The development of organizations and associations for educational issues is a reflection of society’s needs and what is deemed important in education. For instance, MENC (2004) produces a series of radio public service announcements (Why Music?) bi-annually, which feature top musical artists from various genres talking about the value of music education.

The VH1 (2004) Save The Music Foundation is a non-profit organization that is dedicated to improving the quality of education in America’s public schools by restoring music programs in cities across the county and raising public awareness about the importance of music participation for our nation’s youth. The have well-known musicians promote the importance of music in the schools through fundraising events and awareness campaigns. Advocacy efforts such as these reach out to the public to raise the awareness of the value of music in education and society.

This researcher’s overview of the last 20 years of literature reveals an increase in advocacy efforts supporting the inclusion of music education and interdisciplinary education in the curriculum; however, more support is needed (American Music Conference, 2005a, 2005b; Burton, 2004). With high stakes testing as evidence of accountability and quality education concerns, advocacy for interdisciplinary initiatives is imperative. Mallery (2000), an educator, stated another factor in the advocacy problem, “The standards movement assumes that knowledge
is static, and after demonstrating mastery of a set of concepts by passing a standardized test, learners will be prepared for success in life” (p. 9).

Snyder (2001) reflected, “Often a committee makes recommendations for change, and if there is no one who understands the importance and needs of the music program, decisions are quickly and irrevocably made” (p. 33). Interdisciplinary advocacy efforts and active involvement must take place if positive change in education systems is to happen (Akin, n.d.; Burton, 2004; Davis, 1995; Harvey, 2001; Hopkins, 1999; Snyder, 2003; Vars & Beane, 2000; Viadero, 1998).

**Teacher Training**

The traditional separate discipline structure of curriculum is prevalent throughout even the highest of degree offerings, including those of teacher preparation. Some colleges and universities do offer programs of study in interdisciplinary education; however, few offer actual training for teachers in developing interdisciplinary curricula (Dill, 1982). This facilitates the following question: “If teacher-training programs are not utilizing an interdisciplinary approach and are not preparing teachers to apply such methods, how and when will these interdisciplinary efforts take place?” Broad realms of teacher training should be more accessible to teachers, regardless of their specialty area (Richlin, 1993). This training may be difficult to find as it goes against the more commonly offered separate discipline teaching methods.

Much of the teacher training on integrated curricula currently taking place is done through workshops and school-based programs, not during the coursework of teacher education degree programs (Dill, 1982; Jones, Rasmussen, & Moffitt, 1997). Many integrative learning opportunities are passed over during lessons simply due to a lack of training on the part of the teacher (Boccuti, 2000; Davis, 1995; Drake, 1998; Drake & Burns, 2004; Jacobs, 1997). Future teachers are not adequately trained to implement interdisciplinary initiatives. Further, they may not even be aware of the student benefits credited to the interdisciplinary approach for elementary education.
Reflections on the Literature

What can be done to move public elementary education in the direction of attaining higher student achievement? The literature discussed throughout this chapter indicates interdisciplinary initiatives warrant consideration as a means of accomplishing this goal. Even NCLB seems to align with the philosophy of the integrated curriculum.

The literature supports the claim that the interdisciplinary approach to elementary education is beneficial to students for developmental and cognitive growth. The literature provides evidence that an integrated curriculum offers a positive impact on student achievement and that increased implementation can aid educational systems in meeting student needs (Beane, 1997; Drake, 1998; Erickson, 1998; Jacobs, 1997; Wineburg & Grossman, 2000; Wood, 2001). The literature reviewed indicates that the connections found between music education and interdisciplinary education contain important information for educators.

Though many levels of integration are available for implementation, few actually occur (Boccuti, 2000; Wiggins, 2001). The literature implies that music education and music integration are both necessary components of the curriculum to assist students in achieving high academic success (MENC, 2001; Music Is, 2000b; Snyder, 2001; Weinberger, 2000; Wiggins, 2001). Music education is currently a required component in the elementary education curriculum (MENC, 1999, 2001); however, the interdisciplinary qualities of music education are not fully understood or capitalized on as of yet.

As the literature reveals, there is sufficient data supporting claims that music integration could assist with increasing academic achievement in students. With issues of accountability for student achievement, it seems that educators would consider implementing the integration philosophy in hopes of attaining even a small amount of the success the literature touts. Administrators and teachers are expected to concentrate on areas such as the FCAT, AYP, NCLB, and many other demands. It appears that how these issues of accountability are being
addressed is not only falling short of the desired outcome, but it is also diminishing the quality of education students receive.

Many educators say the pressure of accountability issues is to blame for the lack of integrative implementation. This is sadly ironic because it seems educators are so busy drowning in these accountability measures that they are missing a lifeline being thrown at them. As the literature alludes to and this researcher theorizes, the lack of awareness regarding the benefits of music integration seems to be a primary reason more schools are not exploring the integrative possibilities discussed throughout this chapter.

Decision-makers, administrators, and teachers are not aware of how effective and efficient instructional time could be. They are not aware of how struggling students could excel academically through a different perspective. They are not aware of how disruptive behaviors could be minimized. They are not aware of how FCAT, AYP, and NCLB, could be met with less stress and more success (Drake & Burns, 2004; Hyatt, 2004; Snyder, 2003).

The literature does not directly point to the issue of awareness as the reason integration is not occurring more in schools today, yet it seems obvious. Instead, the literature focus is on providing evidence that music integration is worth consideration. Only after curriculum decision-makers understand the benefits of integration will they begin to act on the process of implementing it in their schools. Many educators are skeptical to try music integration based on literature alone and few models are in place to witness the actual outcomes of it. This researcher believes a key step in increasing the number of public elementary schools implementing music integration is to raise the awareness of its benefits through literature, qualitative case studies, and models of successful implementation.

The lack of awareness is only one reason music integration is not happening more in public elementary schools; however, it is a critical problem to be addressed before others can follow. Despite current reform issues, it appears that, until the awareness of this topic is raised
and action taken, the elementary curriculum and the state of the arts in education will continue to be marginalized.

This literature review of interdisciplinary education, music education, and interdisciplinary qualities of music affords the reader a better understanding of the key questions proposed in chapter 1 for this qualitative case study. Chapter 3 outlines the methods and design applied for conducting the research. The selection of case study site and participants, issues of transferability, and assurances of authentication and trustworthiness are addressed next, followed by data collection, management, and analysis descriptions. Chapter 4 presents the data collected and offers a descriptive lens to view actual music integration implementation and key issues affecting it. Chapter 5 explores the possibilities of future research and implications for addressing this topic more effectively in subsequent literature. References and appendices are provided at the end of this document to assist the reader at any time.
CHAPTER III: METHODS AND RESEARCH DESIGN

Introduction

While cross referencing literature on qualitative research and integrative educational practices, similarities in philosophy were noticed. An example of the integrative parallel is found in the following statement by Locke, Spirduso, and Silverman (2000), professors of health and physical education and co-authors of proposal writing guides. They stated, “Here is a way to produce findings that are thoroughly grounded in the stuff of recognizable reality—the world as it is experienced” (p. 116). This researcher has found examples of holistic qualities in qualitative methodology literature. The previous quote and others similar found in the case study literature affirm the researcher’s choice to pursue the integration inquiry with a qualitative framework.

The holistic perspective of education is captured in several quotes throughout integration literature and is discussed thoroughly in chapter 2. Speaking on the holistic approach to education, Beane (1997) stated, “In this way, we come to understand and use knowledge not in terms of the differentiated compartments by which it is labeled in school but rather as it is ‘integrated’ in the context of the real problems and issues” (p. 7). The driving force behind the integrated curriculum is that subject areas and skills are not compartmentalized in “real life”; they are presented in conjunction with each other according to the situation at hand. A similar perspective is found in the experiential inquiry of qualitative research.

In the book, *Effective Evaluation*, (1981) Guba and Lincoln, experts in qualitative research, offered five reasons for choosing case study design for research. Number three on their list is that qualitative case study is “holistic and lifelike”. The other four reasons further confirm that case study design is appropriate for this topic of inquiry. For instance, the first is that case study utilizes thick description of the phenomenon being examined so the reader may determine
applicability for his or her setting. This is important, considering educators from one site may benefit from information revealed at another site. The implication section will address this topic in more detail. Another important point is that in a case study design, the participants offer an experiential perspective. This is critical if actual levels of integration are to be identified and strategies for improved implementation are to be discovered. The experiences and input from educators actively involved in music integration is vital. The fourth and fifth reasons supporting the choice of case study are that it illuminates the relationships found within the research topic and allows meaning to be more readily understood by the reader, which is due to the streamlining of inquiry and data of essential information often found in a conversation-like format. To benefit from this research, it is of utmost importance that the reader understands the information being shared.

Research Design: Qualitative Case Study

The problems stated earlier, the apparent lack of awareness and virtual lack of replicable effective music integration examples, led the researcher to ask the following questions:

1. What levels and frequency of music integration are being implemented at a public elementary school in central Florida? (The researcher applied the Wiggins and Wiggins (1997) criteria for data analysis, see Definitions of Relevant terms, see also Appendices A, B, C and D)

2. What are some key issues in teacher training, planning, materials, support, and awareness that affect the successful implementation of effective music integration in public elementary education? (see Appendix A, C and D)

3. Do public school elementary educators perceive that music integration has an influence on academic achievement in music and core subject areas? (see Appendices A, C, D, and S-V)

These questions, in turn, led the researcher to choose the qualitative case study design for this topic of inquiry. After reviewing case study literature, it was clear that experts in qualitative research agree that describing the case or phenomenon at hand as thoroughly as possible from a
perspective within it is the primary role of the qualitative researcher (Lincoln & Guba, 1985; Merriam, 1995; Mertens, 1998; Mullen, 2002; Patton, 2002). The researcher can achieve credibility, dependability, and trustworthiness if qualitative methods are carefully applied (Gall, Borg, and Gall, 1996; Glass & Hopkins, 1996; Morse & Richards, 2002).

Qualitative research is often judged on the naturalistic terms credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985). To ensure that this study upheld the standards and criteria of qualitative research, this researcher applied the qualitative operational techniques that were recommended by experts in the field.

The researcher incorporated triangulation of data by using participant surveys, observations, lesson plans, interviews, and documents; peer/colleague examination of data coding and analysis; and multiple perspectives through purposeful sampling of participants representing various educational positions relating to this topic. The researcher reported the results of the study thoroughly and accurately, in an effort to provide readers with a mental picture of the case studied. This allows the reader to make decisions of applicability and transferability from the research results to his or her setting. Disclosure of the researcher’s personal and professional experiences and qualifications enable the reader to view the topic from not only his or her own perspective, but also from that of the researcher. This not only allows the reader to follow the inquiry’s path of development but it also illuminates possible researcher bias and/or experiential contribution to the research.

Issues of credibility, transferability, dependability, and confirmability are strengthened, and an in-depth understanding of this topic can be obtained by applying the qualitative protocol of triangulation, peer data review, multiple perspectives, descriptive analysis, and researcher subjectivity audit (Merriam, 1995; Mullen, course materials, Fall 2001; Patton, 1990).

Selection of Research Site and Participants

This researcher consulted with educational colleagues and local school administration to
identify the public elementary school that was the best fit for this qualitative case study. The researcher obtained information for school selection through telephone calls, e-mail messages, and personal contacts with the district music supervisor, university administrators, and educational colleagues known in the education profession to be knowledgeable in the curricular practices of public elementary schools in this and nearby counties. This school was chosen based on the recommendation by the researcher’s graduate committee to choose a site known for integration implementation aligned with this topic of inquiry.

This approach of choosing a specific site and participants that are most aligned with the focus of a study is referred to as *purposeful sampling*, and is considered by many qualitative experts to be an excellent descriptive tool for in-depth investigation of a case (Glesne & Peshkin, 1992; Mertens, 1998; Mullen, 2002; Miles & Huberman, 1994; Morse & Richards, 2002; Patton, 2002). The descriptive information of the study site and participants allows the reader to better understand, assess, and compare transferability issues.

For the sake of anonymity and easy reference, the public elementary school chosen for this study was given the pseudonym “Bently.” This is a fictitious name chosen by this researcher to be used when referring to the school site. The researcher received the letter of approval (see Appendix L) granting permission from the school district to conduct research at Bently. The principal of Bently was receptive to the research from the onset of the study and remained supportive throughout the data collection processes.

The school’s unified mission is to have an arts-infused curriculum, so it was expected that all of the teachers integrated the arts to some degree throughout their curriculum. Although an exact number of how many teachers actually integrate music into the curriculum is difficult to determine, it was estimated by Bently’s principal that at least 50% of the teachers at Bently incorporate music into their curriculum.

Demographic information of Bently was retrieved in the fall of 2004 from the on-site data
clerk and the school web site during the same time period as the research study data collection
period. The thorough description of Bently is provided not only for the obvious transferability
purposes but also to offer the reader a more complete picture of the study site. Bently was built in
the 1950s, and portions of it have been remodeled periodically. It is a public elementary school
with the same state standards, testing, and funding as is required of all Florida public elementary
schools. Bently maintains the Five Star School status awarded for having exemplary community
involvement. Where Bently differs from a typical public elementary school is in its incredible
pursuit and acquisition of grants and partnerships for the arts.

In 1996 Bently decided to become a school of choice for the arts. A goal stated in the
school mission statement is to emphasize the arts and empower students to achieve at their
highest level. They formed a partnership with a local performing arts hall and continue to
participate in their arts related events. Over the past 8 years, partnership activities have included
one-time workshops for teachers on integrating cartooning, puppetry, poetry, and Florida History
into the curriculum. For the past 3 summers, various administrative personnel and Grades 3-5
teachers from Bently have attended a 1-day music and drama workshop. In 1999 an off-site music
workshop featuring Jack Hartman, a writer of children’s music and learning materials, was
attended by most of Bently’s primary (K-2) grade teachers.

Between 1996 and 2003, Bently received over $70,000 in awards and grants. During this
time period a school wide improvement grant was received and the faculty and staff agreed to
distribute a large portion of the funds to the music department. The additional monetary gifts paid
for music instruments and materials for classroom teachers including a keyboard lab; various
rhythm, stringed, and Orff instruments; supplies for the music department; and visiting
professional artists and performers.

The researcher is aware that the reader may view Bently’s grants and partnerships as
reason to dismiss potentially valuable information that could actually apply to his or her school.
Further, it should be disclosed that such grants and partnerships are available to schools throughout many counties in many states. The initiative and dedication to pursue extra funding certainly is a key factor to arts integration success. The researcher questions if it is the “initiative and dedication” or the “acquisition of funding” that matters most. While grants can assist music integration initiatives by paying for instruments, materials, and visiting artists, grant funding is usually a one-time gift. As this case study reveals, funding is neither the sole problem nor the sole solution. For this and many other reasons, the reader is encouraged to examine the entire case study carefully.

Bently is an outdoor corridor school with each grade level making up each wing, a kindergarten pod and several portable buildings all connected by sidewalks. In 1996 when the school decided to become an arts-infused school and after 30 years of teaching from a cart, the music and art teacher were given classrooms. One is a portable, and the other is in a wing of the building. Both teachers still have a classroom at the time of this study. Practitioners in education realize that this is rare. It is also an exception for the school to have the large aluminum covered outdoor P.E. area that is generally wished for by many other teachers in Florida. The entire school is nestled in the middle of a well-groomed middle class neighborhood.

Bently has one principal, one assistant principal, and one curriculum coordinator. There are 33 certified teachers of K-5 students. Of the 33 certified teachers, 31 are female and 2 are male; 2 are African American, 1 is Hispanic, 1 is Polish, and the remaining 29 teachers are Caucasian. All of the participants were Caucasian females.

Each grade level has five teachers except for the fourth- and fifth-grade levels which have four teachers each. Included in the overall total are two teachers for varying exceptionalities, and two teachers for emotionally handicapped. Fifteen specialists are accounted for in the total number of certified teachers which include one music teacher, one art teacher, two physical education teachers, one speech teacher, two inclusion teachers for severe learning disabilities,
four inclusion teachers for English for Speakers of Other Languages, one teacher for gifted, one reading coach, one mathematics coach, and one media specialist.

Additional on-site staff includes 10 teacher assistants, a third-grade teacher for Students Targeted for Achievement, Recognition, and Success, seven staff members for Title 1 with one being a technology specialist; one full-time school nurse, six office staff, and two plant operators. There is one itinerant music teacher and one itinerant art teacher that come to Bently 1 day a week because there are more students than the existing music and art teacher can accommodate into the schedule. Other personnel such as a family counselor, psychologist, social worker, diagnostician, hearing impaired specialist, vision impaired specialist, occupational therapist and physical therapist come to the school weekly or as needed.

At Bently there are 640 students with an even ratio of male (320) to female (320) students in Kindergarten through fifth grade. The ethnicity distribution reveals a high percentage of Hispanic students at 239 (37%) and Caucasian students at 235 (36%). The remaining student population is African American, 110 (17%); multiracial, 41 (6%); Asian, 14 (2%); and 1 Native American. The majority of students at Bently (77.88%) receive free or reduced lunch.

All participants were certified to teach at the elementary school level in the state of Florida or in the professional educational position they are representing during this study. The participants were educators or administrators actively involved with music integration at Bently. The respondents included one music teacher, five classroom teachers (K, 1, 2, 3, and 4 represented), one mathematics coach, one teacher of gifted students, one art teacher, two physical education teachers, one curriculum coordinator, one principal, and the music supervisor for the designated school district. The district music supervisor was the only participant who was not at the school site. The purposeful sample allowed for an in-depth descriptive understanding of this case and an experiential perspective of the participants. The research study was presented to the entire Bently teaching staff, and all interested respondents were asked to participate to the extent
they felt comfortable. Realizing the value of the non-integrating teachers’ perspective, the researcher asked all the teachers to complete the survey (see Appendix A).

Transferability of Results

One of the most important questions evolving from this research was how the results could be applied or transferred to other settings. The more vivid the researcher can paint the picture of the study site and results of the inquiry, the better the reader may be able to speculate whether the results may transfer to his or her situation (Lincoln & Guba, 1985; Merriam, 1995; Morse & Richards, 2002). The more descriptive the data are, the more equipped the reader is to determine how closely his or her situation aligns with it. The researcher must capture as accurately as possible the case being examined (Mertens, 1998, Mullen, 2002). The qualitative term referring to this issue is transferability.

For readers more familiar with quantitative research, the term transferability is similar in meaning to generalizability, yet transferability is more aligned with case study practice (Guba & Lincoln, 1981; Patton, 2002). Generalizability implies that the results of the research can be expected in another study or setting if the study is replicated. This line of thought does not coincide with qualitative research because the unique investigation of a case is for thorough understanding of it, and results are analyzed and interpreted to best describe that case. Readers are often interested in how they may use the information gained from a case study and apply it to their situation, making transferability an important qualitative tool. This researcher believes educators should consider issues of applicability based on the insight gained from the review of literature, site description, data results, and implications of this research.

Authentication and Trustworthiness

The survey, observation and lesson plan criteria checklist, and interview instruments were developed by the researcher and authenticated through music education colleagues, school and university educators, and an expert qualitative methodologist. The three instruments were
first examined by a group of music educators. Each instrument was determined to be too long and too broad for the intended inquiry.

The researcher then condensed the instruments and presented them to education colleagues known as the Writers in Training (WITS). WITS is comprised of doctoral students with administrative, instructional, and research experience throughout several school systems in Florida. The WITS peer writing review sessions were led by a well-published qualitative researcher and professor whose input greatly affected the quality of work produced. After a few more revisions, the instruments were presented in the proposal document.

Careful attention to efficacy and topic alignment was given. With proper changes, the instruments and the research proposal were sent to the Institutional Review Board (IRB) for approval. Approval was granted and data collection began shortly thereafter.

The rigor of evaluating and revising the instruments ensures that the questions are aligned with the topic to provide the researcher with insightful data (Morse & Richards, 2002; Patton, 2002). The instruments were designed to illuminate the process of music integration by identifying what level is taking place, how often it is being done, what effect it is having on student academic achievement, and insights on how the implementation process can be improved.

Merriam (1998), a cited expert in qualitative research, described qualitative case study in the following quote and further authenticates the alignment of this researcher’s data retrieval instruments for this case study: “Qualitative inquiry is inductive—focusing on process, understanding, and interpretation” (p. 21). The researcher took these issues into account in the early design stages of this case study. Some of the precautions included a conscious decision by the researcher to limit the description of the levels of music integration on the participant survey in an effort to retrieve the most accurate data on the current level and frequency of music integration taking place in the elementary curriculum.

The triangulation of data, colleague review of instruments and data (member checks), and
broad educational perspectives represented in this research strengthen authentication and trustworthiness (Merriam, 1988; Mullen, 1996). The inclusion of observations and lesson plans allowed the researcher to cross-examine the data from the perspective of the respondents as well as from more objective instruments with set criteria.

Data Collection

During two faculty meetings, the researcher gave brief presentations of the research study, and all teachers were asked to participate to any degree. The researcher explained that all information and perceptions would be valuable to the study. Willing participants were then asked to complete a contact information sheet to facilitate the scheduling of remaining data collection appointments. The data were collected from the consent forms, surveys, observations, lesson plans, student achievement documentation, and interviews, respectively.

The data desired from administrative participants required the development of an additional interview instrument. This decision was made based on feedback during a WITS peer review of the researcher’s dissertation writing process. To minimize the time demands and more accurately capture the administrative perspective sought, the researcher created the Administrative Music Integration Interview (see Interview in this section; see also Appendix D).

Survey

A 12-item Music Integration Survey was given to all interested educators during one of two faculty meetings. The surveys were distributed in two phases (see Timeline of Study). Phase I included kindergarten through second-grade level teachers and the specialist. Participants returned the completed consent forms (see Appendix F) and surveys to a concealed drop box located in the school’s front office that was later retrieved by the researcher.

Phase I yielded four completed surveys. Two of the four respondents chose not to participate further due to scheduling conflicts. Phase II included the entire educational staff at the school. The phase II completed consent forms and surveys were retrieved by the researcher at the
observation appointments for each respondent. Phase II yielded six completed surveys. All six respondents remained in the study to completion. One additional respondent, the music teacher, was chosen to complete the Administrative Music Integration Interview instead of the survey (see Interview this section). There were 10 completed surveys in all.

Areas of interest addressed on the survey included: (a) collaboration among educators, (b) perceptions of benefits or detriments associated with music integration, (c) implementation obstacles and suggestions, and (d) assessment of music integration level and frequency being implemented at this school site. A copy of the survey instrument is provided (see Appendix A).

Observation and Lesson Plan

The researcher scheduled observations with seven willing respondents. Each teacher was observed teaching a musically integrated lesson. Each participant that volunteered was observed in the classroom in person by the researcher. During all observations, the researcher sat in the back of the classroom to minimize disruptions. There was no communication between the researcher and the teacher during the observed lesson. The Music Integration Observation and Lesson Plan Criteria Checklist (see Appendix B) were used by the researcher to document the level(s) of music integration taking place during the observation. The Wiggins and Wiggins (1997) five levels of criteria were applied in the development of the observation and lesson plan instrument.

The participants were asked to provide the researcher with documentation of two musically integrated lessons that they helped implement in the fall of 2004 and perceive to be most academically effective for both music education and non-music education. However, most respondents provided only one. The researcher was informed by each participant that the lesson plan submitted corresponded with the lesson the researcher observed.

The researcher analyzed all submitted lesson plans using the Music Integration Observation and Lesson Plan Criteria Checklist (see Appendix B) and applied the Wiggins and
Wiggins (1997) criteria to determine the level of music integration best depicted in the lesson plans provided. The triangulation of data collection allowed the researcher to compare reported levels of music integration by the participant from the survey and interview instruments to the actual lesson plan.

Respondents were asked to have all requested documents ready to give to the researcher at the end of the observation if they had not already done so. These items included consent forms, surveys, lesson plans, and student work. The observation and lesson plan data were compared to the survey and interview data for a more accurate picture of the music integration occurring at Bently. The additional data gained from the observations increases the credibility and transferability of the results.

**Student Achievement Documentation**

The teachers were asked to provide evidence (e.g., student portfolios, test results, musical performance recordings, and writing samples) of student academic achievement that they believe was influenced by music integration that they cited. Teachers were further instructed to find samples of student work representative of all achievement levels and to offer explanation of the work chosen. All student documents provided by the participants had identifiable markings removed prior to giving them to the researcher.

These items, when possible, were copies for the researcher to keep. Documents were coded and stored by the researcher in a locked facility for the required Institutional Review Board (IRB) time period.

**Interview**

The 13-item Music Integration Interview (see Appendix C) was scheduled and conducted after all respondent surveys, observations, and documents were obtained. There were eight Music Integration Interviews conducted (see Appendix C) and four Administrative Music Integration Interviews conducted (explained later in this section). There were 12 interviews in all.
The participants were told to allow 30 minutes for the interview process. Times for completion ranged from 10 to 30 minutes. Respondents were allowed as much time and clarification as needed for each question. The respondents were informed that the interview would be audio-taped and later transcribed. They were also told that the interviewer would only read the question and would not engage in dialogue during the interview in order to maintain the time and focus of the interview. Occasionally, some interviews were interrupted by either the respondent’s request for clarification or outside influences (phones, intercom announcements, and dismissal bells); the tape was stopped, and then the interview resumed.

The interview questions were open-ended and were intended as continuation and elaboration of the respondent’s perception of the categories covered on the survey. Time was allowed for the respondent to elaborate on any question as well as to share information not prompted by a specific question. A few questions were more specific and personal to gain a better perspective of the participants involved in the study. This process yielded more information and allowed the researcher to be more descriptive (Lincoln & Guba, 1985; Patton, 2002).

The interviews were audio-taped and transcribed verbatim. By audio-taping the interview rather than writing the participants responses, the researcher could focus on information that would fill in gaps from the survey or led questioning to a more in-depth look at particular areas as they arose during the interview. Recording and transcribing each participant’s interview responses also allowed for cross-analysis by educational colleagues (WITS) and improved the accuracy of reporting respondent perceptions (Patton, 2002). The WITS expertise in the area of music integration added strength to the data analyses because three of the six reviewers had either a music degree, music integration training, and/or experience developing arts-infused learning programs.

The Administrative Music Integration Interview (see Appendix D) is a combination of the survey and interview instruments. It is a two-part interview. Part I consists of 14 questions
with similar focus as the survey described earlier. Part II pertains to the levels and frequency of music integration being implemented at Bently.

Input on what to include and exclude on the administrative interview instrument was offered by the WITS group. The revisions were made, and the instrument was successfully used with the district music supervisor, the school principal, the school curriculum coordinator, and the school music teacher. Although the on-site music teacher was not an administrator, she was interviewed with the administrative interview tool because there is only one person representing the music educators’ perspective. and the focus of this inquiry required the most descriptive, rich data be obtained.

Data Management and Analysis

Management

All forms of data (e.g., informed consent forms, surveys, observation and lesson plan data, student work, and cassettes used for audio-taped interviews), were collected by the primary investigator of this study and secured in a locked facility. It is considered qualitative practice for the researcher to sample subunits such as people, events, or documents, in a purposeful manner (Merriam, 1988). Participants represented various educational positions pertaining to this inquiry and were each assigned a letter connecting the data to the individual.

In presenting the data, care was taken to remove or change identifying references which would compromise the confidentiality of individuals and/or institutions (e.g., the school or school district). Confidentiality was maintained throughout the study. All data pertaining to this case study remain confidential.

Analysis

The collected data were separated into two groups. The surveys, interviews, and student work were grouped together and analyzed for repeated and emerging themes, ideas, and words. The researcher did the initial grouping, sorting, coding and analysis, and a panel of education
experts Writers in Training (WITS) assisted as secondary reviewers for the administrative interview data analysis. Transcripts of the four administrative interviews were provided to the WITS, and they and the researcher critically reviewed, analyzed, and coded the data results. The colleague review process not only increased dependability but it also minimized effects of researcher bias. The analysis discussion was taped, transcribed in its entirety, and used as a guide for further analysis of the remaining data.

Some issues noted in previous studies as factors affecting music integration implementation were included on the survey and interview instruments. These areas were teacher training, planning, materials, support, and awareness. These factors were not, however, the only issues identified or examined in this study. They were included to illuminate the implementation factors that may need to be addressed for music integration improvements to be explored. Participant responses on issues of collaboration among educators, perceptions of benefits or detriments associated with music integration, implementation obstacles, and suggestions were examined for similarities and differences. This data set was the response to research questions 2 and 3 (see Research Design) and supplied additional data to help address research question 1.

The observation and lesson plan data were analyzed to determine the level and frequency of music integration implementation occurring at this public elementary school in central Florida. The Wiggins and Wiggins (1997) criteria were applied (see Appendix B) to assess actual implementation practices and to create a snapshot view of the music integration taking place. This data set was the response to research question 1 (see Research Design).

The researcher then compared the two data sets for inconsistencies and similarities. The researcher analyzed the survey and interview data retrieved from the respondents and then analyzed the observation and lesson plan data obtained using the criteria checklist. This cross-referencing and comparison process allowed the researcher to analyze how educator perceptions may have differed from actual practice.
Miles and Huberman (1994), frequently cited in research for their qualitative knowledge, stated, “We are trying to understand a phenomenon better by grouping, then by conceptualizing objects that have similar patterns or characteristics” (p. 219). When all data were collected, a sorting process occurred in which the identification and frequency of patterns, themes, similarities, and differences were determined (Merriam, 1988; Mullen, 2002). In qualitative analysis, coding is reduced to refined units of meaning until thorough descriptions, inferences, and explanations of the data are exhausted (Miles & Huberman, 1994). This process was followed throughout the data analysis.

**Presentation of Data**

Data results were presented with tables, graphs, descriptive narratives, and direct transcription quotations. Graphs display data results for the levels and frequency of integration and key factors affecting implementation (research questions 1 and 2). Descriptive narratives and transcription quotes present experientialist and interpretive data regarding the influence of music integration on academic achievement (research question 3).

An explanation of how the researcher presented the level and frequency of music integration data is provided. For example, to represent the educators’ perception data for the levels and frequency of music integration being implemented, the following pie graph design was implemented.

Five pie graphs, one for each level of music integration, were created to represent the educators’ perception of how often each level of music integration occurred at their school. The five levels of music integration as defined by Wiggins and Wiggins (1997) were addressed individually in questions 6 through 10 of the Music Integration Survey (Appendix A), and part two of the Administrative Music Integration Interview (Appendix D). Respondents chose a number on a Likert-scale that represented how often they felt each level of integration occurred at Bently. Data for these questions were grouped and entered into a table. The table of information
was converted into a pie diagram to display data results for research question 1.

The researcher further examined the data for question 1 through four instruments, enabling several pie graphs, tables, comparisons, and conclusions to be drawn. The comparison between educators’ and researcher’s data on the level and frequency of music integration implemented is found in chapter 4.

The data results representing the key factors related to music integration implementation were displayed on a bar graph, a radial diagram, and descriptive narratives. The x axis of the bar graph was labeled training, planning, materials, support, awareness, and other. The y axis was numbered 1 to 6 representing the ranking of importance of the listed issues. The researcher assigned the number 1 to signify most important issue affecting integration and 6 to indicate least important issue. The bars were color-coded and labeled to represent each of the participants.

The radial diagram was a center box labeled music integration with surrounding boxes for the issues stated above. Educators’ comments were typed into the corresponding issue boxes to present narrative data for research question 2. The multidimensional nature of this data made the creation of tables and graphs possible, allowing for inferential insight at a quick glance (Miles & Huberman, 1994; Patton, 2002).

Assessments of key issues affecting music integration implementation are elaborated, on and advice from educational practitioners is offered (research question 2). Descriptive narratives and transcription quotes are utilized to present in-depth data not easily transferred to tables and graphs yet crucial to understanding the topic. Educators’ opinions and explanations of music integrations’ influence on academic achievement are shared through narratives and quotes to address research question 3. The qualitative method provides experientialist insight necessary to facilitate understanding of the topic of inquiry and the resulting rich data.

An outline of the three research questions, corresponding data sources, and analysis design is provided as a guide to assist the reader with chapters 4 and 5 (see Table 1).
### Table 1

**Research Questions and Data Retrieval Outline**

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Data</th>
<th>Focus of Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Research Question 1</strong></td>
<td>Data were taken from items 6-10 of the <em>Music Integration Survey</em> (Appendix A), observations and lessons plan data (Appendix B), item 8 of <em>Music Integration Interview</em> (Appendix C), and part two of <em>Administrative Music Integration Interview</em> (Appendix D).</td>
<td>Graphs display data results for the levels and frequency of integration (research question 1).</td>
</tr>
<tr>
<td>What levels and frequency of music integration are being implemented at a public elementary school in central Florida? (The researcher will apply Wiggins and Wiggins (1997) criteria for data analysis, see Definitions of Relevant Terms).</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Research Question 2</strong></td>
<td>Data were taken from item 11 of the <em>Music Integration Survey</em> (Appendix A), and items 4, 5, 6, 11 and 12 of the <em>Music Integration Interview</em> (Appendix C), and items 5-7 of <em>Administrative Music Integration Interview</em> (Appendix D).</td>
<td>Graphs display data results for the key factors affecting implementation (research question 2).</td>
</tr>
<tr>
<td>What are some key issues in teacher training, planning, materials, support, and awareness that affect the successful implementation of effective music integration in public elementary education?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 1 (continued).

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Data</th>
<th>Focus of Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Question 3</td>
<td>Data were taken from item 4 of the <em>Music Integration Survey</em> (Appendix A), items 7-10 of the <em>Music Integration Interview</em> (Appendix C), items 9-13 of the <em>Administrative Music Integration Interview</em> (Appendix D), and student work (Appendices S-V).</td>
<td>Descriptive narratives and transcription quotes present experientialist and interpretive data regarding the influence of music integration on academic achievement (research question 3). Appendices A, C, D, and S-V</td>
</tr>
</tbody>
</table>

Do public elementary educators perceive that music integration has an influence on academic achievement in music and core subject areas?
CHAPTER IV: DATA RESULTS

Introduction

Five forms of data collection were applied by the researcher to obtain experiential perspectives on music integration implementation and student academic achievement. Educators contributed valuable information on this topic through surveys, observations, lesson plans, student work samples, and interviews. First, the researcher addressed areas that illuminated the beliefs and experiences of the involved participants. More specifically, the data retrieved from the surveys and interviews allowed the researcher to share descriptive information regarding the educators’ perceptions on this topic that did not directly respond to the three research questions but were considered important contributing factors.

Later in this chapter, the three research questions are presented with their corresponding data results and a brief description of the instruments from which the data were retrieved. In addition to the surveys and interviews discussed briefly in the opening section, the observations, lesson plans, and student work will be examined as they directly address the three research questions. Tables, graphs, descriptive narratives, and quotes present the data throughout this chapter.

Areas such as educator awareness, replicable integration models, state mandated accountability issues, and other influencing factors were identified by participants as areas needing attention and reiterate similar points raised in the literature review. Weaknesses concerning the implementation of music integration led the researcher to examine “pieces of the puzzle” that may affect music integration in the elementary school setting. Using the research questions listed next, it was evident that the educators’ perception data not only address the problems at hand but also support the need for further qualitative studies on this topic.
In this chapter, the researcher presents data results to respond to the following three research questions.

1. What levels and frequency of music integration are being implemented at a public elementary school in central Florida? (The researcher applied the Wiggins and Wiggins (1997) criteria for data analysis, see Definitions of Relevant terms, see also Appendices A, B, C, and D)

2. What are some key issues in teacher training, planning, materials, support, and awareness that affect the successful implementation of effective music integration in public elementary education? (see Appendices A, C, and D)

3. Do public elementary school educators perceive that music integration has an influence on academic achievement in music and core subject areas? (see Appendices A, C, D, and S through V)

Of the 33 certified educators at Bently, 11 (33%) participated in this study. There were 14 educators in all that took part in this research, 11 educators, two administrators from Bently, and the district music supervisor. Ten of the 14 completed the music integration survey, 12 completed interviews, 7 were observed teaching a musically integrated lesson, 5 provided lesson plans, and 4 submitted student work samples. Pertinent to research questions 1 and 2, it is pointed out to the reader that many non-participating educators stated busy schedules, pressures to meet state expectations, and a lack of music integration experience as reasons that they did not want to take part in the study. Three tables are provided to present the data collection methods completed by participants, corresponding appendices, and educational role represented (see Tables 2, 3, and 4).

Educators’ Beliefs and Experiences

To portray the participants more clearly, the researcher relied on several sections of the survey and instrument tools. Many of the questions found in these instruments allowed the participants to share personal and professional insights regarding music integration. The researcher found the extra information from each of these educators both interesting and
Legend for Tables 2, 3, and 4:

Participants:
K = kindergarten teacher  
1 = first-grade teacher  
2 = second-grade teacher  
3 = third-grade teacher  
4 = fourth-grade teacher  
M = music teacher  
MC = mathematics coach  
A = art teacher  
PE1 = physical education teacher (respondent one)  
PE2 = physical education teacher (respondent two)  
G = gifted teacher  
P = principal  
CC = curriculum coordinator  
DMS = district music supervisor

Data Collection Methods:
MIS-A = Music Integration Survey-Appendix A  
MII-C = Music Integration Interview-Appendix C  
AMII-D = Administrative Music Integration Interview-Appendix D  
OBS-B = Observation of Musically Integrated Lesson-Appendix B  
LP-B = Lesson Plan Submission-Appendix B  
SWS-S-V = Student Work Sample Submission-Appendices S through V

Symbols:
X indicates participant completed this data collection method  
- indicates the participant did not complete this data collection method  
NA indicates this data collection method was not applicable to this participant

Table 2
Classroom Teacher Data Collection Methods Completed.

<table>
<thead>
<tr>
<th>Participants: Classroom</th>
<th>MIS-A</th>
<th>MII-C</th>
<th>AMII-D</th>
<th>OBS-B</th>
<th>LP-B</th>
<th>SWS-S-V</th>
</tr>
</thead>
<tbody>
<tr>
<td>K</td>
<td>X</td>
<td>X</td>
<td>NA</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>1</td>
<td>X</td>
<td>X</td>
<td>NA</td>
<td>X</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>X</td>
<td>X</td>
<td>NA</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>3</td>
<td>X</td>
<td>X</td>
<td>NA</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>4</td>
<td>X</td>
<td>-</td>
<td>NA</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
helpful while examining the many issues regarding the implementation of music integration. A brief description of the survey and interview instruments is provided along with the data results yielded by each.

The 12-item Music Integration Survey (see Appendix A) was completed by 10 educators: the kindergarten teacher, the first-grade teacher, the second-grade teacher, the third-grade teacher, the fourth-grade teacher, the mathematics coach, the art teacher, two physical education teachers, and the teacher of gifted students. Due to time constraints, the fourth-grade teacher and the teacher for the gifted chose not to participate further in the study.
Twelve educators participated in the interview process of this study. The two interview instruments used were the Music Integration Interview (see Appendix C) and the Administrative Music Integration Interview (see Appendix D). The Music Integration Interview consisted of 13 questions and was administered to eight teachers: the kindergarten teacher, the first-grade teacher, the second-grade teacher, the third-grade teacher, the mathematics coach, the art teacher, and the two physical education teachers.

The Administrative Music Integration Interview was developed from the Music Integration Survey (see Appendix A) and the Music Integration Interview (see Appendix C), and it consisted of 14 questions in Part I and 5 questions regarding levels and frequency of music integration in Part II. The district music supervisor, school principal, school curriculum coordinator, and school music teacher were interviewed with this instrument.

The survey and interview data analysis offer insight to why the educators are involved in music integration, how they became aware of it, if they have had training on music integration, whether or not they collaborated with anyone to implement it in their classrooms, if they believe there are benefits and/or detriments related to music integration, and the rewards they have noted from implementing music integration into their curricular practices (see Appendices A, C, and D).

Next provided are responses from each of the 12 participants gathered from the surveys and interviews. The responses were grouped according to the educational role of the participants. The participants were the classroom teachers who only teach their grade level and include the kindergarten, first-, second-, and third-grade teachers; the specialists who teach all grade levels K-5 at the school, including the teachers for physical education, art, music, and the mathematics coach; and the administrators, which include the principal, curriculum coordinator and district music supervisor. The responses from the fourth-grade teacher and teacher of gifted students were included with the classroom teacher and specialist comments respectively when applicable because they only participated in the survey data collection stage.
It is expected that a school with the reputation of being arts-infused would produce responses in favor of music integration. The positive attitude toward music integration was evident in the data results from the participants; however, the difficulty recruiting participants and analysis of the data indicated further investigation is warranted. Many factors hinder the implementation of music integration even at an elementary school with administrative support, grant monies, and an arts-focused curriculum. The data collected may help educators better identify and address some of the issues revealed as a result of this study.

Why They Use Music Integration

During the interviews, participants were asked why they are involved in music integration. The classroom teachers commented on reading skill assistance and knowledge retention through music, and one primary (K-2) teacher commented on music serving to calm the students stating, “It sets a quiet tone.” Another classroom teacher responded:

At this age, they are just beginning to read. They are very familiar with nursery rhymes, and now we are putting them with music. This is all pre-reading skills, and they like them and they start feeling at ease about them.

Familiar experiences like the nursery rhymes and songs as mentioned by the previous teacher help students’ transition to new material and information. This same sentiment was shared by the first-grade teacher:

Music integration, especially with the lower grades, is very important to help children retain information [and] understand information. They know that when they sing little songs, if they forget something, they can pull that out, and it is a lot easier to use music for that.

As the third-grade teacher said, not only is retention to be considered but also presentation; she said, “I’m always looking for ways to present concepts in a way that is interesting to students and I find music to be a memory aid.” The second-grade teacher said she is interested in music integration because she has seen the benefits of music in more than one area in the past. She commented, “I have seen that it has been beneficial in a couple of areas in previous years, and that is why I decided to do this survey and why I use it a little bit in my
classroom.”

The physical education teachers stated, “Way back in my undergraduate [studies], it was kind of reinforced that music would get the kids moving; it’s just an easy way to teach a PE class,” and “I think it is a very valid way to get kids to move, to learn to manage their body, to make things more fun.” The art and music teacher’s responses were more holistic and integrative in nature. The art teacher said, “As a teacher, I just think that you have certain students that learn different ways. It just gives the child a different direction,” and the music teacher replied:

It is part of what we do as music teachers. We integrate. It [integration] is not anything that takes away from what we teach. It actually enhances what we teach. It is an integral part of music; there are many mathematics reading concepts involved in the teaching of music, so it is just a natural integration.

The mathematics coach reiterated the integrative strength of music in her response to why she is involved with music integration stating, “Because I feel that anytime you can integrate another type of content area with another area, you provide better academic achievement.”

The administrative responses were more general in scope by the nature of their educational role. The principal and the district music supervisor each spoke of their efforts and interest in the arts to ensure student’s needs are met. Strong messages about how the arts can help students experience success in school are made by each of them. The principal spoke proudly of her school:

We are deeply involved with the arts at this school. Our commitment to education and to our students is that we feel they experience much more success when they are deeply involved in all of the arts. We do feel that it enhances their knowledge as far as like reading music and so forth. It directly relates to mathematics in a very strong way and the knowledge of all the conductors and all of the people involved with music and writing music is involved in literature and science and history. We thoroughly integrate all of our subjects, all of our curriculum and we are very, very involved. We are a school of choice for the arts.

Direct links to academic achievement were made by the district music supervisor. The reality of what is at stake with state mandated testing and achievement measures support her position on the arts. Realizing she is a music supervisor, her positive position on the arts was not
surprising. What may be unusual to some educators is that a music person would talk educational testing lingo at all, much less in conjunction with music’s contribution. The music supervisor explained:

I am involved because I am very interested in it [music integration] and partly that it is just looking at other ways to deliver instruction both for positive things for music but also with academic achievement. Quite frankly, with the pressures with the No Child Left Behind [NCLB] and Adequate Yearly Progress [AYP] and [Florida Comprehensive Assessment Test] FCAT, we have to look at lots of ways to make the students learn in all different ways. Some of this is purely practical; it is easy to push [music] out of the curriculum, but we have to look at a variety of ways to teach children. So that is where some of my interest lies.

Implications regarding state accountability measures are discussed further in chapter 5.

The curriculum coordinator for Bently also took part in the administrative interview. She explained that she was not very involved with music integration practices at the school, and she commented, “I am the learning specialist at the school. At this point I’m not involved in integration in my current position.” These comments and other data from the curriculum coordinator yielded insightful information to be discussed in chapter 5 as well.

In summary, many responses were related to improving academic achievement and enhancing learning. In this section, a couple of participants mentioned how music integration helped students using English for Speakers of Other Language (ESOL); however, others commented on the same issue elsewhere. At least half of the respondents said they believed students experience more success through music integration and that students learn in different ways. Comments made here and elsewhere refer to the possibility of music integration having a positive impact on how students perform on state regulated and school-wide assessments.

How They Became Aware of Music Integration

When asked how they became aware of music integration, the responses varied. Nearly all of the teachers shared how personal interest in music played a part in their awareness. Among the classroom teachers, all mentioned taking the initiative themselves to become more aware of music integration in some way. The kindergarten teacher spoke of how her own love of music
and enjoyment of it with her children has influenced her awareness of music integration; she said:

I think having my own children and seeing what music does [helped her become aware of music integration]. Also in my classroom. I like to sing anyway in the car. It gets their [students] attention especially in a rhyme form, and they respond. Our school (about 4 years ago) purchased a lot of CD’s; they were of unusual music. Sometimes, when they are resting, I will put on a jazz station or I have a Mozart tape that I use. They are hearing classical music, and they are hearing different types of music. Children at this age love to sing, and it is just such a strong part of their learning.

The first-grade teacher has pursued music integration beyond that of most other Bently educators participating in this study. After the interview, she shared how she has done a lot of reading on related topics on her own time and cited the Multiple Intelligence Theory by Gardner (1983) and her interest in brain research. She commented on the importance of the whole child approach as it connects to music integration and her students. The extra dialogue provided very rich data:

I have been to a number of different workshops like ITI by Susan Kovalik. Doing some brain research and brain gym and all those things integrate music and body movements through learning. I also did some research initially with the Mozart, and I try to keep on top of things, so it [awareness] started a long time ago. I think in the lower grades you use music all the time.

The comment next provided is from the third-grade teacher. She expressed more interest as the study progressed. She shared that she had been aware of integration for some time, but was not very involved with it:

Probably all through my course work as a graduate student, I was aware of the opportunities for cross curriculum including music. Since I have been at Bently, I have been working with a speech therapist who has a background in music and uses it regularly, so I’ve been an observer and am beginning to implement [it] on my own.

The previous comment was an example of how collaboration can help music integration flourish; the next statement addressed the same issue. Throughout the interviews, participants talked about how they wanted and needed to see music integration in practice. Actually seeing music integration in practice not only raises awareness about it but also may serve as the impetus to try it. The second-grade teacher said she became aware of music integration from another teacher at another school; she used it all the time for writers’ workshop.
The first physical education teacher was one of the few that said college coursework (undergraduate) helped her become aware of music integration. She talked about another important issue, that of reaching the students that you teach. She explained that Bently has a high Hispanic population, and that sometimes creates language barriers which, in turn, have been known to cause learning barriers. Educators may find the benefits shared by the physical education below helpful in their school setting, too:

One of the reasons I use it [music integration] here so much is we have so many kids, especially in the kindergarten class, that speak very limited English. This way [by integrating music] we are moving, it is repetitive, they see it on a daily basis, they become familiar with the words, and they become familiar with the action. It is so much easier to catch their attention through music than [for students] just to listen to me talk.

The next comment revealed how research-based and practice-based approaches to education could be beneficial to students. The comments from the second physical education teacher told of another practitioner showing her integration in action in addition to a workshop that utilized information from research. She said the information gained from these experiences has resulted in greater success for her and her students. She also commented that there was an obvious difference in the students that they (physical education teachers) have taught through music integration and some of the techniques they used are mentioned:

I came here from middle school, and in my first year, there was no music integration at all. In my second year, I got a PE assistant who came over from elementary, and their school did a dance show every year. So she knew a bunch of dances and rhythmic things, and so that started the dance show. About 4 years later, we did a dance show here. Our PE coordinators talked about brain gym and the validity of using different sides of the brain, how to help kids to relax, and how to get kids to store facts on different sides of the brain.

References to teaching the whole child are recurring among the different responses. Another example of how student’s individual learning styles and needs are met through music integration and the arts in general was given by the music teacher:

Well, I think that I became aware of it as I was teaching. It was just a natural outgrowth of my teaching that [I realized] some students are visual [learners] and some are auditory [learners]. So you want to use all different kinds of media to get across what you are trying to teach in an interesting way.
The art teacher said she learned of arts integration while pursuing her teaching degree through art education in college. The mathematics coach said she became aware of music integration through the research presentation of this study. She said it peaked her interest, so she started talking to colleagues about it.

When the curriculum coordinator was asked how she became aware of music integration, she indicated she was aware more so in her teaching role than now, and she replied, “Through this study and when I was in the classroom, but in the current position, I am not.”

It was interesting to hear how the administrators became aware of music integration. The principal’s response indicated that she was empathetic towards her students and her staff:

As a child, I enjoyed doing things other than the academics. I was a really off-task kind of kid, and as I went through the more advanced studies, I thought there seems to be more kids out there like me than not like me. So I did a lot of research on learning styles and then brain-based research. I took teams from my school for that kind of training with Susan Kovolik; she is nationally a very important trainer, and we started doing things in that area.

The principal talked more of how when the focus on the arts grew, so did community involvement. She talked about how their (Bently’s) arts vision could reach more students and made another reference to the whole child and differing learning styles:

...and as we did some music and arts things at the school, my community got involved. When this area [school district] thought about having schools with different strengths, they asked us to identify what our strengths were. The community really wanted a school of choice for the arts, and so it was kind of an evolution. The basic thing is how do we reach each and every individual in the classroom; some are visual learners, some are auditory learners. A lot [of students] need movement, and there are so many diverse groups that we felt we really needed to do something that was way out of the box at that time. It has just evolved since then to be a very specific program.

The district music supervisor was very familiar with this topic, which allowed her to share the music profession perspective. The anticipated rich data she could offer was delivered during her statement:

This [music integration] is not a new idea. This has been around a long, long time, and I think we have stumbled for 15 or 20 years or so over the kind of units of study that we would decide that people would do. We [educators] kind of took an approach which truly
was not very rigorous. I mean, if you were studying frogs for example, just singing the frog song is not going to do much for either the academics or for music, but for some, it is a place to start. It seems like I can always remember at least having some interest, even in the 90s.

She commented that research and practice must come together for the understanding and development of music integration:

It became kind of an interest that would be explained more through research, about how important it is for things to be really deep and the connections being really solid. That is where we are right now, but you know things are maybe not as successful as we would like. At least, we know where we need to go.

Her viewpoint resonates with the message that this researcher makes throughout this study; for curricular improvements, educators should apply an integrated approach of research and practice (see Recommendations).

In summary, most of the teachers said they became aware of music integration from colleagues that were using music integration, and thus, they themselves pursued it further. According to the participants, literature and materials such as Brain Gym and Brain-Based Research have helped them become aware of music integration. Only 3 out of 12 participants said college courses raised their awareness of music integration.

Training and Collaboration

In response to the question of what music integration training the participants have had, one of the classroom teachers said, “Formally, none. Informally, through professional literature, yes.” Another teacher simply said, “No.” Two primary teachers said they attended a workshop for music integration; however, further discussion indicated that the focus of the workshop was not actually curricular integration but rather how to use music in the classroom.

Often terminology in education is misused and/or over-used, causing its meaning to become blurred. Examples of how this problem has affected the terms integration and interdisciplinary and this topic in general are provided in chapter 1. The references educators made to training and workshops indicate some confusion regarding the integration applicability of
such experiences. The apparent lack of interdisciplinary depth in the workshops cited by study participants was highlighted in the following reply from the kindergarten teacher:

Not since college days [no recent training]; I have to take that back. We have gone to workshops where it is explained how they wrote the songs and where they have shown music and what you can do with music in the curriculum. The children clap and they really learn this way.

Bently received money from various organizations and used it for materials and instruments. The first-grade teacher said that having these supplies allowed more teachers to incorporate music into their classroom activities. Whether or not integration was fostered was not clear. There seemed to be confusion by several participants that related to the music materials as indictors of integration. Data appearing later unveil this issue further. Very few training opportunities have been noted thus far. The first-grade teacher said she attended a workshop one time that used integration. She, too, mentioned the music materials purchased with lottery money:

Because we are a school for the arts, they [the lottery] gave us some money, and we had literature that they gave us and musical instruments [a few years back]. So we integrated some of the literature in our curriculum and used the musical instruments. They [students] play the musical instruments for parts in the book, so that is the only training that I know from the school system.

The specialists’ responses were the most varied ranging from “None,” to “Yes, when I was in college, our lesson plans had to show how we did [incorporated] other subjects.” There were comments that fit somewhere between the two ends of the spectrum but still not indicating integration training such as, “I wouldn’t say formal training, no,” and “yes.” Whenever we have our workshops, we always have different songs.” The music teacher shared examples of integration training she had participated in. She referenced a similar time period of its progression as that given by the district music supervisor and the literature in chapter 2:

Well, I have been to workshops mostly concerning this. Music educators have been working on this for the past probably 10 or 15 years. I think that there has been a progression of integration. I’ve been to workshops given by our textbook companies that we [district music department] have bought textbooks from and in all of the different work shops that I’ve been to, and so that is the training that I’ve had.

Lending credibility to both of the music educator participants, the literature also cited the...
past 20 years as to when the pendulum of integration began swinging this way again. The music integration training the administrators have had appeared to be as sparse as that of the classroom teachers. This was not true of the music supervisor’s training and her comments are upcoming. First, the principal’s comments indicated a concern for the arts and staff as a whole, not her individual training. She was aware the broader perspective came with her role:

Most of the training that I have had has been for all of the arts. It is my specialist in the areas that have gone for the more specific training. We have supervisors [for the arts] in this district; one is like the whole umbrella for music, and another is the whole umbrella for art. I am in very close contact with them. They have been wonderful resources for us. My specialists like my art teachers. And my music teachers go to even more in-depth training in their areas, so they can really challenge our kids.

The principal spoke briefly on why such training was important for her specialists to receive and alluded to the holistic approach to education again:

With the children starting out at such a young age, of course, with them advancing way up. To consistently challenge those that are getting in the higher ranges, to make sure that we are meeting their needs as well. So mine [training focus] is more overall, not as intense. It is more of an umbrella approach to get the programs and resources that the specialists need in the school in order to do it [integration], like get instruments.

As the principal shared what was provided for the staff, the conversation steered towards the materials and supplies gained through the grant money. Once again, she reiterated the point made during the primary teacher’s comments regarding the inaccurate assessment of integration by the materials acquired:

We have written many, many grants and gotten lots of instruments through that. We got almost 20 keyboards through writing a grant. We have gotten $100,000 grants for the umbrella of all the arts, $25,000 for keyboards and were strictly for music [department]. We have received a tremendous number of grants . . . to enhance those programs. As far as resources and the supervisors in the district office, [they] have assisted us whenever they could. And we also wrote a grant for the organizational partnership that we have with the arts [local arts council] and that is an extensive $3 million grant for 3 years, and we just got the second 3 years for another 3 million. We are in partnership [with a local performing arts hall], and the actors and musicians come to this school, put on a program, and go in to the classrooms and instruct in their area. It is fantastic. You could not ask for more. We feel very fortunate.

The Bently principal and staff have obviously been diligent to receive such monetary gifts; they should be proud of their accomplishments. This researcher must bring to the forefront,
however, that the philosophy of music integration is of authentic curricular connections, not of how well stocked the supply shelves are. Bently has a music department to be envied when it comes to supplies and administrative support. Gaining administrative support and supplies such as these are huge accomplishments; however, they are what most music educators believe should be standard in every elementary school in order to deliver quality instruction that meets the state standards. Sadly, it is the exception, and Bently should be proud.

The curriculum coordinator said her training occurred years ago prior to taking this position. She replied, “When I did my bachelor of science in music which would have been elementary music, therefore, I had some training in that. Outside of my professional [position], I am involved in some music-type things.” She talked about some community involvement with local performances and church activities. The final response came from the district music supervisor, and she shared how her training experiences have evolved over time:

You know, I don’t know if I could say I have taken a course or a college course, but I’ve been to lots of work shops. One that kind of sticks out for me is something that happened at USF years ago from a music symposium, and I don’t know if it was integration per se. I think it was a creativity symposium, and there were lots of folks there talking to some of the big wigs in integration at the time, and that kind of peaked my interest in helping put it together. Currently, one of the things that I deliver training to teachers on is academic achievement. That [training] will branch out as having some of the academic teachers sit alongside music teachers. That is the direction we are going, and we will be doing more of that this summer. It is not enough to tell the music teacher how you are going to do things, but you also have to show it. That has been the missing link piece, the classroom teacher. We [music educators] think it [music integration] is a great idea, but then we don’t bother talking to classroom teachers, [asking] how could this best be accomplished.

On the survey, the participants were asked if they collaborated or planned in any way (either formally or informally) with another teacher to integrate music into the core curriculum during the fall of the 2004 school year. Participants were asked to elaborate; however, most responses were brief.

One classroom teacher’s reply answered the training question, but also responded to the collaboration issue. She said “Yes, and no, we have had training. We have gone to see Jack Hartman [author of children’s music], and he’s come to the school every year.” According to the
school records, the only workshop with Jack Hartman occurred off-site. It is possible the workshop was scheduled through a grade-level team rather than the front office records. The third- and fourth-grade teachers answered yes to this question, and the first- and second-grade teachers answered no.

Of the specialists’ responses, 4 out of the 10 survey participants said yes, and 2 of the 4 offered the following information. The art teacher said, “Yes, the music teacher was taking fourth and fifth [students] to an orchestra. The children painted to the music they would hear.” The mathematics coach shared that she enlisted colleagues at Bently to help her prepare the musically integrated lesson and observation for this study. One (the gifted teacher) said no, she did not collaborate with another teacher to integrate music during the fall of 2004. Her other survey remarks indicated that she did indeed integrate music during this time period, just not in collaboration with another teacher. There were no administrator responses to this item since they did not participate in the survey data collection process.

In summary, for the training information obtained from the interviews, 4 out of 12 educators mentioned having integration training in college in some way, yet only 2 (16%) specifically described the training to be across disciplines. Only half (6 of the 12) mentioned workshops related to music and integration. As for collaborating with someone to integrate music during the fall 2004 study period, 6 of the 10 survey participants said they did collaborate with another teacher, and 1 respondent referred to a workshop clinician for music integration collaboration. Many of the teachers stated their personal love of music and experiences with their own children inspired them to explore music integration in their classrooms.

Benefits and/or Detriments

In response to the questions about whether the educators believed there were benefits and/or detriments related to music integration with students, all of the educators in the study answered yes to the benefits and no to any detriments. Themes that emerged from the teachers’
responses were academic achievement, focus on the whole child, and behavioral influences. Participants’ comments about the difficulty of documenting the benefits of music integration are found at the end of this section.

The administrators were asked about academic benefits of music integration during the only interview with each of them. They spoke of other benefits as well and shared student success stories. The researcher chose not to separate the administrative data by themes in order to leave their quotes intact. The flow of their messages speaks best as a whole to the questions asked. Their data regarding a variety of benefits they identified is shared in the following section.

Responses from the other participants were separated and grouped according to the identified themes that emerged from the data when applicable.

Academic benefits. The classroom teachers said they found the music integration lessons helped students with interest and retention of information. Their responses included words and statements such as creativity; excitement; students remember; have a strong sense of purpose; learning alphabet, we’ve taped music and sent home to Hispanic children to hear the sounds and learn the letters; number recognition; songs to introduce authors and books like Clifford.

A primary teacher reiterated some of the points from the previous respondent stating, “Knowledge acquisition, weather unit making rain sticks for precipitation water cycle song. Language arts, learning ABCs sounds (ESOL), vowel sounds, short/long, contractions, compound words, etc. in use with pictures, children can improve knowledge.” Another primary teacher shared examples from several subject areas and said, “Math to music with facts improves speed; Writing, [music] relaxes for writing; Social Studies, to learn continents.” A secondary teacher believed music integration helped, “Metacognition, regarding language choices as readers and writers.”

Examples from the specialist included how music integrative lessons enhanced and reinforced the following gifted skills: (a) creative thinking, (b) oral and written communicator, (c)
information manager (researching), and (d) complete thinking. She added, “I think there are benefits. It teaches math through another connection.”

The physical education teachers shared similar views in regards to how music helps students with mathematics, body parts, months, and utilizing Brain Gym activities with music to raise student achievement and how music assists students with learning mathematics, body parts, months, and Brain Gym (coordination right and left side). One stated, “I don’t see any detriments. The benefits are the kids really learn.” The art teacher commented on how the art lesson, the one where students were to paint as they listened to the orchestral music, produced varying reactions from the students and stated it was beneficial, “Some children may have heard sounds, notes, etc, that they normally would not have heard if just listening.”

Benefits that the principal talked about were beyond the school setting. She spoke of the opportunities students at Bently were fortunate to have that they may otherwise have missed. She also talked about the responsibilities of playing instruments and that benefits last longer than the student’s time in school. The principal replied:

There are a lot of things involved in playing an instrument that brings students to success, and we do think that it enhances the other programs and the children also. They love it. They also love being involved with the association that did the big grant, and there is a lot of music. We see the orchestra. You know, there are a lot of perks with that, also, and our school is economically challenged, so many of our children would not have the advantage of going and being exposed to all that. So that has been a great enhancement for our children, also, but yes, we are convinced that the school has seen a difference in learning, and it has been a positive one. Our children are really doing well. That [music] is a big part of it.

The curriculum coordinator spoke of the necessity of professionals to implement integration. Her response implied that integration would not be done by classroom teachers; further, it indicated the need for clarification between guest artists and music integration:

I think if done by the professionals, it [music integration] would definitely have a positive influence on the academic achievement. If it is done professionally and in the right way, we could be trained to use it. I don’t see any negatives where music is concerned at all. It is a way that all children can express themselves, and it doesn’t have to be the same kind of music. In fact, the more that they are introduced to different kinds of music would be great. Working in a partnership with a local establishment, we actually have the artists
come in, and one specific artist that we had come in is a poet. She just relates so well using her music and her poetry. The influence and feedback have been so positive.

The data analyses support that awareness of this topic was not very high and training is necessary.

Remarkable parallels were found among the data of the two music educators for this area of inquiry. Qualities of music integration noted by both related to multiple modalities and the connections people make with music. For continuity in thematic content, the two are presented consecutively. The music teacher’s comments are provided first:

Of course, I think it [music integration] has an influence on academic achievement. With all the brain research that has been done, it is obvious that children learn in different ways and have different gifts. Music is something that all kids can relate to because it is multifaceted, and so I think that it is a really positive thing when you can [integrate]. With the brain research and so forth, the more connections that we make between subjects, the more our brain is making those connections and those neurons. It [music integration] just makes us smarter. I think everyone knows a song or an event that they went to that was related to the arts that they never forget. That is why a lot of parents want their children in music because they have some kind of a, you know, a cool experience with the arts when they were a child, and they have never forgotten it.

The district music supervisor’s comments regarding the academic benefits of music integration addressed many issues raised in this study. Implications for future study and possible action for issues raised are noted among the information she has provided:

Well, obviously, I’m a little biased here. I will have to say that from the get-go. I have to believe it has a really positive influence on academic achievement. With all the brain research that has been done, it is obvious that children learn in different ways and have different gifts. Music is something that all kids can relate to because it is multifaceted, and so I think that it is a really positive thing when you can [integrate]. With the brain research and so forth, the more connections that we make between subjects, the more our brain is making those connections and those neurons. It [music integration] just makes us smarter. I think everyone knows a song or an event that they went to that was related to the arts that they never forget. That is why a lot of parents want their children in music because they have some kind of a, you know, a cool experience with the arts when they were a child, and they have never forgotten it.

By now, the reader should recognize that the three areas she mentioned are linked to the whole-child approach to education and similar to comments by other respondents. The music supervisor spoke of the emotional component of music much like the music teacher when she said parents often remember a time or event with music somehow attached to that memory. The
music supervisor continues:

Lots of people do all of those references of where you were when Kennedy died or 9/11. It is because the brain is sending up chemicals there, and music has that [power]. So if we can tie those pieces to (for lack of a better word) drier academic learning, you are going to make some gains, and I feel really positively about this. I do think we can do a lot more with kids than what we are doing, and the other thing about music is that it is all application. You cannot say, okay, I’m going to test you on the B flat scale today; now just tell me what that fingering looks like. I mean, no one would ever do that, but yet, we [educators] do that in other academic areas. We just ask for that kind of surface level stuff. If you can marry those things [knowledge and application], you have a much stronger student. You have a student that can apply learning. That is what you want in a learner, so the kids can see the application. It makes all the difference. So if you figure out a way to apply learning and have three different modalities that you are getting to, you could make a difference.

Many of the educators’ comments were of the academic benefits and success they have experienced with their students through music integration. The idea that making music is the act of knowledge being applied is an interesting concept that has been raised before by music philosophers and education specialists. That music making is applied knowledge is a fact worth repeating for educators that do not understand the cognitive values of music education and mistaken the music class period as free time. The analogy she shared of the B flat scale carries serious implications to FCAT testing. These implications are addressed as related data arise in this chapter and again in chapter 5.

Whole Child. Many of the respondents’ remarks related to the importance of the whole child and a complete education. Several specialists and administrative comments referred to how music integration may help teachers accomplish what NCLB expects them to do. More than half of the teachers’ comments resonated that of the district music supervisor’s on how music addresses kids in three different ways: (a) cognitive issues, (b) the physical component, and (c) the emotional impact. Educators from each group said in some way or another that children learn in different ways and music is something that all kids relate to. Similar and equally important benefits were presented as behavioral, developmental, and emotional areas that music integration addresses for the education of the whole child.
The music teacher said “Music does something that nothing else can do, music and the arts not only make you smarter, but it touches your soul.” A secondary teacher said “I think the benefits go along with that hard-to-measure level of excitement on the children’s side and that hard-to-measure idea of fixing it in memory through the emotional response they have to music.”

The principal spoke of the frustrations she encountered when first trying to transform Bently into an arts-infused school, and she mentioned how difficult it was to get well educated people who are in charge of educating children of the world to recognize that the arts are truly extremely important to a well-rounded child. The viewpoints just presented addressed the issue of a complete education for the whole child and corresponded with that found in the literature review in chapter 2.

**Behavioral.** Many of the classroom teachers credited music integration for positively influencing the behavior of their students. Teachers said it improves student behavior, and it improves student interest. One educator said, “[It] settles them down, helps them focus,” and a similar opinion is noted by the first-grade teacher who said “It sets a quiet tone.” The kindergarten teacher spoke of how the variety of music choices often pleases and engages students:

> They got up, and they went with it, and they didn’t analyze it like the teacher did. And see, I was putting on my own personal feeling. I don’t particularly like rap music, but they did, and it didn’t matter. They simply take it at the surface. If they like it and they like the sound, it makes them happy.

The physical education teachers were talking to one another before their interviews and recalled a workshop using a Brain Gym lesson. The physical education teachers and primary teachers referenced this workshop frequently, which indicated a willingness to try something new if presented with proper training:

> Remember when we were doing the hook up to that yoga type music, integrating to the brain, and feeling comfortable to the flow of information. We would do the whole brain gym lesson, and we ended with 5 minutes of total relaxation. When they were in hook-up position, they had to listen to the music. That worked out great.
One of the specialists said that sometimes the teacher needs to find ways to get the students’ attention and replied, “Teaching, in a way, is theatrical. I will be in my classroom and start singing a crazy song to get their attention. It is definitely beneficial.”

As stated earlier, none of the respondents thought there were student detriments related to music integration in the curriculum. They made comments such as, “I’ve never seen any detriments,” and “I don’t see any negatives where music is concerned at all.” Most comments repeated the same sentiment, “I don’t think there are any detriments at all,” and “I can’t think of any that there would be in using music integration.”

Some teachers offered opinions of why educators may find music integration implementation challenging for themselves as teachers. The challenges noted are possible reasons educators may avoid integration and are presented with the Encountered Frustration data.

*Difficulty documenting benefits.* Although all of the teachers said they believe there are benefits to integrating music into their curriculum, it still remains difficult to document such benefits. The experiential perspective shared by these participants is a valuable outcome of this qualitative case study. The comments made by the participants of this study must serve as a form of documentation. Some of the respondents reflected on the difficulty of documentation concerning the benefits of music integration, and two offered these thoughts, “I think there are more benefits to music integration that are not documented,” and “I’m not sure why, probably because there is not a lot of research out there with math and music.”

Other respondents said, “It is hard to document the benefit of musical activities unless you have a video,” and “It is probably hard to document all of it especially in the writer’s workshop. Obviously in math, you can because it is right there.” There are differences of opinion among the educators on how documentation of student benefits could be improved, but many agree it should be.
Rewards as a Teacher of Music Integration

The reader may notice that many of the rewards the teachers experienced from integrating music are related to the student benefits mentioned earlier. Educators were first asked how they believed students benefited from music integration. Later, they were asked to talk about rewarding experiences they have had relating to music integration. Many replies implied a connection with these two questions and revealed that teachers felt rewarded from seeing their students benefit from music integration. All but one of the rewards shared were related to benefits the students experienced; the exception was of a teacher’s personal satisfaction and increased knowledge in music skills.

The data analysis revealed there were four recurring themes for rewards teachers noted: (a) skill development, (b) retention of information, (c) increased interest, and (d) self expression. Some of the educators’ comments contained more than one of these themes, so they were grouped as all previous sections, in the context of their educational role rather than by thematic content.

Many rewards the kindergarten teacher reported are the same benefits she talked about for the students. The reading and foundational knowledge was important for primary students and teachers were happy to find another way to attain that:

I think after doing the nursery rhymes, you can see them coming in to really looking at the words where they have never looked at them before because they were too young. I think the biggest reward is all of this foundation we set for them which is so important; you see it later on. Our Reading First program has all that music in there, too. They have integrated into the program we use. It [music] is all through our curriculum. They move while they are going to the beat of the music. I also had a video where they had some songs; it was a production.

The next two responses were very similar in that the teacher felt rewarded when students could demonstrate knowledge. A common reward for teachers is to know students have accomplished the educational goal the teacher has set; many have said music integration helped this to happen more often. The first-grade teacher said:

Just having the kids be able to give me feedback after I’ve taught a lesson and having them actually know the lesson. We do a lot of partner talk together, so when they do that,
when they sing a little song, they face each other and sing a little song and remember things. I think it is just seeing that children retain more information when you do it with music, when you do it with rhythm and make it fun for them. They think it is a game, and yet they are doing a whole lot of learning.

The following statement is a reference to the cognitive feature of music integration. The satisfaction of seeing the knowledge occur was expressed by the third-grade teacher. She talked of the relief of having a conceptual tool that is successful and enjoyable by the students:

It is almost obvious; it is the interest level of the kids. They are automatically interested, and participation goes way up. I have seen afterwards that the concepts become more fixed in their mind. They can talk about something that they have learned through music better. I see that cognitive piece in music.

The final classroom teacher comment was from the second-grade teacher, and she said, “I have seen it work. It has benefited the kids, settling them down and getting them to focus, and I’ve seen it in math; it has helped them improve their math facts skills.”

The physical education teacher (PE2) expressed a reward, “Seeing the children progress year after year. Just watching them when we did the country line dances and the square dances and having fun with it.” The other physical education teacher replied:

Seeing the results. I’ve got fourth graders (because we weren’t doing this when they were in kindergarten) that still do not know their left from their right. I would say 90% of the kids in my kindergarten classes yesterday, whether they can speak English or not, know their left from their right, and I think it is a result of that [music integration]. And math, I see the kids memorizing the math because it is to rap, and it is just so repetitive, and the tune is so obnoxious. It is one of those obnoxious things that gets stuck in your head like an obnoxious TV commercial. It’s the same thing, and those are the two biggest things.

When the art and music teacher collaborated, the art teacher noticed a change in the students. She stated that seeing their work and watching how their opinions were shaped was rewarding for her:

I think when the students went to an orchestra. You hear the kids come up with this music, and so they were not very excited about this field trip. But then you saw their paintings, they were completely different. The children on opposite sides of the room had different views of the music, so the reward would be that you would see completely different reactions to music in 9- and 10-year-old kids.

Being recognized for a job well done is the reward for the music teacher when integrating
Parents, students, and teachers, at times, have complimented the music teacher for her efforts. She claimed that having colleagues realize how the integration of two domains can assist the student learning and can help each other is especially rewarding. Credit for a well-done job rewards the music teacher:

Well, I guess this is selfish, but I think what I do is really important to kids. And so I guess the biggest reward is when you get the feedback that what you’re doing is really good from teachers or administration or the kids. When you see how excited the kids are about coming to music. When you see how excited they are at a program or parents are excited about what they have done. Related to integration, it’s neat when the kids come back, or the teacher comes back and says ‘oh they learned this in music, and we were doing it in [mathematics]; they knew that vocabulary;’ you know and they [students and teachers] see that it is interrelated.

The last comment was on a personal note and so is the one to follow. The mathematics coach said her reward was her own accomplishment in learning so much about music in order to teach the lesson. After the interview, she also talked of how well the students grasped the lesson and that she intended to continue with the mathematics and music integration:

I know how to clap to notes. I know all about notes. I know all about the beats and learning how to teach that. The biggest reward was learning how music—even on the radio—we were clapping beats and just learning all about the time that is kept on the metronome, having awareness.

Additional data on the emotional effects music had on the students was given by the curriculum coordinator. It echoed that of the second-grade teacher that said it [music] can create a quiet mood. She made reference to her own children, too, which many participants in the study have done:

It is a great mood setter during writing. The studies that I have seen prove that if you have quiet music, it helps with their creative writing, setting the stage in order for children to write and to keep the frustration level down. It can be used in math, in learning facts. I feel like with my own children at home, if they could sing something, they would remember it a lot longer than if it was just a fact, and you can see that in commercials. They will sing the commercials, so I feel like there is a big place where music could help children of all languages, which is very important in our culture.

School climate did not generate much in the way of data in regard to students. It was, however, raised from the educator’s standpoint during the state accountability issues. The
principal said the students like the challenges music presents, and they seem happy to be at school each day:

I think the greatest reward is successful kids. Kids that are very, very happy, that want to come to school every day, that look forward to what they are going to learn, and I mean they do see music class as a challenge. It is not ‘let’s kick back and have some fun.’ Sometimes class is looked at like a free time; it’s not hard like reading and math. You are going to read music [in music class], [there are] certain expectations for you. You need to be prepared.

Comments given by the district music supervisor almost sounded like a repeat of the music teacher’s responses yet with the administrative flavor. They included teacher’s recognizing student success and domain crossover. A point of interest for readers may be that the district music supervisor’s interview actually occurred before any other data collection had begun. The two music participants did not see each other during the data collection period. One is at Bently and the other is at the education administration building. This strongly implied that further research is needed to investigate what influences the integrative thought. The data analysis indicated it may be the area of expertise, data elsewhere in this research suggested it is the viewpoint of serving a large population of students. Regardless of the reason, the parallels are irrefutable. The district music supervisor stated:

It’s all anecdotal stories of teachers who would be working with another student and a fifth-grade teacher would come in and say the thing that music teachers always hear, ‘I had no clue that student could be that successful.’ That is one piece, but then the other piece is when the music teacher would be teaching a lesson and the classroom teacher would say ‘I didn’t know you taught that’ or I’m doing fractions this week, and I didn’t know that this is what you were doing at this time.’ When that happens, that is the reward because all of a sudden, the classroom teacher realizes that it is not one more thing on her plate; it is somebody else who would be helping her. And as long as it is considered one more thing, ‘Oh my God, I can’t do integration; I have 400 other things to do today. I couldn’t possibly do that.’ They have to see it [music integration] is not going to be one more thing. It is going to be a foundation that helps them. Sometimes, it is personal experience because the classroom teacher will see this with a close friend or with their own children or something.

There were many answers given in regard to seeing kids excited about learning and the feeling of seeing successful kids. The physical education and kindergarten teachers spoke of the reward of building a foundation and seeing it pay off later, of seeing kids progress as knowledge
is retained and built upon. The district music supervisor spoke of the satisfaction of having other teachers notice when students succeed through music and the excitement of teachers realizing that integration is not an add-on to a full plate but rather that we help each other teach.

The music supervisor and the school music teacher were not aware that their comments were the same on this issue. The similarities were brought to the attention of the reader to strengthen the argument that both educators are making. The music teacher was responding to a question on how key issues affecting music integration would be addressed in an ideal school setting. In her response, which you can find in its entirety in the section for research question 2 data (see Key Issues), the music teacher stated:

I think the more we understand that we’re doing things to help each other. I think music teachers know that they are helping the academic teachers, but I don’t know whether the academic teachers know that visa versa. Maybe so in some cases, so that goes into the awareness that we need of each other as professionals. I think watching each other teach and celebrating good teaching. It also makes us more accountable when somebody is there observing us and when we can give each other positive feedback. That’s really exciting to teachers I think.

These statements addressed a recurring issue, the need for classroom teachers and music teachers to help each other attain the common goal of highest student achievement. The issue of respect from colleagues, though not directly stated as respect, is a reward stated by the music teacher when she talked about how she feels when other teachers discover she is helping the classroom teacher through music integration. These are important recurring messages that elude to more pieces of the integration puzzle.

Research Question 1

What levels and frequency of music integration are being implemented at a public elementary school in central Florida? Data that pertains to the levels and frequency of music integration occurring at Bently were taken from items 6-10 of the Music Integration Survey (see Appendix A), observations and lessons plan data (see Appendix B), item 8 of the Music Integration Interview (see Appendix C), and part two of the Administrative Music Integration
Interview (see Appendix D).

**Levels and Frequency**

The following are brief descriptions of the five levels of music integration (Wiggins & Wiggins, 1997) examined in this case study. These are the same descriptions that were written on the survey that each participant completed.

1. Teaching-tool connections—music about, or use of music to memorize information from another discipline.

2. Topic connections—music serves to enrich or clarify another domain.

3. Thematic/content connections—common themes/units.


5. Process connections—the process in one discipline facilitates understanding of another discipline.

The data pertaining to the levels and frequency that each respondent perceived occurring at Bently were collected from all 14 original study participants. As explained previously (see scope and limitations), 2 of the 14 participants participated in the survey portion only, and their responses are calculated in this data set. One participant failed to indicate a frequency answer for Level 4, and three participants failed to mark their frequency answer for Level 5. The data results for each question were calculated separately according to the number of responses for each question and depict the educators’ perception of the frequency of each level of music integration that occurred as reported by the participants.

Respondents were reminded that some, all, or none of the levels of music integration outlined here may have occurred at this school and in varying frequencies. The frequency scale represents how often each of the levels of music integration occurred. The educators’ perception of the music integration levels that occurred school wide and their frequency during the fall of 2004 is the focus of this data set and responds to research question 1. Provided are five pie
graphs, each representing a different level of music integration in isolation. Keep in mind that the educators’ were provided the abbreviated five-levels criteria provided by Wiggins and Wiggins (1997) that are described in the previous paragraph. This data collection approach was designed so study participants would have a common understanding of each level and to obtain their perception of the school wide integration setting.

*Educators’ Perception*

Figures 2, 3, 4, 5, and 6 are to be examined individually to gain a better understanding of the educators’ viewpoints of how often they believed each level of music integration occurred at Bently. The frequency scale legend further explains the time categories used by the educators when determining music integration frequency.

Frequency Scale:

0 = never  
1 = rarely (quarterly) 
2 = sometimes (monthly) 
3 = often (bi-weekly) 
4 = regularly (weekly)

According to the educators’ data displayed on the pie graphs, Level 3 music integration occurred most frequently at a weekly rate (60%), and Level 1 (47%), Level 4 (44%), Level 2 (40%), and Level 5 (17%) followed respectively. Level 3 is the only category that received frequency ratings of 2 or higher, indicating it occurred at least monthly. Levels 1 and 2 received

![Pie chart showing frequency of Level 1 integration]  

*Figure 2. Educators’ perceptions–school-wide frequency of Level 1. Teaching-tool connections.*
Figure 3. Educators’ perception–school-wide frequency of Level 2. Topic connections.

Figure 4. Educators’ perceptions–school-wide frequency of Level 3. Thematic/content connections.
Figure 5. Educators’ perceptions—school-wide frequency of Level 4. Conceptual connections.

Figure 6. Educators’ perception—school-wide frequency of Level 5. Process connections.

The most evenly distributed and closely matched percentages of levels, indicating a broader perception among educators as to how often these levels occurred as well as implying these two levels are implemented fairly equally. The frequency rating of 0 appeared only for Levels 4 and 5, indicating that some educators believe these levels of music integration never occurred. In Table 5, the percentages are presented according to the participants’ perception of frequency for each...
level of music integration school wide.

Observation Data Results

Of the 12 remaining study participants, 9 are teachers and 7 were observed teaching a musically integrated lesson. The participants observed were the kindergarten teacher, the first-grade teacher, the second-grade teacher, the third-grade teacher, the mathematics coach, the music teacher, and one of the physical education teachers. Due to scheduling conflicts on behalf of the researcher, the art lesson observation did not occur. Since both physical education teachers often team teach the same lesson, only one physical education observation was scheduled. The observations were analyzed using the Music Integration Observation and Lesson Plan Checklist (see Appendix B). The Wiggins and Wiggins (1997) criteria were applied, and the resulting level of music integration coded accordingly. The level of music integration is identified at the end of each observation data sheet as one of the following key words: (a) Subservient, (b) Reciprocal, (c) Thematic, (d) Conceptual, or (e) Procedural. These key words correspond to the five levels of music integration examined: (a) Teaching-tool Connections, (b) Topic Connections, (c) Thematic/Content Connections, (d) Conceptual Connections, and (e) Process Connections. The completed observation checklists for each participant are provided in the Appendices (see Appendices E through K).

Table 5

Frequency Percentages-Levels of Music Integration

<table>
<thead>
<tr>
<th>Weekly (4) Regularly</th>
<th>Bi-Weekly (3) Often</th>
<th>Monthly (2) Sometimes</th>
<th>Quarterly (1) Rarely</th>
<th>Never (0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 3 = 60%</td>
<td>Level 5 = 33%</td>
<td>Level 2 = 27%</td>
<td>Level 1 = 20%</td>
<td>Level 5 = 8%</td>
</tr>
<tr>
<td>Level 1 = 47%</td>
<td>Level 4 = 21%</td>
<td>Level 3 = 27%</td>
<td>Level 5 = 17%</td>
<td>Level 4 = 7%</td>
</tr>
<tr>
<td>Level 4 = 44%</td>
<td>Level 1 = 20%</td>
<td>Level 5 = 25%</td>
<td>Level 4 = 14%</td>
<td>Level 3 = 0 %</td>
</tr>
<tr>
<td>Level 2 = 40%</td>
<td>Level 2 = 20%</td>
<td>Level 4 = 14%</td>
<td>Level 2 = 13%</td>
<td>Level 2 = 0 %</td>
</tr>
<tr>
<td>Level 5 = 17%</td>
<td>Level 3 = 13%</td>
<td>Level 1 = 13%</td>
<td>Level 3 = 0 %</td>
<td>Level 1 = 0 %</td>
</tr>
</tbody>
</table>


**Observations**

The observation data for the kindergarten teacher, mathematics coach, and physical education teacher are presented here to allow the reader to experience some of the integrated lessons and their subsequent data analysis. This insight may help the reader better understand the upcoming comparison of educator’s perception data and the researcher’s identification data. The implications of the differing data are discussed further in chapter 5.

*Kindergarten observed lesson.* On the morning of the kindergarten teacher’s observation, the students were sitting in rows at the foot of the teacher. From her chair, she began a lesson integrating music with language arts. The integrative focus was to sing a song about Clifford and read a Clifford story. *Clifford* is a book series for children about an adventurous big red dog named Clifford. The teacher told the students they were going to talk about words that rhyme. She sent a student to go pick the Clifford book of her choice that was to be the story for the lesson.

The materials for this lesson included a Clifford book, a printed word sheet of a Clifford song for the teacher to read as she sang to the tune of *On Top of Old Smokey,* and a red paper Clifford puppet on a Popsicle stick for each student. The word sheet is provided:

*Clifford Song* (tune: *On Top of Old Smokey*)

On top of a doghouse  
Just cut from a log  
Lies big red and lovable  
Clifford the dog  

He’s playful and friendly  
With all of the kids,  
Though he can make us ornery  
We forgive things he did  

So if you like puppies,  
Brown, big, spotted, small,  
We know you’ll love Clifford,  
The best of them all  

Once the teacher had the chosen book in her hand, she asked the students the name of the
author. Many students knew it was Norman Bridwell; they had been reading his books for several
weeks. She asked who could spell the author’s and Clifford’s name and chose several students to
do so as she wrote the letters on the board. She then had the students repeat them as she pointed
to each letter.

The teacher then sang the song about Clifford in a call and response format. This was the
student’s first time hearing the Clifford song. There was no recording or music playing, only the
teacher’s voice. She sang a phrase, and they repeated it after her. Then she read the story, asking
students about the pictures and what was happening with Clifford throughout the story. She asked
them to describe what in the story could really happen and what probably could not happen. The
teacher then instructed the students to stand up with their puppets so they could march around the
room while singing the new song about Clifford.

The students and teacher sat back down, and she asked them to repeat the rhyming words
from the song after her (log/dog, kids/did, small/all). They all sang the song again using their
puppets to act out the words. The 30-minute observation time was complete.

The kindergarten teacher told the researcher the next day’s follow-up lesson would be a
worksheet for the students to write their name, the author’s name, the title of the story they read,
and one word about how the book made them feel. Then they were to draw a picture about the
story on the worksheet.

The observed academic and behavioral outcomes noted for music were the application of
singing (pitch) and marching (rhythm) skills with brief practice in the concept of rhyming words
found in the music. In the core subject of language arts, the observed academic and behavioral
outcomes noted were the application of letter recognition (skills and knowledge), the concept and
process of putting letters together to create words and meaning, and the application of analyzing
and describing factual and fictitious parts of the story.

One Sunshine State Standard was met for music during this lesson, and four were
identified for language arts. Based on the observation, the corresponding lesson plan, and the
Wiggins and Wiggins (1997) criteria, the most appropriate identifier for this lesson was Subservient. The level of music integration most applicable for this lesson was Level 1.

During the interview the following week, the researcher asked the kindergarten teacher with which level of music integration she thought the observed lesson and corresponding lesson plan were best aligned. She said, “This last one,” while she pointed to the Level 5 description of music integration on the Wiggins and Wiggins (1997) description and observation criteria list. Her direct quote is provided, so the reader may better understand why she chose that level:

I think this last one because it was like a webbing. There was so much that was going on in that lesson. Now, I’m going to go to another author, the Franklin books, because they really have a very high interest [and] look up some music for that. We can go to art. It just webs off. It actually involves all of these because I took one theme and webbed off, and now that I have introduced the author connection [and] used the videos, then we will go to another one, and again this is the natural push in our school. It was just so much webbing.

The kindergarten teacher perceived the level of music integration to be that of Level 5, but the observation criteria yielded data that the researcher identified as Level 1 music integration. According to the literature and the Wiggins and Wiggins (1997) criteria, this integrated lesson best aligns with Level 1, the Teaching-tool Connection. In this lesson, music was used as an entertainment and transitional activity. Music knowledge was not enhanced in this observed lesson. Level 1 is often referred to as a subservient approach to music integration because one subject matter is serving the other.

This approach, used often and very helpful especially in the primary grades, is considered the lowest form of music integration due to the lack of reciprocity and authentic connections benefiting both domains of knowledge. The data analysis indicated that many of the participants were more aware of this level of music integration and how to implement it than the other levels examined. Integrating music at each of the levels has student benefits, and the participants shared many reasons they believed this to be true.

Mathematics coach observed lesson. The mathematics coach at Bently teaches across several grade levels to provide additional mathematics help to teachers and students. The
musically integrated lesson observed was with a fifth-grade class of students. The integrative focus of this lesson was to use the symbol systems of notation in music and numbers in mathematics to learn more about fractions.

The mathematics coach used a poster with notation and note values already written on it, a white board and markers, and paper and pencil for each student. The poster can either be pre-drawn or completed with students. She started the lesson by introducing the concept of completing mathematics problems using music notation. She reviewed note names and their corresponding values and fractions with their corresponding values. Then she discussed the correlation of the two symbol and value systems (notes and numbers). The mathematics coach referred to information between the two subjects, music and mathematics, continually throughout the lesson.

Next, she drew problems on the board; she started with single note examples and progressed to mathematics problems. The rhythmic notation examples became increasingly harder as the mathematics coach provided examples of single notes and their value to several notes creating rhythmic patterns. After several examples and practice adding and clapping four measures of music with four beats in each measure, students were instructed to write their own four measure composition. Students were told to start with a blank piece of paper, requiring them to draw the proper staff (five lines and five spaces—application of knowledge), treble clef sign, time signature, and bar lines in preparation for the assignment.

While the students were working, the teacher walked around the room offering assistance and checking for comprehension. After students worked on their compositions for a few minutes, the teacher asked if anyone was ready to share their creation. Several students volunteered and took their compositions to the front of the class for the teacher (or sometimes the student) to write it on the board. As a group, the class checked the work for musical and mathematical accuracy, made necessary changes, and proceeded to clap the rhythmic product.

Many more students wanted to share their work, but the 30-minute class time was over.
The mathematics coach told the students that, the next time she met with them, they would get to do more work similar to this lesson except with different mathematics functions. She concluded by telling them she was glad they enjoyed the lesson and that she, too, learned a lot while preparing to teach it to them.

Some of the academic and behavioral outcomes noted during the observation were applications of skills and knowledge from both subject areas. Since both subject areas had the same level of application, it was appropriate to group them for this analysis. Both the concept of addition and the process of using the symbol systems were accomplished. The creation, description, and analysis of their own work as well as their classmates allowed them to demonstrate the remaining outcomes on the criteria list.

Of the Sunshine State Standards met during this lesson, four with additional subsets within them were achieved in music, and three, also with several additional subsets, were met in mathematics. The most appropriate identifier for this integrative lesson was Procedural. This lesson was an example of Level 5 music integration. The authentic connections and reciprocity between the music and the mathematics domains were evident throughout the observed lesson. The Wiggins and Wiggins (1997) criteria and corresponding lesson plan confirmed this assessment with student transfer of knowledge and procedural application such as symbolizing, classifying, and interpreting information between subject areas.

As stated in chapter 3, the mathematics coach had not taught a musically integrated lesson prior to this research study. Although the mathematics coach taught at an arts-infused school, music integration was not a part of her curricular practice at the onset of this study. A researcher’s note for the reader is that the mathematics coach and other educators at this school may be involved with other forms of arts integration more so than music integration; however, the scope of this study did not include the examination of other forms of arts integration. The mathematics coach said she was excited when she heard about the academic possibilities of music integration during the research presentation at the staff meeting. She asked colleagues with music
backgrounds to help her prepare for and participate in this study. The indoctrination process of the mathematics coach to music integration is shared throughout this document for the reader to experience the ease in which implementation occurred. During the follow-up interview, the mathematics coach was asked what she thought of the music integration approach to teaching the mathematics lesson:

They [students] seem to excel. The ones that played an instrument in elementary school, they sing in the chorus, there are a lot of kids involved with music in our school, and those that were involved really seem to excel with this lesson.

She was next asked, “These students, did you previously in your mind identify them as strong math students?” and she replied:

No. Not necessarily. Not any of them in the one group. There were a couple that improved with the music. There is one student in particular that came out of his shell. He would never raise his hand. He was always wrong. In this lesson, he was clapping the beats; he knew all of the music. This one lesson really made him excel.

The reader may recall the story shared in the introduction of chapter 1 about the student that was struggling with reading and finally experienced joy in learning and pride of success during the music reading activity of playing the recorder in the music class. There are many more stories like this to be shared, further indication that more research is warranted.

When the mathematics coach was asked what level of music integration she thought the observed lesson and corresponding lesson plan aligned with, she read through the list of the five levels and said, “I would say topic connections and conceptual connections because there were common concepts to the class and process connections because there was process and understanding of another [domain], math and music integration.”

The mathematics coach’s assessment corresponded with the researcher’s analysis and ultimately with that of Wiggins and Wiggins (1997). According to Wiggins and Wiggins, when students are aware of how a process functions in one discipline, they can apply that knowledge and better understand the process of another discipline. In this lesson, the common procedures and application of the mathematical knowledge and the musical knowledge were required to
accomplish the final product. Additionally, procedural examples applied in this lesson were organizing, interpreting, symbolizing, and classifying.

*Physical education observed lesson.* The researcher observed physical education teacher #2 teaching a lesson integrating music with movement. Much of the lesson repeated one process using different songs, so rather than elaborate on the entire observed lesson, highlights will be given. The lesson took place outside on the concrete basketball court. Students lined up, and it was obvious they had done this before. The physical education teacher explained they often did this music and movement activity as a warm-up prior to the other activities. The CD player/tape deck and recordings of the *Cha Cha Slide* and *Funky Town* were the only materials necessary. The teacher called out various movements, stretches, and directions for the students’ movement to the music.

Students applied the concepts of a series of movements, commands, exercises, and dance elements while moving their body to the beat and adjusting to changing tempos and teacher instructions. The academic and behavioral outcomes observed were consistent with conceptual connections found in both music and physical education Sunshine State Standards. Two standards in music, three standards in physical education, and one standard in dance were met through this integrated lesson.

The physical education teacher thought the observed lesson was Level 1 music integration and stated, “I would think probably Teaching-tool Connection.” However, the observation criteria revealed it represented Level 4. Several Sunshine State Standards were met, many of which were reciprocal and conceptual in nature.

*Researcher’s Identification*

Observation data, as shown in Table 6, presents the researcher’s identification of the levels of music integration that occurred at Bently as determined by pre-set observation criteria (see Research Questions, chapter 1). The data indicate that the level of music integration that occurred was multiple: (a) Level 1, Teaching-tool Connections (3 participants grades K-2, 43%);
(b) Level 4, Conceptual Connections (2 participants, the third grade and physical education

Table 6  
*Researcher’s Identification-Levels of Music Integration Observed during Fall 2004*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Key Word</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kindergarten Teacher</td>
<td>Subservient</td>
<td>1. Teaching-tool Connections</td>
</tr>
<tr>
<td>First Grade Teacher</td>
<td>Subservient</td>
<td>1. Teaching-tool Connections</td>
</tr>
<tr>
<td>Second Grade Teacher</td>
<td>Subservient</td>
<td>1. Teaching-tool Connections</td>
</tr>
<tr>
<td>Third Grade Teacher</td>
<td>Conceptual</td>
<td>4. Conceptual Connections</td>
</tr>
<tr>
<td>Mathematics Coach</td>
<td>Procedural</td>
<td>5. Process Connections</td>
</tr>
<tr>
<td>Music Teacher</td>
<td>Procedural</td>
<td>5. Process Connections</td>
</tr>
<tr>
<td>Physical Education Teacher 2</td>
<td>Conceptual</td>
<td>4. Conceptual Connections</td>
</tr>
</tbody>
</table>

teacher #2, 28%); and (c) Level 5, Process Connections, (2 participants, the mathematics coach and the music teacher, 28%). Descriptive explanations of the five levels of music integration are provided in chapter 1 (see Relevant Terms; see also Appendices B and C).

*Comparison of Educators’ Perception and Researcher’s Identification*

During the music integration interview, the researcher asked each of the participants with which of the five levels of music integration the observed lesson and corresponding lesson plan was best aligned. The participants were provided with the Wiggins and Wiggins (1997) descriptions of music integration levels (see Appendices B and C), to assist with their understanding and the accuracy of their answer. The decision to have the educators and researcher use the same criteria was intentional by the researcher to increase data reliability.

The music teacher participated in the Administrative Music Integration Interview which did not address observations or lesson plans because of the administrative nature of the interview. Therefore, data regarding the music educator’s perception of the observation and lesson plan were not collected.
A comparison between the educators’ perceptions and the researcher’s identification of the level of music integration implemented during the observed lesson revealed differences of data in three grade levels. The contradictory data were found in the kindergarten, third grade, and physical education data. The first-grade teacher, second-grade teacher, and mathematics coach’s assessments of the observed level of music integration aligned with the researcher’s analysis. Table 7 presents the educators’ perception and researcher’s identification data of the observed level of music integration. Figure 7 presents the comparison data in a bar graph.

*Lesson Plan Data Results*

Research participants were asked to provide a sample lesson plan of an effective musically integrated lesson they taught in the fall of 2004. The respondents were allowed to choose any format in which to submit the lesson plan, whether the lesson plan was one that coincided with the scheduled observation, or additional lesson plans they felt would be beneficial to the study. The kindergarten, first-grade, third-grade, and music teachers and the mathematics coach all provided the lesson plan matching the observed lesson. The kindergarten and first-grade teachers each provided an extra lesson plan.

In an effort to minimize reader confusion, only the data from the lesson plans

Table 7

*Observations–Educators’ Perception and Researcher’s Identification*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Educators’ Perception</th>
<th>Researcher’s Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kindergarten Teacher</td>
<td>5. Process Connections</td>
<td>1. Teaching-tool Connections</td>
</tr>
<tr>
<td>First Grade Teacher</td>
<td>1. Teaching-tool Connections</td>
<td>1. Teaching-tool Connections</td>
</tr>
<tr>
<td>Second Grade Teacher</td>
<td>1. Teaching-tool Connections</td>
<td>1. Teaching-tool Connections</td>
</tr>
<tr>
<td>Third Grade Teacher</td>
<td>2. Topic Connections</td>
<td>4. Conceptual Connections</td>
</tr>
<tr>
<td>Physical Education Teacher 2</td>
<td>1. Teaching-tool Connections</td>
<td>4. Conceptual Connections</td>
</tr>
</tbody>
</table>

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Figure 7. Comparison of educator’s and researcher’s observation data.

The two extra lesson plans provided by the kindergarten and first-grade teacher were beneficial to the researcher for additional insight and samples of music integration being implemented in the primary grades. It was noted that both were examples of Level 1 music integration.

The researcher wanted the most authentic forms of lesson plans available and purposefully did not request for the sample lesson plans to be completed on a certain form or with any set criteria. This was intentional in design, so the researcher would not influence the participants regarding what Sunshine State Standards would be covered or what Level of integration the teacher perceived the submitted lesson plan aligned with. Because of freedoms allowed, the lessons plans varied in style and content. The submitted lesson plans may or may not be indicative of the format these teachers use when writing them in their own lesson plan books or when submitting sample lesson plans to other interested persons that may request them from time to time. The teachers did not list the standards specifically in the lesson plan samples; however, the researcher did note when they were addressed during the observations. The reader is
directed to the observation data and appendices for more information regarding the actual observed lessons.

The lesson plans were examined using the Wiggins and Wiggins (1997) criteria as outlined in Appendix B to determine the level of music integration represented. The lesson plan data was collected and analyzed to offer more insight into the levels of music integration taking place at Bently. The researcher’s analysis is provided at the end of each lesson plan. The third-grade teacher and the music teacher’s lesson plans are examined in the following section. All lesson plans are available in the appendices (see Appendices L through R).

Lesson Plans

Third-grade lesson plan. The lesson plan submitted by the third-grade teacher integrated music with language arts. The objective of the lesson stated that students would identify structure words (e.g., color, size, movement, number, mood, etc.) in narrative fiction. The suggested materials were a copy of The Polar Express by Chris Allsburg, the Polar Express song sheet (one per student), the Polar Express song (cassette of CD), and the structure word checklist (one per student).

To start the lesson, the teacher introduced The Polar Express. She asked students if they had heard of the story before, elicited prior knowledge, and discussed predictions about the text based on cover art and title. Before she read the story, the teacher reminded the students of structure words and asked them to be aware of how the author used structure words to bring the story to life for the reader.

The teacher read The Polar Express to the class. Afterward, students were instructed to turn to their neighbor and talk about what they noticed regarding the structure words and various aspects of the story and then to share their thoughts with the whole group. After the discussion period, the teacher gave each student a Polar Express song sheet and played the cassette while the students sang along using their song sheets.

The teacher reminded the students that the structure words used in the story and the song
could be used to guide the imagery created in their minds. In small groups, students selected and
sorted structure words on the checklist. They were to refer to the lyrics on the song sheet as well
as recall them from the story. In a group discussion, they identified categories used most by the
author, reflected on reasons he may have done so, and concluded the lesson by hearing the song
again. The song is provided:

“The Polar Express”
On Christmas Eve many years ago
As I lay quietly in bed
Listening for Santa’s sleigh bells
I heard something else instead

A train came right down my street that night
It stopped in front of my door
The conductor looked up at my window
He said, “All......aboard”

Chorus:
This is the Polar Express my friends
We’re going to meet Santa Claus
To the North Pole and back again
Before your parents know you’re gone

The train was filled with other children
In their pajamas and nightgowns
We went racing up northward
Until there were no lights around

The train stopped at the top of the world
And Santa picked me out of the crowd
He gave me the first gift of Christmas
A sleigh bell that made a magical sound

Chorus:
This is the Polar Express my friends
We’re going to meet Santa Claus
To the North Pole and back again
Before your parents know you’re gone

There was a hole in my pocket
And my sleigh bell was lost
As the train left me on my doorstep
I just kept thinking ‘bout meeting Santa Claus
Then on Christmas morning
The bell was right there under the tree
And today I still ring it
But to hear it you have to believe

Believe in the Polar
Express my friends
And believe in Santa Clause
Go to the North Pole and back again
Before your parents know you’re gone
Before your parents know you’re gone

Often when a lesson is found to meet the criteria of a higher level of music integration,
several qualities of the other levels are also evident. This was true of the third-grade lesson as it
represented Levels 3 and 4 music integration. In this lesson, the Thematic Connection was the
winter holiday theme using the Polar Express song and book. This lesson plan predominately met
the Level 4 criteria, Conceptual Connections, because the teacher required students to apply the
concept of structure words for both the literary work and the musical piece. Students were
expected to identify and discuss the use of structure words found in both works. According to
Wiggins and Wiggins (1997), when students can apply knowledge of a concept in a familiar
discipline to address an unfamiliar but similar construct in another discipline, conceptual
connections have occurred.

During the interview, the third-grade teacher explained how she arrived at her choice for
the level of music integration she thought this lesson aligned with. Her explanation was very good
and grounded in the Wiggins and Wiggins (1997) criteria, but she did not realize the lesson met
that level and others. The third-grade teacher stated Level 2 music integration occurred, but the
observation criteria indicated Level 4 music integration took place.

As the literature supports, sometimes integration occurs (even at higher levels) just by the
nature of the subject matter at hand. The third-grade teacher illustrated this when she said:

I have chosen Topic Connections because the music does serve to clarify another domain.
We are connecting what we are doing today with a trade book and a song to language that
they are using in writing, which carries over into reading.

Music lesson plan. The integrative focus of this lesson was to address connections
between music and poetry. The teacher identified some of the skills to be used as singing, creating, sequencing, and identifying events and vocabulary. The materials needed were the poem and song of “Twas the Night before Christmas” and a white board and markers to draw and complete diagrams with sequencing information throughout the lesson. Additionally, various Orff instruments (melodic rhythm instruments like glockenspiels, metallophones, or xylophones of which any pitch bars may be removed to assist student success by eliminating unused pitches) and a device for playing the CD were used.

The teacher started the lesson by singing the song. She briefly discussed how songs, poetry, books, and movies are often the same story. She then read the poem. She used Read Aloud and Think Aloud language arts techniques to increase the comprehension of the story by the students. Then, using a sequencing flow map design, the teacher and students engaged in dialogue about the events in the poem. The teacher wrote the information in the proper places on the sequencing map, guiding students along the way as to proper order of events and noting key words used by the author.

The music teacher interjected pieces of the song where appropriate to help the students make the connections between the song and the poem. When the sequencing map was complete, students were assigned an instrument and an ostinato (a repeating rhythmic or melodic phrase) part to play. The students were told they would create a “sound carpet” by playing instruments on assigned phrases. All students were given either a part to sing or an instrument to play. The parts were taught and practiced one group at a time, while remaining students acted as the singers, and layered together as students gained the skills to play independently. At the end of the 40-minute music lesson, the students performed the musical creation.

On the day this lesson was observed, the classroom teacher came inside to get her class and was able to hear them perform. She also noticed the sequencing map on the board that showed how the integrative lesson connected the two subjects. This was a lot of teaching in one lesson. It was intended to be continued the next time students would have music, which in this
school district, only happens 1 day a week. The students and the music teacher must wait 7 days to continue with this lesson.

This music lesson was observed by this researcher as being very successful. The students were intently engaged in the entire lesson. Their recall and sequencing of events was aided by the music integration. The benefit of the integration was obvious during the group activity as many students referred back and forth from the literary work and the musical work with comparisons and differences while completing the flow map.

The music teacher participated in the administrative interview, which did not address a classroom observation due to its nature. Therefore, she did not speculate on what level of integration this lesson aligned with. Upon analysis, the researcher determined that it aligned with Level 4 and Level 5. The Conceptual Connections in this lesson referred to the concept of literary components found common in both the story and in the music. In this lesson, the learners that were more familiar with the musical version of the story could apply the concepts of the song structure to that of the story. Likewise, those students more familiar with the book could gain a better understanding of the musical composition based on their literary understanding. The Process Connection referred to the process the students used to engage in the subject matter, and in this case, the sequencing, organizing, and interpreting skills found in both works were highlighted. Additionally, the way the music teacher used mapping techniques common to the students as a language arts tool for the music lesson content helped the process connections further. These processes authentically connected the two subject areas of music and literature.

Researcher’s Identification

This section examines the levels of music integration through the researcher’s analysis of all of the submitted lesson plans. An analysis of the data for the five lesson plans corresponding to the observations revealed that the kindergarten and first-grade lesson plans represented Level 1 music integration, the third-grade lesson plan represented Level 3 as a byproduct of the predominant representation of Level 4, the music lesson plan aligned predominately with Level 4
and had qualities of Level 5, and the mathematics lesson plan strongly met the criteria for the highest level of music integration, Level 5. The levels of music integration identified by Wiggins and Wiggins (1997) are somewhat hierarchical in nature, and the overlapping of qualities is to be expected as integration moves from Level 1 toward Level 5.

Using the aforementioned Wiggins and Wiggins (1997) criteria, the researcher presented the data according to the predominate level represented by the lesson plan analysis. For instance, the lesson plans that represented two different levels of music integration were counted only once as the most applicable level ascertained. This qualitative action aligned the observation and lesson plan data most accurately for reliable comparison and analysis.

There were no lesson plans that met the criteria for Level 2 of music integration, and qualities of Level 3 were minimal in relation to the presentation of Level 4 qualities and thus credited at the higher level for analysis. All remaining levels are presented at the highest level noted. Figure 8 displays the data of the researcher’s identification of what levels of music integration were evident in the planning based on the analysis of the lesson plan data. Figure 9 displays the researcher’s presentation of the levels of music integration that occurred based on the analysis of the observation data and lesson plan data (see Appendix B).

It should be noted that the hierarchical nature of the five levels of integration are not
assigned to indicate the quality of instruction but rather to indicate the extent to which music education also benefits from the integration being implemented. It should be further noted that the age and skill levels of students may play a role in the level of music integration that occurs.

Although the participants were given the same criteria as the researcher for determining the levels of music integration they perceived to occur, they did not have the same vantage point of having the literature review and additional insight as provided here. The purpose of this qualitative case study design is to capture the educator’s perspective and to learn from it. The educator’s voice is critical to research on this topic, and the data were analyzed and presented with this in mind.

**Summary—Research Question 1**

In summary, the survey data analysis showed that the respondents thought Bently was implementing Level 3 music integration most often, followed by Levels 1, 4, 2, and 5. There is no data indicating that Level 2 occurred at Bently during the study time period, and Level 3 did not occur on its own but instead appeared as a byproduct of Level 4 integration during observation analysis.
The observation data analysis indicated Level 1 was implemented the most with Levels 4 and 5 close behind and fairly equally implemented. The lesson plan data presented Level 1 and 4 as being implemented equally and more often than Level 5. When the observation data and the lesson plan data were combined, the levels of music integration indicate Level 1 was implemented most often, Level 4 next, and followed by Level 5 as the level implemented least often of these three. After cross analysis, it appears that Levels 1, 4, and 5 were being implemented at Bently during the fall of 2004.

Research Question 2

What are some key issues in teacher training, planning, materials, support, and awareness that affect the successful implementation of effective music integration in public elementary education? Data regarding key issues in music integration implementation, encountered frustrations, and suggestions for improving music integration implementation were taken from item 11 of the Music Integration Survey (see Appendix A); items 4, 5, 6, 11, and 12 of the Music Integration Interview (see Appendix C); and items 5, 6, and 7 of the Administrative Music Integration Interview (see Appendix D). Graphs display data results for the key factors affecting implementation. Data responding to research question 2 are presented in this section.

Issues Affecting Implementation

The participants were asked what is most needed to foster music integration at a public elementary school and to rank the items 1 through 6 (integration training, planning time, integration materials, administrative support, awareness, and other) in the order of importance. They were asked to provide an explanation for the item labeled as other. Two of the 10 respondents incorrectly completed this portion of the survey resulting in omitting their data for that question.

The reader is reminded that these items were chosen by the researcher based on their recurrence throughout the literature as being key issues affecting integration. Additional issues, as they emerged from the data, were also examined. Figure 10 displays how the educators ranked
these key issues.

Legend:

*X axis,*
Training = integration training
Planning = planning time
Materials = integration materials
Support = administrative support
Awareness = music integration awareness
Other = other to allow educators to add other issues

*Y axis*
1 = least important
6 = most important

*Bars*
1 = first-grade teacher
2 = second-grade teacher
3 = third-grade teacher
MC = mathematics coach
A = art teacher
PE1 = physical education teacher 1
PE2 = physical education teacher 2
G = gifted teacher

The x axis of the bar graph is labeled training, planning, materials, support, awareness, and other. The y axis is numbered one to six representing the ranking of importance of the listed issues. The instructions given to participants were originally to rank items in reverse number order; however, to present the data more clearly, the researcher restructured the bar graph to reflect items ranked in order from 1 as least important to 6 as most important. The bars are color-coded and labeled to represent each of the respondents (first-grade teacher, second-grade teacher, third-grade teacher, mathematics coach, art teacher, the two physical education teachers, and the teacher of gifted students). To assist the reader further, the researcher presented the same data results in a table format following the Figure 10 bar graph (see Table 8).

The key issues were ranked by the respondents in the following order: (a) awareness, (b) materials, (c) training, (d) planning, (e) support, and (f) other. The category “other” was created to allow respondents to share an issue they felt should be included for consideration when discussing areas affecting music integration. The third-grade teacher did not offer additional
Figure 10. Ranking of key issues—bar graph format.
information for this category, but ranked it a 3; the art teacher ranked “other” a 4 labeling it “Teachers working together well.” Based on the lack of additional data from the participants for the category “other,” it appeared the issue considered the least important was administrative support. Seventy-five percent of the respondents ranked it as the least important issue affecting music integration.

The data analysis revealed a majority of the respondents (62%) thought Awareness was the most important issue affecting music integration. Five out of eight ranked it as the most important issue, and two of the remaining three participants ranked it as the second most important area to address. Other data collection methods relayed the same message of importance educators’ placed on the issue awareness regarding music integration.

In this data set obtained from the survey, Materials was ranked more important than Training in importance for successful music integration. Five out of eight participants ranked Materials in the top two for importance. In the interview data, the need for integration training was discussed almost as often and urgently as awareness. However, this data set showed Training was ranked as the third issue of importance. Six out of eight participants considered it as one of the top three important issues to address for effective integration implementation to occur.

<table>
<thead>
<tr>
<th>Key Issues</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>MC</th>
<th>A</th>
<th>PE1</th>
<th>PE2</th>
<th>G</th>
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<tbody>
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<td>4</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>5</td>
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<td>2</td>
<td>4</td>
<td>5</td>
<td>3</td>
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<td>1</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 8

Educators’ Ranking of Key Issues–Table Format
Planning was next with seven out of eight saying it was third or fourth on the importance list, with Administrative Support being the least important issue on this list. Data analysis from other areas of this study indicated that the ranking of these issues, especially the administrative support item, may be influenced by educators’ perspectives of their school site. These and other implications are discussed in chapter 5.

**Actual Setting**

Using these key issues as a basis for gathering more data on this area of inquiry, the researcher asked the educators how their school had addressed these same issues in Bently’s actual setting, and how these issues would be addressed in an ideal setting. The actual setting data are presented first followed by the ideal setting data. Educators comments on their actual setting and an ideal setting were analyzed, paraphrased, and presented in two hub diagrams (see Figures 11 and 12). Figure 11 is presented here, and Figure 12 is presented in the ideal setting data section.

Many respondents grouped their answers to all five categories as one answer and will be presented as such. An analysis of the respondents’ data is offered following the quotes. Due to the direct nature of these questions and responses, identifiers within respondent quotes were removed.

A couple of the themes are noted to appear more than others concerning the actual school setting, such as training and academic pressure. However, most responses in this section addressed the issues listed specifically in the question. Responses to how the educators thought their school had addressed the issues of training, planning, materials, support, and awareness indicated these issues were not purposefully attended to.

A couple of teachers replied, “Well, we had that one little meeting with you, and that is about it. We have not really had much,” and “Actually, I am not aware of any. I could not answer on that one.” Another teacher offered an overview of the issues saying, “I believe we have planning time. Our school has allowed us to buy the supplies out of our funds. We have all the
support that we need.” She spoke of awareness and training as the weaker areas needing attention and planning, material, and support as stronger areas at her actual school setting.

The next few responses addressed each of the issues in more detail and offered insight into the school setting from various perspectives:

Figure 11. Key issues affecting music integration–Actual Setting.
Our school has never had musical training as far as I’m aware of, and I have been here a number of years. Planning time, we don’t have any. I think as a team, we talk about it together during our meetings. We usually work on a theme, and we try to integrate music and songs in the theme. I have never had training. As far as materials, except for the one time that we were provided musical instruments and books from the lottery money.

The teacher stopped herself and updated her answer when she realized she had neglected to share some information pertinent to the training and materials issues. She explained:

Because we are a school for the arts, we had a year where we had some funding that went to first grade and kindergarten, and we had a wonderful lady that came in. She did a lot of musical things with the children. We also had somebody else come in, and she did like a little song with a big pot and the alphabet song. And that was the one year we did have a lot of integration, but it was not personal training. It was people who were already trained and coming in and working with the children. So that was one thing our school [did]. Our school does try to integrate music because we are a school for the arts, and we also had a dance teacher come in, so that was really good. It depends on funding. Right now, we are doing something with a local performance company, but it is third through fifth grade. I think we have wonderful administrative support because our administrators do try to get us involved in that. It just depends on what area they are focusing on, and for the last few years, they have been focusing on the higher grades and not the lower grades.

The educator concluded the description of her school and how it had addressed the listed issues with the familiar topic of awareness and the school’s abundant supply of instruments. As stated earlier, many participants seemed to assess the school’s handling of music related issues by how much music equipment it had. She concluded:

School awareness—I think as a school, we are aware that music is very important. We have an excellent music teacher. We do have from third grade to fifth grade; they do some instruments like violin and recorders, and we were doing keyboard. But I’m not sure if they are still doing that, and we did have funding for that. We had a big grant a few years ago. Our art teacher got a grant for over $1,000.00. So we divided it up between art and music, and we did get some things at that time. So we are more aware than probably some of the other schools.

The next comment is optimistic and suggestive in nature about the direction of the school in regard to music integration. She does state, however, that there are deficits in training and awareness that should be addressed. The music exposure she described is from somewhere other than this school site:

As far as at the elementary level, I don’t recall receiving much training on how to integrate music within the certain content area such as music and science, music and social studies, music and language art, music and math. It was learning notes and keys and playing recorders activities, but none of it was solid lesson training on integration.
There has not been any training as far as music integration. We are a school of the arts, and I believe we are in the process of trying to integrate music. We have done a lot with actual art and academics. I know it is something that is thought about. Planning time for music, it would be curriculum training; we have a set time for planning, so we could definitely do it. As far as materials, we have lots of material. Administrative support, I believe there is 100% support, and awareness, I just don’t think we are as aware as we could be.

Explanations of how training is currently and has been overlooked surfaced more noticeably in the following comments. One teacher expressed time to plan but not knowing what to plan for. She stated:

I’m not sure that we have done much of it at all to be honest. We always have planning time, and we could plan for that, but we are not aware of what to plan for at this point. I’m sure we would have administrative support. We haven’t had any training in the area.

The art teacher talked of what she and the music teacher have done to help raise the awareness of the arts within their community. Their advocacy efforts for the importance of the arts are not usually made in schools without the arts-infused vision. She briefly addressed the other areas and shared:

I would probably say materials and administrative support, awareness; all three of those are probably directly related. Awareness, we have an arts calendar that we put out that the music teacher and I put out together. Because we are a school for the arts, we want to show the public how we are a school for the arts. Planning time, I do this in between classes; you kind of run around a little crazy, and training is the same way.

Some of the responses were brief. This may be due in part to the grouping of the issues within the question itself. Insightful information was gleaned even though the responses were short. The next teacher’s comment indicated a need for more attention given to planning time and perhaps a more even distribution of materials. The respondent stated:

The training piece occasionally in professional development, you will see that piece particularly when it comes to brain research using music. Planning time, I wouldn’t say it has been addressed at our school. Materials are still pretty much allotted to the music department. Administrative support is across the board as far as arts integration and awareness.

Advocacy for the arts and efforts to make change within the school were noted in the next participant’s response. As stated in chapter 3, Bently staff have worked hard to write and receive extra funding from various sources. These same opportunities are available to schools across the
state. The vision, driven and supported by the principal, has “stayed the course” and results have been achieved. Here is how she described what Bently has done to address the areas in question:

Well, we did work out a plan, and we are constantly writing grants. And we do have opportunities every year. We are very fortunate to have the opportunity to write them, and I do feel we have the administrative support. As far as the district office is concerned, the only way that they could support us more (they say good job, keep doing it) is to give us a little money and give us some kind of resources. They have not actually handed us anything. We have gone out and earned it.

Community involvement increased as well as district level attention as Bently’s arts vision became clearer to others. Obstacles typically found in educational systems were noted and overcome. The principal continued:

We do everything we can to help our surrounding community be aware of how important the arts programs are to the development of all children, and we’re not there yet. We are going to need to be doing that for a long, long time. I wish I could say that we feel like we are quite far along, and it is really going very well. I think that the parents want their children to do it because the kids go home and say we love this and this; they don’t really see the depth of it. We would like them to see . . . it’s being a life long learner. I have explained to kids, ‘if you take up an instrument, then you are able to play it in high school, and you travel all over and meet people from all different high schools. And you know you can pursue a lot.’ It just brings a lot of good things to you as you get older. All those things we hope to enhance; it is a struggling point. We are working on this. Awareness; I think, is our biggest challenge right now; [it] is to really get out there and have the public aware.

A common thread throughout the last response was advocacy. The advocacy theme has appeared elsewhere in the data and is an important factor related to awareness and training. This participant’s comments are very similar to those identified in chapter 2 as reasons advocacy efforts and organizations are needed. The review of literature supports the importance of advocacy, awareness, and training as interconnected pieces that help complete the puzzle of successful music integration.

Directly put, what really matters about how this or any school actually addresses the issues stated in this study are the outcomes of integrative efforts. The important message here is the finished puzzle. Are all of the pieces being used? If not, what needs to be done to put it all together? The next respondent agreed:

You have great administrative support there. You have a principal that believes in this, so
that is critical. And that is partly why this has worked so well. This principal really believes in it. The part that I don’t know as well is where the classroom teachers are with the training and planning time. They have had in the past, as you probably realize, a partnership with a wonderful hall who has provided training and integration and has brought the classroom teachers together, so that is a good piece—but that is offered by somebody outside—and I don’t know how much it gets carried through on a day-to-day, week-to-week basis. Where the rubber meets the road is follow through.

The pressure to meet state mandated expectations was evident in approximately half of the participants’ data. Additional comments made by educators portrayed an atmosphere of stress. This appeared to be an environment where teachers that once shared ideas and excitedly tried new things now rushed from one place to another to squeeze in more of what is demanded. The camaraderie and close collaboration is affected too, not just the curriculum.

Two teachers from differing grade levels told this researcher of health related problems teacher’s encountered as a result of the stress they felt to meet the high stakes demands. One classroom teacher said three out of the four people on her team were actually in the hospital between pre-school in August and the time of her interview for this study in December. This information allowed the researcher a better understanding of why more teachers may not have participated in this study. Here are comments from a participant that described how she viewed the key issues listed in this question were handled:

Well, in the county, we have been given some time to go and observe some other music teaching, which is good. In this school, I don’t get to see what other teachers are doing, and they don’t see what I’m doing. Everyone seems to be very busy. There are a lot of constraints of FCAT and other benchmarks that they have to meet, and everyone is very stressed out right now with all of the different things that are coming down from on high. And there is not [stops speaking] ... there seems to be the prevailing feelings among the teachers that I’ve seen is that they are not (because of some different things that they have to do) able to teach with their own style. They are not allowed to veer off of this particular way that they have to teach. They even have to have their rooms exactly the same, which is (I think) very demoralizing for them, especially the older and more experienced teachers who have been teaching a long time, and every person’s teaching style is different.

She proceeded down the list of issues and stated that, even though time is precious, she filled a planning timeslot with student time for extra instruction. She stated:

The money is not there to do what I said in the ideal school, to go and visit other classrooms. Planning time is pretty minimal for everyone, especially the music teacher
and I have one extra planning time a week that is during the school day other than my lunch time, and I had one other planning time that I put an orchestra class into. I wanted the children to have more than once a week in orchestra beginning on an instrument, so I teach a lot of after school.

The music teacher said she was thankful for the materials in her department, and the reader is reminded of the many participants that have commented on them. However, she said quality music integration is not dependent on or determined by the supplies. Her comments repeated the same point made earlier by this researcher. When evaluating materials or facilities, space is more of what she would like to see, and she explained why:

Materials, I think you can successfully do this without a lot of extra materials, and I think that material wise, I think what we need in this school more than materials is we need buildings, which is a whole lot more expensive, but we need space. From my perspective, performance space is really pretty dismal, and the music room space is really small.

This educator expressed appreciation for the high administrative support for the arts. She pointed out, however, that awareness and true music integration had a way to go to become a school of the arts. She suggested raising awareness would help, but that FCAT issues were causing deficiencies noted here. The music educator concluded:

The administrator support is very, very supportive within the confines of her budget that she has. She is always open to ideas and suggestions and very supportive. Not just the principal but the assistant principal and the other support people. I think the awareness could be better. We are supposed to be a school of the arts, but it doesn’t really feel like a school of the arts. I have been in a real school of the arts, and this does not feel like a school of the arts yet. I see a lot of potential, but the teachers have to be more aware of what is going on so that they will support it. But right now, all they can think about is FCAT, and I don’t blame them.

Encountered Frustrations

Recurring themes of time, training, collaboration, and state accountability issues were noted among the comments given by educators about frustrations they have experienced with music integration efforts in their actual setting. Comments were grouped according to these recurring themes. A few teachers offered reasons educators may avoid integration; they are presented in this section as integration deterrents. Bently’s principal shared how her school overcame the challenges and frustration of the terrible condition the school was in when the
journey to transforming it into an arts-focused school began.

*Time.* Some comments given by the participants were that they were often frustrated because they needed more time to gather resources, time to incorporate, and time to collaborate. The kindergarten teacher attributed her frustration to time. She stated, “Time, because our curriculum is so rigid. We have a lot of meetings because we are in the Reading First program. I try to get it in as much as I can.” The first-grade teacher talked of how the school purchased computer software and has access to Internet resources and said for her, “The biggest frustration is just having time to pull it up [on the computer].”

The music teacher referred to time as the real frustration that hinders the collaboration opportunities among teachers and candidly replied:

I guess just that, if you want to have music integrated into the classrooms, you have to give the teachers everything because they don’t want to have to do anything extra, which I can understand. I did some things like that earlier this year, gave them some music that the students were going to see [hear] at a concert. I gave them some of that music to listen to in the classroom so that students could hear the melody so that when they got to the concert, they would recognize some of the tunes. Also, we did integration with art where they did some painting that had to do with that concert. We did some feedback afterwards, but time is so . . . I guess maybe that’s the frustration. There is not enough time in the school day. There is not enough time for everybody to get together and put their heads together for good ideas, if we could just talk about them.

*Training.* Frustrations stated such as knowing what music to use, trying to pull it all together, and having a lack of understanding about integration were repeated by several respondents relating to training. A comment made by one of the primary teachers indicated training would help her:

The only frustration may be selecting the right piece of music to use. For example, one of them that we used today was the William Tell overture for the math facts because I wanted them to work fast, but sometimes it is just not knowing what pieces to use.

A secondary teacher said, “I would say that my background is not conducive enough. If I were to go in this direction, I would have to seek out training. I would have to seek out ideas.”

*Collaboration.* The art teacher shared that some educators may be hesitant to collaborate with other teachers because of differing teaching styles and educational philosophies. She stated,
“The only thing I can think of, comparing myself to teachers that have been teaching 25 to 30 years, I think that my point of view and somebody else’s point of view are very different.”

The whole child and awareness issues presented themselves through administrative and specialists’ comments such as “We are starting to learn that kids learn in different ways,” and “I think that using music, using the arts, using hands on, all of that needs to be done.” At least three other participants commented similarly when discussing the awareness of music integration issue. They said the public, too, needs to recognize the importance of the arts and the benefits of music integration, and schools need to do things a different way than how it has always been done. The district music supervisor illuminated the training and collaboration issues in the following statement:

I think the biggest frustration is what art educators have a tendency to do; we do great things, and we tell each other about it. We have a hard time getting anything out [beyond our arts colleagues]. We never speak wider, so it is not really frustration because I think that is too strong a word. But I think what the challenge is, the hurdle is, is the classroom teachers. We [music educators] have not spoken enough to classroom teachers about the power of what we do. We think they get it by just [coming] and [dropping] their kids off or pick them up or occasionally sit and watch a class. The only teacher that I see getting it is when music or art staff get together and actually do a training for their staff. It has to happen at other schools besides this school. The music and art teacher would do a day training of preschool with their staff about what they teach in music and the arts, what their benchmarks are, and how they connect. The staff is usually blown away because they never thought of it that way, and it’s the teachers on staff who are giving the training unlike someone like me who would come in as a hired gun. When they are on staff and they know that person and they can reference actual children, it has been really powerful. So the biggest frustration to me is that I don’t think we have talked enough nor had an enough dialogue with our classroom colleagues. We don’t sit and talk about it on a regular basis, and so we have not overcome that everywhere. Like I said, one of the things we are considering in our future trainings is doing pairing, and the music teacher comes with the third-grade teacher, or you know, you actually come with someone else. More than we are just going to do a couple songs dealing with Germany because you are studying Germany.

State accountability issues. At least half of the participants mentioned the stress and hindrances they deal with daily as a result of FCAT, AYP, benchmarks, and school grade concerns. Nearly this same amount stated that music integration could assist with meeting the expectations that these accountability issues demand. As the district music supervisor stated, “Quite frankly with the pressures with the no child left behind and adequate yearly progress and
FCAT, we have to look at lots of ways to make the students and children learn in all different ways,” yet many express concerns that implementing something new in their already full schedule is not easy. The responses were similar across the data on this topic of issues affecting the implementation of music integration.

The music teacher had an insightful description of how the accountability issues were affecting teachers and the school environment:

There are a lot of constraints of FCAT and other benchmarks that they have to meet, and everyone is very stressed out right now with all of the different things that are coming down from on high . . . there seems to be the prevailing feeling among the teachers that they are not able to teach with their own style. They are not allowed to veer off of this particular way that they have to teach.

The curriculum coordinator reiterated the music teachers sentiment and said everyone is dealing with a tight schedule with assessments and essential learning. The art teacher said, “Teachers are so busy.” The kindergarten teacher replied, “I think we used to spend more time, but again, we are trying to stay on the middle ground here because of the new academic pressure on children younger.” The music teacher concluded with an empathetic observation by saying, “I see a lot of potential, but teachers have to be more aware of what is going on so that they will support it. But right now, all they can think about is FCAT, and I don’t blame them.”

Integration deterrents. Personal frustrations about their own musical ability have prevented some teachers from implementing music integration more, as one primary teacher stated, “I could see people struggling or just leaving it alone, maybe intimidated because of their lack of music ability.” The first-grade teacher said, “I can’t sing. I can’t hold a tune.” The mathematics coach confided:

There was a frustration because I didn’t understand that all the notes have a different beat, and their fractions are different from their names. So that was the biggest frustration. I wanted to refer back to adding the notes when it was adding the beat. Once I learned it, I was fine. It helped me to be a better teacher.

She shared this information with her students, to let them know she, too, was learning from the integrated music lesson. The art teacher declared:
I can’t sing. My music integration I use is because I’m not a good singer, is music I play for them. They paint to music, draw to music. I am musically challenged; I can’t read a note. I use music in different ways.

One classroom teacher said a deterrent to considering music integration was just trying to pull it all together. The art teacher raised two questions implying future research:

1. What can they [teachers] do about it [music integration]?
2. Why isn’t it [music integration] being done?

If other educators are wondering these same things, perhaps the uncertain answer is a deterrent as well.

The principal explained how frustrating she found the school’s condition when she began the transformation into an arts-focused school. The lack of awareness and support on behalf of administrators regarding the importance of the arts for the whole child was surprising to her:

Well, I think the biggest frustration was arriving here and finding out that I was at a school that did very, very, very, very little for any of the arts and that the art teachers had to push carts with little wheels, and they had portable classrooms out back with only stairs going to them at that time. That infringes upon the program so dramatically. It was overwhelming. It was an overwhelming problem, and it took us at least a year if not more to break out this county’s Art Council. And they went to school board meetings and spoke up and gave us tremendous support, and we pointed out to them you know you have very little here. The art teacher is, so her arms are tied behind her. She does not have [proper facilities], and she is an artist. And the music program cannot have instruments. She has to push an old record player. It was pathetic. That was the biggest frustration by far.

According to this respondent it is important to recruit for support when dealing with obstacles. She spoke of how getting the Arts Council involved made a difference with how the situation progressed:

They went to superintendents. They called a big meeting here with the area superintendent, and he came out and said we got a room for the art teacher. And soon after that, we got a classroom for the music teacher, and it has made all the difference in the world. The two programs that we have currently you could never, never put on a cart. They would not know what to do with all the resources that we have developed over the years since then, so that was getting well educated people who are in charge of educating children of the world to recognize that the arts are truly extremely important to a well rounded child. That was a big one, and getting a room so you could make it happen was the other big one. They were the two greatest challenges that we had. Now everything else is a small hurdle compared to those two big things. In all of the serious budget problems we had, and I think throughout the United States public education has had some
real battles with money. They have never talked about cutting anything from us like music, teachers or anything like that, so that has been a blessing.

Ideal Setting

When the educators were asked how the issues of training, planning, materials, support, and awareness would be handled in an ideal setting, one said, “I think that music integration is very important personally. I taught my own son this. Anything through music seems to be absorbed easier, [such as] with math. It is easier to memorize through music. It makes it more fun with the kids.”

A couple of teachers in the study felt this school setting was that of an ideal scenario and stated, “I think that we are [ideal] actually; I think that they do a really great job. I’m happy here. I really don’t have many complaints. They are very supportive,” and simply, “I think we are ideal.” Figure 12 presents the educators responses to the question of how key issues would be addressed in an ideal setting.

Respondents offered ideas on what could, would, or should be done in an ideal setting. The participants’ suggestions for the ideal setting were grouped by thematic content as follows: (a) time, (b) awareness and training, (c) collaboration, and (d) vision and commitment to integration.

Time. This set of comments by participants on the elements needed for the ideal integrative setting entail time. Problems with time are always a concern for educators working to accomplish their many responsibilities. In this instance, the participant said time was a problem but talked about how it has been addressed. The following is a statement of how this person believes time is linked to the other issues regarding music integration:

For all of the things that I see listed, time is always the issue. In order to get the training, if we could arrange for all the specialists to come here and train our specialists, we would need to have the time in order to do that. There is always the time frame problem, and planning time is consistently a challenge, but we have developed a master schedule and learning committees, groups of teachers working with different grade levels for a 45-minute drop during the school day to plan together. To look at the big picture and do everything, so planning time would be something we have been able to work towards.
Once the respondent spoke of time that was needed and how it related to the planning time issue from the question, she began talking about materials and the change in the facility. According to the participant’s statement, the fact that the school has changed to accommodate the arts vision is a sign that the awareness for the arts has increased at Bently. The comments sounded like those from someone that believed Bently was close to becoming, if not already, an

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**Figure 12** Key issues affecting music integration—Ideal Setting.
ideal school in many ways:

Materials are always slow; you wish you could get more. We have been doing this since 1996, so we really had to work hard to get the administrators’ support back then. We have it now. We did not even have music or art back then. A music teacher had to push a cart with her few little things on it, and the art teacher [did] the same. Now they not only have rooms, but we are looking for more storage areas because they have so many wonderful resources. So awareness, I think, is a really important thing. I don’t think that we need more of it, but I think the population needs more of it.

School atmosphere is often referred to when talking about the whole child’s learning experience. Comments made here show how a participant believes music and the arts-infused curriculum have helped make the learning environment more ideal for students:

I think all of the moms and dads need more of it [awareness of music benefits] because they need to know that, for instance, one thing that we have found is that our children are so much more sensitive to each other. We don’t have the name calling and a lot of the other [problems]; we don’t really have any aggression at all. We do feel strongly that it is because through music and the arts [that] our children get to express themselves, and when they have an opportunity to express either their sadness or hurt feelings or anger or whatever feelings they are dealing with, that they don’t act out. So we think that it [music integration has] enhanced throughout. It is sort of embedded now in our whole culture in school.

Awareness and training. One teacher said music integration training could be scheduled and managed similar to the way that other current training takes place. Her statement indicated the initiation of it would not be difficult and offered ideas on when training could occur:

We would incorporate the training within an after school training or preschool training. The awareness of it and the resources to do that as well as modeling and scaffolding would be in an ideal setting. How it would be managed would be like any other training would be.

One educator suggested general training to the staff as a whole to raise awareness of its importance first, implying a group understanding is an important initial step:

Definitely they [training] would be presented to the staff and then in small groups so that we would have some awareness of what was out there for us to use and different ideas. We would use our planning time to incorporate it.

The previous comment implied that a larger presentation should occur before a more in-depth teacher training happened. The next comment is similar and implied that the administrative personnel must be aware of music integration’s benefits and buy in to it before training can
proceed. She mentioned that presentations could be made during curriculum meetings and indicated the curriculum coordinator would play an active role in this process, the implications of which are discussed further in chapter 5:

In anything we do, you have to have the support of the administration, and I feel like it has to start from the top down. Awareness is very important—administration, then the teachers, the professionals aware of the importance, and the studies that show how the children can be successful with integration of music. There would have to be some training in that field, not necessarily the music used, but how it would be integrated into the rest of the academic setting. The planning time probably for a professional of music, a person would have to be available during some of our curriculum meetings and definitely have to be planned ahead of time. Materials would just be up to whatever the particular training required. If we need outside material, if we need books, if we need personnel to come, it would be dictated by what is designed.

Collaboration. In the ideal setting, teachers have time to talk and plan together, and it is an integral part of integration according to most of the participants. The need for teachers to set common goals and chart paths to reach them is important according to the next educator:

Well, I think that in an ideal school, you have arts teachers working together with the regular education teachers exchanging ideas and long range plans together of what could be a theme for the year, a goal, academic goals. This is helpful for the music teacher to know what would be a helpful focus for the school, and that doesn’t mean that it would take any time away from the regular things that we would [do], the standards and the things that we would normally teach.

Collaboration goes beyond just planning lessons together because teachers learn from each other when they can see what the other is doing. As this teacher stated, collaboration can also foster respect among colleagues. She concluded by suggesting that adjustments in funding or teaching schedules could allow for more observations and collaboration to occur:

Planning time, so if we had planning time together that would be ideal, and that’s kind of hard to do since usually we [music educators] are teaching when they [classroom teachers] are not. There are ways to do that, and I think it would be good for the music teachers to be able to observe the academic teachers and what they are teaching. I think it would get us very interested and all fired up. I would be. It would be neat to see best practices of the academic teachers, and I think it would be great for them to observe what we [music educators] do. Some teachers do know but not much because they don’t have time. Not that they are not interested, but they don’t have the time, so I guess in the ideal setting to be able to bring in substitutes to teach so that you could go around and observe in your school. You could go to other schools to observe, and the administration needs to support that by making those funds available or diverting some money to that.

Vision and Commitment to Integration. In order to implement curricular changes, the
vision and dedication to it must be there. That is what the next educator’s comments tell us. In
one instance, a teacher felt the progress of integration at their school could be initiated by the
teachers themselves. Her statement seemed to imply that the pursuit of music integration could be
made individually and that the issues stated are not really problems:

I think everything is there for the teacher who wants to do it. Planning time is not an issue
in that I can use my planning time to plan for music integration. The training piece is
there. I would almost consider our school ideal as far as being encouraged. The only
thing I would say would be the materials. None of those are prohibited at all.

The Sunshine State Standards were mentioned in conjunction with music integration’s
benefits by some participants that realize music integration can address them across subject areas
and thus help teachers meet state educational outcomes. A problem noted by teachers, however,
was that they do not know enough about music integration to seek proper materials and
incorporate it into their lesson plans. One participant had the following recommendation:

I think it should be integrated in every grade level and should be integrated already in the
curriculum. It should be integrated in your math already. We did (a few years ago) get
math tapes that do have songs on them. I don’t think in the higher grades they have any.
It is more geared for kindergarten and first grade. I think it [music integration] should be
already planned. It should be included in the Sunshine State Standards and maybe
included in our [planning] calendar, a way to integrate music into the core curriculum and
your benchmarks.

The importance of leadership with a vision of integration was critical according to the
next respondent. Having administration that has a vision and commitment to music integration
was of a foundational nature from which the other pieces of the puzzle become clear. The
following statement clarifies her belief:

I am going to underline the word ideal, and I’m going to go with that. In an ideal setting,
you would choose your administrators that this was their vision. This is the vision that is
going to be the goal, so when he or she hires her staff that would be one of the interview
questions for your first- and second-grade teachers. You would be getting people on
board because it is much harder to work with people that either don’t, won’t, or can’t see
the vision, so that would be the first piece. Once you have that, I am a firm believer that a
lot of the rest of it would fall in line.

This same educator talked about planning time in an ideal situation. The line was drawn
down the middle by all of the study participants regarding planning time and how it affected the
implementation of music integration. This participant stated educators needed to evaluate their planning time with the approach of finding ways to make it fit the needs of integration. She elaborated:

You could say we have an issue right now with common planning time, and we kill ourselves making schedules. But the reality of that is many elementary teachers (have planning time] in the middle of the day for 30 or 40 minutes. If they have common planning time, they rarely sit down together. They get a restroom stop; you are calling parents. That is what you are doing. But we have this idea that kind of planning time is critical, and maybe it is not. Maybe you could do a schedule to have more integration and less planning time during the day. It is an after school thing, or you schedule your school, which some schools have done, that every Thursday afternoon is when you do that kind of planning. The training and planning to me go together because the training can’t be a one shot deal. It’s got to be ongoing.

As the interview continued, the topic of planning transitioned to a conversation on training and materials. In an ideal setting, music integration would be occurring, so the respondent made suggestions of what integrating teachers need to do about training and materials. She stated that continual assessment is needed to know what training or materials should be pursued. Assessments are talked about briefly in chapter 5 for their important role in helping educators determine where they are in terms of music integration and what direction may be next. Statements shared here by the participant revealed the relevance of assessments. She concluded that vision can help educators put student achievement back at the top of their priority list.

People have to be constantly assessing if this [music integration] is going to work. Okay, we did this for 3 or 4 weeks. What kind of gains do we see? What are our common assessments? How are our kids doing? It has to be ongoing. Material, I also put with planning and training because finding good materials as I referenced earlier is hard. It is a joke out there, but for you to really say, this is fabulous, this is going to make it for our kids, it takes time to find that. Or sadly, some of the time you are just going to have to develop that yourself because there are not the good materials out there you would like. So in an ideal setting this great principal would sit down; she would hand pick a staff that wants to do this. And also great teachers make great academic success. We ignore that all the time, but that is critical when standing in front of those kids. A great administrator would choose great teachers who will buy in to this, who are willing to risk lapsing in the schedule the way they have done in their home lives or willing to take that risk to do a schedule that is maybe different. That the kids came first, that the achievement came first, and that would drive everything else. That is ideal.

Overview of Respondent Key Issue Data

All of the respondents stressed the need for more awareness regarding music integration.
They reported a lack of awareness on behalf of teachers and the public on the benefits of music integration, a lack of understanding regarding what music integration really is, why teachers should do it, and how to do it. All educators in the study stated the issue of awareness would be considered a high priority and addressed in the ideal setting by offering presentations to the staff to help them become aware of what is possible through music integration, to help staff understand integration is not an add-on, that teachers are helping each other, and that teacher buy-in and vision about music integration is necessary.

Only two of the respondents stated they had specific music integration training. All others stated having little training through workshops offered at the school site that were related to music integration but not necessarily targeted as such. Elsewhere in the data, a few teachers said college courses did not adequately prepare them for integration. All respondents stressed that in an ideal setting, music integration training would be an area receiving much attention. The data for research question 2 yielded a large amount of information on awareness and training for recommendations and future study.

In the data for the actual school setting, the planning time issue was almost evenly matched. About half of the teachers said they had planning time and could make it more useful for integrative planning by collaborating with team members and specialists. The other half said there was not enough planning time allotted as is and that funding for substitutes and restructuring part of their plan time could help. A few mentioned that time to observe colleagues implementing music integration within and beyond their school is not currently available but would be present in an ideal situation. Several teachers said that they do have group time together in their school learning communities and their curriculum training sessions, and they stated that planning and training could occur in these venues.

Approximately half of the participants said they felt they could buy materials as needed, and that grant money from a few years ago helped them to do that. One-fourth did not comment specifically on materials, and the remainder of the participants expressed concerns that some
departments received funds for materials more readily than other departments. Some teachers elaborated on what kind of materials would be most helpful in the ideal setting like pre-made lesson plans that include the Sunshine State Standards across the various domains for integration and for models to be made available or scaffolding to take place to assist with implementation. They all expressed having very strong administrative support, and a couple said that their actual situation seemed like the ideal setting, especially in regard to administrative support.

Recurring Themes

Several issues appeared frequently throughout the data. Advocacy for music integration was noted often and addressed in the data presentation for the actual setting. Participant responses were not grouped as advocacy because comments contained responses to other issues as well. Four additional recurring themes were identified and discussed: (a) training, (b) whole child, (c) awareness, and (d) academic pressure.

Training and Whole Child

Two teacher responses revealed the lack of teacher training and how this negatively affects the implementation of music integration in the curriculum. One educator noted that although research indicates integration could address the various learning styles of students, proper training to put it into practice is missing:

I think one of the key issues is that we don’t integrate music in the core curriculum, and also another problem [is] that we don’t really have teacher training. It is not part of education. It is not part of the system, and yet we know from research, it is very important. Kids don’t all learn the same way.

Awareness and Training

The training problem described in the next participant statement is blamed on the county and the university systems charged with preparing education majors. Implications of the teacher preparedness problem are expanded upon in chapter 5. The respondent stated a lack of awareness of music integration on behalf of decision makers and higher education institutions has perpetuated poor training:
I think there are some key issues affecting successful implementation of music integration. I think there is a county awareness. I think if our county was aware of how well music can be integrated, lesson plans and profession development training would be provided. I also feel that the university setting is not doing as well of a job that they could be as far as training teachers and awareness, providing them with lesson plans to implement integration of music. And I believe at the school level that we could definitely meet and start doing more quality on how to implement integration.

Academic Pressure

There are obstacles to deal with in education all the time. Some are big enough to hinder the efforts of teachers. That is the case with state accountability demands according to the participant’s response next provided. The academic pressure mentioned here dramatically affects how teachers approach their daily curricular decision making. Academic pressure is also the label assigned here for the paralyzing conditions that FCAT, NCLB, and AYP have inflicted on the education system. The teacher commented on the counter productivity of this problem and why it is impeding music integration. Her assessment of the situation follows:

I think most things in school are the operational issues; honestly, it is not [enough] that people just have the big picture piece of it. It is the how [to do it]. You have time issues. You’ve got place issues. You’ve got scheduling issues, and we often get tripped up in those things. They run the school rather than being able to break that mold and do something completely different. That’s pretty much what effects implementation of it, but there are a lot of big pressures right now in this state and throughout the nation. It is that pressure and, for good or for bad, when there is academic pressure, there is this frantic sense that we can only do reading or math. We can only do it the way we have ever done it, which of course is counter intuitive because if the children were not learning it traditionally, just giving them more of that does not seem to be what is going to work. There is a lot of data to support that, but yet it is still a model that is out there. We are panicky because now money is attached, so if we didn’t get the reading done today, we are just going to do an hour of it after school the same way. The data are compelling that that is not effective, but we still do it. So I think it is two issues. There is an operational piece, and then there is this academic pressure piece. That people might want to try it, but they are panicky. If it does not work, they don’t want the schools to go down, so that is what is going on.

Academic pressure is placed not only on the teachers, but also on the students. According to the next teacher’s comment, she believes once curriculum decision makers realize that music integration is an avenue toward higher student achievement, the processes to implement it will improve.

I think we used to spend more time, but again, we are trying to stay on the middle ground
here because of the new academic pressure on children younger. They [department of education] want more foundation, but I think once we get this going music will help make it move along quicker.

Basically, the next educator is saying the same thing as the prior participant said. Until there is something indicating music integration is a viable option to aid achievement goals, it will not fit into the current over stuffed system. Evidence that music integration will not adversely affect FCAT scores is necessary. Implications as to how it may actually improve FCAT and AYP scores is addressed throughout this document and discussed in chapter 5.

I would say that, first of all, it would have to be something that were prompted with a necessity because we are on such a tight schedule with our assessments, our essential learning, and our schedules that we are on now. Making them [teachers] aware of how important it [music integration] is. Offer some kind of a training that would show the [music integration] implementation, and match it with some FCAT scores. Show that children of all kinds of backgrounds could be more successful, that it would translate into their academics.

**Summary–Research Question 2**

In summary, the data analysis for research question 2 revealed several emerging and recurring themes. In addition to the five key issues of awareness, training, materials, planning, and support previously identified as factors affecting music integration, seven more emerged: (a) whole child, (b) state accountability, (c) academic pressure, (d) collaboration, (e) time, (f) integration vision, and (g) personal deterrents. Upon analysis of the data, it is determined that from the list of 12 recurring themes, awareness and training appear most frequently as concerns in educator responses. Materials, whole child and state accountability issues occur next in frequency, followed by planning, collaboration, time, academic pressure, integration vision, personal deterrents, and support, respectively.

**Research Question 3**

Do public elementary educators perceive that music integration has an influence on academic achievement in music and core subject areas? Educators’ opinions and explanations of music integrations’ influence on academic achievement are shared through narratives, quotes, and student work samples in response to research question 3. Data were retrieved from item 4 of the
Music Integration Survey (see Appendix A), items 7 through 10 of the Music Integration Interview (see Appendix C), items 9 through 13 of the Administrative Music Integration Interview (see Appendix D), and student work samples (see Appendices S through V). The data results for research question 3 are presented in this section.

**Academic Benefits**

Two of the 14 participants were music educators. The majority of respondents stated they could not offer insight on whether music integration has an influence on academic achievement in music because that is not their subject area. Replies were given that there must be benefits. Comments from the one of the two music educators were:

> Yes, I think so. I think a lot of times there is more of a reference point, things that they learn in their academics that it's always . . . as educators, we know that kids learn. We learn from familiar material, so if you are using subjects or stories or concepts and then building on that, they are going to learn it better than if it were something completely different that they did not know about. Yes, I think that things like the diagrams [language arts sequencing flow maps] and those different graph diagrams. I've started using those in my music class because I think that those are great. The children know what they are from their academic classroom, and so we can use that to clarify lots of different ideas in music as well. So yes, I think it is good for everybody.

Similar to the music teacher's example, the district music supervisor talked of how skills in other domains enhance music skills. She shared an integration example to explain her perspective on how integration can benefit music education, and ultimately the students. She stated:

> Again, this is just a little bit of my positive beliefs and maybe Pollyanna view of pie in the sky, but I have to think that it goes both ways. Let’s just step away from this question for a minute. The best musicians that I know are people who have a breadth of understanding. If you are going to play a piece of music by Kelly and you only know you’re a brilliant technician, and you know the notes and the rhythm—you can’t make music [unless] you truly understand what that composer meant, and you’ve researched that. And you can read that . . . you have fabulous reading skills, and you can go find out everything there is to know about that—[then] you are going to make that music come alive. So it has to go both ways.

The district music supervisor is involved with music advocacy activities and often needs to present information to administrators. In the past, she has shared with them the following Columbine music experience. She said it is important for music educators to share music’s
reciprocal benefits with others because they don’t usually think of them on their own:

When I work with principals in this district, one of the examples that I give them is I just start to play a piece in the background, and it’s just plain. And then part of the way through it, I tell the principal, this is a piece that was written for Columbine. And all of a sudden, the musical piece has more interest, and then I explain it to them. Lots of them [teachers] would have just passed out the score and said, ‘okay here we go, first measure’ and play through it. Which way do you think the kids are going to do it better—if they had gone home and read what Kelly wanted and read the part where he had written a normal model for them and how he orchestrated that and analyzed the orchestration and gone through the mathematical things that he needed to do, or if you went on-line [Internet] and read about Kelly, the composer, and knew what kind of a kid he was in high school and then read about all the history surrounding that—which way do you think the kids are going to play it better? To me, it is a no brainer. They are going to make music, so of course it goes both ways.

The district music supervisor said music educators could see the benefits more in their own classrooms if they too took a more integrative approach to teaching. Integrating across subject matters is a conscious step to making the music education even better. She concluded:

We’ve all been a little bit too stuck in our own corners to want to give up any ground. But I think the fault to music teachers is we always want the highest quality we can get, and we’re going to get it by spending about 10 minutes a class doing that rather than going over measures 18 to 28 ten times. So if you go that integrative step, you are going to get there. So I think, of course, it will benefit the music.

In this next section the educator’s voice can be heard as narratives and direct quotes express their thoughts on the benefits of music integration regarding academic achievement. When answering questions about why teachers were involved with music integration, nearly all of the participants stated academic benefits for students. Consequently, some of their responses are presented in the opening section of this chapter and again here as they directly address research question 3.

The responses from all educators that participated in the survey are grouped by theme or subject reference when possible. All of the primary teachers and a secondary teacher commented on academic gains in language arts and most commented on mathematics as well. The mathematics coach provided a pre- and post test to show the academic gains she attributed to the music integration lesson she recently taught. Two of the primary teachers spoke of academic benefits in science and social studies in addition to language arts and mathematics. A secondary
teacher and the teacher of gifted students shared how they have identified important self-learner and working habit skills as areas of academic benefit resulting from music integration.

The physical education teachers gave general examples including how music integration assists with directional skills in their students. In another data set, they shared a story of how their primary students were much more advanced than their fourth-grade students on skills involving left/right and front/back movements. They stated the difference in the two groups was because they [the physical education teachers] did not use music integration techniques with the fourth-grade group when they [students] were in the primary grades and have been integrating music in the curriculum with the K-2 students for the past couple of years. They said they have noticed higher skill levels in their younger students as a result of it. The art teacher said learning was enhanced, and students were probably more creative as a result of the music integration.

**Language Arts and Mathematics**

The kindergarten teacher said students gained academically from the strong foundation of number and alphabet recognition through the use of music integration. The following were examples given: (a) learning the alphabet, taping music and sending it home for Hispanic children to hear the sounds and learn the letters; (b) number recognition; and (c) songs to introduce authors and books. The third-grade teacher replied, “Metacognition regarding language choices as readers and writers.” The mathematics coach provided a sheet of paper with the pre- and post test scores of those students that participated in the fraction music lesson along with their sample work. She was very excited about the academic gains and how the students’ mathematics skills improved as the music integration progressed.

**Science and Social Studies**

The first-grade teacher commented on how she thinks musically integrated lessons have helped her students and gives examples in two subject areas, “Knowledge acquisition on [the] weather unit, making rain sticks for [the] precipitation water cycle song; and in language arts learning ABC’s sounds [music integration] helps ESOL students with vowel sounds, short/long,
contractions, [and] compound words [used with] pictures students can improve knowledge.” The second-grade teacher said, “Math to music with facts improves speed [of work completed] . . . it relaxes for writing, and in social studies [music integration helps students] to learn continents.”

*Directional Skills*

The physical education teachers team teach and gave very similar answers as one another. They listed several areas of learning the body and how to move it that music is helpful with. Some of the academic areas listed by them were mathematics, body parts, months, and Brain Gym (coordination right and left side).

*Self-Learner Skills*

The fourth-grade teacher spoke of holistic qualities when naming benefits and replied, “Creativity, excitement, students remember, have strong sense of purpose.” The teacher of gifted students stated music integration was beneficial to higher order thinking skills such as creative thinking, oral and written communicators, information manager (researching), and complete thinking. She stated that music integration enhanced and reinforced gifted skills.

*Enhanced Learning*

The art teacher said the music integration lesson enhances art lessons. She shared an example from a lesson in which the students were instructed to paint a picture to show how the music that they were listening to made them feel. She described how their responses with painting while listening were different. “Some children may have heard sounds/notes that they normally would not have heard if just listening,” she commented. This revealed her belief that integrating art with music could enhance listening skills.

Four participants provided student academic achievement documentation. The grade levels represented were kindergarten, second grade, third grade, and the mathematics coach, who had been working with fifth-grade students throughout this study. As requested, the student work was from those students with varying skill levels. According to the teachers that submitted the work samples, they were of low, medium and high achievement levels and are numbered and
presented in that order in the appendices.

Due to space considerations, most of the student work is found in Appendices S through V, and the number of student work samples is limited to three from each of the aforementioned participants. A few samples will be provided in this section for review. Each teacher that provided student work was asked to describe the music integration lesson that led to documentation of the student academic achievement. The researcher will provide an analysis of the educators’ comments and student work for insight on how each aligns with the Wiggins and Wiggins (1997) criteria when pertinent.

*Kindergarten Student Work*

When asked about the musically integrated lesson that coincided with the student work provided, the kindergarten teacher stated:

> We are starting to do writing. They had to write the author. They had to write the title of the book and how to write how this book makes me feel with the songs and everything; they all chose the word happy. Some chose a few other words, but this was the main; these books make them feel happy. I thought it was very interesting that the author himself believes that his books are so successful because Clifford makes mistakes like they do, and it’s okay. I really agree with him, and they really did a good job on this. It seems like they were [happy] really. They move around for a while with the song and then change, and they were able to settle down because they were not just sitting here singing the song. We got up and walked around, and then they had to do a follow-up [activity], which is really what we are doing now. It was a writing assignment, but it reaffirmed who the author is. And I really asked them the next day who the author is. They really surprised me at this level. Our long term gain is to enhance their reading.

The kindergarten teacher’s explanation of this lesson and student work showed evidence of a well-rounded language arts activity rather than a musically integrated one. Based on the observation data, we know the skills of letter recognition were reinforced before, during, and after the story was read. The student work is a sample of the follow-up writing assignment. On the student work, it is interesting to see how the drawing skills and writing abilities differ. The teacher told the researcher that the writing samples were from ESOL students.

The teacher talked about how students were allowed to move around to the music and not required to sit for the entire lesson. She did not indicate how the music enhanced the core
subject’s learning outcomes. However, it was noted during the observation that rhyming words in
the lyrics were practiced in a brief part of the lesson but not capitalized on at this time. There is
no indication that the integration benefited student music knowledge. The music was used as
entertainment and for a change of activity for this lesson. Applications of music such as these are
common and beneficial to students in other ways, especially at this age; however, they are not
elements of music integration.
Second-Grade Student Work

The second grade teacher provided copies of the mathematics worksheets that students had completed while working silently and listening to music. When asked about the musically integrated lesson that coincided with the student work, the second-grade teacher stated:

We use the CDs with the math facts for addition and subtraction, and we do it repeatedly over and over and over. And the music says the facts but doesn’t give the answer. And it is off to a beat, and then it goes on, and so it accelerates them learning the facts.

The researcher asked the second-grade teacher to elaborate on the lesson she taught that coincided with the student work samples that she provided. She explained how it is difficult sometimes trying to pick appropriate music for a lesson and further explained how the song for this lesson was chosen. She said, “One of them that we used today was the William Tell overture for the math facts because I wanted them to work fast.’’

When asked if she felt the music integration benefited the students academically, she stated, “I have seen it work. It has benefited the kids, settling them down and getting them to focus, and I’ve seen it in math. It has helped them improve their math facts skills.”

Figure 15. Second-grade student 3 work–no music playing while working.
The second-grade teacher’s responses regarding this lesson support the assessment that not only is it an example of Level 1 music integration but also confirms the need for music integration training to maximize learning opportunities.

Repetition does increase retention of information, and this lesson is successful in that regard. This student work example is an example of Teaching-tool Connections where the music was used to memorize information; in this case, it was mathematics facts. The music was also used for its tempo to speed up the pace of the student’s work. Both are subservient applications. The student work samples show there was an increase in the number of mathematics problems completed by the same student when the music was playing. The accuracy of the answers has not been evaluated, but is an important factor to be considered. Recommendations regarding training and future studies related to this sample are provided in chapter 5.

Third-Grade Student Work

The third-grade teacher commented on the benefit of another modality for learning when using music integration. She stated academic benefits for language arts skills as a result of this
and similar musically integrated lessons:

It gives them every level of language. They have seen the words that we have talked about. They have said them. They have spoken the structure words, and they have written the words. So I feel like we are hitting all modalities of language, which is huge with the added benefit of the melody.

During the interview with the third-grade teacher, the researcher asked the teacher to elaborate on the lesson that coincided with the student work that she provided. She said, “We are connecting what we are doing today with a trade book and a song to language that they are using in writing, which carries over into reading.” The teacher spoke conceptually of how the various materials such as the book and song are connected to other phases of the learning process.

The comments as well as the student work provided data that aligned with applied conceptual connections of music integration. Unprompted, she shared that the students’ work showed great progress in learning the concept of structure words and expressed excitement over the gains evident in the students with language barriers and other learning disabilities. The significance of how well the student performed on this worksheet (see Figure 17) can be better appreciated by looking at the other two samples provided in Appendix U. The student work sample in Figure 17 shows an understanding of many structure words. The reader should realize

![Figure 17. Third-grade student 2 work.](image-url)
the work sample referred to is from an ESOL student and that this student outperformed many classmates that did not have the ESOL disadvantage to a language arts lesson of this nature. The added insight of how the other students performed was based on the researcher’s review of several work samples from the same lesson. Perhaps a pre- and a post test analysis of this lesson with and without the music integration factor could help the development of similar future lessons. The implications that music integration can reach more students is evident.

To illuminate the benefits claimed by this educator, the third-grade teacher’s response from another data set is presented. It addresses this research question very well. The researcher asked the third-grade teacher about rewards or benefits experienced through music integration:

It is almost obvious; it is the interest level of the kids. They are automatically interested, and participation goes way up. And I have seen afterwards that the concepts become more fixed in their mind. They can talk about something that they have learned through music better. I see that cognitive piece in music. I think the benefits go along with that hard-to-measure level of excitement on the children’s side and that hard-to-measure idea of fixing it in memory through the emotional response they have to music.

*Mathematics Coach Student Work (Fifth Grade)*

The mathematics coach provided a report of the student progress for all students that participated in this lesson in addition to student work samples. She explained the lesson and the pre- and post test results:

I provided a pre-test and a post test. I gave the pre-test. I taught the lesson with one of my colleagues. She and I presented fractions with like and unlike denominators, and we integrated music with the relation of notes and beats. And we have been using our hands to clap the music. We clapped different measures, and then we had them take the post test.

The lesson that the researcher observed was similar to the one used for the pre-test and post test data provided in Table 9. The student work presented here was completed on worksheets rather than a blank piece of paper as in the observed lesson. This difference was presumed to be for uniformity of the pre-test and post test process. Readers are made aware that the observed lesson required more music knowledge to be applied in order to complete the assignment. The following lesson presented with the student work was slightly less rigorous on behalf of the music
domain yet was still a strong example of Level 5 music integration application.

The integrative focus of this lesson was to use the symbol systems of notation in music, and numbers in mathematics to learn more about fractions. Students applied music and mathematics knowledge to add the values of both sets of symbols and to create their own musical piece using these symbols to demonstrate the ability to correctly apply the processes required of both domains.

The researcher created a table (see Table 9) to display the pre-test and post test results discussed here by the mathematics coach. The results were indicated by a plus symbol for an increase in score, a negative symbol for a decrease in score, and an equal symbol for a score that remained the same. The difference in the scores the students received between the pre-test and post test showed an increase of points for 20 students, a decrease in points for 2 students, and no change in points for 4 students.

The data analysis implied that, for the majority of the students, the musically integrated lesson facilitated understanding of the fraction concept and the process required to correctly add them. The integration may have confused the two students that experienced a decrease in score. They and the other four students whose scores remained the same may need additional and/or a different approach to learning fractions to increase their understanding and scores. Further, it seemed to allow struggling students to experience some success in a subject area that they otherwise may not have experienced.

During the interview, the mathematics coach told the researcher “The ones (students) that played an instrument in elementary school, they sing in the chorus, there are a lot of kids involved with music in our school, and those that were involved really seem to excel with this lesson.” The researcher asked the mathematics coach if she had previously identified these students (the ones she referred to as excelling in this lesson) as strong mathematics students in her mind:

No. Not necessarily. Not any of them in the one group. . . . There is one student in particular that came out of his shell. He would never raise his hand. He was always wrong. In this lesson, he was clapping the beats; he knew all of the music. This one
lesson really made him excel.

There was a very noticeable improvement in the post test of student 1 from his or her pre-test. The post test work not only indicated the musically integrated lesson helped him or her grasp the process of adding the fractions but also the ability to create a complete musical example.

A couple of interesting areas to note about the mathematics student 3 work sample is first, the creative differences and use of various music notation between the pre-test and post test music piece; secondly, the student used the process of converting and calculating the symbol systems and applied it beyond the teacher’s request. The student turned the fraction into a music note and then turned the music note into a percentage to arrive at the answer. It is equally impressive that the work indicated the correct values for each symbol set as well. It was not

Table 9

*Mathematics Lesson Pre-Test and Post Test Results (Fifth-Grade Students)*

<table>
<thead>
<tr>
<th>Student</th>
<th>Pre</th>
<th>Post</th>
<th>Result</th>
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</tbody>
</table>
Figure 18. Mathematics student 1 work–pre-test to music integration.

Figure 19. Mathematics student 1 work–post test to music integration.
What was significant was to see how the student applied the knowledge and process of both

evident which problem the work represented, and frankly, that was not of interest for this study.

What was significant was to see how the student applied the knowledge and process of both
domains beyond what the teacher presented.

Summary–Research Question 3

In summary, research question 3 had two parts. It asked about the influence music integration had on the music domain and other core subject areas. The music educators addressed the portion about benefits to music education. In this and other data sets they shared how broader knowledge and connections across disciplines benefited areas of music. The music teacher said she has found that using language arts sequencing maps has helped students understand music information because they were accustomed to using them in their classroom.

Many areas of music education can benefit from music integration when it is authentically connected across domains. The reader is encouraged to examine the mathematics coach observation and lesson plan data to see a sample of an authentically integrated lesson. In the mathematics coach example, academic benefits were reciprocal to both of the domains.

In addition to the direct academic benefits mentioned by respondents in this section, readers are reminded of the comments about the behavioral and emotional benefits provided in the opening of this chapter. As educators pointed out, music integration has been found to benefit these areas, which often indirectly affect academic achievement.

Nearly half of the responses referred to how students have different learning styles, strengths, and weaknesses. Some specifically mentioned brain research and multiple intelligence literature and said music integration gives the brain more ways to learn, and fosters Holism—for the well rounded child. At least 3 responses from a corresponding question said that music integration addresses academic benchmarks and state standards. Data analysis revealed the following categories for academic achievement benefits: (a) Language Arts and Mathematics Skills, (b) Science and Social Studies, (c) Directional Skills, (d) Self-Learner Skills, and (e) Enhanced Learning.

Chapter Summary

Chapter 4 presented the data results for research questions 1, 2, and 3. Data analysis for
research question 1 indicated that Levels 1, 4, and 5 were being implemented respectively in frequency at Bently during the fall of 2004. Observations and lesson plans provided insight to the various levels of music integration and allowed the reader to experience a broad range of integration implementation. The data from research question 1 also produced replicable music integration lessons.

Data analysis for research question 2 revealed several emerging and recurring themes. In addition to the five key issues of awareness, training, materials, planning, and support previously identified as factors affecting music integration, seven more emerged. After the analysis of the data, it was determined that from the list of 12 recurring themes, awareness and training appeared most in educator responses as important issues affecting music integration implementation.

Awareness and training were also identified as the two issues administrators and curricular decision makers should address first when considering music integration in their educational settings. Educators claimed materials, the whole child, and state accountability issues were next in the order of importance, followed respectively by planning, collaboration, time, academic pressure, integration vision, personal deterrents, and support.

Research question 3 data analysis revealed the participants do believe music integration has a positive influence on student academic achievement. Further, the participants shared that students also often benefited behaviorally and emotionally. Educators said these benefits are also due to music integration, meeting the needs of more students, indirectly affecting academic achievement, and aligning with the holistic approach to education.

The data results presented in chapter 4 led this researcher to expected and unexpected conclusions in chapter 5. Implications of data for research questions 1, 2, and 3 are presented in that order and the chapter concludes with strategies for improvements and recommendations for future research.
CHAPTER V: CONCLUSIONS AND RECOMMENDATIONS

Conclusions

This study looked beyond the required music education taught by a music specialist found typically in public elementary schools to examine that of music integration being implemented into the entire curriculum. This researcher examined the levels and frequency of music integration being implemented at a public elementary school in central Florida and explored some of the key issues (e.g., teacher training, planning, materials, support, and awareness) affecting the successful implementation of effective music integration. The researcher also examined educators’ perceptions of the influence that music integration has on academic achievement in music and core subject areas and offers descriptive evidence supporting educators’ perceptions of student achievement influenced by music integration implementation.

The problems (the apparent lack of awareness and virtual lack of replicable effective music integration examples discussed in Chapter 1 as guides to this researcher’s inquiry) resurfaced in the data results. By investigating what levels and frequency of music integration were occurring at Bently, an elementary school in central Florida, this researcher was able to examine the awareness of music integration held by the study participants. In addition to gaining insight to the participants’ music integration knowledge, the curriculum was reviewed for replicable music integration samples. Based on this researcher’s 18 years of experience in the fields of music and education, the in-depth literature review, the pre-set criteria, and the data results, the conclusions, implications, and recommendations resulting from this qualitative study are presented.

While this researcher has presented knowledge and credibility on this topic, it should also be noted that this author is an expert-learner as well. The process of conducting this research and
completing this document has helped me grow as a researcher, a practitioner, and a learner. Rather than viewing research as seeking answers to questions, I now see it as answers that create new questions. The questions are merely addressed, not answered, and the perpetual growth from questioning is fostered. This document has been produced for readers with various backgrounds and types of credentials in hopes of furthering knowledge and growth, not only on this topic but also for society beyond the elementary school curriculum.

The researcher’s analysis is presented in the order of the research questions as it aligns with the data in chapter 4. This systematic and parallel organization is in effort to help the reader better understand how the implications of the data results led the researcher to the conclusions and recommendations for further research of this topic.

**Implications of Data for Research Question 1**

Withstanding a few exceptions, the data analysis indicated a lack of awareness in regard to what authentic, effective music integration is. Recurring themes, key words, and phrases depicting music integration as a tool to aid academic areas other than music were found among the data retrieved from educators. In response to research question 1, the most common level of music integration that occurred at this school during the fall of 2004 was Level 1. Educators also integrated music at Levels 4 and 5 (see Appendix B, Part I for descriptions of the five levels of music integration).

With the understanding of the hierarchical nature of the five levels of music integration used as criteria throughout this study, it is natural to have expected a pyramid type result of implementation occurring with Level 1 as the most prevalent bottom layer and Levels 2 through 5 layering thereafter. Although Level 1 was found to be implemented more often than the other levels, the expected progression to Levels 2 through 5 in frequency was not evident. Instead, Levels 4 and 5 occurred respectively in the order of implementation. The researcher has concluded that the unusual hour-glass configuration of music integration levels occurred because
of the specialist teacher to classroom teacher ratio of study participants. When you compare the ratio of participants in specialist positions to the number of classroom educators, the ratio is not comparable to that of the entire school. The implication of this conclusion is that attention to ratio must be made for future research in which the participant ratio teacher population may need to reflect the same ratio as the teacher position ratio of the study site.

The data from the primary (K-2) teachers were Level 1 music integration. The data analysis highlight that these teachers use music as a teaching-tool with younger students in general because they do not have the more advanced skills for the higher application of music integration’s conceptual and procedural qualities to be applied. The literature reviewed by this researcher indicates higher-order thinking skills and connections could be applied by primary students with proper training and collaboration among music and classroom teachers. Additionally, the data analysis indicates that the primary teachers are more familiar with and have greater access to materials that use music for learning in other areas such as reading and the memorization of information as well as transitional purposes.

Although the literature cited states that higher levels of music integration should be pursued, it also indicates (as does the data throughout this study) that students benefit academically, behaviorally, and emotionally when music integration is implemented at any level. It is not to be implied that teachers integrating Level 1 music or anything less than Level 5 into their curriculum are not delivering quality education; instead, they should be commended for working toward higher academic achievement for their students. A caveat to this statement is that music integration at any level can be valuable for students as long as music education is not replaced, marginalized, or diminished in any way from that form in which a certified music educator provides. Data for research question 3 will address the academic benefits of music integration in more detail later in this chapter.

The data from the specialists, those that see all of the students in the school regularly,
were more holistic and integrative in nature than that of the other respondent data. The data analysis implies the need for future researchers to ask the following questions:

1. Why was this the case, and are these same results found elsewhere?
2. What influences the curricular practices and perspective of specialist teachers?
3. Does the specialist’s area of certification addressing holistic and integrative curricular practices influence their practice?
4. Is it because the specialists teach a broader range of students, not only a variety of age levels but also of varying academic strengths and weaknesses?

These questions constitute only a few to be considered on this topic.

The music integration levels most evident in the music teacher, physical education teachers, and mathematics coach data were Levels 4 and 5. Their responses across the data collection methods reveal a better understanding of the conceptual and procedural qualities and application of music integration. As the analysis of the data implies, these respondents seemed to have greater awareness of what music integration is and how to maximize its academic benefits.

Because of the analysis of research question 1 relying heavily on the observation, lesson plan, and interview data in which the fourth-grade teacher and the teacher of gifted students did not participate, the perception examined from educators of these grade levels is limited. The analysis from the third-grade teacher data revealed a higher level of music integration was implemented than she had assessed.

The data analysis indicated that Level 4 music integration occurred during the third-grade observed lesson as well as the critiqued lesson plan, utilizing the thematic and content connections benefiting both music and language arts. The difference in the educator’s perception from the researcher’s analysis of actual implementation indicates that, although a higher level of integration occurred, perhaps the maximum benefits were not attained. This impression is derived from the participant’s responses throughout the study that indicated a need for higher awareness.
and understanding of music integration.

Further, the data analysis illuminated an important issue. Teachers have music integration opportunities that either are missed or happen accidentally. Students could begin benefiting without much change in the teacher’s current practice if music integration literature was readily available and awareness was raised. An example to support this statement is found in the mathematics coach’s data when she stated that the exposure to this study and coinciding literature prompted her involvement with music integration and has subsequently benefited her students.

The implications drawn from the administrative data are much like that of the classroom teacher’s data yet with an over-arching perspective expected from those in administrative roles. The principal at Bently is credited by all of the participants for providing support that accommodates an integrative curriculum. Based on field experience, data, and literature review, it is apparent that Bently’s students and staff are fortunate to have a principal that is supportive of the arts and that they are above the norm in this respect.

The principal herself expressed the importance of staffing the school with educators that embrace the arts-infused mission. This philosophy of vision is supported by statements from the district music supervisor as well. The pursuit and attainment of grant monies is evidence of Bently’s movement toward their goal of integrative practice.

The principal’s focus is on the overall arts-infused curriculum. However, her focus portrays a general or surface level understanding of the training, literature, and awareness needed to increase the implementation of effective music integration. The data analysis indicated that the administration and much of the staff at Bently would be receptive to suggestions made as a result of this study. Therefore, it is recommended that music integration literature be made available to teachers at Bently to raise the awareness of the reciprocal academic benefits that music integration offers. Heightened interest would most likely occur, and workshops and collaborative planning could follow.
It is apparent from the data results that the curriculum coordinator does not serve as the planning personnel for integrative training thus far. This researcher believes the curriculum coordinator should play an active role in scheduling integration workshops and planning sessions as well as the dissemination of integrative literature. Prior to data collection, this researcher expected that this was the role of the curriculum coordinator, and as a result of this study, she has since identified important questions for further inquiry:

1. Who is responsible for the curriculum-related training at the elementary school level?
2. Whose job is it to promote and schedule training opportunities?
3. Who determines what training is offered and who should attend?
4. Who does the music integration awareness and training start with?
5. Is the curriculum coordinator trained in this area?

It will be interesting to see how these puzzle pieces fit into the evolving integration picture.

The data interpretation implies that state accountability issues heavily influence what areas the teachers must focus on, and it therefore controls the content of teacher workshops and planning time. Consequently, the accountability issues raised such as the No Child Left Behind Act of 2001, the Florida Comprehensive Achievement Test (FCAT), and Adequate Yearly Progress (AYP) leave teachers little time or energy to consider additional strategies and literature beyond those mandated. Not only is implementation of a helpful approach like music integration hindered, but the collegiality of the profession is also. These reform issues are unfortunate obstacles considering the intended purpose of their development. If awareness of the academic effectiveness and efficacy of music integration were raised, adjustments in training would follow. Again, this is a point that this researcher feels cannot be stressed enough and one that is supported by data analysis.

The lack of integrative data available in the curriculum coordinator department has great implications to the training and awareness issues raised throughout this study. These implications
lead the researcher to suggest further inquiry into this question in hopes of charting a path toward improved curricular training. It is further suggested that an awareness-raising workshop presented either by an expert in the field of music integration or by a person with reputable music integration literature (such as recommended in this document) occur with curriculum coordinators and administrators from each elementary school in the district before any training action be considered. Buy-in must exist in order for progress to spread.

The district music supervisor was very familiar with the topic prior to participating in this study. Her responses were also that of an umbrella perspective believed by this researcher to be a result of her administrative position. The district music supervisor shared examples of teachers that implement music integration on their own initiative throughout the school district even though they are not affiliated with a school for the arts or arts-infused curriculum. The music supervisor’s responses provided insight into areas beyond that of the study site, leading the researcher to consider how and where interested teachers could observe music integration in action. This is of interest to the researcher because questions pertaining to this information were raised by many study participants. The researcher offers solutions to some of the concerns at the end of this chapter.

Analysis of the district music supervisor’s interview data as well as that of the on-site music teacher suggests that communication between music teachers and classroom teachers could improve the integrative practices within the schools, independent of integration action taken by the county. The data analysis also implies that faster results could occur if teachers took the initiative to collaborate with each other.

The data interpretation undertaken indicated that most of the participants thought they were heading in the right direction by pursuing music integration for higher student academic achievement. Three of the nine classroom teachers commented on how they are a school for the arts but feel they are not integrating music as well as they could be or should be at this time. The
majority of the respondents said that more training on music integration is required for true integration to occur. Data support their beliefs.

The majority of teacher participants were self-proclaimed music appreciators. The data revealed they were offering a more complete education to their students as a result of using music; however, the reciprocal applications of authentic integration were not prevalent. This researcher believes these results are not only due to the lack of awareness and training identified by the study participants themselves but also in the data.

Comments made by teachers regarding music used to help students “work faster” or to “calm them down” led the researcher to the conclusion that educators are using music and calling it integration. Although playing music as background noise is not music integration, it was identified in the scope of this study as Level 1. Data analysis revealed that a more concise form of criteria for identifying music integration levels is necessary.

Perhaps educators need to see examples of what music integration is not. A way to demonstrate this point would be to conduct an experiment to see if the act of setting a tempo was the influencing factor in increased completion of mathematics problems, rather than just the presence of music. Students could do mathematics worksheets, one with the sounds of a metronome (a device used to click a set tempo like the pendulum of a clock) and one without. A similar experiment for the “calming” claim could be conducted using a calming sound (e.g., ocean waves) instead of a calming piece of music.

This researcher feels strongly that the reciprocal academic benefits of music integration could be maximized if grounded in the combination of research and practice as is presented throughout this qualitative case study. Although unintentional, research-based and practitioner-based approaches to educational issues often act as islands that do not connect. This researcher offers suggestions of how educators may utilize a combined approach to accomplish music integration goals (see Recommendations).
How often the various levels of music integration were implemented was of interest in an effort to determine how ensconced music integration was throughout the curriculum at Bently. The level and frequency of music integration does not indicate nor was used to judge the quality of the curriculum or the educators delivering it. Instead, this approach was used to gain insight to the music integration awareness among the participants.

It is true that the levels of music integration identified by Wiggins and Wiggins (1997), and applied in this study are hierarchical in nature and lead to higher order thinking as they progress from Level 1 to Level 5. It is also true that as educators become more aware and better trained on the philosophical and pedagogical components of music integration, moving the curriculum towards Level 5 is often considered both desirable and attainable.

In summary, the data collected regarding the levels and frequency of music integration were ultimately used to ascertain the status of educator awareness on this topic. The data analysis provided information that may be applied by educators seeking Sunshine State Standards (1996) connections, sample lesson plans, and examples of the various levels of music integration applied in the elementary curriculum. The data analysis indicated music integration can be implemented to meet the Sunshine State Standards across the curriculum through collaborative integrative efforts. The reader is directed to the Appendices for more information regarding these samples.

As this study and others show, an assessment of current curricular practice is necessary before a plan of action and desired direction can be determined. The data obtained can be used not only to determine next steps for curricular development at Bently but also for other schools with similar goals of higher academic achievement for their students. If educators thought at the onset of this study that they should not consider music integration because they are not a school for the arts, the data analysis should have shown otherwise by now. Music integration can happen as a classroom venture, school wide, district wide, and state wide. There are no limits to its expansion. The data interpretation has shown that there is not a formula or title that paves the
way. Awareness and what follows will determine the outcome of the integrative venture.

*Implications of Data for Research Question 2*

Many issues affecting music integration implementation were discussed by educators participating in this research. It is concluded that they perceive awareness and training to be the two most important factors to address for improving implementation of music integration. Opinions of materials and planning time were split as the next order of importance because some teachers felt planning time was ample if used wisely, and others thought materials were supplied well enough from grant monies. They ranked administrative support last due to the great support they all claim to have in their current setting. This researcher believes the fruitful information to apply to future research and improvement efforts lies in the awareness and training data.

References of obtained equipment and supplies were programmatic in nature indicating a well-supported arts department, yet they were not indicative of music integration being practiced. There was evidence of integration misunderstandings throughout the participant responses. Music integration is not the accumulation of recorded music and instruments. The educators’ comments revealed that they need training by a music integration expert or to at least read literature recommended by one in order to understand music integration beyond that of the materials that are used. To better understand the reciprocity and application of knowledge between music education and other core subjects requires that the philosophy and pedagogy of music integration be addressed through training and available literature.

The reader is reminded that the educators’ feelings about the school site most likely affected how they ranked the key issues for research question 2. This is noted here in particular because the administrative support is highly regarded by all of the participants and may not be indicative of a school not associated with the arts in this way. They did agree it was important; it was just not an issue needing attention at this school. All respondents stated the importance of support in order for integration to occur and that this school had improved greatly as a result of
the administrative support and vision to become an arts-infused curriculum.

Many respondents expressed a desire to see music integration being implemented within and beyond their school. They demonstrated a sense of blindness to what music integration is and where to go to see music integration in action. They desire guidance in ways to overcome scheduling obstacles in order to observe teachers that are integrating. A suggestion of this researcher is to find colleagues within the school with the same interest and either observe each other or arrange for each other’s students to be taken care of while the other teacher goes to an integration observation. Start within the school first, and then expand beyond as needed. Based on the level of awareness and understanding found at Bently, it is advised to start with reputable music integration literature (as every school should). Then the teacher can mine many more riches from the observation when it occurs.

One educator addressed the issue directly, yet the majority referenced the problem repeatedly. She stated that Bently is a school for the arts but that it does not feel like one. The implications of this acknowledgement are huge; here is a school that is supposed to be integrating the arts more so than practically all of the elementary schools in the district, and they want to know where they can go see someone doing music integration. After analysis of the district music supervisor’s data regarding teachers that are implementing music integration throughout the district, the researcher concluded that the blindness and training issues raised by study participants may be addressed using these local integration experts (see Recommendations).

The following suggestions from study participants regarding music integration training were made: (a) provide before and after school training, (b) train teachers on how to incorporate music integration into existing curricula and still meet current testing demands, and (c) training should be ongoing. Two teachers commented directly on the need for training to occur at the college level for future educators seeking teaching degrees and certification.

The local university system recently decided to minimize the arts-for-the-child training
that elementary education majors were offered. Required coursework that once addressed the importance of the arts and sometimes a glimpse of how integrative lesson plans can meet the Sunshine State Standards is now lumped into one class for their entire degree and often taught by educators who do not even hold degrees in the arts themselves. These recent changes do not facilitate proper training, and adjustments are necessary.

The data continually presented how serious and how interrelated the awareness and training problems are. Music integration training needs to happen in many venues and should at least be a substantial requirement for the teachers preparing for the classrooms of tomorrow. How to write integrative lessons plans that meet the Sunshine State Standards across subject areas needs to be taught to current teachers as well as future ones. Some suggestions as to where such training could be initiated include the following: (a) beginning teacher programs, (b) mentoring programs, (c) portfolio requirements, (d) ongoing teacher training, (e) specialist workshops, (f) in-school seminars, (g) grade level team meetings, (h) scheduled professional education training days, (i) re-certification, and (j) continuing education credits. The options seem endless.

To summarize, an adjustment to an earlier statement is presented; when educators are made aware of the academic benefits of music integration, adjustments in training will follow. It would be easy to be paralyzed by the question of which comes first, the awareness or the training? The suggestion is to just pick one and do something. Results will dictate from there.

*Implications of Data for Research Question 3*

Research question 3 was two-fold in nature; it asked about the benefits of music integration in music as well as other core subjects. Only 2 of the 14 participants were music educators, so most of the respondents said they could not offer information regarding the benefits to music since it was out of their area. Being that this researcher is a music educator, the balance of that perspective was considered when designing the study, and it is important to reiterate that music integration can and does benefit the field of music education when authentically
This study revealed that educators do believe academic benefits are linked to music integration as previous research has found. Further, the data analysis supports the notion that, while many benefits are evident, they are difficult to document. The results indicated that several areas affecting how a child succeeds in school are improved when music integration is implemented throughout the elementary curriculum. The reader is reminded of the “B flat scale” example given by the district music supervisor. She explained that music requires the application of knowledge and is not surface level, implying that if music were integrated with more of the student’s subjects, then more applicable knowledge could be attained.

Children experience a more complete education when music integration is implemented, and they benefit academically, behaviorally, and emotionally. This is referred to in educational literature as a holistic approach to education. Several participants referred to using a holistic approach of education, not by name but by describing how they try to reach every student and meet his or her educational needs. Many teachers directly stated that music integration has helped them do this and how, as a result of music integration, more of their students experience success in the classroom. Every participant provided data that students benefit in many ways as a result of music integration. Their anecdotal stories, student work samples, and experiences in the field serve as evidence addressing research question 3.

Though deficits of music integration understanding and implementation are revealed through the data analysis, the strengths that may serve as examples to build from are as well. This study offers working examples ready for application and addresses important issues that affect implementation such as those raised from the perspective of the participating educators.

Recommendations for Future Research

Recommendations are usually accepted best when given by people in a similar situation. The following advice is from the participants for that very reason. They were asked what advice
they would give anyone considering implementing music integration into their curriculum. The
suggestions they offered referred to collaborating with other teachers. They said to use all of your
resources, just start talking to people, talk to the specialists in your school, they could really help
you out, and go see it being done. Motivation may be needed because they also had reservations
that the educators stated; music integration does get easier once you put your foot forward
because once you learn it, you have your foundation and you can build on that foundation.
Basically, the educators that participated in the study were in agreement about the suggestions;
they said, “Go for it – kids love it,” and “Don’t give up.”

Strategies for Music Integration Improvement

Strategies outlined here address music integration awareness and training. Awareness of
music integration’s academic efficiency, efficacy, philosophy, and pedagogy are critical if
initiatives to increase implementation are to happen. Awareness should be the first issue
addressed for music integration improvements and implementation to begin. Presentations and
training should be conducted by music integration experts (approved credentialed educators or
those currently implementing music integration to pre-set standards). Although there is not a
facility in this district currently revered as the place to go see music integration in action, there
are educators throughout the district that have been identified by the district music supervisor and
others as teachers currently implementing quality music integration.

A possible approach to utilizing nearby experts and attending to the awareness and
training issues is offered through a brief description of an educational concept to be referred to
hereafter as the Integration Consortium. The integration consortium is introduced here and
discussed in more detail later in this chapter. Once the music integration teachers are selected, a
meeting with the music supervisor, chosen integrative experts, and other interested personnel can
be scheduled. When the standards, criteria, and literature are agreed upon, the presentations,
training, and hands-on observations could begin. Music integration experts throughout the school
district would form the integration consortium and work together to deliver the awareness presentations and training. Interested educators would have choices of music integration lessons to observe throughout the school district. The suggested music integration strategies to improve music integration are outlined; the following strategies are designed so they may be used in conjunction with or independent of the integration consortium structure.

Awareness

Make mandatory music integration presentations to curriculum coordinators and administrators of all elementary schools in the district. Provide music integration literature such as chapter 2 or similar research-practitioner based integrative literature along with additional resource list to personnel attending the presentation. Schedule the same presentation and literature to interested individual schools. Make this mandatory for teaching staff if school administration asks for presentation.

Training

Training may occur only after the presentation has been completed. The presentation may be achieved either at a scheduled presentation or via a pre-recorded option. Training is scheduled (recurring) at central locations for individual teachers, grade level teams, or full faculty. Training is to include samples and practice writing integrated lesson plans across domains that meet the Florida Sunshine State Standards (1996). Observations are offered throughout the district for hands-on examples of actual music integration implementation. Flexible scheduling and stipends would be made available for substitutes to allow teachers to work their training into their teaching schedules.

Criteria similar to the Wiggins and Wiggins (1997) list used in this study are being further developed for possible assessment purposes. Assessments of both the training being delivered and the educator’s integrative progress in his or her classroom should occur. Based in part on the results of this qualitative case study, this researcher has decided to take a respected
research and practice criteria and develop it further. When the research and practice are integrated, educational advancements stand a higher chance of being implemented. Data analysis indicated that, to improve educators’ understanding of reciprocal authentic music integration, an easier reference of the desired criteria was required.

The Wiggins and Wiggins (1997) list of music integration was instrumental in obtaining important data on this topic. The reader is reminded that the list was found by this researcher to be the best combined research and practice-based criteria from which to conduct this study. It is further believed by this researcher that the Wiggins and Wiggins identification of the five levels of music integration was not intended to be used as an educational system checklist or criteria for assessing music integration understanding; however, it met both needs well. Certainly there are checklists that I have not encountered that could also serve the education profession well. I only know there is a need for criteria that can be applied by educators with varying levels of understanding of this topic. To increase the awareness and implementation of music integration, more educators need to understand it.

This researcher proposes a streamlined version of the list of 5 levels to that of 3 levels of music integration. The term levels will be maintained as will the notion of hierarchical advancement in connections from Level 1 to 3. An inevitable outcome of this research is the new music integration criteria the researcher is currently writing. However, the finished product will not be available in time for this dissertation. Perhaps future research may include the development and examination of music integration criteria and checklists.

Future Research Questions

Many questions for future research were raised throughout this study. Several questions that emerged were expected, but some were unexpected. The questions that emerged from the data that did not surprise me were those related to awareness, training, literature, and integration criteria. I addressed these in the strategies for improvement earlier in this chapter. The unexpected
questions that evolved from the data concerned curriculum responsibilities and the specialist
perspectives on music integration.

As explained in chapter 4, prior to this study, I thought the curriculum coordinator was a
(if not the) school personnel responsible for planning and scheduling training opportunities at the
school site. When I found out otherwise, it raised many questions for me, a few of which are next
listed as recommendations for future research:

1. Who is responsible for the curriculum related training at the elementary school level?
2. Whose job is it to promote and schedule training opportunities?
3. Who determines what training is offered and who should attend?

The other interesting area that emerged from the data was the unusually high occurrence
of holistic and integrative viewpoints shared by the specialist. I am not surprised that the
specialist seemed to think in these terms more so than the other teachers; instead, I am curious
about what causes specialist to have a stronger sense of holistic and integrative philosophies. If
the answer to that question could be determined, perhaps even greater strides in improving the
implementation of music integration could occur. Better awareness and understanding of music
integration could also result from examining these questions:

1. What influences the curricular practices and perspective of specialist teachers?
2. Does their area of certification address holistic and integrative curricular practices?
3. Is it because they teach so many students in a week?
4. Is it that the students they teach are a variety of age levels and also of varying
   academic strengths and weaknesses?

Inquiry on these questions of curriculum responsibilities and specialist perspectives is
encouraged. The reader is sure to arrive at questions of personal interest and is invited to
contribute to the much needed literature on this topic.

I would be remiss if I did not mention briefly that the term specialist is considered by
many in education to be outdated, old terminology that misrepresents the teachers it classifies. Some believe the term implies that music teachers, physical education teachers, art teachers, and so forth are not really teaching but instead are playing. Often the fact that specialists are playing games, singing songs, and painting perpetuates this opinion. The term *specialist* was used merely to designate the teachers that taught all of the students in the school on a regular basis rather than the self-contained classroom teacher who only taught one class.

*Integration Consortium*

Providing funds could be guaranteed for the full 5-year trial period, a solution that addresses the issues raised in all three research questions is proposed for consideration. Designate a group of schools to be granted immunity from state mandated curriculum and instruction programs and the high-stakes punishments that are tied to FCAT, AYP, and school grade measures for a trial period of 3 years with 2 years of probation to follow.

Then, a school-wide music integration awareness, training, and implementation program could be initiated with one-third (possibly less) of the elementary schools in the school district. This program would be organized, managed, and periodically assessed by certified arts interdisciplinary experts. These schools would still be required to participate in FCAT, AYP, and other state mandated achievement measures, but they would not get penalized during the trial period. Testing would truly be to assess the academic gains or losses each year and would not be calculated in with the remaining district figures.

If the school meets the requirements at the end of each of the 3 years, they may continue to operate as an arts integration school which allows their curriculum and instruction freedoms to continue. Their state mandated test scores could start being counted again as part of the school district’s total as it did before the trial. If they fail to meet the requirements by the end of the 3-year period, one of two changes may happen. They may drop out of the program and return to the state mandated curriculum and instruction program, or they may undergo an extensive overhaul.
procedure for the 2-year probationary period. If the overhaul option is chosen and they fail again, they must return to the state mandated program.

This proposed program is the development of the Integration Consortium introduced earlier in this chapter. The integrative approach to education seems to be gaining popularity in professions that also have training issues. The Educational Consortium concept is also being considered for its curricular application in the medical profession. The Integration Consortium referred to in this research was developed by this researcher and her husband Dr. Randy Shuck, Director of Medical Education, during a collaborative project on medical education curriculum.

Before a large scale consortium as the one previously recommended could occur, a smaller one with a handful of teachers from schools around the county could serve as a trial study. The smaller consortium is a viable experiment, and data from this study supports the notion that it could be carried out in this school district.

Teachers are implementing music integration throughout the district as isolated islands of practice. In this analogy, the islands are the same as the schools, and the consortium plays the same role as the school district. Both are school systems. The consortium bridges the islands in the same way a school district connects the schools to create a school system. The consortium, interdisciplinary school system, then proceeds with the study proposed. The implications for future research are many. It is exciting to imagine the curriculum and instruction possibilities in a scenario such as the one described.

Research-and-Practice

There is another scenario to be considered. This one is more directly connected to this qualitative study. In fact, it is grounded in the interdisciplinary philosophy and driven by the data of this research. The analogy of islands will be applied once again.

Our profession must address two areas of education that are often disconnected, research and practice. The following imaginary but sadly realistic dialogue helps to present the analogy.
Read carefully and absorb the full meaning of both the practitioner’s and the researcher’s perspective. Practitioners are told that research indicates you should be doing this, researchers are told that this is what I’m doing in the classroom that works, and seldom do they ever visit each other’s islands to explore and gain a better understanding of the terrain.

Instead, the practitioner replies, “Don’t just tell me what research says, show me how to do it,” and the researcher replies, “Don’t just tell me it works; show me evidence.” As both researcher and practitioner, I have found myself standing on each of these islands before by things I have been told and by how I have replied. This is partly why I believe this research study is so important to the field of education; it balances and bridges the two islands.

History tells us that as long as we continue the same separate practice as described; we will continue to get the same results. Examples throughout this study can be used as tools for educators to build bridges together or even build their own boat if they choose. It is evident the transportation between the islands is imperative if curriculum and instruction improvements are to be accomplished. Accomplished is the key word—not suggested—but achieved.

The philosophy behind the Wiggins and Wiggins (1997) criteria is that it is both research-based and practitioner-based. This is outlined for the reader in chapter 1 and explained in more detail throughout the literature review in chapter 2. The reader may find two sections in chapter 2 particularly useful, like brief visits to each of the islands. One island represents the research-based approach to education, and the other island represents the practitioner-based approach to education.

Both islands have valuable information on them regarding music integration. The two sections this researcher recommends the reader re-visit provide insight about both islands. The section on Interdisciplinary Education may help the reader better understand the educational philosophy of interdisciplinary education. The section on Interdisciplinary Qualities of Music Education offers practitioner-based curricular examples of authentic music integration. It also
provides the research-based perspective further to serve as an anchor for the interdisciplinary philosophy. It only makes sense to apply the philosophy of integration to that of integrating research and practice in pursuit of an improved education system.

Recapitulation

The following were major findings of this study:

1. Music integration occurred at Levels 1, 4, and 5 with level 1 occurring most frequently followed by Levels 4 and 5, respectively.

2. Awareness and training were the most important issues noted out of 12 identified in this study as affecting successful music integration implementation.

3. Educators do perceive music integration to be beneficial to students for academic achievement and further noted behavioral and emotional benefits.

Strategies were suggested to address areas identified as needing improvements relating to music integration in public school elementary education. The following are results of this study for educators:

1. Educators have an extensive review of literature balanced in both research and practice.

2. School administrators are provided an awareness and training program that includes working models to help educators initiate and improve upon the musically integrative practice in their elementary curriculum.

3. Educators are given glimpse of a new music integration checklist for education practitioners and researchers to assess and improve the quality and frequency of music integration in elementary education.

4. There is the prospect of an integration consortium for elementary education to be involved with.

In closing, extensive documentation on the benefits of music integration has been
difficult to find until recently, due in part to the dominance of quantitative research but also to the subjective nature of the field of music. Qualitative studies allow the educators’ perspective to be heard, and in studies such as this one, the narratives and anecdotal stories are full of valuable information. It is noted that quantitative researchers may see opportunities to examine topics such as this. The study’s data could certainly be examined both quantitatively and qualitatively. The various data collection instruments and documentation provided by participants yield rich data for interpretation.

With an increase in both qualitative and quantitative studies on this topic comes the hope for enlightened appreciation for music education. Literature (Eisner, 1998; Merriam, 1995; Miles & Huberman, 1994; Mullen, 2002) supports that descriptions, quotes, perceptions, and experiences of the actual phenomena being studied provide rich insight that simple numbers and formulas cannot portray. This statement proved true of the data analysis gleaned throughout this case study. An increase in qualitative case studies such as this one can illuminate critical areas affecting integration implementation. Future studies examining influential key factors from the perspective of elementary educators that are implementing music integration can offer valuable insight for curriculum decision makers on how these areas may need to be addressed for the betterment of integration initiatives.

It is apparent that for music integration implementation to happen as data indicated that it should, the primary focus of future research should be on awareness and training. Frustrations and hindrances that impede music integration were also expressed throughout the data indicating these are important factors in need of further research as well. It is apparent that finding ways to increase awareness and training, while decreasing the frustrations noted, could lead more schools to consider implementing music integration.

This one qualitative research study cannot eliminate the problem of awareness concerning student academic benefits associated with authentic music integration or rectify the
lack of replicable effective music integration models. However, it does serve to illuminate these deficits and call for further research. It does more than call for research; it calls for action. There needs to be enough interest in student achievement to make educators seek change. There are many resources suggested throughout this document to get educators started. Integration can be done by one teacher, and there is no limit for its growth. Grants and various funds from arts advocacy organizations can assist with resources for training, materials, paying for substitutes to allow for observations, and many more opportunities.

The information presented should be considered carefully for the sake of education. It is spawned from a passion for the profession and the students it serves. Understanding the influences music integration has on student achievement and its implications for best practices is of importance to curriculum decision makers, educators, and ultimately, to students. A personal hope is that this case study highlights important questions concerning the implementation of effective music integration and fosters new inquiry that may diminish the detriments identified.

It is important to offer educators an optimistic vantage point from which to view the challenge of improving the public school elementary curriculum. This study serves to help educators identify areas of curricular practice that may need to be examined, adjusted, removed, or inserted in pursuit of improving the ever-changing puzzle of elementary education. For years, it has been a personal mission to enlighten music educators and non-music educators of the many qualities of music education. I am proud to present to fellow educators an effective and efficient approach to meeting the needs of their students while meeting high accountability expectations, and to help educators understand some of the integrative pieces of the puzzle that could improve the structure of elementary education. More literature on this topic is needed to encourage educators of all areas to think out of the disciplinary box and toward authentic interdisciplinary education and to assist K-5 educators in their quest for the highest student achievement in all subject areas.
REFERENCES


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Appendix A

Music Integration Survey

I am Cindy Shuck, a former music teacher and currently a doctoral student at the University of South Florida in Tampa, conducting research. The purpose of this qualitative study is to examine the levels of music integration being implemented at a public elementary school and the possible influence this has on student academic achievement. You are being asked to participate because your experiences in this integrative setting could yield valuable information on this topic. Confidentiality will be maintained throughout the study. All data will be collected by me, and stored in a locked facility. Once all data are collected I will assign a pseudonym to connect and cross reference the data. Only persons certified in elementary education or in a professional position relating to this topic need complete this survey. In total there are twelve items.

I will collect the completed surveys ________________, 2004. Your input is greatly appreciated.

Please print your first name, last initial, and education position:_____________________.

Instructions: All questions refer to the fall 2004 school year.
Based on your experience with music integration (lessons that combine music with other subject areas for educational outcomes), please provide the most appropriate answer and elaborate when possible.

1. For which grade level(s) did you teach musically integrated lessons? Circle all that apply:
   K  1st  2nd  3rd  4th  5th  NA

2. If you answered NA for question 1, please share why your lessons did not include music integration. Your insight is very important to this research.

3. Did you collaborate or plan in any way (either formally or informally) with another teacher to integrate music into the core curriculum during the 2003-2004 school year? Please elaborate.
   Yes  No

4. Do you think there were academic benefits as a result of the musically integrated lesson(s)?
   Yes  No  If yes, list examples of academic benefits you noted (e.g., identify an improved skill or knowledge acquisition as evidenced by what behavior). If no, please explain.

5. Who or what initiated the music integration that you were involved with? Explain.

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Appendix A (Continued)

Instructions for items 6-10
The following questions are two-fold: “type” of integration and “how often” each type occurred.
*Please provide a brief example next to each type of integration that you applied.
(e.g., teaching-tool connections—students learned song about solar system)
*Using the 0-4 scale provided, circle the number that represents how often you applied each type of music integration described below during the fall 2004 school year.

Frequency Scale:
0—never, 1—rarely (quarterly), 2—sometimes (monthly), 3—often (biweekly), 4—regularly (weekly)

<table>
<thead>
<tr>
<th></th>
<th>Frequency Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Teaching-tool connections</td>
<td>0 1 2 3 4</td>
</tr>
<tr>
<td></td>
<td>(music “about,” or used to memorize facts of another discipline)</td>
</tr>
<tr>
<td>7. Topic connections</td>
<td>0 1 2 3 4</td>
</tr>
<tr>
<td></td>
<td>(music serves to enrich or clarify another domain)</td>
</tr>
<tr>
<td>8. Thematic/content connections</td>
<td>0 1 2 3 4</td>
</tr>
<tr>
<td></td>
<td>(common themes/units)</td>
</tr>
<tr>
<td>9. Conceptual connections</td>
<td>0 1 2 3 4</td>
</tr>
<tr>
<td></td>
<td>(common concepts across disciplines)</td>
</tr>
<tr>
<td>10. Process connections</td>
<td>0 1 2 3 4</td>
</tr>
<tr>
<td></td>
<td>(process in one discipline assists with understanding of another discipline)</td>
</tr>
</tbody>
</table>

11. What is most needed to foster music integration at a public elementary school?
    Rank items 1-6 in the order of importance. Use all 6 numbers.
    **Attention:** 1-most important, 6-least important
    ____ integration training
    ____ planning time
    ____ integration materials
    ____ administrative support
    ____ awareness
    ____ Other (Describe)

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

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Appendix A (Continued)

12. Describe an academically effective musically integrated lesson you have taught or witnessed.

(A) Where did this lesson occur?

(B) What makes this lesson effective?

(C) Why did you pick this lesson?

Additional comments are welcomed; you may use the back or additional pages if necessary.
Thank you for your time and contribution to this study.

You may contact me, Cindy Shuck - Primary Investigator, at any time should you have any questions or concerns:
Home: (---) 000-0000; E-mail: ---
Appendix B

Music Integration Observation and Lesson Plan Criteria Checklist

Part 1: Descriptions and Working Examples

The five descriptions of music integration listed below (Wiggins & Wiggins, 1997) are the criteria for analyzing the level(s) of music integration occurring during the observed musically integrated lesson as well as the written lesson plan.

1.) Teaching-tool Connections: Referred to as a subservient approach. One discipline is considered less important and serves another as a vehicle for memorization or the learning of facts. For example, singing a song about mathematics facts, the alphabet, or state capitals.

2.) Topic Connections: When one discipline is used to enrich or clarify the subject matter of another without reciprocity. For example, reading a play about a famous historical figure enriches the history lesson but does not enrich the art lesson (how the playwright uses art form to express the human condition).

3.) Thematic/Content Connections: When two or more disciplines are addressed in the form of a thematic unit. Often themes focus on less important content or concepts, losing intensity of the substance. For example a thematic unit on animals could be shallow if using mere pictures, songs, and stories to learn about the animals. However, more meaningful connections can be made if students apply their skills of drawing the animals, analyzing high and low pitches of animal sounds, and create descriptive writing samples depicting the animals.

4.) Conceptual Connections: Concepts are the focus of the lesson. Students apply the understanding of a concept from one discipline to another discipline. Students can apply knowledge of a concept in a familiar discipline to address an unfamiliar, but similar construct in another discipline. For example, the concept of conflict and resolution can be studied in history, literature, music, and science. The concept of structure can be studied through architecture, literature, orchestral symphonies, and democracy. The concept of predicting is taught as hypothesizing in science and estimating in mathematics.

5.) Process Connections: Refers to the process students use to engage in the subject matter. Many processes are common across disciplines and when students are aware of how a process functions in one discipline, they can apply that knowledge and better understand another discipline. Some examples are sequencing, organizing, patterning, connecting, interpreting, symbolizing, and classifying. These few processes mentioned can connect each subject area required in the Sunshine State Standards.
Appendix B (Continued)

Part 2: Observation and Lesson Plan Checklist

Circle participant role
Classroom Teacher / Music Teacher

Write comments as information evidenced
Grade level:
Core Subject:

Integration Focus:

Academic Objectives:
  Music—Sunshine State Standards
  Core Subject—Sunshine State Standards

Behavioral Objectives:
  Music
  Core Subject

Materials:

Procedures:

Practice/Application:

Evaluation:

Closure:

Place a mark in appropriate category if occurs

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Underline All that Apply, Circle the Level Most Applicable

Subservient  Reciprocal  Thematic  Conceptual  Procedural
Appendix C

Music Integration Interview

*Description of the interview process:* The interview will be audio-taped and later transcribed. To ensure confidentiality, the tape will be assigned a number and/or pseudonym corresponding with the participant’s previous data. The lesson plans and student achievement documentation provided by the participant will be collected and added to the database.

1. Why are you involved with music integration?

2. How did you become aware of music integration?

3. Describe any music integration training you may have had?

4. Tell me how your elementary school has addressed the following issues pertaining to music integration:
   - Training
   - Planning time
   - Materials
   - Administrative support
   - Awareness

5. In an ideal elementary school setting, how would these same issues be managed?

6. What is the biggest frustration you’ve experienced related to music integration?
   - How, if so, did you overcome it?
   - What would you do differently?

7. What is the biggest reward you’ve experienced related to music integration?

8. Referring to the levels of music integration described below, which one aligns best with the sample lesson(s) you’ve provided?
   - Teaching-tool connections (music “about,” or used to memorize info. of another discipline)
   - Topic connections (music serves to enrich or clarify another domain)
   - Thematic/content connections (common themes/units)
   - Conceptual connections (common concepts across disciplines)
   - Process connections (process in 1 discipline facilitates understanding of another discipline)

9. Please describe the music integration lesson(s) that led to the student academic achievement documentation you have provided

10. Do you think there are benefits and/or detriments related to music integration that are present but not easily documented? Examples?

11. Are there other key issues affecting the successful implementation of music integration not previously mentioned?

12. What advice would you offer to elementary educators considering implementing music integration into their core curriculum?
Appendix C (Continued)

13. Is there anything else that you would like to share regarding this topic?
Appendix D

Administrative Music Integration Interview

Part 1: Interview

I am Cindy Shuck, a former music teacher and currently a doctoral student at the University of South Florida in Tampa, conducting research. The purpose of this qualitative study is to examine the levels of music integration being implemented at a public elementary school and the possible influence this has on student academic achievement. You are being asked to participate because your experiences in this integrative setting could yield valuable information on this topic. Confidentiality will be maintained throughout the study. All data will be collected by me, and stored in a locked facility. Once all data are collected I will assign a pseudonym to connect and cross reference the data. Only persons certified in elementary education or in a professional position relating to this topic need participate. Your input is greatly appreciated.

Description of the interview process: The interview will be audio taped and later transcribed. This form is a guide for the researcher and no responses are to be written on it.

Instructions: All questions refer to the fall 2004 school year. Based on your experience with music integration (lessons that combine music with other subject areas for educational outcomes), please provide the most appropriate answer and elaborate when possible.

1. You are considered an expert in your field. Briefly describe your current educational position and credentials (e.g., years teaching, degrees, training)

2. Why are you involved with music integration?

3. How did you become aware of music integration?

4. Describe the music integration training you have had, if any.

5. What are some key issues affecting the successful implementation of music integration?

6. In an ideal elementary school setting, how would the following issues be managed?
   - Training
   - Planning time
   - Materials
   - Administrative support
   - Awareness

7. Tell me how your elementary school has addressed the following issues pertaining to music integration:
   - Training
   - Planning time
   - Materials
   - Administrative support
   - Awareness
8. What is the biggest frustration you’ve experienced related to music integration?
   How did you overcome it?
   What would you do differently?

9. What is the biggest reward you’ve experienced related to music integration?

10. Do you think music integration has an influence on academic achievement? If so, assess if this is positive or negative and explain why you believe this?

11. Describe an academically effective musically integrated lesson you have witnessed.
    (A) Where did this lesson occur?
    (B) What makes this lesson academically effective?
    (C) Why did you pick this lesson?

12. In what subject area(s) and grade level(s) do you think integration has had the most academic influence, if any? Why?


14. Is there anything else that you would like to share regarding this topic?
Appendix D (Continued)

Administrative Music Integration Interview

Part 2: Levels and Frequency

The five descriptions of music integration listed below (Wiggins & Wiggins, 1997) are the level(s) of music integration being examined in this study. Please read the following descriptions and realize that some, all, or none, may occur at this school. Your perception of which levels you believe do occur at this school and how often, is of great importance to this research.

*Using the 0-4 scale provided below, tell me the number that represents how often each type of music integration described below happened during the fall 2004 school year.

Frequency Scale:
0=never, 1=rarely (quarterly), 2=sometimes (monthly), 3=often (bi-weekly), 4=regularly (weekly)

1.) Teaching-tool Connections: Referred to as a subservient approach. One discipline is considered less important and serves another as a vehicle for memorization or the learning of facts. For example, singing a song about mathematics facts, the alphabet, or state capitals.

2.) Topic Connections: When one discipline is used to enrich or clarify the subject matter of another without reciprocity. For example, reading a play about a famous historical figure enriches the history lesson but does not enrich the art lesson (how the playwright uses art form to express the human condition).

3.) Thematic/Content Connections: When two or more disciplines are addressed in the form of a thematic unit. Often themes focus on less important content or concepts, losing intensity of the substance. For example a thematic unit on animals could be shallow if using mere pictures, songs, and stories to learn about the animals. However, more meaningful connections can be made if students apply their skills of drawing the animals, analyzing high and low pitches of animal sounds, and create descriptive writing samples depicting the animals.

4.) Conceptual Connections: Concepts are the focus of the lesson. Students apply the understanding of a concept from one discipline to another discipline. Students can apply knowledge of a concept in a familiar discipline to address an unfamiliar, but similar construct in another discipline. For example, the concept of conflict and resolution can be studied in history, literature, music, and science. The concept of structure can be studied through architecture, literature, orchestral symphonies, and democracy. The concept of predicting is taught as hypothesizing in science and estimating in mathematics.

5.) Process Connections: Refers to the process students use to engage in the subject matter. Many processes are common across disciplines and when students are aware of how a process functions in one discipline, they can apply that knowledge and better understand another discipline. Some examples are sequencing, organizing, patterning, connecting, interpreting, symbolizing, and classifying. These few processes mentioned can connect each subject area required in the Sunshine State Standards.
Appendix E
Kindergarten Teacher Observation Checklist

Legend: Sunshine State Standards descriptions retrieved January 20, 2005
from http://sunshinestatestandards.net/ and http://www.firn.edu/doe/menu/sss.htm

Participant: Kindergarten Teacher

Grade level: K

Core Subject: Language Arts

Integration Focus: Songs about Clifford and reading a Clifford story. Introducing rhyming words.

Language Arts

Academic Objectives:

Music—Sunshine State Standards

MU.A.1.1 Skills and Techniques: 2. Sings simple songs (e.g., folk, patriotic, nursery rhymes, rounds, and singing games) with appropriate tone, pitch, and rhythm, with and without accompaniment.

Core Subject—Sunshine State Standards. Language Arts

LA.A.1.1.Reading: 1. Predicts what a passage is about based on its title and illustrations. 2. Identifies words and constructs meanings from text, illustrations, graphics, and charts using the strategies of phonics, word structure, and context clues.

LA.A.2.1 Reading. 1. Determines the main idea or essential message from text and identifies supporting information.

LA.C.2.1 Listening, Viewing, and Speaking. 1. Determines the main idea in a nonprint communication.

LA.C.3.1 Listening, Viewing, and Speaking. 1. Predicts what a passage is about based on its title and illustrations.

Behavioral Objectives:

Music: Singing, marching, clapping
Appendix E (Continued)

Core Subject: Identifying and saying rhyming words, discussing illustrations, identifying real from fiction, naming the author.


Procedures: Teacher asked student to pick a Clifford book. Asked students who the author is (Norman Bridwell). Teacher sang song about Clifford, call and response format. Read the story asking questions about some of the pictures. Students sang Clifford song while marching around the room. Teacher combines music, singing and moving with reading and other Clifford activities.

Practice/Application: Teacher asked students to repeat rhyming words from the song after she said them (log/dog, kids/did, small/all). Students described pictures, analyzed what could really happen and what probably could not. Teacher pointed to letters in the author and Clifford’s’ name and picked students to name the letters. Teacher and students sang Clifford’s song again. Evaluation: Q&A of letters and rhyming words. Students completed a worksheet about Clifford requiring them to print the title and author of the book, write one word about how it made them feel, draw a picture, and write their name.

Closure: Students sat back in rows and used puppets to sing and act out song and story.

Observed academic and behavioral outcomes are marked below:

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Appendix E (Continued)

Describe X
Analyze X

Underline All that Apply:

Subservient  Reciprocal  Thematic  Conceptual  Procedural

Level Most Applicable: Subservient
Appendix F

First-Grade Teacher Observation Checklist

Legend: Sunshine State Standards descriptions retrieved January 20, 2005
        from http://sunshinestatestandards.net/ and http://www.firm.edu/doe/menu/sss.htm

Participant: First-Grade Teacher

Grade level: 1st

Core Subject: Language Arts

Integration Focus: Song about contractions.

Language Arts:

Academic Objective:

Music—Sunshine State Standards

Mu.A.1.1 Skills and Techniques: 2. Sings simple songs (e.g., folk, patriotic, nursery rhymes,
rounds, and singing games) with appropriate tone, pitch, and rhythm, with and without
accompaniment.

Core Subject—Sunshine State Standards. Language Arts

L.A.A.1.1.Reading: 2. Identifies words and constructs meanings from text, illustrations, graphics,
and charts using the strategies of phonics, word structure, and context clues. 3. Uses
knowledge of appropriate grade, age, and developmental level vocabulary in reading.

L.A.D.1.1. Language: 1. Recognizes basic patterns in and functions of language (patterns such as
characteristic sounds and rhythms and those found in written forms; functions such as
asking questions, expressing oneself, describing objects or experience, and explaining).

Behavioral Objectives:

Music: Singing.

Core Subject: Reading, saying, analyzing, and explaining contractions.
Appendix F (Continued)

Materials: Poster of words to a contraction song (written contractions - individual words and contractions). Index cards: contraction written on one card, its partner card has the two separate words written on it. Several pairs of these provided for student activity.

Procedures: Teacher sang song about contractions. Teacher asked students questions about contractions, pointed to poster and discussed concept of contractions. Teacher and students sang contraction song together. Teacher led a group contraction activity and then assigned them a partner activity on contractions.

Practice/Application: Students practiced contractions (with teacher guidance) during the group activity the girls said the contraction and the boys responded with the two component words, and then the girls and boys switched parts. Then students practiced the same activity with a partner by having to find their partner based on the index card they were given.

Evaluation: Teacher assessed student understanding and application of contraction lesson during the group and individual contraction activities.

Closure: Students were to report to teacher when they found their contraction partner and were given a transition assignment while waiting for others to finish.

Observed academic and behavioral outcomes are marked below:

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244
Appendix F (Continued)

Analyze

Underline All that Apply

Subservient  Reciprocal  Thematic  Conceptual  Procedural

Level Most Applicable: Subservient
Appendix G

Second-Grade Teacher Observation Checklist


Participant: Second-Grade Teacher

Grade level: 2nd

Core Subject: Language Arts/Writing

Integration Focus: Using music during writers workshop

Academic Objectives:

Music—Sunshine State Standards

Mu.D.1.1 Aesthetic and Critical Analysis: 4. Understands how music can communicate ideas suggesting events, feelings, moods, or images.

Core Subject—Sunshine State Standards. Language Arts

LA.B.1.1 Writing: 1. Makes a plan for writing that includes a central idea and related ideas. 2. Drafts and revises simple sentences and passages, stories, letters, and simple explanations that: express ideas clearly; show an awareness of topic and audience; have a beginning, middle, and ending; effectively use common words; have supporting detail; and are in legible printing.

Behavioral Objectives:

Music: Listening as background music.

Core Subject: Creative writing.

Materials: Various music selections (CD’s, tapes, records), most often instrumental, softly playing in the background. Students writing materials, notebooks, writing folders, work at their desk.
Appendix G (Continued)

*Procedures:* Teacher tells students it's time for writers workshop, a time for individual, quite writing, reflection, and revision work. Teacher selects background music to either stimulate thought or possibly relax students during the writing process.

*Practice/Application:* Students apply the writing skills being taught.

*Evaluation:* Teacher collects writing samples and assesses them for expectations aligned with current writing skills students are working on.

*Closure:* Writers workshop time ends, students either turn in work to be reviewed or put it away depending on the stage in their writing and the teacher’s instructions. Students transition into next subject.

*Observed academic and behavioral outcomes are marked below:*

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*Underline All that Apply:*

Subservient  Reciprocal  Thematic  Conceptual  Procedural

*Level Most Applicable: Subservient*
Appendix H

Third-Grade Teacher Observation Checklist

Legend: Sunshine State Standards descriptions retrieved January 20, 2005
from http://sunshinestatestandards.net/ and http://www.firm.edu/doe/menu/sss.htm

Participant: Third-Grade Teacher
Grade level: 3rd
Core Subject: Language Arts
Integration Focus: Connections between music lyrics and literature.

- Concept of structure words.

Academic Objectives:

Music—Sunshine State Standards

MU.A.1.1 Skills and Techniques: 2. Sings simple songs (e.g., folk, patriotic, nursery rhymes, rounds, and singing games) with appropriate tone, pitch, and rhythm, with and without accompaniment.

MU.D.1.1 Aesthetic and Critical Analysis: 1. Knows how to respond to selected characteristics of music (e.g., the melodic phrase is the same or different, the tempo is fast or slow, and the volume is loud or soft) through appropriate movement. 4. Understands how music can communicate ideas suggesting events, feelings, moods, or images.

MU.E.1.1 Application to Life: 1. Understands the relationship between music, the other arts, and disciplines outside the arts.

Core Subject—Sunshine State Standards. Language Arts

LA.A.1.1 Reading: 1. Predicts what a passage is about based on its title and illustrations. 2. Identifies words and constructs meanings from text, illustrations, graphics, and charts using the strategies of phonics, word structure, and context clues. 3. Uses knowledge of appropriate grade, age, and developmental level vocabulary in reading. 4. Increases comprehension by rereading, retelling, and discussion.
Appendix H (Continued)

LA.E.1.2 Literature: 1. Understands the development of plot and how conflicts are resolved in a story. 2. Knows the similarities and differences among the characters, settings, and events presented in various texts.

LA.E.2.2 Literature: 2. recognizes and explains the effects of language, such as sensory words, rhymes, and choice of vocabulary and story structure, such as patterns, used in children's texts.

Behavioral Objectives:

Music: Listening, identifying structure words in lyrics, singing.

Core Subject: Identifying structure words (e.g., color, size, movement, mood, etc), in the story.

Materials: Copy of The Polar Express by Chris Allsburg. Polar Express song word sheet (1 per student), corresponding cassette or CD, structure word checklist worksheet (1 per student).

Procedures: Students sat on floor in front of teacher, she showed them the book and asked who was familiar with it. Teacher asked students what they thought the story was about based on the title and cover. Teacher read the story prefaced by asking them to listen particularly to structure words and reviews a few with them. Students are allowed a few minutes to discuss what they thought of the book and joined a group discussion. Teacher distributes song sheets, plays the song while students read it and look and listen for structure words, then students sing the song with the cassette one time.

Practice/Application: Students named structure words found throughout the song and the book. Discussed how author used these words to bring story to life for the reader. Students worked on word sheet in small groups and returned to full group for final discussion.

Evaluation: Q & A period discussing structure words. Teacher assessed students during discussions and collected their completed worksheets for further evaluation.
Appendix H (Continued)

Closure: After a few minutes of the worksheet discussion, the teacher asked students to return to their seats while the polar express music played.

Observed academic and behavioral outcomes are marked below:

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Level Most Applicable: Conceptual
Appendix I

Mathematics Coach Observation Checklist

Legend: Sunshine State Standards descriptions retrieved January 20, 2005
from http://sunshinestatestandards.net/ and http://www.firn.edu/doe/menu/sss.htm

Participant: Mathematics Coach

Grade level: 5th

Core Subject: Mathematics

Integration Focus: Connections between music note values and mathematics number values
Completing mathematics problems using musical notation.

Academic Objectives:

Music—Sunshine State Standards

MU.A.2.2 Skills and Techniques: 1. Performs independently simple patterns and melodies on rhythmic and melodic classroom instruments (e.g., percussion instruments and barred instruments) and maintains a steady tempo.

MU.A.3.2 Skills and Techniques: 1. Sight reads simple notation from standard notation in the treble clef. 3. Writes notation for simple melodic patterns that have been performed by someone else.

MU.B.2.2 Creation and communication: 1. Composes and arranges music within specific guidelines

MU.E.1.1 Application to Life: 1. Understands the relationship between music, the other arts, and disciplines outside the arts.

Core Subject—Sunshine State Standards. Mathematics

MA.A.1.2 Number Sense, Concepts, Operations: 2. Understands the relative size of whole numbers, commonly used fractions, decimals, and percents. 3. Understands concrete and symbolic representations of whole numbers, fractions, decimals, and percents in real-
Appendix I (Continued)

world situations. 4. Understands that numbers can be represented in a variety of equivalent forms using whole numbers, decimals, fractions, and percents.

MA.A.3.2 Number Sense, Concepts, Operations: 2. Selects the appropriate operation to solve specific problems involving addition, subtraction, and multiplication of whole numbers, decimals, and fractions, and division of whole numbers. 3. Adds, subtracts, and multiplies whole numbers, decimals, and fractions, including mixed numbers, and divides whole numbers to solve real-world problems, using appropriate methods of computing, such as mental mathematics, paper and pencil, and calculator.

MA.A.5.2 Number Sense, Concepts, Operations: 1. Understands and applies basic number theory concepts, including primes, composites, factors, and multiples.

Behavioral Objectives:

Music: Identifying, writing, and applying notation/note values. Playing rhythm patterns, counting measures, increasing/decreasing tempo. Performing own and other students work.

Core Subject: Identifying, writing, and applying numbers/number values. Identifying patterns, predicting and deductive reasoning, adding, subtracting, and multiplying. Solving mathematics problems.

Materials: Poster with notation/note values (either pre-drawn or with students). White board and markers, or chart paper. Students need paper and pencils.

Procedures: Introduce concept of completing mathematics problems using music notation.

Review note values and number values, discuss correlation of two symbol and value systems (numbers and notes). Teacher draws problems on board (start with single note examples then progress to mathematics problems. After several examples and practice adding up to 4 measures of music, students are assigned to write their own 4 measure composition.
Students start with blank paper and draw a staff, treble clef sign, time signature, bar lines, in preparation for assignment.

**Practice/Application:** Q & A session as whole group. Students work on individual pieces. Teacher walks around the room assisting students. Students volunteer to share, class checks for accuracy, makes necessary adjustments, and performs it by tapping or clapping (or any acceptable way teacher and student agree on)

**Evaluation:** Teacher assesses knowledge acquisition and application throughout the lesson.

**Closure:** Students are allowed to share and perform each others mathematics/music product and encouraged to add to them while waiting to transition to next class period.

**Observed academic and behavioral outcomes are marked below:**

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*Level Most Applicable: Procedural*
Appendix J

Physical Education Teacher 2 Observation Checklist


Participant: Physical Education Teacher 2

Grade level: 3rd

Core Subject: P.E.

Integration Focus: Connections between music and movement

Academic Objectives:

Music—Sunshine State Standards

MU.A.2.1 Skills and Techniques: 1. Performs independently simple patterns and melodies on rhythmic and melodic classroom instruments (e.g., percussion instruments and barred instruments) and maintains a steady tempo.

MU.E.1.1 Application to Life: 1. Understands the relationship between music, the other arts, and disciplines outside the arts.

Core Subject—Sunshine State Standards. Language Arts

PE.A.1.1 Physical Education Literacy: Demonstrates competency in many movement forms and proficiency in a few forms of physical activity.

PE.A.2.2 Physical Education Literacy: Understands and applies basic movement concepts.

PE.B.1.2 Responsible Physical Activity Behaviors: Knows how to maintain continuous aerobic activity for specified period of time in order to improve endurance.

DA.A.1.1 Skills and Technique: Student identifies and demonstrates movement elements.

Behavioral Objectives:

Music: moving body to the beat, singing, clapping rhythms.

Core Subject: stretching, moving, dancing, exercising.
Appendix J (Continued)

Materials: Cha Cha Slide music and Funky Town music. (cassette or CD), tape player.

Procedures: Teacher started the music and students lined up. Teacher called out directions, skills, and various movements for the students to do.

Practice/Application: Students practice moving left/right, forward/backward, on the beat, and correct direction.

Evaluation: Teacher watches students throughout activity, assessing and assisting.

Closure: Students move to expected groups after the warm-up.

Observed academic and behavioral outcomes are marked below:

<table>
<thead>
<tr>
<th></th>
<th>Music</th>
<th>Core Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apply Skill</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Apply Knowledge</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Apply Concept</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Apply Process</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Create</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Describe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyze</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Underline All that Apply:

Subservient  Reciprocal  Thematic  Conceptual  Procedural

Level Most Applicable: Conceptual
Appendix K

Music Teacher Observation Checklist


*Participant:* Music Teacher

*Grade level:* 2nd

*Core Subject:* Music

*Integration Focus:* Connections between music and poetry

- Literature
- Language Arts

*Academic Objectives:*

**Music—Sunshine State Standards**

Mu.A.1.1 Skills and Techniques: 2. Sings simple songs (e.g., folk, patriotic, nursery rhymes, rounds, and singing games) with appropriate tone, pitch, and rhythm, with and without accompaniment.

Mu.A.2.1 Skills and Techniques: 1. Performs independently simple patterns and melodies on rhythmic and melodic classroom instruments (e.g., percussion instruments and barred instruments) and maintains a steady tempo.

Mu.D.1.1 Aesthetic and Critical Analysis: 1. Knows how to respond to selected characteristics of music (e.g., the melodic phrase is the same or different, the tempo is fast or slow, and the volume is loud or soft) through appropriate movement. 4. Understands how music can communicate ideas suggesting events, feelings, moods, or images.

MU.E.1.1 Application to Life: 1. Understands the relationship between music, the other arts, and disciplines outside the arts.

**Core Subject—Sunshine State Standards. Language Arts**

LA.A.1.1.Reading: 1. Predicts what a passage is about based on its title and illustrations. 2.
Appendix K (Continued)

Identifies words and constructs meanings from text, illustrations, graphics, and charts using the strategies of phonics, word structure, and context clues. 3. Uses knowledge of appropriate grade, age, and developmental level vocabulary in reading. 4. Increases comprehension by rereading, retelling, and discussion.

Behavioral Objectives:

Music: Singing, creating story sounds with feet, hands, and instruments.

Core Subject: Identify, say, and define vocabulary words. Sequencing events in story. Created a flow map.

Materials: “Twas the Night Before Christmas” book, white board, or instruments.

Procedures: Teacher sang song that corresponds with the story then read story. Discussed new vocabulary words. Used read aloud and think aloud strategies. Periodically sang song of story.

Teacher led students through flow map (sequencing) activity. Teacher assigned students to instruments to play in sequence matching story. Teacher modeled pitch and rhythm patterns, and let each group practice. Entire group performed corresponding song (singing and instruments).

Practice/Application: Students named characteristics, vocabulary words, descriptions found throughout poem and labeled according to proper sequence for beginning, middle, and end of story/poem. Discussed how author chose poetic words to describe characters. Introduced analogies and metaphors. Repeat song phrases when weak until stronger. Call and response activity.

Evaluation: Q&A of vocabulary words. Sequencing questions. Teacher listened to small groups then whole groups singing and playing assigned music with necessary correction and practice.

Closure: Teacher and students recapped completed flow map. Entire class performed complete
corresponding song with singing and instruments.

Observed academic and behavioral outcomes are marked below:

<table>
<thead>
<tr>
<th></th>
<th>Music</th>
<th>Core Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apply Skill</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Apply Knowledge</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Apply Concept</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Apply Process</td>
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<td>x</td>
<td>x</td>
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<tr>
<td>Describe</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Analyze</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

Underline All that Apply:

Subservient  Reciprocal  Thematic  Conceptual  Procedural

Level Most Applicable: Procedural
Appendix L

Kindergarten Lesson Plan 1

Lesson Plan #1

Clifford books

Objectives:

To introduce the Clifford books

To introduce the author

To use different techniques such as music, art, videos for a love of these books

To follow up with other Clifford books by Norman Bridwell

Clifford---song
(tune On Top of Old Smokey)
On top of a doghouse
Just cut from a log
Lies big red and lovable
Clifford the dog.

He’s playful and friendly,
With all of the kids.
Though he can make us ornery,
We forgive things he did.

So if you like puppies,
Brown, big, spotted, small
We know you’ll love Clifford
The best of them all!!!

According to the Wiggins and Wiggins (1997) criteria, this lesson best aligns with:

1.) Teaching-tool Connections: Referred to as a subservient approach. One discipline is considered less important and serves another as a vehicle for memorization or the learning of facts. For example, singing a song about mathematics facts, the alphabet, or state capitals.
Appendix M

Kindergarten Lesson Plan 2

Lesson Plan #2

Alphabet Chart Study

Study to:

1. Identify and compare letters.
2. Identify and compare pictures.
3. Understand the meaning of each picture.
4. Name alternative pictures for each letter.
5. Sort and classify letters and pictures.
6. Identify favorite pictures to go with each letter.
7. Identify letters in classmates names.
8. Make your own class alphabet chart.
9. Find letters that match words.

The “Almost” Alphabet Song
By Victoria Smith
Tune: The Witch Doctor
(you know, that song that goes oo, ee, oo, ah ah, ding dang walla walla bing bang!)

A B C D E
F G
H I J K
L M N O P
Q R
S T U V
And that ain’t all!

Let’s Sing Around the Coconut Tree
By Victoria Smith
Tune: Here We Go Round the Mulberry Bush

Let’s sing around the coconut tree,
The coconut tree, the coconut tree,
Let’s sing around the coconut tree,
Singing the sounds of letters.
Appendix M (Continued)

This is the sound that A makes
* a a a a a *
This is the sound that A makes
* a a a a a *

The Two 2 Letter Word Song
Tune: If You’re Happy and You Know It
Adapted by Mrs. Jones

If you’re happy and you know it spell: at
* a-t *
If you’re happy and you know it spell: at
* a-t *
If you’re happy and you know it
Then your fact will really show it
If you’re happy and you know it spell: at
* a-t *

The Three 3 Letter Word Song
Tune: Mary Had a Little Lamb
Adapted by Mrs. Jones
These words are in the Consonant-Vowel-Consonant (CVC) format.
Words are from a pre-primer Dolch word list.

Spell the word: cat
* c-a-t  c-a-t  c-a-t *
Spell the word: cat
* c-a-t *
All day long.

Spell the word: and
* a-n-d  a-n-d  a-n-d *
Spell the word: and
* a-n-d *
All day long.

According to the Wiggins and Wiggins (1997) criteria, this lesson best aligns with:

1.) *Teaching-tool Connections*: Referred to as a subservient approach. One discipline is considered less important and serves another as a vehicle for memorization or the learning of facts. For example, singing a song about mathematics facts, the alphabet, or state capitals.
Appendix N
First-Grade Teacher Lesson Plan 1

Lesson Plan #1

Contractions
Felice Green, Ed.M.
Kidzup Productions

According to print out provided by the participant, this is page 1 of 2 and is the only page provided. Retrieved by first-grade teacher on December 8, 2004, from http://www.songsforteaching.com/kidzup/contractions.htm

Listen to this song from Kidzup Spelling Songs.

Each Spelling songs Kit includes a Workbook, Cassette and CD.

Chorus:
If you’re looking for action
And you want satisfaction
That’s the time
That you’re gonna need a contraction.

Two words can be made into one.
“Can not” becomes “can’t”
It’s a lot of fun.
Take out the “O” and add an apostrophe.
It’s very easy.

Chorus

Two words can be made into one.
“There is” becomes “there’s”
It’s a lot of fun.
Take out the “I” and add an apostrophe.
It’s very easy.

Chorus

“Do not” becomes “don’t.”
“Will not” becomes “won’t.”
“Could not” becomes “couldn’t.”
“Would not” becomes “wouldn’t.”
“Should not” becomes “shouldn’t.”
“Was not becomes “wasn’t.”
It’s so easy, don’t you agree?
Appendix N (Continued)

Chorus

“There is” becomes “there’s.”
“Where is becomes “where’s.”
“She is” becomes “she’s.”
“He is” becomes “he’s.”
“John is” becomes “John’s.”

According to the Wiggins and Wiggins (1997) criteria, this lesson best aligns with:

1.) **Teaching-tool Connections**: Referred to as a subservient approach. One discipline is considered less important and serves another as a vehicle for memorization or the learning of facts. For example, singing a song about mathematics facts, the alphabet, or state capitals.
Appendix O

First-Grade Teacher Lesson Plan 2

Lesson Plan #2

Title – Who Took the Cookies?

Primary Subject – Mathematics

Grade Level – 1st

Subject Concept: Students can count objects that they have in hand.

Mathematics Objective: The student will be able to rote count 0-10 forward and backward.

Literature: The Door Bell Rang

Music: “Who Took The Cookies From The Cookie Jar?”

Materials:

Something to represent a cookie jar. (It should be big enough to be able to hold pretend cookies and to reach into.)

Something to represent cookies. I suggest having 60 or 70 so that each student has plenty to count. I would probably cut out circles on construction paper and laminate so that they could be used again.

Procedure:

The teacher will explain that we are going to play a game with pretend cookies. The teacher will reinforce that the cookies are not real and should not be eaten!

The teacher will have the class to sit in a circle on the floor and place the cookie jar in the middle of the circle.

The teacher will ask if anyone knows how to play the “Who Took The Cookie From The Cookie Jar?” game. If there is a student who knows how the words go and the game goes, the teacher will allow that student to explain it to the other students. If not, the teacher will explain that typically everyone will say “Who took the cookie from the cookie jar?” Then someone will be accused of taking the cookie from the cookie jar and the rest of the
group will say “(Student’s name) took the cookie from the cookie jar” Then the student accused will say “Who me?” and the group will say “Yes you”. Then the student accused will say “Couldn’t be!” and the group will say “Then who” and the student accused will pick another student and say their name. Then it starts all over with “(Student’s name) took the cookie from the cookie jar” and continues.

The teacher will ask the class if they know what a pattern is. The teacher will take 2-3 answers from students and then explain that a pattern is where something is put together in the same fashion over and over. In other words what you have repeats itself. The teacher will show children number patterns such as counting by 2’s, 5’s or tens.

The teacher can use the song to count ex: “Who Took The Cookie From The Cookie Jar?” tom took Two cookies from the cookie jar. Sue took four cookies from the cookie jar etc.

Assessment:

An example assessment of this lesson could be to allow students to draw how many cookies they took from the cookie jar and grouping them by whatever number you’re working on.

According to the Wiggins and Wiggins (1997) criteria, this lesson best aligns with:

1.) Teaching-tool Connections: Referred to as a subservient approach. One discipline is considered less important and serves another as a vehicle for memorization or the learning of facts. For example, singing a song about mathematics facts, the alphabet, or state capitals.
Appendix P
Third-Grade Teacher Lesson Plan

Lesson Plan #1

Music Integration Lesson Plan

Language Arts Grade 3

Speech Therapist and Regular Education Instructor

Objective:
Students will identify structure words, i.e. color, size, movement, number, mood, etc. in narrative fiction.

Materials:
Copy of -
The Polar Express by Chris Allsburg
Polar Express song (1 per student)
Polar Express song (cassette of CD)
Structure word checklist (1 per student)

Activity:
Introduce the Polar Express book. Elicit prior knowledge, predictions about the text based on cover art and title.
Read Polar express aloud. Set a purpose that students be aware of how the author uses structure words to bring the story to life for the reader.
Students “turn and talk” about what they have noticed, and share whole group. Pass out song sheet. With cassette, students learn and sing the song.
In small groups, students select and sort structure words on the checklist. Share whole group. Discuss words with dual functions, i.e. “mountain” (size, shape, background, mood).
Identify categories used most by the author, reflect on reasons.
“The Polar Express” song

On Christmas Eve many years ago
As I lay quietly in bed
Listening for Santa’s sleigh bells
I heard something else instead

A train came right down my street that night
It stopped in front of my door
The conductor looked up at my window
He said “all.....Aboard”

Chorus:
This is the Polar Express my friends
We’re going to meet Santa Claus
To the North Pole and back again
Before your parents know you’re gone

The train was filled with other children
In their pajamas and nightgowns
We went racing up northward
Until there were no lights around

The train stopped at the top of the world
And Santa picked me out of the crowd
He gave me the first gift of Christmas
A sleigh bell that made a magical sound

Chorus

There was a hole in my pocket
And my sleigh bell was lost
As the train left me on my doorstep
I just kept thinking ‘bout meeting Santa Claus

Then on Christmas morning
The bell was right there under the tree
And today I still ring it
But to hear it you have to believe

Believe in the Polar
Express my friends
And believe in Santa Clause
Go to the North Pole and back again
Before your parents know you’re gone
Before your parents know you’re gone

According to the Wiggins and Wiggins (1997) criteria, this lesson best aligns with:
Appendix P (Continued)

3.) Thematic/Content Connections: When two or more disciplines are addressed in the form of a thematic unit. Often themes focus on less important content or concepts, losing intensity of the substance. For example a thematic unit on animals could be shallow if using mere pictures, songs, and stories to learn about the animals. However, more meaningful connections can be made if students apply their skills of drawing the animals, analyzing high and low pitches of animal sounds, and create descriptive writing samples depicting the animals.

4.) Conceptual Connections: Concepts are the focus of the lesson. Students apply the understanding of a concept from one discipline to another discipline. Students can apply knowledge of a concept in a familiar discipline to address an unfamiliar, but similar construct in another discipline. For example, the concept of conflict and resolution can be studied in history, literature, music, and science. The concept of structure can be studied through architecture, literature, orchestral symphonies, and democracy. The concept of predicting is taught as hypothesizing in science and estimating in mathematics.
Appendix Q
Mathematics Teacher Lesson Plan

Lesson Plan #1

Adding Note Values

Subjects:

Music
Mathematics

Grade: 5th

Brief Description:

Students use the values of musical notes to complete mathematics problems.

Objectives:

Students -

Learn the names and values of musical notes,
Define the word beat as it relates to music,
Learn how fractions relate to music note values,
Complete mathematics problems using music note values.

Keywords:

Music, note, value, add

Materials:

Chart paper or colored tag board
Markers
Teacher-selected textbooks or library sources on music note values or a printout from the site noted in the lesson for teacher reference
Paper
Appendix Q (Continued)

Pens or pencils

*Lesson Plan:*

Prior to the lesson, create a chart showing the names and values of musical notes. Consult teacher-selected textbooks or library sources or the following Web site for reference.

*Introduction to Music Theory (teacher did not provide author info)*

Introduce the chart. Discuss the meaning of the word beat as it relates to music. Explain the note names and values; for example, a whole note has four beats, a half note has two beats.

Discuss the use of fractions and mathematics values in music.

Create mathematics problems for students to solve using music note values. Put the examples on the board or develop a work sheet. Here are some examples:

\[
\frac{1}{2} \text{ note} + \frac{1}{2} \text{ note} = \text{ how many beats?}
\]

\[
\frac{1}{2} \text{ note} + \frac{1}{4} \text{ note} = \text{ how many beats?}
\]

Two half notes = what kind of note?

Four quarter notes = what kind of note?

Two dotted half notes = how many beats?

*Variation:*

Create problems using note symbols only. Have students write the solutions as the number or beats or numerical equivalents.

*Assessment:*

Evaluate students’ answers.

*Lesson Plan Source:*

Education World

Submitted By Lois Lewis

*National Standards:*
According to the Wiggins and Wiggins (1997) criteria, this lesson best aligns with:

5.) Process Connections: Refers to the process students use to engage in the subject matter. Many processes are common across disciplines and when students are aware of how a process functions in one discipline, they can apply that knowledge and better understand another discipline. Some examples are sequencing, organizing, patterning, connecting, interpreting, symbolizing, and classifying. These few processes mentioned can connect each subject area required in the Sunshine State Standards.
Appendix R

Music Teacher Lesson Plan

Lesson Plan #1

“Twas the Night Before Christmas”

Focus:

Understanding connections between music and poetry/literature

Skills:

Singing, creating, sequencing events, vocabulary

Activities:

1. Read the story using “Read Aloud,” “Think Aloud” strategies to increase comprehension of story by students.
2. Use a sequencing flow map created by the group to show what happened in the story/poem.
3. Rhythmically say the poem and create a “sound carpet” w/instruments on special words.
4. Teach students a song to go with the poem accompanied by Orff instruments.

According to the Wiggins and Wiggins (1997) criteria, this lesson best aligns with:

4.) Conceptual Connections: Concepts are the focus of the lesson. Students apply the understanding of a concept from one discipline to another discipline. Students can apply knowledge of a concept in a familiar discipline to address an unfamiliar, but similar construct in another discipline. For example, the concept of conflict and resolution can be studied in history, literature, music, and science. The concept of structure can be studied through architecture, literature, orchestral symphonies, and democracy. The concept of predicting is taught as hypothesizing in science and estimating in mathematics.

5.) Process Connections: Refers to the process students use to engage in the subject matter. Many processes are common across disciplines and when students are aware of how a process functions in one discipline, they can apply that knowledge and better understand another discipline. Some
Appendix R (Continued)

examples are sequencing, organizing, patterning, connecting, interpreting, symbolizing, and classifying. These few processes mentioned can connect each subject area required in the Sunshine State Standards.
Appendix S

Student Achievement Documentation Kindergarten

Student 1
Appendix S (Continued)

[Image of a child's drawing with text:
Title: CLIFTON'S FIST SCHOOL DAY
Author: Norman Bridwell
This book makes me feel happy]

Student 2
Appendix S (Continued)

Student 3

Title: Clifford's First School
Author: Norman Bridwell

This book makes me feel happy.
Appendix T
Student Achievement Documentation Second Grade

Student 1 – Without music playing
With music playing

Student 2 – Without music playing
With music playing
Appendix T (Continued)

Student 3 – Without music playing    With music playing
Appendix U

Student Achievement Documentation Third Grade

Student 1 – Autistic student

Student 2 – English for Speakers of Other Languages (ESOL) student
Appendix U (Continued)

Student 3 – ESOL, language impaired, awesome!
Appendix V

Student Achievement Documentation Mathematics Coach–Fifth- Student Work

Student 1 – Pre-test

Student 2 – Pre-test

Post-test

Post-test
Appendix V (Continued)

Student 3 – Pre-test

Post-test
Appendix W
Phase I Survey Data

Survey Respondents:
Two physical education teachers, a fourth-grade teacher, and a teacher for gifted students

Legend for Respondents:
PE1 is physical education teacher (respondent one)
PE2 is physical education teacher (respondent two)
4 is fourth-grade teacher
G is gifted teacher

Legend for Symbols:
- is no response
Y is yes
N is No
... is information omitted by researcher for anonymity purposes

Frequency Scale (applied to questions 6-10):
0 is never
1 is rarely (quarterly)
2 is sometimes (monthly)
3 is often (bi-weekly)
4 is regularly (weekly)

<table>
<thead>
<tr>
<th></th>
<th>1) For which grade level(s) did you teach musically integrated lessons? Circle all that apply: K 1st 2nd 3rd 4th 5th NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE1</td>
<td>K, 1, 2, 3, 4, 5</td>
</tr>
<tr>
<td>PE2</td>
<td>K, 1, 2, 3, 4, 5</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>G</td>
<td>1, 2, 3, 4, 5</td>
</tr>
</tbody>
</table>

2) If you answered NA for question 1, please share why your lessons did not include music integration. *Your insight is very important to this research*

<p>| | |</p>
<table>
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<th></th>
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<tbody>
<tr>
<td>PE1</td>
<td>-</td>
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<tr>
<td>PE2</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>G</td>
<td>-</td>
</tr>
</tbody>
</table>
3) Did you collaborate or plan in any way (either formally or informally) with another teacher to integrate music into the core curriculum during fall 2004 school year? Please elaborate.

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE1</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>PE2</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Y</td>
<td>N</td>
</tr>
</tbody>
</table>

4) Do you think there were academic benefits as a result of the musically integrated lesson(s)? Yes No

If yes, list examples of academic benefits you noted (e.g., identify an improved skill or knowledge acquisition as evidenced by what behavior). If no, please explain.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>PE1</td>
<td>Y-“Mathematics, body parts, months, utilizing Brain Gym activities with music to raise student achievement.”</td>
</tr>
<tr>
<td>PE2</td>
<td>Y-“Mathematics, body parts, months (Jan. Feb.), Brain Gym (coordination right &amp; left side)</td>
</tr>
<tr>
<td>4</td>
<td>Y-“Creativity, excitement, students remember-have strong sense of purpose.”</td>
</tr>
<tr>
<td>G</td>
<td>Y-“Enhanced &amp; reinforced following gifted skills: creative thinking, oral &amp; written communicator, information manager (researching), complete thinking.”</td>
</tr>
</tbody>
</table>

5) Who or what initiated the music integration that you were involved with? Explain.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PE1</td>
<td>“P.E. workshops, self-generated.”</td>
</tr>
<tr>
<td>PE2</td>
<td>“P.E. workshops, self-generated.”</td>
</tr>
</tbody>
</table>
Appendix W (Continued)

| 4 | “Fourth-grade team and local performing arts center staff have an intensive partnership. Together we integrate arts into the curriculum.” |
| G | “I have used music integration for years because I know it makes learning fun and promotes higher level thinking.” |

6) Teaching-tool connections

(music “about,” or used to memorize facts of another discipline)

| PE1 | “Multiplication & addition facts”  
Frequency “4” |
| PE2 | “Multiplication facts.”  
Frequency “4” |
| 4 | Frequency “4” |
| G | “Charlemagne songs”  
Frequency “1” |

7) Topic connections

(music serves to enrich or clarify another domain)

| PE1 | “Brain Gym with music was used to integrate both left & right sides of the brain.”  
Frequency “4” |
| PE2 | “Brain Gym. Up/down, right/left.”  
Frequency “4” |
| 4 | Frequency “2” |
| G | Frequency “4” |

8) Thematic/content connections

(common themes/units)
<table>
<thead>
<tr>
<th></th>
<th>PE1</th>
<th>PE2</th>
<th>G</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>“Dance with movement activities.”</td>
<td>“Dance rhythm, aerobic activity.”</td>
<td>“Celtic music playing in classroom during Medieval study.”</td>
<td>“4”</td>
</tr>
<tr>
<td></td>
<td>Frequency “4”</td>
<td>Frequency “4”</td>
<td>Frequency “4”</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Conceptual connections</td>
<td>(common concepts across disciplines)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>“see above”</td>
<td>“Mathematics/relays for spelling. Music in background.”</td>
<td></td>
<td>Frequency “4”</td>
</tr>
<tr>
<td></td>
<td>Frequency “4”</td>
<td>Frequency “4”</td>
<td>Frequency “0”</td>
<td>Frequency “3”</td>
</tr>
<tr>
<td>10</td>
<td>Process connections</td>
<td>(process in one discipline assists with understanding of another discipline)</td>
<td>“see above”</td>
<td>Frequency “3”</td>
</tr>
<tr>
<td></td>
<td>PE1</td>
<td>PE2</td>
<td>G</td>
<td>Frequency</td>
</tr>
<tr>
<td></td>
<td>PE1</td>
<td>PE2</td>
<td>G</td>
<td>Frequency</td>
</tr>
<tr>
<td></td>
<td>“see above”</td>
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<td>Frequency “3”</td>
<td>Frequency “0”</td>
<td>Frequency “3”</td>
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</table>
11) What is most needed to foster music integration at a public elementary school?

Rank items 1-6 in the order of importance. Use all 6 numbers.

**Attention:** 1-most important, 6-least important

- ___ integration training
- ___ planning time
- ___ integration materials
- ___ administrative support
- ___ awareness
- ___ Other (Describe)

<table>
<thead>
<tr>
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<tr>
<td></td>
<td>2</td>
<td>awareness</td>
</tr>
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<table>
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<td>5</td>
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<td>2</td>
<td>awareness “I if not aware”</td>
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Appendix W (Continued)

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<tr>
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<td>6</td>
<td>3</td>
<td>3</td>
<td>6</td>
<td>-</td>
</tr>
<tr>
<td>G</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>

Respondent answers are invalid, did not follow ranking directions.

12) Describe an academically effective musically integrated lesson you have taught or witnessed.

PE1 “Teaching a square dance. Involves partners, listening & following directions, cooperation, right from left, set positions, word questions, movement-skills in sequential order, specific dance steps & positioning.”

PE2 “Teaching square dances. Students learn to listen to caller, following directions, cooperation with group (set).”
### 4

“1. Social Studies topic—four regions of Florida. Students must research a region and prepare a report. Then they must create a ‘jingle’ to teach class about features of region. 2. Florida Writes—local performance center...a song teaching the integral parts of Florida Writes.”

### G

“In small groups students researched Charlemagne and wrote a bullet report. To the tune of a nursery rhyme students used details to write a song. Performed song for others.”

#### 12(A) Where did this lesson occur?

| PE1 | “P.E. court.” |
| PE2 | “P.E. court.” |
| 4   | “In class.”  |
| G   | “In classroom.” |

#### 12(B) What makes this lesson effective?

| PE1 | “high energy, fun, performing in front of parents, dancing with friends.” |
| PE2 | “high energy, fun, kids perform learned dances at a show, dance with friends.” |
| 4   | “excitement, unique approach.” |
| G   | “It is enjoyable and effective. Reinforces knowledge children are learning.” |

#### 12(C) Why did you pick this lesson?

| PE1 | “It incorporates so many different target areas & skills.” |
| PE2 | “Dances incorporate so many skills.” |
| 4   | “fun!” |
| G   | “I have used it before and students were still singing the songs at the end of the year. They didn’t forget the facts they learned.” |
Appendix X
Phase II Survey Data

Survey Respondents:
Kindergarten, first-, second-, and third-grade teachers, a mathematics coach, and an art teacher

Legend for Respondents:
K is kindergarten teacher
1 is first-grade teacher
2 is second-grade teacher
3 is third-grade teacher
MC is mathematics coach
A is art teacher

Legend for Symbols:
- is no response
Y is yes
N is No

Frequency Scale (applied to questions 6-10):
0 is never
1 is rarely (quarterly)
2 is sometimes (monthly)
3 is often (bi-weekly)
4 is regularly (weekly)

<table>
<thead>
<tr>
<th></th>
<th>1) For which grade level(s) did you teach musically integrated lessons? Circle all that apply: K 1st 2nd 3rd 4th 5th NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>K</td>
<td>K,1</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2, 3</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MC</td>
<td>5</td>
</tr>
<tr>
<td>A</td>
<td>4, 5</td>
</tr>
</tbody>
</table>

2) If you answered NA for question 1, please share why your lessons did not include music integration. *Your insight is very important to this research*

<p>| | |</p>
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<tbody>
<tr>
<td>K</td>
<td>-</td>
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</table>
### Appendix X (Continued)

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<tr>
<td>MC</td>
<td></td>
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<tr>
<td>A</td>
<td></td>
</tr>
</tbody>
</table>

3) Did you collaborate or plan in any way (either formally or informally) with another teacher to integrate music into the core curriculum during the fall 2004 school year? Please elaborate. **Yes**  **No**

K: **“Yes and No – We have had training – gone to see Jack Hartman – he’s come to the school every year.”**

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<tbody>
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<td>1</td>
<td>N</td>
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<td>2</td>
<td>N</td>
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<tr>
<td>3</td>
<td>Y</td>
</tr>
<tr>
<td>MC</td>
<td>Y</td>
</tr>
<tr>
<td>A</td>
<td>Y – “Music teacher was taking 4th and 5th to an orchestra. The children painted to the music they would hear.”</td>
</tr>
</tbody>
</table>

4) Do you think there were academic benefits as a result of the musically integrated lesson(s)? **Yes**  **No**

If yes, list examples of academic benefits you noted (e.g., identify an improved skill or knowledge acquisition as evidenced by what behavior). If no, please explain.

K: **Y – “Learning alphabet – we’ve taped music and sent home to Hispanic children to hear the sounds & learn the letters. Number recognition. Songs to introduce authors and books – Clifford.”**
Appendix X (Continued)

| 1 | Y – “Knowledge acquisition – weather unit making rain sticks – for precipitation – water cycle song. Language arts learning ABC’s sounds (ESOL) vowel sounds, short/long, contractions, compound words, etc. in use with pictures students can improve knowledge.” |
| 2 | Y – “Mathematics to music – with facts improves speed. Writing – relaxes for writing. Social Studies – to learn continents.” |
| 3 | Y – “Metacognition re: Language choices as readers and writers.” |
| MC | Y – (Respondent wrote “sending” and told researcher information coming with student work. |
| A | Y – “Response was different. Some children may have heard sounds/notes etc, that they normally would not have heard if just listening.” |

5) Who or what initiated the music integration that you were involved with? Explain.

<p>| K | “Our K-team meets once a week to see what we can do for learning and songs and music are much easier for children to learn – We get ideas and pass them on to other teachers.” |
| 1 | “Years of teaching, workshops, I &amp; I, Brain Gym, Gardner’s – The Unschooled Mind, Campbell’s – The Mozart Effect.” |
| 2 | - |
| 3 | “Speech specialist – doing inclusion to serve three students, she has a music background and knowledge of language development.” |
| MC | The respondent names two school personnel, colleagues, and this researcher. |
| A | “4th- and 5th-grade field trip to orchestra. Music /Art teachers working together.” |</p>
<table>
<thead>
<tr>
<th></th>
<th>6) Teaching-tool connections</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(music “about,” or used to memorize facts of another discipline)</td>
</tr>
<tr>
<td>K</td>
<td>“Alphabet songs, number songs.”</td>
</tr>
<tr>
<td></td>
<td>Frequency “4”</td>
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<tr>
<td>1</td>
<td>Frequency “4”</td>
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<td>2</td>
<td>Frequency “3”</td>
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<td>3</td>
<td>Frequency “2”</td>
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<tr>
<td>MC</td>
<td>Frequency “1”</td>
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<td>A</td>
<td>Frequency “1”</td>
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<table>
<thead>
<tr>
<th></th>
<th>7) Topic connections</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>(music serves to enrich or clarify another domain)</td>
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<tr>
<td>K</td>
<td>“Mathematics and introducing reading and word rhymes.”</td>
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<tr>
<td></td>
<td>Frequency “4”</td>
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<td>Frequency “4”</td>
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<td>MC</td>
<td>Frequency “1”</td>
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<td>A</td>
<td>Frequency “3”</td>
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<table>
<thead>
<tr>
<th></th>
<th>8) Thematic/content connections</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>(common themes/units)</td>
</tr>
<tr>
<td>K</td>
<td>“Seasonal songs. Theme on Dinosaurs – Dinosaur songs – movement enhances learning.”</td>
</tr>
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<td></td>
<td>Frequency “4”</td>
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<td>Frequency “4”</td>
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<tr>
<td>2</td>
<td>“Friday activities, countries.”</td>
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<td></td>
<td>Frequency “2”</td>
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<tr>
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<td>Frequency “2”</td>
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<td>Frequency “4”</td>
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<td>A</td>
<td>Frequency “2”</td>
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</tbody>
</table>

9) Conceptual connections
(common concepts across disciplines)

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<tr>
<td>MC</td>
<td>Frequency “4”</td>
</tr>
<tr>
<td>A</td>
<td>Frequency “2”</td>
</tr>
</tbody>
</table>

10) Process connections
(process in one discipline assists with understanding of another discipline)

<table>
<thead>
<tr>
<th></th>
<th>“Life is a pattern. Shows order of alphabet – shows order/order of numbers.”</th>
</tr>
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<tbody>
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<td></td>
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<tr>
<td>1</td>
<td>Frequency “3”</td>
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<td>A</td>
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</table>
11) What is most needed to foster music integration at a public elementary school? Rank items 1-6 in the order of importance. Use all 6 numbers.

*Attention:* 1-most important, 6-least important

<table>
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<tr>
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<th>integration training</th>
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<th>integration materials</th>
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Respondent answers are invalid, did not follow ranking directions.

<table>
<thead>
<tr>
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<th>planning time</th>
<th>integration materials</th>
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</table>

“There are many lessons it just takes time to find them.”
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</thead>
<tbody>
<tr>
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<tr>
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<td>awareness</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Other (Describe)</td>
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<table>
<thead>
<tr>
<th></th>
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<td>awareness</td>
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<td>Other (Describe)</td>
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</table>

<table>
<thead>
<tr>
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<tbody>
<tr>
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<td>planning time</td>
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<tr>
<td></td>
<td>4</td>
<td>integration materials</td>
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<td></td>
<td>5</td>
<td>administrative support</td>
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<tr>
<td></td>
<td>6</td>
<td>Other (Describe)</td>
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</table>
Appendix X (Continued)

<p>| | |</p>
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<th></th>
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</thead>
</table>
| A | 6 integration training  
2 planning time  
4 integration materials  
5 administrative support  
1 awareness  
3 Other (Describe)  
“Teachers working together well.” |
<p>| 12) Describe an academically effective musically integrated lesson you have taught or witnessed. |
| K | “When we began nursery rhymes – which is a pre-reading skill – for word recognition. Rhyming – the children know these songs but now they are looking and singing to the print – very important.” |
| 1 | “Lesson on learning what a contraction is using Felice Greene’s song.” |
| 2 | “Previously introduced mathematics facts and addition concept. Practice facts to music. Take 100 facts with &amp; without music. Compare number (amount) completed.” |
| 3 | “Lesson plan included with survey.” |
| MC | “Recorders – music with writing. Affect – compare and contrast feeling of story with music and without.” |
| A | “Students painted to the music that they would be hearing at a field trip. Listen to the sounds. What types of colors/moods does it make you think of?” |
| 12(A) Where did this lesson occur? |
| K | “At the beginning of school. It is also a part of our Harcourt Reading First Program.” |
| 1 | “At this school, first-grade class.” |</p>
<table>
<thead>
<tr>
<th></th>
<th>“Classroom - second grade.”</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>“Regular education classroom.”</td>
</tr>
<tr>
<td>MC</td>
<td>“Elementary Classroom.”</td>
</tr>
<tr>
<td>A</td>
<td>“In the art room/school”</td>
</tr>
</tbody>
</table>

**12(B) What makes this lesson effective?**

<table>
<thead>
<tr>
<th></th>
<th>“They see what they have been singing since they were very young.”</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>“Promotes critical listening and practices transferring thought processes into written work.”</td>
</tr>
<tr>
<td>2</td>
<td>“It’s productive and fun.”</td>
</tr>
<tr>
<td>3</td>
<td>“Use of a popular movie to introduce the rich language of a celebrated author, and how that language is put to music.”</td>
</tr>
</tbody>
</table>

**MC**

<table>
<thead>
<tr>
<th></th>
<th>“The music and awareness of thoughts during reading. Self questioning.”</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>“Students were taught in 2 different ways-visual/auditory.”</td>
</tr>
</tbody>
</table>

**12(C) Why did you pick this lesson?**

<table>
<thead>
<tr>
<th></th>
<th>“This is our first introduction to words. They are familiar even to our Hispanic children – Music is truly a Universal Language.”</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>“Students having problems with understanding what a contraction was.”</td>
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<td>2</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>“Part of a study of ‘structure’ words in rich writing, also chosen for the holiday theme.”</td>
</tr>
</tbody>
</table>

**MC**

<table>
<thead>
<tr>
<th></th>
<th>“I observed this lesson during a presentation of music integration and language arts.”</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>“Because music teacher was involved with this field trip.”</td>
</tr>
</tbody>
</table>
Appendix Y

Informed Consent
Social and Behavioral Sciences
University of South Florida

Information for People Who Take Part in Research Studies

The following information is being presented to help you decide whether or not you want to take part in a minimal risk research study. Please read this carefully. If you do not understand anything, ask the person in charge of the study.

Title of Study: Music Integration: Educators’ Perceptions of Implementation and Student Achievement in Public School Elementary Education

Principal Investigator: Cynthia Marie Shuck

Study Location(s): This public elementary school in central Florida is identified as one that is currently integrating music into the curriculum. You are being asked to participate because your experiences in this integrative setting may yield valuable information on this topic. The study is structured with a possible total of 10 participants, six participants representing Grades K-5, a music teacher, a curriculum coordinator, a principal, and the district elementary music supervisor. However, all persons interested in volunteering to participate in this study that meet the criteria of certification in elementary education or hold a professional position relating to this topic are welcome.

General Information about the Research Study

The purpose of this qualitative study is to examine the levels of music integration being implemented at a public elementary school and the possible influence the music integration has on student academic achievement. If this study finds academic benefits are linked to music integration as previous research has found (Akin, 1997; Bresler, 2002; Brewer, 2002; Drake, 1998; Erickson, 1998; Franklin, 2000; MENC, 2001; Mickela, 2001; Wiggins & Wiggins, 1997), then perhaps other elementary school personnel that are working towards higher student achievement will consider increasing music integration at their schools. This study can provide valuable insight into this topic for elementary educators as it offers not only a working example to learn from but also addresses important issues affecting the implementation of music integration in the elementary school setting. These issues include but are not limited to awareness training, planning, and perceived obstacles and/or benefits.

Plan of Study

Persons that volunteer to participate will sign and return the Informed Consent letter to the researcher. Upon receiving the consent the researcher will give each participant the short (12-item) survey during a scheduled group meeting. This will allow participants to complete the survey at their convenience and return it to the designated drop box upon completion. (Pick up date to be determined later). The participants will be asked to collect documentation (lesson plans) of two musically integrated lessons that they helped implement and perceive to be most academically effective. The participants will also be asked to provide evidence of student academic achievement that they feel was influenced by music integration. All identifying marks pertaining to students are to be removed by the participants before presenting them to the researcher. The participants and researcher will discuss these documents as well as other issues
Appendix Y (Continued)

involving music integration implementation during a scheduled interview (approx. 30 minutes). The estimated total time for participation in this study is 2 ½ hours. The items requiring participant’s time are Letter of Consent, survey: 20 minutes or less, collection of requested documentation: 45 minutes, observation: less than 30 minutes, interview: 30-60 minutes.

Payment for Participation
You will not be paid for your participation in this study.

Benefits of Being a Part of this Research Study
By participating in this study, you may increase your awareness of how music integration may influence student achievement, as well as of other elementary educators and decision makers. With increased accountability for high student achievement, elementary school educators must explore viable curriculum options that aid academic achievement (Cutietta, 1996; Gwendolyn, 2002; Mallery, 2000). This and similar studies can assist K-5 educators in their quest for successful music integration implementation and higher student achievement.

Risks of Being a Part of this Research Study
There are no foreseeable risks or discomforts in participating in this study.

Confidentiality of Your Records
Your privacy and research records will be kept confidential to the extent of the law. Authorized research personnel, employees of the Department of Health and Human Services, and the USF Institutional Review Board may inspect the records from this research project. The results of this study may be published. However, the data obtained from you will be combined with data from others in the publication. The published results will not include your name or any other information that would personally identify you or your setting in any way. Confidentiality will be maintained throughout the study. All data will be collected by the researcher and stored in a locked facility. Additionally the researcher will code all data and each participant will be assigned a number or pseudo name that will be used to connect the data to the individual. In presenting the data, care will be taken to remove or change identifying references which would compromise the confidentiality of individuals and/or institutions (e.g., school or school district). Original response forms, informed consent documents, and audio recordings from the interviews will be secured in a locked facility by the primary investigator of this study. The researcher will destroy the data within the required IRB guidelines.

Volunteering to Be Part of this Research Study
Your decision to participate in this research study is completely voluntary. You are free to participate in this research study or to withdraw at any time. No penalty or loss of benefits will result should you stop taking part in the study. Your decision to participate or not to participate will in no way affect your status in your profession.

Persons choosing to participate in this study must contact the principal investigator (PI) to complete the following:
* Confirm researcher’s receipt of the participant’s signed consent form.
* Provide principal investigator with participant’s desired contact information to schedule future appointments. You may provide your contact information on this form. All participant information will be kept completely confidential.
Appendix Y (Continued)

Questions and Contacts
If you have any questions about this research study, contact Cindy Shuck, Principal Investigator, home phone (---) 000-0000; e-mail: ---

If you have questions about your rights as a person who is taking part in a research study, you may contact the Division of Research Compliance of the University of South Florida at (813) 974-5638.

Consent to Take Part in this Research Study
By signing this form I agree that:
I have fully read or have had read and explained to me this informed consent form describing this research project.
I have had the opportunity to question one of the persons in charge of this research and have received satisfactory answers.
I understand that I am being asked to participate in research. I understand the risks and benefits, and I freely give my consent to participate in the research project outlined in this form, under the conditions indicated in it.
I have been given a signed copy of this informed consent form, which is mine to keep.

_________________________    _________________________ _______________
Signature of Participant                   Printed Name of Participant                 Date

Investigator Statement
I have carefully explained to the subject the nature of the above research study. I hereby certify that to the best of my knowledge the subject signing this consent form understands the nature, demands, risks, and benefits involved in participating in this study.

_________________________    _________________________ _______________
Signature of Investigator or authorized research investigator designated by the Principal Investigator                   Printed Name of Investigator                 Date
Appendix Z

Persevering the Ph.D.  
(Ph.inally D.one)

You worked real hard to no avail  
It seemed as though you were doomed to fail  
They tried to stop you way back when  
But this is now and that was then.

They said your writing  
Was no good  
If anything stopped you  
That sure would.

At times you feared their prophecy true  
But others shared their faith in you  
Who cares if they were right or wrong  
The lessons learned showed you were strong.

The obstacles are there you see  
To question your ability  
But if indeed you conquer those  
The obstacles become your thrones.

To sit upon and ponder thoughts  
Of all that matters and what does not  
To analyze this big degree  
What does it mean, a Ph.D.?

Why did you do the things you did?  
Time away from husband and kids  
Why did you push for all those years?  
To many, it’s cloudy, to you its clear.

To know you tackled every test  
And on each one you gave your best  
To think that your philosophy  
Will make a difference, you believe.

But most of all, this Ph.D.  
Means a lifelong dream is a reality  
You’re finally done; you’ve earned your degree  
At last you can say, “I did succeed”.  

Written by: Cindy Shuck  
6/15/01 @ 1:00 a.m.

I wrote this poem before writing my doctoral qualifying exam paper. This poem is a reflection of my Ph.D. journey, a forecast of my success, and a testament of my perseverance.
Appendix AA

My Daughter’s Drawing of Me
ABOUT THE AUTHOR

In 1982 Cynthia Marie (Waltrip) Shuck was awarded a full four year scholarship to attend Pensacola Junior College and the University of West Florida. She received her AA degree from Pensacola Junior College in 1984 and her BA degree in music from the University of West Florida graduating Cum Laude in 1986. This scholarship was the first of its kind at both institutions, awarded for her musical abilities and academic excellence.

In 1987 Cynthia received her Masters of Music Education (MME) degree from the Florida State School of Music at Florida State University in Tallahassee. She still holds the record at FSU School of Music for the fastest graduate degree obtained, in seven months, while maintaining a nearly perfect GPA. In 1997 Cynthia was accepted into the graduate program in the music department at the University of South Florida. In 2001 she transferred to the Education department to complete the Ph.D. program in Curriculum and Instruction, specializing in Interdisciplinary Education. There her integrative philosophy has flourished and she will graduate with her Ph.D. in May of 2005.