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Creative thinking in elementary general music: a survey of teachers' perceptions and practices

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CREATIVE THINKING IN ELEMENTARY GENERAL MUSIC: A SURVEY OF TEACHERS' PERCEPTIONS AND PRACTICES

by

Sarah Mae Fairfield

An Abstract

Of a thesis submitted in partial fulfillment
of the requirements for the Doctor of
Philosophy degree in Music
in the Graduate College of
The University of Iowa

December 2010

Thesis Supervisor: Assistant Professor Mary L. Cohen

ABSTRACT

While creative thinking is often conceptually associated with performing and visual arts, research has suggested that music education often focuses more so on convergent skills, such as singing or music literacy, than on divergent skills, such as composing and improvising. The primary purpose of this study was to examine elementary general music teachers' (EGMTs) perceptions of creative thinking and its value as part of the elementary general music curriculum. The secondary purpose was to determine how, and to what extent, EGMTs designed and facilitated creative thinking activities for their students.

EGMTs (N=283) completed an on-line questionnaire with closed- and open-ended questions. The duration of participants' teaching experience ranged from a few months to 43 years. The participants reported a wide array of additional training including Orff, Kodaly, Dalcroze, Music Learning Theory, and Technology in Music Education (TI:ME).

Quantitative data analyses consisted of descriptive statistics, including frequency counts, percentages, and descriptions of central tendency. A series of Friedman's tests measured differences between dependent variables; Kruskal-Wallis tests were used to find significant relationships between teacher demographics and creative thinking perceptions and practices. Qualitative data analyses included open-coding of categories generated from participant responses.

Results indicated that 94.8% of participants perceived creative thinking as an essential outcome of elementary general music. However, participants rated composition and improvisation as less essential than most other national content skills. A majority of

participants, 72.0%, reported that they considered themselves well-trained to facilitate creative thinking activities. However, 71.7% of participants reported difficulties in designing and implementing on-going creative thinking activities for their students, citing lack of time, resources, and physical teaching space as significant challenges.

Narratives from open-ended questions indicated that most participants desired more ideas for implementing creative thinking tasks, in the form of training, collaboration with peers, and published materials. This investigation indicated a need for continued discussion among practitioners, researchers and learners as to the role of creative thinking in elementary general music, in order to achieve a shared professional vision that enables creative thinking as a common practice in elementary general music classrooms.

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Graduate College

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CERTIFICATE OF APPROVAL

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PH.D. THESIS

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This is to certify that the Ph.D. thesis of

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has been approved by the Examining Committee
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This thesis is lovingly dedicated to my
personal champion and husband, Dr. Damon Fairfield.
Thank you for your assistance in this thesis project,
as well as your patience, support,
and unconditional love.

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INTRODUCTION

Creative thinking has the potential to play an integral role in the development of students' musicality. Children who engage in creative thinking activities possess higher levels of musical achievement (Azzara, 1993; Swanwick & Franca, 1999), demonstrate increased levels of motivation (Csikszentmihalyi, 1996), and possess better conceptualization of elements such as melody, harmony, rhythm, and form (Swanwick & Franca, 1999). Additionally, many musical activities provide a unique opportunity for cultivating the creative thinking skills of students through the artistic medium of sound (Reimer, 2005).

Creative thinking in the music classroom may take many forms. For example, students might engage in composing, arranging, improvising, or choreographing music. They may invent their own notation or create listening maps of musical compositions. According to Peter Webster (1990a), notable scholar in the area of creative thinking in music, all of the aforementioned activities require both convergent and divergent thinking. Convergent thinking is best described as an orientation towards identifying a single, correct, or factual answer (recognizing an instrument during a listening activity, for example). Divergent thinking, on the other hand, is the act of inventing solutions to a given problem for which multiple answers may exist (such as composing a melody based on a minor scale). Creative thinking occurs when one combines both the convergent and divergent thinking processes (Csikszentmihalyi, 1996; Webster, 1990b).

Curriculum design in the United States is currently changing to reflect an increase in the value of creative thinking as an outcome of K-12 education. Daniel Pink (2005), Richard Florida (2002), and Sir Ken Robinson (2009), among others, argue that creative

thinking is considered a key factor for social, personal, and economic prosperity in the twenty-first century. In fact, several states have adopted the *Partnership for Twenty-First Century Skills Framework*, which promotes creative thinking and innovation, through the arts, as well as traditional academic subjects.[1]

While creative thinking is most often conceptually associated with the arts, music educators have traditionally emphasized music-reading and performance skills, rather than facilitating tasks which encourage creative thinking (Swanwick, 1988). Campbell (1991), Kratus (2007), and Hargreaves (1999) all concur that the dominant tradition of Western music education—at all levels—focuses on "re-creative" musical skills, such as reading staff notation, and developing technical performance skills, which are often rigidly dominated by a teacher-centered approach.

Yet, through creative thinking, teachers can lead students to greater depths of musical understanding by allowing students to create new compositions, and engage in improvisation, in a student-centered environment (Brown, 2008). Growing evidence suggests that creative thinking is becoming a more common aspect of music education (e.g., Strand, 2006; Webster, 1990b; Whitcomb, 2005).

The purpose of this chapter is to acquaint the reader with a background of the concept of creative thinking in the elementary general music curriculum, as well as factors that led to its inclusion in the curriculum. The chapter also provides an in-depth discussion of the construct of creative thinking as a theoretical basis for this study. The chapter also examines a need for further research on creative thinking in elementary

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[1] States that have adopted the *Partnership for Twenty-First Century Skills Framework* (as of October 2010) include Arizona, Illinois, Iowa, Kansas, Kentucky, Louisiana, Maine, Massachusetts, Nevada, New Jersey, North Carolina, Ohio, South Dakota, West Virginia, and Wisconsin. More information is available at www.p21.org.

general music. Finally, it concludes with a statement of the purpose and significance of the study, as well as the research questions and definitions that guide this particular investigation.

Background of the Study

For nearly two centuries, music education in the United States has emphasized singing, playing instruments, and music appreciation, but only within the last few decades has attention been given to the development of student's abilities to engage in musical creative thinking (Kaschub, 1997). Several factors led to an interest in creative thinking as part of the general music curriculum in U.S. schools, including: (a) two foundational studies of children's creative thinking in music, (b) the development of twentieth century art music, (c) the educational reforms of the 1950s, (d) the inclusion of Orff Schulwerk, Kodály, and Dalcroze in elementary school settings, and (e) composition and improvisation as part of the National Content Standards for Music Education (Glover, 2000; Mark, 1996). This section briefly examines each of these historical influences on the inclusion of creative thinking in U.S. school music curriculums.

Foundational Studies on Children's Musical Creative Thinking, 1930-1950

The first published studies on children's creative thinking in music appeared in 1941 and 1942. These investigations (Moorhead & Pond, 1941, 1942, 1951; Doig, 1941, 1942a, 1942b) set the stage for subsequent research by typifying two research methodologies still widely used today. Moorhead and Pond utilized a naturalistic setting, while examining the process of creative thinking in children. Conversely, Doig's research focused primarily on the quantifiable aspects of children's compositional

products. These two approaches, observing process or quantifying product, typify many of the research designs still widely used to examine creative thinking in music.

Moorhead and Pond: An Investigation of Children's Thinking Processes

Educator Gladys Evelyn Moorhead and composer Donald Pond conducted an ethnographic study from 1937 to 1944 of young children's spontaneous music-making. The study took place at the Pillsbury Foundation School (Pond, 1980). Moorhead and Pond were interested in observing the musical play of typical children, rather than those children thought to be musically talented; Moorhead and Pond hypothesized that all children were capable of obtaining high levels of musical achievement, given the opportunity to engage in a rich musical environment. They provided a variety of musical instruments, including rattles, bells, gongs, drums, cymbals, marimbas, temple blocks, and a guitar. Instruments were freely available for children to use, at any time, so students moved them about the school at will. Teachers encouraged freedom of exploration, and creative thinking with instruments and voices. Children also had access to toys, a phonograph, and a curtained staged for informal productions. Pond and his colleagues shared the findings of eight years of work at the Pillsbury school in a series of publications entitled, *Music of Young Children* (Moorhead & Pond, 1941, 1942, 1951)[2].

In *Volume I: Chant* (Moorhead & Pond, 1941), the authors described and notated children's spontaneous creation of chant, which differed from singing, because it had a strong rhythmic quality. Large physical movements, such as dancing, running, climbing,

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[2] *Volume III: Musical Notation* (Moorhead & Pond, 1942) is excluded from this discussion due to the lack of creative thinking activities described within the volume.

and marching, often accompanied this chant. The children's movement often influenced quality and speed of their chant. Melodically, chants frequently used the interval of the descending minor third (sol-mi), and on occasion, the addition of an upper tone (la).

Volume II: General Observations (Moorhead & Pond, 1942), focused on the environment, which was intended to provide complete freedom of the child's interests and individual pursuits. Moorhead and Pond described how adult assistance was always available, but never imposed, on the children's free play. As a result, the children accumulated a variety of musical experiences and guided their own learning.

In *Volume IV: Free Use of Instruments for Musical Growth* (Moorhead, Pond, & Sandvik, 1951), the authors described three case studies of children and their use of instruments. The authors observed that children often played instruments socially, but liked to experiment individually as well. The researchers noted that children chose instruments based on tone quality, portability, interesting construction, and ease of play. During the children's use of free play with such instruments, they discovered how to produce differences in timbre, volume, pitch, and duration of tone.

In Donald Pond's (1980) reflection of the experience, he stated that he was very careful not to impose his own will upon the children, but he was always willing to participate in their music-making, if asked to join in. Pond mentioned that the children's processes of sound exploration were rooted in "wonder and delight" and that their process had "nothing to do with music as we commonly know it, but everything to do with music as it actually exists—nakedly primeval at the roots" (p. 40). He suggested that we could not fully comprehend their exploration unless we tried to understand what children perceived when they engaged in music-making.

Pond discovered that often children began making music through very chaotic encounters with sound. However, he noted that "out of the chaos can emerge created sound…without the chaos, no creation can be possible" (p. 40). He also described children's rhythm, not in terms of counting, as adult musicians often conceptualize, but rather in movement, like skipping or running. He theorized that this impulse for motion was in part reflective of muscular stresses and relaxation, but also noted that the children seemed to delight in discovering rhythmic articulation.

A common thread ties together Moorhead and Pond's reflections: an emphasis on the interactive and social nature of children's creative music-making, as it materialized into song, chant, movement and/or instrumental works. Pond (1980) stated, "The young child's discovery of sound (apart from solo song) did not remain a private, self-oriented activity. Everything that could be useful to the whole class was absorbed speedily into their everyday lives and instantly became community property" (p. 41). According to this line of thought, the young child's world of creating music is a social endeavor, enhanced by freedom and play.

Doig: A Study of Children's Compositional Products

Dorothea Doig, a contemporary of Moorhead and Pond, conducted a separate series of studies examining children's creative musical products (Doig, 1941, 1942a, 1942b). Doig's goal was to discover the elements of music that children would employ before receiving formal training in musical composition. She then examined the compositions of children ages 6 to 16 and analyzed them for their musical properties of melodic characteristics, form, key, and rhythmic structures.

In a small group setting determined by age, children composed songs based on a

given text. Children would vocally improvise a melody for each phrase, allowing other children to revise their ideas. A music facilitator would then play the revised phrases on a piano, and show the children how to notate the phrases. This process would repeat until the children had a complete composition with which they were satisfied.

Doig's investigation indicated that children had great enthusiasm for composing. On a social level, she observed the children readily engaging in group cooperation and interaction with one another. Children easily accepted insight from their peers to revise their compositions. Musically, she found that the children naturally used cadential material, and that they primarily sang their compositions in major keys. The participants used repetition and contrast to create formal musical structures. The children in this study often wrote pieces based on typical musical genres of the time, such as waltzes and marches.

The published material of Moorhead and Pond (1941, 1942, 1951) and Doig (1941, 1942a, 1942b) provided some of the earliest pictures of children's creative music-making. They reported that children, regardless of experience level or giftedness, were capable of creative musical thought, as long as they were given a rich, musically stimulating, and supportive environment. Both studies observed that children often composed music in conjunction with one another, and that the social environment contributed to student success.

The Development of Twentieth Century Art Music

During the twentieth century, art music in the United States and Europe underwent substantial innovation (Walker, 2007). Composers experimented with new uses of dissonance, chromaticism, serialism, electronic music, soundscapes, and new

forms of musical notation. Beginning in the 1950s and 1960s, music educators incorporated contemporary music and innovative teaching practices into their classrooms. Evidence of this exists in publications such as Murray Schafer's *The Composer in the Classroom* (1965) and *Ear Cleaning* (1967), George Self's *New Sounds in Class* (1967), and John Paynter and Peter Aston's *Sound and Silence: Classroom Projects in Creative Music* (1970). Each of these books suggested the importance of incorporating creative thinking into the music curricula in order to develop a deeper understanding of conceptual elements, the ability to express one's self through sound, and an appreciation of contemporary art music (Walker, 2007).

However, while a number of new materials emphasizing musical exploration and creative thinking were developed in the 1960s, a number of influential scholars in music education (e.g., Arnold Bentley and Bernarr Rainbow) expressed suspicion over these new fads, believing them to be dubious and passing trends. As a result, such pedagogical techniques were never fully adopted by the music education community (Plummeridge, 2000).

Educational Reform of the 1950s

In the 1950s, educational reform in the United States became important to the national agenda. The drive for reform was fueled, in no small measure, by the sense of urgency, fear, and competition caused by Russia's launch of Sputnik (Mark, 2008). Americans worried that if they were to lose their technological dominance over Russia, another war could occur. As a result, many American leaders looked towards education as one answer to national security. Such concerns prompted the federal government to increase its spending on education ten-fold (Labuta & Smith, 1997). Thus, in 1958,

Congress passed the National Defense Education Act, designed to improve curricula and instruction in foreign languages, mathematics, and science (Abeles, Hoffer, & Klotman, 1994).

The initial emphasis placed on academic subjects (e.g., English, science, mathematics, foreign language, and history) by educational reform in the 1950s caused many educators, administrators and scientists to voice concern over the dangers of an unbalanced curriculum (Mark, 1996). In 1959, the American Association of School Administrators (AASA) stated that subjects such as music, drama, dance, and poetry were integral, rather than secondary, to general education (AASA, 1959). Labuta and Smith (1997) suggested that despite the emphasis on the so-called "academic subjects," music education eventually benefited from the education reform movement of the 1950s. Evidence of this is seen in several large-scale arts-based projects funded by philanthropic organizations, as well as the U.S. Department of Education, such as the Young Composers Project and the Contemporary Music Project (Mark, 1996). These projects eventually led to the promotion of music education as an integral part of the school curriculum, as well as improvement in instruction in all subject areas.

Creative Thinking Based Curriculum Initiatives, 1950s-1960s

The first educational reform project dedicated to music education was the Young Composers Project, established in 1959, and funded by the Ford Foundation. Between 1959 and 1968, over 70 young composers participated as artists-in-residence for schools throughout the United States. While in residence, composers wrote musical selections for school music ensembles; they also worked closely with the ensemble directors and

students in performance preparation, and describing their compositional processes. This program eventually expanded into the Contemporary Music Project for Creativity in Music Education (CMP). CMP included seminars, workshops, and pilot programs for training teachers in approaches for fostering creative tasks for students and increasing educators' understanding of contemporary composition (Joio, Mailman, Halgedahl, Fletcher, Beglarian, & Wersen, 1968; Mark, 1996).

In 1965, the U.S. Department of Education funded the Manhattanville Music Curriculum Project (MMCP). The goal of MMCP was to engage children in music through an active, creative, and expressive curriculum. MMCP began with a thorough investigation of the quality of music programs throughout the United States (Thomas, 1970). The MMCP's research revealed that most schools offered a bland, mediocre music education program. Ronald Thomas (1970), author of the *MMCP Final Report*, painted a bleak picture in his introduction:

> It didn't make any difference where you went, it was almost always the same…music education was a straitjacket where everyone was expected to do, be, think, respond, learn, hear, reject and act in the same way. Little children in Oregon, Vermont, Texas or Iowa all took out their standardized music series books…and did the same thing in the same way for about thirty minutes. Why? Because this was the way it was done with little children. (p. ix)

In his report, Thomas stated that K-12 music education resulted in a systematic way of perceiving music that required everyone to hear, perceive, and enjoy it in the same way. There was little room for students to explore sound, examine differences in musical taste, or make aesthetic decisions.

However, the MMCP's research (Thomas, 1970) also identified 92 innovative school music programs throughout the U.S. An in-depth look at these programs led to the development of the MMCP curriculum through three stages:

1. *Phase one* was primarily an experimental phase, in which the investigators explored the effects of various educational strategies. The primary goal was to develop insight into students' personal involvement in music, and to consider new, yet effective, ideas for teaching and learning this subject.
2. *Phase two* was devoted to revising and synthesizing information into a feasible curriculum for grades one through twelve.
3. *Phase three* focused on refinement and field-testing of curriculum items, teacher education programs, and an assessment instrument for measuring student growth.

While MMCP yielded an innovative and active music curriculum, funding for the program ended in 1970. However, MMCP's effects are still evident in current music education practices, as reflected by the continuing emphasis on composition, improvisation, and active participation on the part of the student.

Three European Pedagogies: Dalcroze, Kodály, and Orff Schulwerk

The emphasis of active and creative music making on the general music curriculum, as exemplified by the MMCP, continued to grow throughout the 1960s and 1970s. Around that same time, American music educators were introduced to the teaching approaches of Émile Jaques-Dalcroze (1865-1950), Zoltán Kodály (1882-1967), and Carl Orff (1895-1992). Although the respective techniques differed, all three pedagogies emphasized creative thinking in children (Abeles, Hoffer, & Klotman, 1984; Carder, 1990). American music educators found these pedagogies exciting because of their active and child-centered nature (Mark, 1996). These approaches still permeate

music educators' practices today (Campbell & Scott-Kassner, 1995; Peddell, 2005).

Émile Jaques-Dalcroze

In his books, *Rhythm, Music, and Education* (1921), and *Eurhythmics, Art, and Education* (1972), Jaques-Dalcroze explained how he developed his pedagogy by observing particular shortcomings in his conservatory students' preparation. He observed that these adult students often had trouble performing rhythms correctly, yet he was struck by the fact that his students demonstrated excellent rhythm and steady beat in ordinary physical movements, such as walking and skipping. Additionally, he wanted his students to have a greater sense of the interrelatedness of musical concepts, such as sight singing, form, and harmony, rather than experiencing these elements of musicianship as individual components.

The Dalcroze approach is comprised of three primary elements: eurhythmics (rhythmic training using the body), solfège, and improvisation. Many people associate eurhythmics with the Dalcroze approach, though solfège and improvisation are equally important aspects. Eurhythmics often dominates early experiences with the approach because Jaques-Dalcroze believed that "rhythm was the fundamental motivating force in all of the arts, especially music" (Landis & Carder, 1990, p. 11). After sufficient training in eurhythmics, Jaques-Dalcroze advocates improvisation for developing freedom at one's instrument, as well as a chance to synthesize the elements of music. While Jaques-Dalcroze focused his efforts on keyboard improvisation, music educators can apply the same principles of instruction in improvisation by using available classroom instruments (Campbell & Scott-Kassner, 1995).

In a typical introductory Dalcroze lesson, students respond kinesthetically to

music using quick reaction games. The "follow" is the simplest of these, in which students physically react to music as it changes. During the follow, students listen for changes in music improvised by the teacher, usually played on a piano. The student then reacts to the change as quickly as possible. An example of this might be skipping to music in compound meter or marching in duple meter. Classes occur in a group setting, allowing students to develop the nonverbal communication skills necessary for music and movement, as well as providing the opportunity for them to learn from one another (Mead, 1994).

As students progress, musical stimuli become more complex, addressing such elements as pulse, subdivision, meter, polymeter, anacrusis, crusis, metacrusis, canon, counterpoint, phrase, and form. Creative thinking is pervasive throughout the lesson, as students are encouraged to create movement from imagery described by the teacher. "Plastique Animée" (often referred to as "plastique") is often the culminating experience in a Dalcroze lesson. Using prior experiences, students create movement that is physically expressive of a musical composition (Frego, Gillmeister, Hama, & Liston, 2007).

The Dalcroze approach continues to influence the teaching of elementary general music (Carder, 1990), although few educators recognize its origin. Beat competency and creative movement in response to sound, both attributable to Dalcroze, are considered important in teaching music to children, and are a primary emphasis for practitioners' pedagogy (Peddell, 2005). Additionally, elementary teachers frequently use eurhythmic techniques, such as the "follow," although they may not recognize the technique as a Dalcroze device.

Zoltán Kodály

Zoltán Kodály was a dedicated musician, composer, teacher, and nationalist, who recognized his country's diminished interest in the knowledge and performance of Hungarian folk music. From 1906-1908, Zoltán Kodály and Béla Bartók wandered the Hungarian countryside collecting native folk songs. They assembled their collection of authentic folk music in the *Folk Music of Hungary* (Kodály, 1960) to help re-establish their country's nationalistic pride (Mark, 1996).

Kodály was skeptical of music education in Hungary because he had observed that: (a) the quality of song literature in the public schools was unsatisfactory, (b) teachers overused the piano in the classroom, which in turn, kept children from understanding the beauty of the voice and melodic line, and (c) music classes were often boring and passive experiences for children. So, following their journey, Kodály developed a pedagogical system for children, intended to reawaken the musical spirit of the Hungarian people (Kraus, 1990). He wrote an article outlining his goals for music education in Hungary entitled "The Hundred Year Plan," which was subsequently published in *The Selected Writings of Zoltán Kodály* (Kodály & Bónis, 1974).

Features of a Kodály-based lesson include the use of authentic folk music, an emphasis on singing and the use of solfège, music literacy skills, and pursuit of active and pleasurable music-making. In a Kodály-based lesson, the teacher uses a three-stage method to present individual musical concepts: prepare, present, and practice. Students employ creative thinking as a culminating experience that demonstrates learned concepts. For example, students might be asked to compose a rhythmic pattern to play on a tambourine using newly learned rhythms, such as quarter notes and eighth notes (Choksy,

1981).

Kodály's pedagogical influence on the general music curriculum in America is still evident in teachers' use of singing, solfège, and the Curwen hand signs. A number of studies suggest educators commonly use the Kodaly approach, although not necessarily to the exclusion of other teaching methods (Brophy, 2002; Frego & Abril, 2003; Peddell, 2005).

Carl Orff

The Orff Schulwerk approach, developed by Carl Orff and Gunild Keetman (1904-1990), is often associated with pitched and unpitched percussion instruments such as xylophones, glockenspiels, triangles, and hand drums. However, playing instruments comprises only a small part of the total philosophy. The primary foundation of Orff Schulwerk is based on the development of "elemental building blocks" as a basis of musical knowledge, and creative thinking, in the form of improvisation and composition (Carder, 1990).

Improvisation is the primary process through which the Orff media (singing, speaking, moving, body percussion, and playing instruments) are experienced. Students learn basic rhythmic and melodic patterns, then explore and improvise with them. This process generally occurs in a social and interactive environment, where students develop fluency and originality of musical ideas (Steen, 1993).

A typical Orff lesson includes three stages: imitation, exploration, and improvisation. During the first stage, students imitate musical patterns provided by the teacher such as rhythmic clapping, echoing melodic patterns, or imitating a song by rote. Next, the student is given an opportunity to explore and manipulate these patterns,

leading to a unique creation. The final stage in the lesson is to improvise or compose a pattern that will fit into a larger musical form (Steen, 1993).

Carl Orff discusses the use of musical notation in his book *The Schulwerk* (1978). While the use of formal musical notation is not discouraged in the Orff method, its use is typically delayed until it becomes necessary. Students sing, play, compose, and improvise complex music before learning musical notation. He believed that musical symbols should only be introduced when students expressed a desire to notate music.

The Orff approach is common throughout the United States and continues to gain popularity among elementary general music teachers. Hoffer (1981), Nelson (1988), and Rasor (1988) suggests that Orff is the most widely used European-based approach, with over 60% of the teachers in her survey reporting that they use the Orff approach to some degree. The use of Orff instruments is considered an important and frequent part of the general music curriculum (Peddell, 2005). However, the American model of Orff Schulwerk has changed significantly since its arrival in the U.S. during the 1960s. The modern American Orff-trained teacher places a greater emphasis on musical notation, world music, and found sounds (Frazee, 2006).

National Standards for Arts Education

By the end of twentieth century, the influences of projects such as the MMCP, CMP, and pedagogies such as Dalcroze, Orff, and Kodály, were visibly evident in the development of music education curriculum. From 1992 to 1994, MENC: the National Association for Music Education (MENC), in conjunction with the Consortium of National Arts Education Associations (CNAEA), developed educational standards for achievement in music education, theater, visual art, and dance. The United States

Congress adopted the *National Standards for Arts Education*, in 1994 as part of the *Goals 2000: Educate America Act* (CNAEA, 1994). The passage of these standards represented an important milestone for music education as a subject of the core curriculum of American education. The national standards also represented a paradigm shift for music educators, as composition, improvisation, arranging, and evaluating music became an integral part of the written curriculum.

Lack of Creative Thinking in the Music Classroom

Between the publication of the *National Standards for Art Education* and the beginning of the twenty-first century, many state departments of education adopted, and in some cases adapted, the national standards for music education. Yet, current research indicates that elementary general music teachers still express concern regarding their ability to implement the national standards, especially as they relate to teaching creative thinking skills (Brophy, 2002). Some scholars have even gone so far as to say that music education is still dominated by traditional music appreciation, focusing on a disinterested and disembodied stance toward music listening and analysis (Regelski, 2006). Additionally, research on in music education suggests that while curriculum reflects a greater interest in creative thinking, the majority of music classrooms still lack in-depth emphasis on music creation (Strand, 2006).

In-service teachers report that they regard the pedagogy of improvisation, composition, and singing as the weakest component of their collegiate training (Brophy, 2002). Furthermore, a study by Bell (2003) indicated that participants were inconsistent in their application of the national standards. The participants reported being inadequately trained to teach all aspects of the national standards, and that composition

and improvisation were the most difficult standards to implement. Other challenges reported by practitioners included lack of time, equipment, and space, as well as a fear of loss of classroom control (Strand, 2006; Whitcomb, 2005).

The Construct of Creative Thinking

The term "creativity" is ambiguous and often misunderstood both inside and outside the profession of music education. This conundrum is perhaps best summarized by Bohm (1998) who states, "Creativity is, in my view something that is impossible to define in words" (p. 1). Many philosophers, psychologists, and educators have similar conclusions, that the lack of a definition for creativity creates problems for both research and pedagogical practices (Plucker, Beghetto, & Dow, 2004).

In *Creativity: Flow and the Psychology of Discovery and Invention* (1996), Mihalyi Csikszentmihalyi discussed the importance of domain specificity to the creative process. Csikszentmihalyi theorized that creative thinking is different in every subject area, and therefore, requires a different set of enabling skills. Because composing a symphony requires different prior knowledge than inventing a new technological device, he suggested that one must have a sizable command over the knowledge of their domain in order to make a creative contribution to their field of interest.

Csikszentmihalyi (1996) theorized three elements that comprise creative thinking. First, it must be domain specific. Second, other members of the field must accept it as creative and valuable. Lastly, a person must have an act, idea or product that contributes something new and significant to the existing domain. When all three criteria are met, we have what he refers to as "Creativity with a Capital C" (p. 22).

Moreover, Csikszentmihalyi (1996) added, "Creative thinking does not happen in

people's heads, but in the interaction between a person's thoughts and a socio-cultural context" (p. 23). While creative thinking requires thorough understanding of one's domain, ultimately, other people, not the creator, make the determination as to how creative a particular idea or product rates within the community.

Csikszentmihalyi suggested that children cannot be creative because they lack sufficient command over a particular domain, and therefore are incapable of producing something that could make a significant impact. However, he acknowledged that while children cannot typically make a creative contribution to a body of knowledge they know little about, they can engage in creative thinking, as well as experience "flow." Flow refers to the state of effortless concentration and enjoyment, which only arises from deep engagement in creative thinking. Children, like adults, can reap the benefits of flow by feeling joyful, involved, purposeful, and motivated, when they are fully engaged in a particular activity. Thus, Csikszentmihalyi theorized that students could practice creative thinking before they acquired sufficient domain knowledge.

Other scholars disagree with Csikszentmihalyi's limited view of creative thinking, which focuses almost entirely on large-scale creative contributions. A number of theorists recognize two other categories of creative thinking, called "little-c" and "mini-c" (Amabile, 1996; Plucker et al., 2004; Kaufman & Beghetto, 2009). Little-c focuses on the use of creative thinking in everyday situations, such as a high school musician improvising in a jazz band, or a painting a work of visual art for a friend as a gift. Mini-c, on the other hand, refers to the intrapersonal and developmental nature of creativity, and is defined as the "novel and personally meaningful interpretation of experiences, actions, and events" (Beghetto & Kaufman, 2007). Examples of mini-c creativity include

a young art student's sketch-pad full of shadowing examples or a song created by a young child for their own amusement.

According to Elliott (1995) and Hickey (1995), not all artistic endeavors use creativity. Consider members of an orchestra performing Beethoven's Fifth Symphony. The act of performing this symphony requires extreme technical facility, great attention to detail, and the ability to translate standard musical notation into aesthetically pleasing and expressive sounds. Musical performance in this sense is sometimes referred to as re-creative, because it does not produce an original product.

Yet, other scholars would maintain that yes, artistic endeavors, by their very nature, are creative. In particular, John Paynter (1992) bases his approach to music in the curriculum on a "belief that *all* musical activity – listening, composing, and performing is essentially creative" (p. 93). Bennett Reimer (2005) also agrees that listening, composing, and performing are all ways in which one can be musically creative. Webster (1990a) acknowledges the confusion of the term creativity:

> For instance, a ten year old child's Sunday piano recital might be termed a milestone of creativity by some, while others might view the same child's Orff improvisation during Monday's music class in the same terms. Some view the very presence of music in the schools as an example of educational commitment to creativity, while others gauge creativity solely by the products of these programs or by the awards they win. Some regard creativity as a term best reserved for geniuses, while others look to the spontaneous songs of the three year old or the daydreams of the adolescent. (p. 22)

In addressing this confusion, Webster suggests that for the purposes of educating children in music, our profession may have more success using the term "creative thinking," rather than creativity. According to Webster, the term creativity has lost much of its meaning and power. When using the term creative thinking, Webster suggests the emphasis shifts to the process of creating, rather than on other external influences, such

as creative potential, or giftedness where creativity is a natural outcome. By using the phrase creative thinking, educators are challenged to figure out how the mind works to produce innovative results (Webster, 1990b).

Need for the Study

Despite the difficulty in defining the construct, creative thinking is considered a critical outcome of K-12 education (Amabile, 1996; Kampylis, Berki, & Saariluoma, 2009). Additionally, the use of creative thinking in the music curriculum can help children develop their musical understanding (Blair, 2007; Kratus, 1994), increase student motivation (Csikszentmihalyi, 1996), and allow for personal expression (Reimer, 2005).

The importance of creative thinking as part of the music curriculum is evident in current teaching practices such as Dalcroze, Orff Schulwerk, Kodály (Carder, 1990), national and state standards (CNAEA, 1994), as well as emerging curriculum frameworks, such as the *Partnership for Twenty-First Century Thinking Skills*. Elementary general music teachers play an important part in the development of musical creative thinking, because they act as role models and mentors, and are responsible for children's musical development when in school (Gardner, 1993).

However, evidence suggests that teachers struggle to implement creative thinking activities such as composing and improvising, citing challenges such as lack of time (Whitcomb, 2005), loss of control over the classroom (Strand, 2006), and insufficient undergraduate training in this subject area (Brophy, 2002). Additionally, while creative thinking often stated to be an important outcome of music education, it is, paradoxically, often the most neglected aspect of music learning (Orman, 2002; Webster, 1990a;

Whitcomb, 2005).

Teachers' perceptions of creative thinking deserve attention from the research community for several reasons. Teachers play a crucial role in the development of students' creative thinking potential (Gardner, 1993). They can enhance children's ability to think creatively, or unknowingly hamper it (Amabile, 1982a). Additionally, teachers often hold a negative view of creative thinking, reporting that the personality traits of creative children, and the messy process of creating, are not conducive to a well-managed classroom. Increased insight with respect to teachers' perceptions and practices of creative thinking may help music scholars and practitioners address the inherent confusion of the ambiguous term creative thinking, as well as better understand the challenges elementary general music teachers face when planning pedagogical strategies for creative thinking activities in the classroom.

Purpose Statement

The purpose of this study is to investigate the perceptions and teaching practices of elementary general music teachers' (EGMTs) facilitation of students' creative thinking. This study examines: (a) EGMTs' perceptions regarding the value of creative thinking as part of the elementary general music curriculum, (b) how EGMTs implement creative thinking activities, (c) the extent to which creative tasks are included in their classrooms, and (d) the degree to which they feel successful in guiding children's creative thinking. To that end, the following research questions guide this study.

Research Questions

1. *What are EGMTs' perceptions of creative thinking and its role in music education?*

   a. *To what extent do EGMTs value creative thinking as part of the general music curriculum?*
   b. *Are EGMTs aware that the skills of extensiveness, fluency, originality, and syntax contribute to increased creative thinking skills in music?*
   c. *To what degree do EGMTs think they are sufficiently trained to incorporate creative thinking experiences in music?*
   d. *What are EGMTs' perceptions regarding learning conditions that may inhibit or enhance students' creative thinking products?*
2. *In what manner do EGMTs incorporate creative thinking experiences into their lessons?*
   a. *What creative thinking activities do EGMTs design for their students?*
   b. *How frequent are creative thinking experiences in the elementary general music classroom?*
   c. *What techniques, if any, do EGMTs use to assess students' creative products?*
   d. *What challenges, if any, do EGMTs face when incorporating creative thinking experiences into their lessons?*
3. *Do the variables of years of experience, level of education, or professional development training in elementary general approaches have an impact on EGMTs' perceptions or teaching practices of creative thinking?*

Significance of the Study

The findings of the present study provide both researchers and EGMTs an important baseline of information regarding the current state of creative thinking instruction throughout the U.S. The present study furthers the dialogue among teachers

and researchers regarding the purpose of creative thinking in music education, the practices of implementing such activities, and the desired outcomes. Such a dialogue is important in refining EGMTs' teaching practices of implementing creative thinking tasks. EGMTs have reported a need for ideas to help them overcome the practical challenges of daily teaching, such as lack of time, equipment, and space.

Additionally, the present study provides an understanding of the kinds of creative activities that currently occur in classrooms. Examining EGMTs' practices reveals trends in the use of certain types of creative thinking activities, and whether or not creative thinking activities are indeed overlooked, or neglected. This study also examines the frequency of creative thinking activities, to aid in determining the depth of students' experiences.

Finally, the present study makes an important contribution to the research base of creative thinking. As will be discussed in Chapter II, few data-based investigations contribute to scholars' understanding of how teachers perceive creative thinking as part of the music curriculum. Additionally, only a few studies have addressed music educators' practices of facilitating creative thinking tasks. The present study provides information to increase quality research on creative thinking and instruction in music education.

Definitions

For the purposes of this study, the following definitions are used:

Creative thinking:	The process of using both convergent and divergent cognitive skills, for the purposes of evaluating an existing, or creating a new, idea or product (Guilford, 1950)
Creative thinking in music:	The process of using both divergent and convergent cognitive skills, for the purposes of evaluating an existing, or creating a

	new, musical product (Webster, 1990b)
Creativity:	Any process or product that is the result of creative thinking (Hickey, 1995)
Divergent thinking:	The ability to imagine or develop multiple ideas (Guilford, 1950)
Convergent thinking:	Orientation towards one single factual or correct answer (Guilford, 1950)
Composition:	A pre-planned musical performance of original ideas (Wiggins, 2003)
Improvisation:	A spontaneous performance of original musical ideas, occurring within a given context, in real time (Wiggins, 2003)
Invented Notation:	A graphic representation of musical sound, which is non-standard and unique to its creator (Upitis, 1990)
Listening Map:	A graphic representation of a musical work, intended to illustrate one or more musical elements (Blair, 2006)
Plastique Animée:	An improvised movement or dance piece associated with the Dalcroze method (Frego et al., 2004)

Organization of the Study

This research study contains five chapters. Chapter I describes the basis for this research investigation, including the background of the study, a discussion of the constructs of creative thinking, need for the study, purpose statement, research questions, significance of the study, and definition of terms.

Chapter II presents a review of literature focusing on empirical studies of creative thinking. The chapter begins with an historical overview of the theories and definitions that shaped early research on creative thinking. The chapter also contains discussions of investigations focusing on teachers' perceptions of creative thinking, measurement of creative thinking, children's creative thinking process and products in music, and the

teacher's facilitation of creative thinking in music.

Chapter III describes the methodology employed during this research study. It contains information on development of the questionnaire, selection of participants, the process of data collection, and a description of the methods used to analyze the data.

Chapter IV presents the results of the study, including demographic information of participants, and data analysis of questionnaire information as it pertains to the research questions. Chapter V provides a summary of the entire study, discussion of the findings, implications for practice, recommendations for further research, and conclusions.

CHAPTER II
EMPIRICAL STUDIES OF CREATIVE THINKING

Chapter I discussed the influences that gave rise to creative thinking and its role in the American music education curriculum. Subsequently, as music educators have taken greater notice of the benefits of creative thinking as part of teaching and learning, research focusing on creative thinking has also increased (Webster, 1992). This chapter examines research on creative thinking in music, with an emphasis on how it relates to the pedagogical practices of teaching students in the elementary general music classroom.

Chapter Organization

The first part of the chapter provides an historical overview of psychological research that formed the foundation for current research in music and education regarding the construct of creative thinking. The second part of the chapter examines research describing the development of musical creative thinking in children. It also describes studies relating to music educators' perceptions and practices of teaching creative thinking in music. An examination of these studies provides a critical background that helps inform the pedagogical decisions of teachers when facilitating creative thinking experiences for children. The literature in this chapter is organized into the following categories: (a) psychological research of creative thinking that forms a foundation for scholarly research, (b) the development of measurement techniques for musical creative thinking, (c) investigations that describe creative thought processes and products of children, (d) teachers' perceptions of creative thinking, and (e) an examination of the music teachers' role in facilitating these experiences.

Theories and Definitions of Creative Thinking: An Historical Perspective

One key difficulty when conducting research on creative thinking is the lack of an operational definition of creative thinking (Maslow, 1959). One of the earliest steps toward a definition of creative thinking is the result of landmark research conducted by three scholars: Graham Wallas (1858-1932), Joy Paul Guilford (1897-1987), and E. Paul Torrance (1915-2003). The research of these individuals provides the fundamental tools necessary to analyze identifiable components of creative thinking in modern research (Arieti, 1976).

Graham Wallas: The Thought Processes of Creativity

Graham Wallas (1926) presents one of the earliest, most widely accepted theories of the processes of creative thinking. He views creative thinking in terms of the individual's thought processes, dividing it into four basic stages: (a) preparation, (b) incubation, (c) illumination, and (d) verification. According to Wallas, the creative process does not always occur in a linear, step-by-step fashion. Instead, the stage of verification is often interrupted by returning to previous steps, in a recursive manner. As Wallas suggests, the creative process is messy, and it is in this messiness that fresh new insights and connections can occur (Wallas, 1926, pp. 40-60).

In his theory, Wallas describes "preparation" as a combination of skills and thought, in which one explores and clarifies the problem to be solved. "Incubation" involves a subconscious form of thought that occurs during unfocused reflection of the problem, while occupied with another task, or when resting. Wallas suggests that incubation might occur during unconscious mental activity, such as sleep, or while

thinking about unrelated issues. Because this stage occurs subconsciously, he notes that it is difficult to describe in detail. However, Wallas infers the process of incubation from the reorganization of thoughts leading up to the next stage, "illumination." The illumination stage is often described as a sudden change in perception, a moment of inspiration or an "aha" moment, in which the mental pieces of a puzzle all seem to fall into place. The final stage in this process is termed "verification," in which an idea is put to a test for its appropriateness.

Wallas's theory, sometimes referred to as "stage theory," laid the foundation for examining the process of creative thinking. The impact of his work is still evident today (e.g., Barron, 1988; Csikszentmihalyi, 1996; Fritz, 1991) as these scholars have developed alternate models of creative thinking processes, yet their theories still possess characteristics similar to those described by Wallas. While Wallas's work helped delineate the process of creative thinking, another notable scholar, J.P. Guilford examined a different aspect of creativity, by identifying personality characteristics of individuals that exhibited high levels of creative thinking.

J. P. Guilford's Intellectual Factors

In 1949, J. P. Guilford addressed the American Psychological Association, speaking as their association president. In his speech, he stated:

> I discuss the subject of creativity with considerable hesitation, for it represents an area in which psychologists generally, whether they be angels or not, have feared to tread. It has been one of my long-standing ambitions, however, to undertake an investigation of creativity. (Guilford, 1950, p. 444)

Guilford also encouraged his colleagues to devote more attention to the study of creative thinking, which he believed was a crucial aspect to human development and of the

greatest social importance.

Guilford's speech represented a historical starting point for empirical investigations of creative thinking, by providing an operational definition of those traits that contribute to creative thinking (Sawyer, 2006). Guilford's (1950) research suggested that creative thinking was largely dependent upon learned patterns of behavior. He hypothesized that creative people typically posses the following intellectual factors:

1. *Sensitivity to problems*—the ability to detect subtle features of a problem
2. *Fluency*—the ability to produce a large number of ideas per unit time
3. *Novelty*—uncommon, yet acceptable answers to problems
4. *Flexibility*—to branch out into new ideas, rather than being rigid in thinking
5. *Analyzing and Synthesizing*—to break down and then rebuild symbolic structures
6. *Redefinition*—creating a new phenomena from an already existing one
7. *Complexity*—ability to think about a number of related concepts simultaneously
8. *Evaluation*—knowing the difference between an appropriate or inappropriate idea (pp. 451-454)

Over time, Guilford expanded his model of creative thinking as an operation of 24 divergent thought processes. Of these divergent thought processes, four primary concepts emerged as closely connected with creative thinking: fluency, flexibility, novelty, and evaluation.

The divergent thinking abilities identified by Guilford form the underlying basis for many of the approaches used to study creative thinking today (Webster, 1992). These concepts are embedded in much of the research on general and musical creative thinking, as well as measurements of creative thinking ability.

E.P. Torrance: Measures of Creative Thinking

Building on the work of Guilford, E. Paul Torrance developed one of the most widely used measures of creative thinking (Torrance, 1974). The *Torrance Tests of Creative Thinking* (TTCT) used Guilford's concepts (fluency, flexibility, novelty, and elaboration) as a basis for measuring creative ability. These tests yielded high levels of validity, reliability, and normative data based on subsequent investigations (Cropley, 2000; Davis, 1997; Kim, 2006). The TTCT is still widely used today by the business world and in education (Kim, 2006).

Torrance also identified 84 personality traits (such as curiosity, adventurousness, independence of thought, and intuitiveness) that are most often associated with creative individuals. He developed his list by cross-referencing the personality traits of individuals with high scores on measurements of creative thinking and then ranked these traits by those that occurred most often. Torrance suggested that it was critical for educators to identify students with creative potential, as well as to understand their personality traits, so as to best serve them in the classroom (Torrance, 1974).

The Development of Measurements for Creative Thinking in Music

Little to no data-based research has identified the personality traits of children who are musically creative, as well as teachers' attitudes towards them. However, a large body of research in the field of educational psychology, known as psychometrics, led to the development of tests meant to identify musically creative children. Vaughan (1971), Webster (1977), Gorder (1976), and Wang (1985) were among the first to apply psychometrics in the field of music education, for the purpose of measuring creative

thinking ability in students. A subsequent test designed by Webster (1994) is now frequently in use and available to teachers and researchers.

Based on the work of Guilford and Torrance, Vaughan (1971) developed the first psychometric study specific to musical creative thinking. She designed a series of six tasks for elementary-aged children that measured the factors of musical fluency, rhythmic security, synthesis, and ideation [defined as "the quality of variety and suitability within the given framework" (pp. 65-66)]. Vaughan's test required children to improvise rhythmic and melodic patterns in response to different kinds of stimuli, using percussion instruments, vocal sounds and/or bells. A small panel of judges scored the compositions, using a five-point scale for each factor. Reported inter-judge reliability of her measure ranged from .67 to .90, which is relatively strong (Vaughan, 1977). However, Vaughan's work was considered incomplete because content validity was never established (Webster, 1992).

Gorder (1976) developed one of the first studies measuring the musical creative thinking of junior high and high school students. Using the *Measure of Musical Divergent Production* (MMDP), Gorder evaluated the improvisations of 81 participants. Each participant responded to four different tasks using their own instrument, or by whistling or singing. Gorder scored the improvisations by using a music content checklist of 78 items relating to rhythm, melody, tempo, style, expressive devices, and form. The checklist helped assign a score for each improvisation based on fluency, flexibility, elaboration, originality, and musical appeal.

Gorder consulted a panel of experts to establish construct validity of the musical elements used with the MMDP. Construct validity was obtained by comparing the

MMDP to other tests that measured similar constructs, such as the *Seashore Measure of Musical Talents* (Seashore, Lewis, & Saetveit, 1960), which had already been purported to be a valid measure of musical elements. Gorder's study was influential because it successfully defined the components of musical creative thinking (Webster, 1992).

Webster's (1977) measure of creative thinking abilities in music was more extensive than either Vaughan's or Gorder's, because it assessed three different modes of musical creative thinking: composition, improvisation, and listening. Initially, Webster administered his test to 77 high school musicians. Participants completed several tasks including: improvisations, a series of take-home compositional assignments, and an analysis/listening component in which participants were asked to make imaginative and original observations about the structure and design of a melody from *Volume I* of Bartok's *Mikrokosmos*.

Webster (1977) used a scoring approach similar to Gorder's, implementing a checklist and a small panel of judges to rate the creative tasks. The judges scored each task using a four-point scale in the areas of fluency, flexibility, originality, and elaboration. Scoring reliability for Webster's test ranged from .81 to .93 and inter-judge reliability ranged from .70 to .90.

Wang (1985) designed the *Measures of Creativity in Sound and Music* (MCSM) for use with young children ages 3 through 8. The MCSM consisted of four activities, providing scores for both musical fluency (number of responses) and imagination (appropriateness of response and freedom of expressive elements). The four tasks required a wide variety of responses including using recycled objects as instruments, creating improvisations out of small percussion instruments, generating multiple versions

of an ostinato using only two notes, and moving in response to recorder music. To date, two pilot studies have evaluated the effectiveness of the MCSM (Baltzer, 1988, 1990). Baltzer's investigation of the MCSM indicated a high inter-item and inter-judge reliability, ranging from .83 and .99, respectively.[3]

The work of Vaughan, Gorder, Webster, and Wang helped operationally define some of the components that contribute to creative thinking in music. Their studies demonstrated that fluency, flexibility, elaboration, and originality are highly correlated with creative thinking ability.

Webster's *Measure of Creative Thinking in Music*

Building on his previous work, Webster (1987) created the *Measure of Creative Thinking in Music* (MCTM), designed for use with students in early elementary school. The MCTM contains ten tasks requiring the child to improvise and/or compose using temple blocks, a Nerf ball on a piano, their voice, and various elements of stimuli including music, stories, and visual aids. Musical products are scored based on: (a) *musical extensiveness*, the length, measured in seconds, of a musical response, (b) *musical flexibility*, the use of range, dynamics, and tempo, (c) *musical originality*, the uniqueness of the musical response, and (d) *musical syntax*, the extent to which the response makes musical sense (Webster, 1989, p. 62).

For best results, Webster suggests using a panel of judges to score responses to musical originality and syntax. The MCTM provides rating scales based on the author's criteria for judging student responses. Pilot studies of the MCTM suggest a strong

[3] Wang has yet to formally publish this measurement tool, however it is available to teachers and researchers upon request.

content validity for the assessment, based on the examination of musical experts (Webster, 1987). Other studies reveal that reliability for the factors of musical originality and syntax range from .53 to .78; internal reliability, measured in the form of Cronbach Alpha coefficients ranges from .45 to .80; and test-re-test reliability indicates a range between .56 to .79 (Webster, 1987; Swanner, 1985; Baltzer 1990).

The Use of MCTM in Music Education Research

While Webster's MCTM is typically used to rate the skills of an individual, it has also been applied to determine the effect of encouraging creative thinking during instruction. Fung (1997) examined the effects of an Orff-based sound exploration program on children's scores of musical creative thinking. Student participants in first and second-grade took Webster's MCTM and their scores were compared to second-grade non-participants in similar schools within the same district. Fung reported that the students who participated in the exploration program received significantly higher scores in the areas of musical flexibility, originality, and syntax, but not in extensiveness. His findings suggest that students who engage in sound exploration may be more ready for creative work than those who do not.

Koutsoupidou and Hargreaves (2009) examined the effect of improvisational instruction on the MCTM scores of two classrooms of second-grade students.4 Using a quasi-experimental design, they administered the MCTM to each child as a pre-test and then again as a post-test, after six months of either improvisational instruction (experimental group) or non-improvisational music instruction (control group). Prior to

4 Two groups of students were observed in this study, a control group (n = 13), and an experimental group (n = 12).

the beginning of instruction, the MCTM scores indicated little difference between the two groups. However, the post-test showed statistically significant gains by students enrolled in the experimental group, while students in the control group made little to no progress on the MCTM. Statistical analysis indicated that the main effect for "test" times "group" was significant [$F(1, 23) = 35.966$, $p < .001$)]. Based on these results, Koutsoupidou and Hargreaves suggest that encouraging students to engage in creative thinking, especially in the form of improvisation, may promote increased creative thinking abilities in music.

Conclusions from Studies on Measures of Creative Thinking in Music

The psychometric studies discussed in this chapter provide a theoretical framework for understanding the key components that contribute to creative thinking in music. These studies suggest that the factors of musical extensiveness (the length of a musical response), flexibility (the use of varied range, dynamics, and tempo), originality (the uniqueness of the response), and syntax (the extent to which the response makes musical sense) are correlated to creative thinking in music.

The reliability and validity demonstrated by the MCTM suggests that an operational definition of creative thinking exists within the context of scholarly research of music education. However, whether or not teachers are aware of the MCTM as a measurement tool, as well as the defining factors that contribute to creative thinking, has not yet been addressed in peer-reviewed research literature.

The significance of the MCTM as a measurement tool has important implications for this study. The findings of Fung (1997) and Koutsoupidou and Hargreaves (2009) suggest that the process of teaching and learning positively influences ability in creative

thinking. However, it is not clear if elementary general music teachers consider creative thinking a teachable skill. This question is important to examine, as it leads to an understanding of the perceptions of educators regarding the nature of creative thinking.

The Consensual Assessment Technique

While psychometric studies are useful, they are not without criticism. Critics of the psychometric approach suggest that measuring creative ability using only the variables of fluency, flexibility, originality, and elaboration ignores the real-life aspects of this phenomenon (Amabile, 1982b; Brown, 1989). Additionally, scholars have expressed concern over the factorial approach used to determine the content validity of creative thinking measurements. Brown (1989) explains that psychometric studies are problematic because of circular reasoning: theoretical constructs come first and are then validated using factor analysis to identify the factors. Brown, among others (Hocevar & Bachelor, 1989; Michael & Wright, 1989), questions the validity of using extensiveness as a measure, noting that output per minute may be irrelevant in assessing one's creative thinking ability.

Among the detractors of the use of psychometric studies for the assessment of creative thinking is Teresa Amabile. Amabile (1982b) suggests that it is impossible to articulate clear, objective criteria for a creative product. Instead, she proposes that the most valid way to measure such products is through experts' subjective and personal definitions of creative thinking, a method referred to as the "consensual assessment technique" or CAT, rather than using a checklist or other given criteria. The CAT has successfully rated creative products in a variety of subject areas, such as visual art, dance, creative writing, and music. A comprehensive review of studies utilizing the CAT in

several domains indicates that reliability for this method is consistently high (Amabile, 1996; Kaufman, Lee, Baer, & Lee, 2007).

Amabile (1982b) developed a list of criteria for implementing the technique properly: (a) the judges must have some knowledge of the subject matter, (b) they should make their assessments independently of one another, (c) in addition to rating creative thinking, the judges should be asked to rate other dimensions of the product such as aesthetic appeal, (d) they should be instructed to rate the products relative to one another, rather than against some absolute standard, and finally, (e) each judge should review the products, as well as the dimensions of the product, in a random order.

The Use of the CAT in Elementary Education

The CAT has become a common tool in research examining the creative products of children. Several researchers used the CAT to determine the effects of various environmental constraints on children's creative thinking (Amabile, 1982a; Amabile & Gitomer, 1984; Berglas, Amabile, & Handel, 1979; Hennessey, 1989). These studies suggested that the use of rewards, lack of choice, and evaluation inhibit creative thinking, while freedom of choice and intrinsic motivation enhance creative thinking.

Amabile (1982a) investigated the effects of extrinsic motivation on creative thinking. Girls, ages 7 to 11, created mixed media collages during two different art sessions, experimental or control. Researchers told the experimental group that the girls having the most creative collages would receive door prizes. Conversely, girls in the control group received prizes through a raffle. The data indicated that girls in the experimental group scored significantly lower on ratings of creative thinking than girls in the control group. Analysis of the collages revealed that girls in the experimental group

used significantly less variability in colors and pieces of media. Amabile suggested that, because of the promise of a reward, the girls might have been less willing to take risks. Lepper, Greene, and Nisbett (1976), Amabile, DeJong, and Lepper (1976), Amabile, Hennessey, and Grossman (1986), and Hennessey (1989) reported similar findings.

Amabile and Gitomer (1984) investigated the effect of choice on creative thinking. Pre-school aged children were assigned to one of two groups. In the first group, each child received five boxes of materials from which to create a collage. In the second group, each child chose five boxes from a collection of ten. The group that chose boxes created significantly more creative products than the group that had no choice. Additionally, children who chose materials showed more interest in making collages after the initial experiment than the students who were not given a choice.

Hennessey (1989) examined the effect of anticipated evaluation on ratings of creativity. Children, ages 7 to 13, completed an art project using a computer. Hennessey assigned students to one of three groups: a control group that did not have any kind of final evaluation, an experimental group that the researcher evaluated, and another experimental group that a computer evaluated. Hennessey's research indicated that students assigned to the evaluation groups scored significantly lower on creative thinking than students who did not receive an evaluation.

Berglas, Amabile, and Handel (1979) examined the effect of prior evaluation on children. Students in grades two through six completed two separate art projects, in one of two groups. In the experimental group, students made their first piece of visual art, and regardless of the quality of their work, received a positive evaluation from the researcher. Then they made a second piece of artwork. In contrast, students in the

control group were not evaluated on either task. After the second task, judges rated the products using the CAT. The control group scored significantly higher on scores of creative thinking than the group that received evaluation, even though their evaluations were positive.

Studies using the CAT provide a basic understanding of factors that may inhibit creative thinking, such as extrinsic motivation/rewards, lack of choice, and prior or anticipated evaluation. It is important to know teachers' perceptions of factors that enhance or inhibit creative thinking. However, in examining such studies it becomes evident that there are too few published studies examining the effect of these factors on creative thinking in the general music classroom.

The Use of the CAT in Music Education

While the CAT has not been used to determine the effect of environmental factors on musical creative thinking, it has been used successfully as a tool for rating children's creative musical products (Bangs, 1992; Brinkman, 1999; Daignault, 1997; Hickey, 2001; Preist, 1997; Webster & Hickey, 1995). Overall, reliability of the CAT in the domain of music typically falls between moderate to high.

Hickey's (2001) research is one of the most relevant investigations to the present study. In addition to evaluating the reliability of the CAT, Hickey investigated whom would best qualify as a group of "experts" when evaluating the compositions of young students. Five groups of judges (composers, music theorists, music teachers, seventh-grade students, and second-grade students) listened to recordings of compositions and rated them, relative to one another, on a seven-point Likert-type scale, with the anchors of low, medium, and high. The directions stated, "using your own definition of creative

thinking, rate the degree to which the composition is creative" (Hickey, 2001, pp. 238-239). The judges also rated the craftsmanship and aesthetic appeal of each composition. Small changes simplified the form used with second- and seventh-grade students.

Hickey's results indicated that composers were, by far, the least reliable judges with an inter-reliability rating of $r = .04$. Vocal/general music teachers and theorists were the most reliable judges, with an inter-reliability rating of $r = .81$ and $r = .73$, respectively. The remaining judges (instrumental teachers, seventh-grade students and second-grade students) had moderate inter-reliability ratings of $r = .65$ to .50. The reliability of all judges combined was reported to be $r = .48$. However, when the composers' ratings were removed from the combined reliability score, the overall reliability of the judges increased to $r = .78$. Hickey's study suggests that the CAT is a valid and moderately reliable way of judging children's musical products.

The findings from the CAT studies have important implications for teaching and research. While the criteria for judging the creative thinking of musical products is entirely subjective, the research literature typically indicates a high level of agreement among judges (Priest, 1997). While it is hard to articulate a definition of creative thinking, observers can still identify its presence and impact. Thus, while a specific definition of musical creative thinking has yet to be described in the literature, there is, in fact, shared understanding within the educational community as to its meaning.

The Processes of Children's Creative Thinking in Music

Several studies have followed the tradition begun by Moorhead and Pond (1941, 1942, 1951) and Dorothea Doig (1941, 1942a, 1942b), as discussed in Chapter I. Studies by Barker (2003), DeLorenzo (1989), Levi (1991), Miell and MacDonald (2000), Hickey

(1995), Wiggins (2003), and Younker (2000) employed a naturalistic approach of observing children engaged in creative thinking. Alternatively, investigations by Flohr (1979), and Kratus (1989), used controlled experimental settings.

DeLorenzo (1989) examined the decision-making of sixth-grade students completing musical problem-solving tasks. She identified four primary characteristics that guided student behavior:

1. *Perception of the problem:* Students who understood that there were many choices for solving the problem spent more time exploring musical events and making revisions than students who thought there were only limited choices.
2. *Search for the musical form:* This refers to the shaping of an entire musical thought. Some students spent a great deal of time listening to and analyzing their musical composition as a set of interrelated phrases, while other students failed to successfully link phrases together as a cohesive unit.
3. *Capacity for breadth of musical possibilities*: Students displayed a wide range of abilities when thinking in sound. Some students remained focused on unchanging repetitive patterns while others seemed more able to develop, shape, and transform musical material.
4. *Degree of personal involvement in the task:* The more students fully engaged in the creative aspect of the project, the greater interest and excitement they demonstrated throughout the process, especially as they neared a solution. Uninvolved students, on the other hand, were easily distracted and showed little interest in the creative outcome (pp. 195-196).

DeLorenzo suggests that general music teachers can enhance their students' ability to

perceive the problem, by engaging in exploratory experiences designed to increase students' understanding of the breadth of choices for musical material, as well as expressive elements, which can dramatically alter the product. Additionally, teachers can help guide students through discussion and reflection of the process and creative products of musical thinking.

Levi (1991) observed second-grade children as they freely explored and created musical compositions using xylophones, over a period of eight weeks. Levi set out to determine whether: (a) phases of the compositional process were observable, and (b) if so, what specific behaviors characterized each phase? Anecdotal records, field notes, and musical scores were used to summarize the composing process.

Levi delineated five non-linear phases of the composing process: exploration, focus, rehearsal, composing, and editing. The exploration phase occurred during the initial collection of ideas, and was characterized by experimentation and divergent thinking. At some point, a noticeable shift occurred from the process-oriented exploration phase to the product-driven focus phase. Levi suggested that the focus phase became the most important component of the composing process, because this is where children develop the majority of their ideas. Additionally, children came back to this phase repeatedly. Following the focus stage, children typically enter the rehearsal stage, identifiable by the repeated playing of motivic material developed in the focus phase. After the rehearsal stage, students typically engaged in composing, where they linked together motivic material into a larger formal structure. Finally, the students would enter an editing phase where they often added expressive elements. Overall, Levi described the composing process of children as dynamic, flexible, and recursive, as participants

moved into and out of various phases repeatedly.

Hickey (1995) investigated the relationship between the thought processes and products of fourth- and fifth-grade students involved in a MIDI (musical instrument digital interface) based compositional task. She recorded the students' musical explorations and final compositions, in order to provide insight into their thought processes. A small group of judges then rated the compositions using the CAT. Finally, Hickey used the scores from the CAT to divide the students' creative products into two categories, low- and high-creativity, for the purpose of analysis. Hickey's findings suggested that the higher-creativity group displayed more flexible and fluent musical behavior, used a larger melodic range, played more measures, and spent more time revising their products than those of the lower-creativity group.

Using data from a decade's worth of naturalistic observations, Wiggins (2003) developed a theory explaining the creative thought processes of children engaged in classroom composition. Wiggins indicated that her theory does not represent a universal model for describing the compositional thought processes of all children, but rather a frame through which educators can better understand what students are doing while they compose.

Wiggins suggested that students typically begin their work by making three or four key decisions: (a) selecting a sound source, (b) determining what role each individual will play within the group, (c) creating music for each instrument and, if applicable, (d) the subject matter of the song and creation of song lyrics. Wiggins noted that students composed in chunks, typically having a notion of what they want the piece to sound like beforehand. Thus, the ideas came from students' holistic conceptions of

what they wanted the piece to sound like, rather then from their initial explorations. Additionally, she observed that in shared compositions, the instrument a student chose often determined that individual's role within the group. For example, less experienced students often made several trips to the instrument shelf, choosing a new instrument each time. She observed that while this was a form of musical exploration, the students' focus was on examining the instrument, and was ultimately irrelevant to the final outcome of their composition. On the other hand, experienced students would choose an instrument quickly, and often become leaders of the group by contributing more musical material to the final creative product.

Once the student group had a musical idea, they immediately began setting it into a larger context by organizing, evaluating, revising, and refining their composition. However, as students developed their musical idea, they often returned to the initial stages to invent new musical material. When students were ready to perform a composition, they perceived their product as finished. Thus, students typically had little interest in refining their compositions based on teacher or peer feedback after a performance. However, Wiggins indicated that they would often consider feedback on the development of future projects.

Flohr (1979) investigated the improvisational products of children 2 to 5 years of age over a four-year period in a lab school setting. Children improvised on a xylophone with a two-octave pentatonic scale. They received verbal and musical stimuli from the researcher. Flohr's research suggests that there are three distinct stages of development for young children. The first stage is labeled "high motor energy" in which the child is engaged in improvising in a very kinesthetic manner. The second stage is evident by the

child's experimentation with motives, in which he or she has little need for sound to have a formal structure. The final stage is characterized by the use of formal properties, such as strong use of tonality, evolution of motives, and discernable form.

Kratus (1989) examined the amount of time children, ages 7, 9, and 11, spent engaged in periods of exploration, development, repetition, and silence, during a ten-minute composition task. He found that children at age seven spent much less time engaged in repetition and preferred to spend their time exploring sound possibilities. He also observed that spending more time engaged in repetition was a necessary component for song replication and that 9- and 11-year olds were therefore better able to repeat their songs than their younger counterparts. Kratus suggested that the compositional process of 9- and 11-year-olds is similar to that reported by adult musicians, in that they explore sounds, develop ideas, and repeat musical patterns while composing.

It is interesting to note that in these studies (DeLorenzo 1989; Levi, 1991; Hickey, 1995; Wiggins, 2003; Kratus, 1989) the thought processes of children engaged in creative musical activity were inferred, using only observable behavior and resulting products as a measurement. Researchers have also interacted with students in order to get a clearer picture of children's thought processes. Miell and MacDonald (2000), Younker (2000), and Barker (2003) collected data through questionnaires, think-alouds, field notes, audio- and video-taped recordings, and MIDI files.

Miell and MacDonald (2000) examined the impact of the social variables of friendship and collaboration on children's creative thinking. In this study, children were assigned to one of two same gender groups: an experimental group in which children chose a friend, and a control group in which children were assigned a partner who they

did not know very well. Researchers gave the students a training session on musical composition, and then asked the student groups to compose a piece of music, using the idea of a rainforest as inspiration. Researchers also videotaped the students' interactions during the composition process.

Their study indicated that working with a friend yielded more creative results than working with a non-friend, even when more experienced groups were compared to less experienced groups. Additionally, the quality of their compositions directly related to the quality of conversation between the children during the composing process. Friends engaged in conversation more frequently than non-friends, and their conversations tended to include elaboration and extension of one another's ideas. Non-friends engaged in much less conversation, focusing on either agreeing or disagreeing, with very little idea generating.

Younker (2000) examined the thought processes of nine children ages 8, 11, and 14, engaged in a computer-based composition project. Using in-depth descriptive analysis, she engaged in personal interviews, reflective think-alouds, and compositional artifacts from the students, in order to analyze her data. She found that timbre played a more important role in the compositions of younger children than older children. However, an audible and steady beat, as well as vertical harmony was more common in the compositions of older students. Younker's research indicates that a developmental pattern exists in relationship to age, and that as children become older, their compositions become increasingly more complex.

Barker (2003) examined children's creative thinking strategies when composing. She was also interested in any correlation between gender, age, experience, and previous

musical training on compositional ratings. Forty children ages 8 to 12 participated in the investigation. Participants composed a melody on a MIDI keyboard, using only the black keys, and judges rated their compositions using the CAT. Barker collected data through questionnaires, interviews, field notes, audio-taped recordings, and MIDI files. In these studies, Barker observed that age and family participation in music were highly correlated with compositional ratings. She also found that students' verbal and behavioral responses revealed a great deal about their creative thinking strategies and that their use of complex strategies correlated with judges' ratings.

Conclusions from the Studies on Children's Creative Thinking

A recurring theme in the reviewed studies is how children think in a non-linear fashion while engaged in the creative processes. Although the stages of such thinking processes have various labels, each researcher noted the presence of some sort of exploration or readiness stage, problem solving and/or identifying, rehearsal, and finishing stages. Some confusion still exists regarding the nature of the exploratory phase. Levi (1991) suggests that the exploratory phase includes the development of musical ideas, while Kratus (1989) and Wiggins (2003) indicate that the exploratory phase has little to do with the musical product, but rather it is an exploration of the performance medium. Regardless of the purpose, the research literature demonstrates that children typically engage in some form of exploration at the beginning of creative processes. This suggests that teachers need to provide ample opportunities for children to explore instruments, and engage in compositional tasks.

Another commonality inferred from these studies is that creative musical thinking

processes change with experience and age. As students become more accustomed to thinking in sound, their process changes from highly physical and repetitive to expressive and coherent (DeLorenzo, 1989; Kratus, 1989). Accomplished students engage in more purposeful playing, spend less time in an exploratory phase, and more time developing their own musical gestures (Hickey, 1995; Kratus, 1989).

Wiggins (2003) suggests that, in the case of elementary general music, much of the creative work takes place in small social settings. Miell and MacDonald (2000) suggest that working with friends yields greater works of creative thinking than working with non-friends. To date no published research examines teachers' perceptions of these findings.

Little research suggests that teachers are aware of such stages or consider them when planning creative thinking activities. Yet, a thorough understanding of the students' processes of engaging in creative thinking tasks is essential for designing effective lessons. One key component of the present study is to examine teachers' understanding of the process of children's creative thinking, how social variables impact students' products, and how teachers may use their understanding to design learning experiences.

Characteristics of Children's Creative Musical Products

While the studies in the previous section focused on explaining processes of children's creative thinking in music, other research has examined the characteristics of students' musical products, manifested in the form of composition and improvisation. Davies (1992), and Swanwick and Tillman (1986) described children's musical compositions, while studies by Barrett (2006), Brophy (2002), and Smith (2008)

examined the features of children's improvisations.

Characteristics of Children's Compositions

Swanwick and Tillman (1986) used qualitative descriptions of children's musical compositions to chart the developmental progression of young composers at various ages. Using a descriptive analysis of 700 compositional products created by children ages 3 to 15, Swanwick and Tillman proposed a spiral sequence of musical development. The sequence contains four developmental stages: (a) ages 0-4, mastery of materials; (b) ages 4-9, imitation and expression; (c) ages 10-15, imaginative play; and (d) ages 15 or older, metacognition. As children move through the four stages, they become less experimental and more conventional in manipulating musical material.

Davies (1992) examined the songs of 5 to 7 year old children. Her research indicated that even young children are able to work within all four levels of the sequence proposed by Swanwick and Tillman (1986). Davies speculated that young children were able to invent songs that presented formal structures with expressive elements. She found that the children typically framed their songs with distinctive beginnings and endings, which then provided structure for the middle phrases. Children typically grouped their songs into two or four measure structures. Additionally, Davies suggested that children's intuitive musical understanding was evident through their compositions. Their ability to compose complex music preceded their ability to conceptualize or verbalize their understanding.

Smith (2008) studied the compositions of 9 and 10 year old recorder students (N=12), who had attained a basic mastery of the instrument. Each student wrote six compositions under various conditions: two unprompted recorder pieces, a song for a

given poem text, a song for a given melodic motif, the musical answer to a musical question, and a piece that reflected a strong emotional mood. In this study, Smith found that the poem task resulted in compositions of higher musicality based on craftsmanship, originality, imagination, and idiomatic recorder sounds.

Characteristics of Children's Improvisations

Brophy (2002) conducted a widespread study of 840 improvisational products by 280 children, ages 6 through 12. Judges scored the improvisations based on melodic range and motion, use of a tonic, motivic development, attention to pulse, and use of phrase structure. Brophy suggests that as students' age, there appears to be an increase in motivic development, greater sense of pulse, and greater structural organization.

Barrett (2006) studied the spontaneous music-making of primary-aged children in a naturalistic school setting, over a two-year span of time. The researcher developed a "music corner," where children could sing, play with musical instruments, and write down songs. Use of the music corner was optional (as part of daily centers time) and the children determined the length and frequency of their visits to this center.

Barrett observed that some of the children who visited the music corner were prolific music-makers. When Barrett asked children to repeat their pieces, they rarely did so in the same way, making changes to their songs, suggesting a more improvisational nature of music-making. However, each time they repeated their piece, their improvisations grew more elaborate and complex. Over time, the children utilized repetition, accentuation, theme and variation, anticipation, surprise, and climax and resolution in their songs. Barrett suggests that having the opportunity to compose plays an important role in building cultural and emotional knowledge in the lives of children.

Conclusions from Studies on Children's Musical Products

Studies focusing on the characteristics of children's musical compositions and improvisations indicate that students' products typically move through several developmental stages with early products being repetitive (Swanwick & Tillman, 1986) and having an unsteady pulse (Brophy, 2005). As children become more experienced, their compositions and improvisations take on greater structural form, steady pulse, motivic development, and expressivity.

While the large scale of Swanwick and Tillman's (1986) study makes their work compelling, it is still unclear as to whether the developmental stages of musical products are based on age, musical understanding, or compositional and improvisational experience. The research of Davies (1992) and Barrett (2006) suggests that experience and understanding, rather than age, is important in the development of children's creative products.

The implication of this research is highly important for the practicing teacher. The findings of Davies (1992), Barrett (2006), and Brophy (2002) indicate that general music teachers need to offer students repeated experiences in both improvisation and composition to ensure growth of creative, aesthetic and expressive elements. For the purposes of the present study, examining the frequency of creative work in the classroom may provide insight into how successful teachers are at implementing such experiences.

Teachers' Perceptions of Creative Thinking

Research emphasizing teachers' perceptions of creative thinking, also referred to as "implicit beliefs" or "conceptions," began to emerge in the mid-1980s (Kampylis et

al., 2009). Perceptions of creative thinking gained interest from researchers because implicit beliefs guide teachers' choices in the classroom, resulting in facilitating or inhibiting students' creative thinking (Beghetto, 2006; Runco, Johnson, & Bear, 1993). Although teachers report valuing creative thinking as part of the process of education, they hold little tolerance for the behaviors and traits associated with creative thinking, and fear losing control of classroom management (Beghetto, 2006; Diakidoy & Kanari, 1999; Runco, 2003; Westby & Dawson, 1995).

Teachers' Perceptions of Students with Creative Personalities

E. P. Torrance recognized that challenges exist in encouraging creative behavior in the classroom (Davis & Torrance, 1965). Studies by Torrance (1962) suggest that teachers prefer students with high I.Q. scores and lower scores on tests of creative thinking to those who have outstanding scores of creative thinking and lower I.Q. scores, despite the fact that the groups typically yield similar educational achievement.

Following the work of Torrance, a number of studies have examined teachers' perceptions of creative students (Bachtold, 1974; Cropley, 1992; Dettmer, 1981; Scott, 1999). Research by Westby and Dawson (1995) indicates that elementary classroom teachers dislike the personality traits associated with creative thinking. Creative children tend to exhibit traits like negativity, defiance, disruptiveness, and self-centeredness, while the traits that teachers prefer, such as tolerance, dependability, sincerity, reliability, and pleasantness, tend to run counter to creative thinking.

While Westby and Dawsons's research indicates that teachers dislike many of the traits typically associated with creative personalities, the research of Davis and Torrance

(1965) suggests that elementary visual art teachers are more accepting of creative behavior than elementary classroom teachers. To date, there are few published studies that examine the perceptions of elementary music teachers regarding the traits of creative children.

Despite the challenges of working with creative children, educators have reported that overall, they value creative thinking in the classroom (Westby & Dawson, 1995). Feldhausen and Treffinger (1975) reported that 96% of teachers surveyed thought that daily classroom time should be devoted to creative thinking. A number of other studies confirmed this perception (Fleith, 2000; Fryer & Collings 1991, Kampylis et al., 2009; Westby & Dawson, 1995). Westby and Dawson (1995) suggested that the reason for this puzzle is that teachers conceive of creative thinking differently than researchers.

This contradiction mirrors findings within the music education community that teachers both value and yet often neglect creative thinking (Strand, 2006; Webster, 1990a; Whitcomb, 2005). However, while general education teachers' perceptions have received a fair amount of attention, to date only a few published studies have examined the perceptions of music educators.

One aim of the present study is to gain a deeper understanding of elementary general music teachers' (EGMTs) perceptions of creative thinking. It is critical that researchers inquire into teachers' perceptions because their expectations of students have a significant impact on student performance (Kenealy, Frude & Shaw, 1991). If teachers perceive certain children as disruptive rather than creative, it seems unlikely that they will recognize and nurture such students (Westby & Dawson, 1995). Additionally, teachers' perceptions of creative thinking will certainly guide their pedagogical decision-making.

In response to the lack of such research, the present study examines music teachers' perceptions of the value of creative thinking as part of the elementary general music curriculum.

Facilitating Creative Thinking Experiences in the Music Classroom

Only a few empirical studies have examined teachers' practices of creative thinking instruction in the elementary general music classroom. Byo (1999), Orman (2002), and Bell (2003) investigated teachers' use of class time, in relation to the National Content Standards for Music Education. These studies indicated that teachers typically devote only a small portion of their class time to creative thinking. Research by Miller (2004) examined methods of designing creative thinking tasks that mitigate some of the challenges identified by educators as inhibiting the inclusion of creative thinking in the curriculum. Two studies investigated music teachers' perceptions and practices regarding composition and improvisation (Strand, 2006; Whitcomb, 2005).

The National Content Standards for Music Education

Byo (1999) examined the perceptions of both EGMTs and classroom teachers (*N*=177) regarding the feasibility of teaching all nine content standards for music education. She reported that elementary classroom teachers (non-music) thought they were unprepared to teach any of the nine content standards, reporting a lack of training, experience, time, and resources. EGMTs, on the other hand, believed that they were well-trained to teach all nine standards. However EGMTs rated improvisation, composition, and playing instruments as the three most difficult components to implement.

Orman (2002) examined the use of elementary general music class time in relation to the nine content standards. Thirty general music teachers supplied a videotape of their teaching. Orman determined how much time these teachers spent on each content area by analyzing the videotapes. The results indicated that while the EGMTs addressed all nine content areas, those areas relating to creative thinking (composition and improvisation) received the least amount of attention; participants spent less than 5% of class time composing or improvising. Additionally, Orman found that students spent 57% of their time passively involved in class with 46.4% of that time devoted to listening to the teacher talk or give directions. The researcher suggested that students should take a more active role in the classroom.

Bell (2003) examined K-12 music teachers' perceptions of the National Content Standards for Music Education. Participants were teachers engaged in a 16-week graduate course taught by the researcher about the national standards. Each of the nine standards received equal attention. Participants used resources from MENC regarding the national standards, including such publications as *Opportunity to Learn Standards* (MENC, 1994), *The School Music Program – A New Vision* (Lehman, Hinckley, Hoffer, Lindeman, Reimer, Shuler, & Straub, 1994), and *National Standards for Art Education: What Every Young American Should Know and Be Able to Do in the Arts* (MENC, 1994).

Following the course, teachers who had taken the course (N=14) voluntarily participated in completing an open-ended questionnaire regarding the national content standards. The questionnaire focused on three primary areas: (a) awareness of the content standards, including its use in district curriculums, (b) changes to teaching as a result of having completed the course, and (c) challenges of teaching each content area.

Participants reported that improvisation was a very difficult standard to implement, even after having completed the course. However, they reported giving greater attention to composition and improvisation after completing the class. Overall, participants reported that they lacked the time, space, and equipment, as well as sufficient training necessary to fully facilitate composition and improvisation in their classrooms.

Teachers' Facilitation of Improvisation and Compositional Tasks

Miller (2004) engaged in an action research project designed to investigate the use of composition within the context of the researcher's own general music classes, grades K-5. Miller sought to determine whether she could implement composition in whole classes of general music (20 to 25 children), within a limited time span of 20 to 35 minutes per week, and whether or not such experiences would meet the needs of a population of diverse learners. Miller indicated that she successfully implemented composition in all grade levels. She also indicated that despite the small amount of class time, students were able to recall enough to continue a composition from week to week, when necessary.

In order to overcome the challenge of limited class time, Miller broke compositional projects into a series of mini-lessons, only giving students small assignments until the project was complete. Miller also described her method for keeping each child working at his or her own pace. Miller's observations were congruent with other studies that indicate a lack of time for implementing creative thinking in instruction.

Whitcomb (2005) examined the role and extent of improvisational activities in elementary general music classrooms in Indiana, using a questionnaire (N=144). The

author investigated the issues of teacher attitude and educational background, teaching materials, and factors that challenged or aided in the teaching of improvisation.

Overall, the results were favorable: 87% of the subjects reported implementing improvisation in their classrooms, in some way; 83% of subjects reported feeling somewhat (or more than somewhat) successful in teaching improvisation. While 87% of the EGMTs in Whitcomb's study taught improvisation in some way, only 69% of the subjects thought improvisation should remain in the national standards.

Whitcomb's study indicates that EGMTs are facilitating student improvisation, however, it is not happening very often. A fairly large number, 40% of participants, reported teaching improvisation fewer than once every 10 lessons. Additionally, participants rated how much time they devoted to each of the national content standards, and improvisation and composition came in last.

Strand (2006) researched whether K-12 music educators in the state of Indiana used composition in their classrooms, and if so, why. She also examined whether or not the participants had a similar operational definition of composition. In Strand's study, 88.5% of the participants (*N*=339) reported teaching composition. However, of those that taught composition, only 5.9% stated "often," while 39.8% reported "sometimes," 19.5% reported "rarely," and 23.0% reported "very rarely." Strand also reported that there was no statistical significance between type of subject taught (generalist or ensemble) and the amount of composition used in the classroom.

Comments as to why teachers incorporated composition into music instruction included statements such as "children learn more through composing" (71.9%), or "I use it to enrich other learning" (65.4%). Other reasons provided for using composition were

the national standards (62.2%) or as an assessment tool (49.8%). Many teachers (48.4%) also reported using it as a fun and creative outlet for their students.

Additionally, respondents reported several reasons for not including composition: lack of time to teach this area of the curriculum, lack of access to technology, too noisy, and not enough instruments. Other issues included teaching too many students, school performance pressures, loss of classroom control, and difficulties with technology. A few participants reported that they did not think composition was appropriate for elementary general music, or that it was not a useful learning tool.

In her investigation, Strand uses the terms "composition" and "improvisation" interchangeably, suggesting a lack of clarity on the part of music educators and thereby making creative thinking in music difficult to define. Strand states she was unable to find a unified definition of composition, and that the definition of composing differed between researchers and teachers.

The studies of Strand (2006) and Whitcomb (2005) provide a basic understanding of the compositional and improvisational activities occurring in today's music classrooms. However, the present study extends this knowledge base by examining EGMTs practices of a number of creative thinking activities, including movement, invented notation, and arranging. The present study also examines a number of aspects related to EGMTs' perceptions of creative thinking. Runco and Bahleda (1986) and Sternberg (1985, 1988) suggest that investigating teachers' conceptions of creative thinking is critical for a thorough understanding of teacher behavior. While teachers may generally value creative thinking, they may also engage in teaching behaviors that unintentionally impede students' ability to develop creative thinking, without being

aware that their teaching practices are negatively impacting student progress (Alencar, 2002; Westby & Dawson, 1995).

The present study differs from the Strand and Whitcomb studies in two primary ways. Rather than just examining the practices of teachers on a state level, the present study investigates teachers on a national level. Additionally, this study uses a broader definition of creative thinking by examining the use of mediums such as including movement, iconic notation, and listening maps.

Summary of Research Literature

Creative thinking is a very complex and broad issue, spanning multiple fields including psychology, education, and music. Studies in the field of psychology have had a significant impact on research in music education by helping to operationally define the components that comprise creative thinking in music. The elements of musical extensiveness, flexibility, originality, and elaboration are all highly correlated with creative thinking (Webster, 1987). Additionally, the ability to measure musical creative thinking in individuals has allowed researchers to determine that creative thinking in music is indeed a teachable skill (Fung, 1997; Koutsoupidou & Hargreaves, 2009). However, research indicates that little of this information is passed along to in-service teachers (Mack, 1987). The present study examines teachers' understandings of the components of creative thinking and teachers' implicit beliefs regarding their ability to teach creative thinking.

Research in the field of educational psychology suggests that teachers' perceptions are significant because they guide teachers' behaviors (Sternberg, 1985). However, examination of teachers' perceptions reveals several contradictions. While, on

the one hand, teachers highly value creative thinking, it is often neglected in the music classroom (Strand, 2006; Webster, 1990a; Whitcomb, 2005). Additionally, research suggests that the majority of teachers dislike students with the personality traits most often associated with highly creative individuals (Bachtold, 1974; Westby & Dawson, 1985). However, to date, none of the research examining personality traits in creative individuals has taken place within the context of music education. More research is necessary to determine if these findings are consistent with the perceptions of music educators.

In the field of educational psychology, the consensual assessment technique for rating creative products has proved a useful tool in determining factors that either inhibit or enhance creative thinking (Amabile 1982a, 1996). The factors of lack of choice, extrinsic motivation/reward, and anticipated evaluation are all negatively correlated with creative thinking in the field of visual arts. Again, we find a gap in research, as these factors have not yet been evaluated in relation to creative thinking in music. However, it is possible to examine teachers' implicit beliefs regarding inhibiting factors. The present study examines teachers' perceptions of environmental factors that may either inhibit or enhance creative thinking.

A fair amount of research also exists on children's creative thinking processes and products (Barker, 2003; DeLorenzo, 1989; Flohr, 1979; Hickey, 1995; Kratus, 1989; Levi, 1991; Wiggins, 2003; Younker, 2000). Research suggests that while engaged in the compositional process, students work through a series of stages including readiness, problem solving and/or identifying, rehearsal, and finally, completion. Observations indicate that these stages are recursive, and that students move through these stages a

number of times before developing a finished product.

Understanding children's musical products has also been the objective of many research studies (Barrett, 2006; Brophy, 2002; Davies, 1992; Swanwick & Tillman, 1986). These studies suggest that children's products fall into one of several developmental stages, in which children's compositions become more complex, expressive, and consistent with musical syntax. Research also suggests that as children become more experienced at composing, they benefit from training which focuses on aesthetic, creative, and expressive elements of music (Barrett, 2006; Brophy, 2002; Davies, 1992.) However, there is little research to support the idea that EGMTs have an understanding of children's developmental stages, as they pertain to creative thinking in music.

To date, the teachers' role in facilitating musically creative experiences for children has been examined in only a few studies. Research indicates that music educators are interested in implementing composition and improvisation (Byo, 1999; Miller, 2004; Smith, 2008), and see it as an important component of general music (Whitcomb, 2005). However, educators struggle with the implementation of creative thinking tasks in their teaching because of a lack of time, training, and resources (Bell, 2003). Some teachers have also reported that class management is difficult when facilitating creative thinking tasks and that the classroom becomes too noisy (Strand, 2006).

Implications for the Present Study

The review of literature suggests that scholars have a fairly robust understanding of the components that contribute to musical creative thinking, children's processes of

engaging in creative thinking, and the musical products that children create. However, the review of literature also reveals several aspects of creative thinking in music that require further investigation. Under-emphasized subjects include: music educators' perceptions of personality traits associated with creative thinking, environmental conditions that may help or hinder musical creative thinking, and music educators' perceptions and teaching practices of creative thinking.

It is beyond the scope of this study to examine all of the aspects of creative thinking that have been under-emphasized in music education research, therefore, the present study focuses specifically on the teacher's role in developing creative thinking experiences for their students. Special emphasis is placed on EGMTs' perceptions of the value of creative thinking as part of the elementary general music curriculum, as well as EGMTs' teaching practices when facilitating creative thinking experiences for their children.

CHAPTER III
METHODOLOGY

Introduction

The idea of incorporating creative thinking into the elementary general music curriculum has gained significant momentum since the 1960s. Yet, very few music education programs, whether at the elementary, secondary, or collegiate level, offer students meaningful interactions with composition, improvisation, or other creative thinking tasks (Webster, 1992). Indeed, the research discussed in Chapter II indicates that creative thinking activities are quite rare in elementary general music, and many elementary general music teachers (EGMTs) find implementing creative thinking activities a difficult undertaking. Music teachers have reported challenges due to lack of training, experience, resources, time, and overall confusion regarding the creative thinking construct. Currently, little data exist to provide researchers with a thorough understanding of teachers' perceptions regarding creative thinking, how teachers implement these tasks in their classrooms, and the difficulties they face in such contexts.

This chapter describes the methodology employed in the current study: (a) a restatement of the purpose and research questions, (b) the rationale behind the selected research design, (c) a discussion of the development of the questionnaire, (d) the criteria for selection of participants, (e) the process of data collection, and (f) plans for the analysis of data. It ends with a brief summary.

Restatement of the Purpose and Research Questions

The purpose of this study was to investigate the perceptions and teaching practices of EGMTs' facilitation of students' creative thinking. This study examined: (a)

EGMTs' perceptions regarding the value of creative thinking as part of the elementary general music curriculum, (b) how EGMTs facilitate implementation of creative thinking activities, (c) the extent to which EGMTs incorporate creative tasks in their classrooms, and (d) the degree to which they feel successful in guiding children's creativity. To that end, three basic research questions guided this study:

1. *What are EGMTs' perceptions of creative thinking and its role in music education?*
    a. *To what extent do EGMTs value creative thinking as part of the general music curriculum?*
    b. *Are EGMTs aware that the skills of extensiveness, fluency, originality, and syntax contribute to increased creative thinking skills in music?*
    c. *To what degree do EGMTs think they are sufficiently trained to incorporate creative thinking experiences in music?*
    d. *What are EGMTs' perceptions regarding learning conditions that may inhibit or enhance students' creative thinking products?*
2. *In what manner do EGMTs incorporate creative thinking experiences into their lessons?*
    a. *What creative thinking activities do EGMTs design for their students?*
    b. *How frequent are creative thinking experiences in the elementary general music classroom?*
    c. *What techniques, if any, do EGMTs use to assess students' creative products?*
    d. *What challenges, if any, do EGMTs face when incorporating creative*

thinking experiences into their lessons?

3. *Do the variables of years of experience, level of education, or professional development training in elementary general approaches have an impact on EGMTs' perceptions or teaching practices of creative thinking?*

Rationale for the Selected Research Design

Because the goal of this study was to better understand EGMTs' perceptions and practices of facilitating creative thinking in the music classroom, a survey design was the appropriate means of gathering data. According to McMillan (2004), the purpose of a survey is to make inferences from a sample to a population. Surveys are especially useful when describing attitudes, beliefs, and perspectives. A number of researchers investigating teachers' perceptions of creative thinking have employed a survey approach (Aljughaiman & Mowrer-Reynolds, 2005; Diakidoy & Kanari, 1999; Fryer & Collings, 1991; Kampylis et al., 2009; Kowalski, 1997; Runco, Johnson, & Bear, 1993). Although the use of a questionnaire relies on self-reporting, evidence suggests that a survey research design is a highly effective tool for discerning perceptions and beliefs (Krosnick, 1999; McMillan, 2004).

Approval from the Human Subjects Office

I obtained permission to proceed with this study from the University of Iowa's Institutional Review Board. See Appendix B for the permission letter.

Development of the Questionnaire

Guiding the design of the on-line questionnaire, entitled *Teachers' Perceptions and Practices of Facilitating Musical Creativity* (TPPFMC), were three lines of inquiry:

the literature review, an examination of previous surveys related to music education and creative thinking, and a review of multiple sources on survey design and web-based questionnaires (Drew, Hardman & Hosp, 2007; Couper, Traugott, & Lamias, 2001; Czaja & Blair, 2004; Krosnik, 1999; Rea & Parker, 2005). The questions in the survey solicit responses in three basic areas: (a) EGMTs' perceptions of the nature of creative thinking and its value in music education, (b) their teaching practices related to facilitating creative thinking, and (c) background information. Ballou (2008) suggested closed- and open-ended questions to generate both statistical information as well as rich narrative data.

Part I of the TPPFMC questionnaire focused on EGMTs' perceptions of the nature of creative thinking. Questionnaire item #1 asked participants to rate the importance of each of the nine national standards, using a Likert-type scale with the modifiers of "1=unessential, 2=somewhat unessential, 3=neither unessential or essential, 4=somewhat essential, 5=essential." Questionnaire item #2 asked participants to list other musical activities that are essential to a quality general music curriculum that are not already part of the national standards.

Items #3 and 4 asked participants to rate the degree to which they agreed with various statements regarding creative thinking, using the modifiers of "1=strongly disagree, 2=disagree, 3=neither, 4=agree, and 5=strongly agree." The statements in questions 3 and 4 were adopted, with some modifications, from a survey on teachers' perceptions of creativity conducted by Kampylis, Berki, and Saariluoma (2009).

Item #5 required respondents to evaluate a series of statements detailing learning conditions that potentially enhance and/or inhibit creative thinking. Participants rated the

statements using the following modifiers: "1=inhibits creative thinking, 2=somewhat inhibits creative thinking, 3=has no effect on creative thinking, 4=somewhat enhances creative thinking, 5=enhances creative thinking, or 0=not sure/don't know." The statements about learning conditions were derived, in part, from a previous survey on creative thinking by Diakidoy and Kanari (1999), as well as the research findings of Amabile (1982), and Alencar (2002).

Part II of the questionnaire made an inquiry into the approaches and practices EGMTs use when facilitating creative thinking experiences in their classrooms. Questionnaire item #6 listed 13 different creative thinking activities sometimes implemented in general music. The questionnaire asked the participants to select the average frequency they ask students to participate in each of the 13 activities. Items #7-12 were open-ended questions that allowed participants to write descriptive answers of their practices, not limiting their answers to pre-determined selections.

Part III of the questionnaire contained a series of questions designed to solicit information about the professional background information of each participant. Topics included: geographic state in which the participant taught, other areas of music taught in addition to general music, years of elementary general music teaching experience, area and degree of highest level of education, affiliations with music education organizations, and training in specific music teaching approaches (e.g., Orff, Dalcroze, etc.).

The questionnaire was implemented using on-line survey software available through surveymonkey.com.[5] Surveymonkey.com is a highly respected web-based survey site, which allows users to create and customize their own surveys. The site

[5] See "www.surveymonkey.com" for more information about their services.

allows for privacy by accepting anonymous replies, while putting safeguards in place to keep one person from submitting multiple entries. Responses can be viewed, shared, and analyzed on surveymonkey.com; however, in this case, all responses were kept private, and then exported into Microsoft Excel and SSPS for data analysis.

Thirty-six general music teachers completed a preliminary version of the on-line questionnaire to determine if: (a) the directions were easy to understand, (b) the questions were clear and well-written, (c) there were any questions which were leading or biased, and (d) to determine the approximate length of time it took to complete the questionnaire. Members of the pilot study provided expert judgment as to the content validity of the items included in the questionnaire. The final version of the questionnaire incorporates their suggestions and feedback.

Selection of Participants

The two goals in selecting participants for this study were: (a) to generate participants that were representative of a typical general music teacher, and (b) to achieve a sample large enough to make statistical inferences about the findings. According to Kirk (1999), in order to obtain a sample that is representative of the whole population of general music teachers (population size unknown, but larger than 1,500), a sample size of 367 is desired. A sample size of 367 provides a 95% confidence level that the sample would fall into a 5% plus or minus margin of error category.

Potential participants for this investigation initially came from the population of EGMTs belonging to MENC: The National Association for Music Education (MENC). MENC is the largest music education association in the United States and represents members from all 50 states, in all areas of music education. Members may self-select

one or more areas of primary interest within the field of music education, such as general or choral music. Members of MENC may also possess memberships in other music education organizations. Overall, members of MENC are likely to be representative of "typical" general music educators.

Data Collection

On January 13, 2010, MENC sent an e-mail inviting 2,500 randomly selected EGMTs from throughout the United States to complete the questionnaire. Because MENC handles a large number of e-mail distributions, it is their policy not to send follow up e-mails, nor do they allow researchers access to the e-mail distribution list. As a result, response rates for MENC surveys have been reported as low as 20% (Phelps, 2008). At a 20% response rate, 2,500 e-mails would yield approximately 500 completed surveys, a number sufficient for this survey.

After two weeks time, 152 members completed the questionnaire for an initial response rate of 6.1%. The low response rate necessitated access to another population of EGMTs: members of a general music listserv, called "Music K-8." This listserv was chosen for its similarities to the originally chosen MENC population. Both groups represent general music teachers from all around the United States, with a wide variety in years of teaching experience, professional backgrounds, professional development experiences, and various educational levels.

In order to make sure that potential participants did not submit the survey twice, two safeguards were put in place: (1) the invitation explained that if they were a member of MENC they may have already received this request, in which case, they should not submit the survey twice, and (2) the online survey was configured to allow only one

submission per person.

On January 19, 2010, an invitation was sent through the Music K-8 listserv, which at that time, had a total of 1,142 members. After three requests (spaced out evenly over a two week period), 157 participants had responded to the survey, resulting in a response rate of 13.7%. These two sampling procedures resulted in 309 submitted questionnaires. The total response rate for both groups combined was 8.4%; however, 26 surveys were incomplete. Thus, 283 surveys remained from which to study data.

Typically, a response rate of 80% is desirable when conducting survey research; however, a review of studies dealing with survey design by Krosnick (1999) indicates that a low response rate does not necessarily signal non-representativeness, as long as the researcher uses probability sampling to choose potential participants. Additionally, a number of studies have reported steadily declining response rates, from an average of 58% in 1961 to an average of 20% in the 1990s (Dey, 1997; Sax, Gilmartin, & Bryant, 2003).

Analysis of the Data

This study employed both a quantitative and qualitative methodology of data collection and data analysis. The use of a mixed-methods study allowed for a richness and depth of the data not always found in pure statistical results. The open-ended comments helped explain the trends visible in the quantitative data. The open-ended questions also allowed for a generative analysis of data, wherein new ideas for further research came directly from the participants' comments.

Variables

The independent variables in this study were: (a) years of teaching experience, (b) highest level of education, and (c) training in elementary general music education methods. The dependent variables were: (a) perceptions of the national content standards for music, (b) perceptions of creative thinking and its role in the curriculum, (c) awareness of the factors that inhibit or enhance creative thinking, and (d) implementation of creative thinking activities.

Quantitative Analysis

A number of quantitative techniques allowed for analysis of the closed-ended questions and demographic information (questionnaire items #1, 3, 4, 5, 6, and 13-17). All data collected from the survey were initially imported into Microsoft Excel. Only quantitative data were imported into SPSS, and all calculations were run in SPSS.

A primarily descriptive analysis approach was appropriate because the numerical data were ordinal. This included determining the mean score, mode, and standard deviation for each rated item in the survey. The percentage of participants that chose each modifier demonstrated whether the scores were negatively or positively skewed, or in some cases, bi-modally distributed.

Following the calculation of descriptive statistics, inferential statistics applied to questionnaire items #1 and 3 yielded a series of Friedman's tests, which allowed evaluation of ranks on related items. A Friedman's test is the non-parametric alternative to a one-way ANOVA with repeated measures. It is appropriate to use this test when the dependent variable that is being measured is ordinal, when the data distribution is not necessarily normal, and when there are three or more repeated measures (Zumbo, 2006).

A post hoc analysis was also applied to each Friedman's Test. To examine where the differences actually occurred, I ran the Wilcoxon Signed-Rank Tests on selected combinations of related groups. Additionally, I used a Bonferroni adjustment to avoid Type I errors (Kirk, 1999). The confidence interval for this investigation was 95%, allowing for a 5% margin of error.

To address research question three, a series of Kruskal-Wallis H tests, and Mann-Whitney U tests were applied to determine the impact of the independent variables of years of experience, level of education, and professional development training on the each of the dependent variables. The Kruskal-Wallis H test and Mann-Whitney U test are both non-parametric processes appropriate for ordinal data, and samples that are not necessarily normally distributed.

Qualitative Analysis

Questionnaire items #2 and #7-12 were open-ended questions. I employed a qualitative technique of open-coding while analyzing the data (Merriam, 1998). First, I read through the responses and then developed a series of alphabetic codes based on the participants' answers. Next, I re-read the responses and coded each response or portion of a response. The categories were then counted for frequency and analyzed for common themes (see Chapter IV for a full description of the categories of responses). After determining the categories, I triangulated the data by consulting with three general music teachers. Each teacher looked over the responses and codes individually to validate the identified categories and placement of responses. Finally, themes were compared to the existing research literature on EGMTs' perceptions and practices of creative thinking (Bogdan & Biklen, 2007).

Reliability

Following the administration of the questionnaire, a Cronbach's alpha analysis determined the reliability of the survey instrument. The analysis was applied to four individual subsections of the questionnaire: content standards, EGMTs' perceptions of creative thinking, creative thinking learning conditions, and creative thinking activities.

Summary

This chapter presents the methodology used in this study as well as the rationale for using a survey. The chapter also discusses the development of the questionnaire. The selection of potential participants includes a random sample of EGMTs who were members of MENC, or members of an online listserv for general music teachers. I also present response rates, and the process of collecting data, as well as the processes used to analyze responses from participants. The following chapter contains the results of the data analysis.

CHAPTER IV
RESULTS

The purpose of this study was to investigate the perceptions and teaching practices of elementary general music teachers (EGMTs) facilitation of students' creative thinking. This study examined: (a) EGMTs' perceptions of the value of creative thinking as part of the elementary general music curriculum, (b) the way in which EGMTs implement creative thinking activities, (c) the extent to which EGMTs facilitate creative tasks in their classrooms, and (d) the degree to which they feel successful in guiding children's creativity.

This chapter begins with a description of the participants involved in this study, all of whom were EGMTs from throughout the United States. The chapter proceeds by presenting the results of the data analysis for each of the stated research questions. Chapter IV ends with a summary outlining significant trends and themes presented in the data analysis.

Description of the Participants

Participants (*N*=283) provided the following demographic information: number of years of elementary general music teaching experience, areas of music taught in addition to general music, and pertinent information regarding their educational background. Analyzing the demographic information provided an understanding of the participants that chose to complete this survey.

The number of years of general music teaching experience ranged from 0 to 43 years, with an average of 13.83 years of experience. To explore the relationship between the number of years of teaching experience and specific responses on the survey, I

divided participants into four subgroups based on their years of experience: 0 to 10 years (*n*=133), 11 to 20 years (*n*=76), 21 to 30 years (*n*=45), and 31 or more years (*n*=24); some participants chose not to answer the question [unknown (*n*=5)].

All participants reported teaching the subject area of elementary general music however, additional teaching assignments and grade levels taught varied widely. Most commonly, participants reported teaching grade levels K-5, however, 22.0% of participants reported teaching pre-kindergarten, and 29.3% reported teaching sixth-grade. Additionally, a number of participants indicated teaching subject areas in addition to elementary general music. However, the majority of participants reported that they directed traditional performance ensembles (band, choir or orchestra) and/or teaching instrument lessons (see Table 1).

Table 1.

Additional Subject Areas Taught by Participants

Class	**Number of Participants**	**%**
Direct a Choir	135	47.7
Band Lessons	29	10.2
Direct a Band	28	9.9
Direct an Orchestra	18	6.4
String Lessons	16	5.7
Other Subject Areas:	65	23.0
Guitar	7	2.5
Piano/Keyboards	6	2.1
Theatre/Drama/Musicals	5	1.8
Marimba/Percussion Ensemble	4	1.4
Recorder	4	1.4
World Music Drumming	3	1.1
Life Skills	3	1.1
Orff Ensembles	3	1.1
Hand Bell Choir	2	0.7
Music Theory	2	0.7
Creative Music Class	1	0.4
Marching Drum Line	1	0.4
Mountain Dulcimer	1	0.4
Ukulele	1	0.4

Participants also reported the amount of professional development training they had attained in the areas of Dalcroze, Orff, Kodály, Music Learning Theory (Gordon), World Music Drumming (WMD), Technology in Music Education (TI:ME), or another methodology (see Table 2). The most common form of professional development was Orff Schulwerk, in which 46.3% of the participants reported attaining Level I or higher. A smaller percentage of participants reported attaining Level I or higher of Kodaly (19.9 %), World Music Drumming (7.5%), TI:ME (5.2%), Dalcroze (5.1%), and Gordon (3.2%).

Table 2.

Percentage of Participants (N=283) Reporting Professional Development Experience

Level of Training:	**No formal training**	**Attended workshops**	**Level I**	**Level II**	**Level III or higher**
Orff	18.5%	35.3%	21.6%	10.4%	14.1%
Kodály	34.0%	46.2%	12.2%	3.1%	4.6%
WMD	57.5%	35.1%	5.1%	1.2%	1.2%
Dalcroze	67.6%	27.3%	4.3%	0.8%	0.0%
TI:ME	79.5%	15.5%	3.6%	0.0%	1.6%
Gordon	82.1%	14.7%	2.4%	0.0%	0.8%

Some participants (*n*=22) also reported experience with other forms of professional development in music education not listed on the survey, including: Mary Helen Richards' Education Through Music (*n*=5), Yamaha MIE[6] (*n*=3), Musikgarten (*n*=2), Ann Greene Gilberts' Creative Movement (*n*=1), Board Certification in Music

[6] Yamaha MIE stands for *Yamaha Music in Education,* which is a keyboard-based general music curriculum.

Therapy (*n*=1), Composing Together (*n*=1), Comprehensive Musicianship Project (*n*=1), John Feierabend's Conversational Solfège (*n*=1), Kindermusik (*n*=1), Music Together (*n*=1), National Board Certification in Music Education (*n*=1), Suzuki (*n*=1), and Teaching Guitar by MENC (*n*=1).

Participants taught in states all around the country, with each state receiving at least one response, with the exception of Delaware, Rhode Island, and Wyoming, from which there were no responses. Participants were grouped into 7 subgroups for the purpose of identifying the region in which they teach: Northwest (AK, ID, MT, OR, UT, WA, n=19), Southwest (AZ, CA, CO, HI, NM, NV, n=23), Midwest (IA, IL, IN, MI, MN, MO, ND, ME, OH, SD, WI, n=83), South (AL, AR, KY, KS, LA, MS, OK, TN, TX, WV, n=41), South Atlantic (FL, GA, NC, SC, VA, n=40), and East Coast (MA, MD, ME, NH, NJ, NY, PA, VT, n=38), and unknown (n=37).[7]

Presentation and Analysis of Data

Research Question #1

What are EGMTs' perceptions of creative thinking and its role in music education?

a. *To what extent do EGMTs value creative thinking as part of the general music curriculum?*
b. *Are EGMTs aware that the skills of extensiveness, fluency, originality, and syntax contribute to increased creative thinking skills in music?*

[7] It is interesting to note the high level of non-response on this question. Upon further examination of the survey, I noticed that the font size of the question in item #13 was extremely small (see Appendix A); it is my speculation that most participants who failed to respond to this question merely missed the question due to the font size anomaly.

c. *To what degree do EGMTs think they are sufficiently trained to incorporate creative thinking experiences in music?*

d. *What are EGMTs' perceptions regarding learning conditions that may inhibit or enhance students' creative thinking products?*

Five items on the questionnaire related to the participants' perceptions of creative thinking and its role in music education. These items each contained a number of statements that participants rated using various Likert-type scales. The questions examined several components of EGMTs' perceptions including: the extent to which EGMTs value musical creative thinking as part of the curriculum, EGMTs' understanding of the components that comprise creative thinking in music, EGMTs' perceived ability to facilitate creative thinking tasks, and EGMTs' perceptions of learning conditions which may inhibit or enhance creativity.

Questionnaire Item #1

In order to determine the extent to which EGMTs value creative thinking tasks relative to other musical skills, participants responded to the question "How important are each of the National Content Standards for Music as part of an elementary general music curriculum?" Participants rated each of the national content standards on an ordinal scale of: "1=unessential, 2=somewhat unessential, 3=neither essential nor unessential, 4= somewhat essential, or 5=essential." The data were combined to determine the mode, mean score, and standard deviation for each of the nine national content standards (see Table 3).

Table 3.

Mode, Means, and Standard Deviations: Participants' Ratings of the National Content Standards in Music Education

National Content Standards for Music Education	**Mode**	***M***	***SD***
Singing, alone and with others	5	4.94	0.28
Playing instruments, alone and with others	5	4.83	0.40
Listening, analyzing, and describing	5	4.67	0.57
Reading and notating	5	4.67	0.57
Understanding music in relation to history and culture	5	4.54	0.64
Evaluating musical performances	5	4.38	0.72
Understanding relationships between music and other disciplines	5	4.33	0.78
Improvising music	4	4.21	0.80
Composing and arranging	4	4.03	0.93

A Friedman test evaluated the differences between scores assigned to each of the national content standards. The test indicated statistically significant results, $\chi^2(15, n=278) = 545.54$, $p < 0.001$. Post hoc analysis with Wilcoxon Signed-Rank Tests evaluated pair-wise differences among scores (between composing or improvising versus each of the other national standards) while controlling for Type I error with a Bonferroni correction applied, resulting in a significance level set at $p < 0.0033$.

Evaluation of the post hoc tests indicated that, with one exception, participants rated improvisation and composition as less essential to the general music curriculum than the other national content standards. Participants ranked improvisation higher than composition, but still lower than all other content standards, with the exception of understanding relationships between music and other disciplines, for which there was not a statistically significant difference (see Table 4).

Table 4.

Wilcoxon Signed-Ranks Test: A Pair-wise Comparison of Content Standards Versus Improvisation and Composition

Other Content Standards vs. Improvising	***z***	***p***
Singing	-11.89	.000*
Playing instruments	-11.06	.000*
Reading and notating	-7.80	.000*
Listening, analyzing, describing	-7.88	.000*
Understanding music in relation to history and culture	-5.58	.000*
Evaluating musical performances	-3.22	.001*
Understanding relationships between music and other disciplines	-2.12	.034
Other Content Standards vs. Composing	***z***	***p***
Singing	-12.09	.000*
Playing instruments	-11.51	.000*
Reading and notating	-10.23	.000*
Listening, analyzing, describing	-9.86	.000*
Understanding music in relation to history and culture	-7.62	.000*
Evaluating musical performances	-5.93	.000*
Understanding relationships between music and other disciplines	-4.80	.000*
Improvising	-4.03	.000*

*Indicates Significance

Questionnaire Item #2

Item #2 asked participants "Do you believe there are other experiences essential to an elementary general music curriculum, which are not currently part of the National Content Standards?" A little over one third of the participants (36.8%) replied "yes," while nearly two-thirds (63.3%) replied "no." Of the 104 participants that replied yes, 94 specified additional areas of music learning they believed should be part of the national content standards. The most prevalent answer was movement/dance, with 53 participants suggesting this as a possible addition to the national standards (see Table 5).

Table 5.

Experiences Essential to General Music Not Currently Part of the National Content Standards, as Suggested by Participants

Suggestions for Additional National Standards	**Number of Participants**
Movement/Dance	53
Social Skills Group Music Making	5
Intrapersonal/Spiritual	5
Multicultural Music	5
Conceptual Knowledge of the Elements of Music	4
Drama/Theatre	3
Music exploration and creation	3
Skills for being an Audience Member	3
Public Performance	3
Technology	2
American Folk Songs/Culture	2
Composers	2
Singing Games/Play Parties	1
Aural Skills/Solfège	1
Career Skills for Musicians	1
Repertoire	1
Beat Competency	1
A Minimum Amount of Time for Music Instruction	1
Music Vocabulary	1

Questionnaire Item #3 (Statements a-d)

Questionnaire item #3 contained a number of statements designed to examine EGMTs' perceptions regarding the value of musical creative thinking. Participants responded to a series of statements using an ordinal scale of, "1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree." The data were combined to determine the mode, mean score, and standard deviation for each statement (see Table 6).

Table 6.

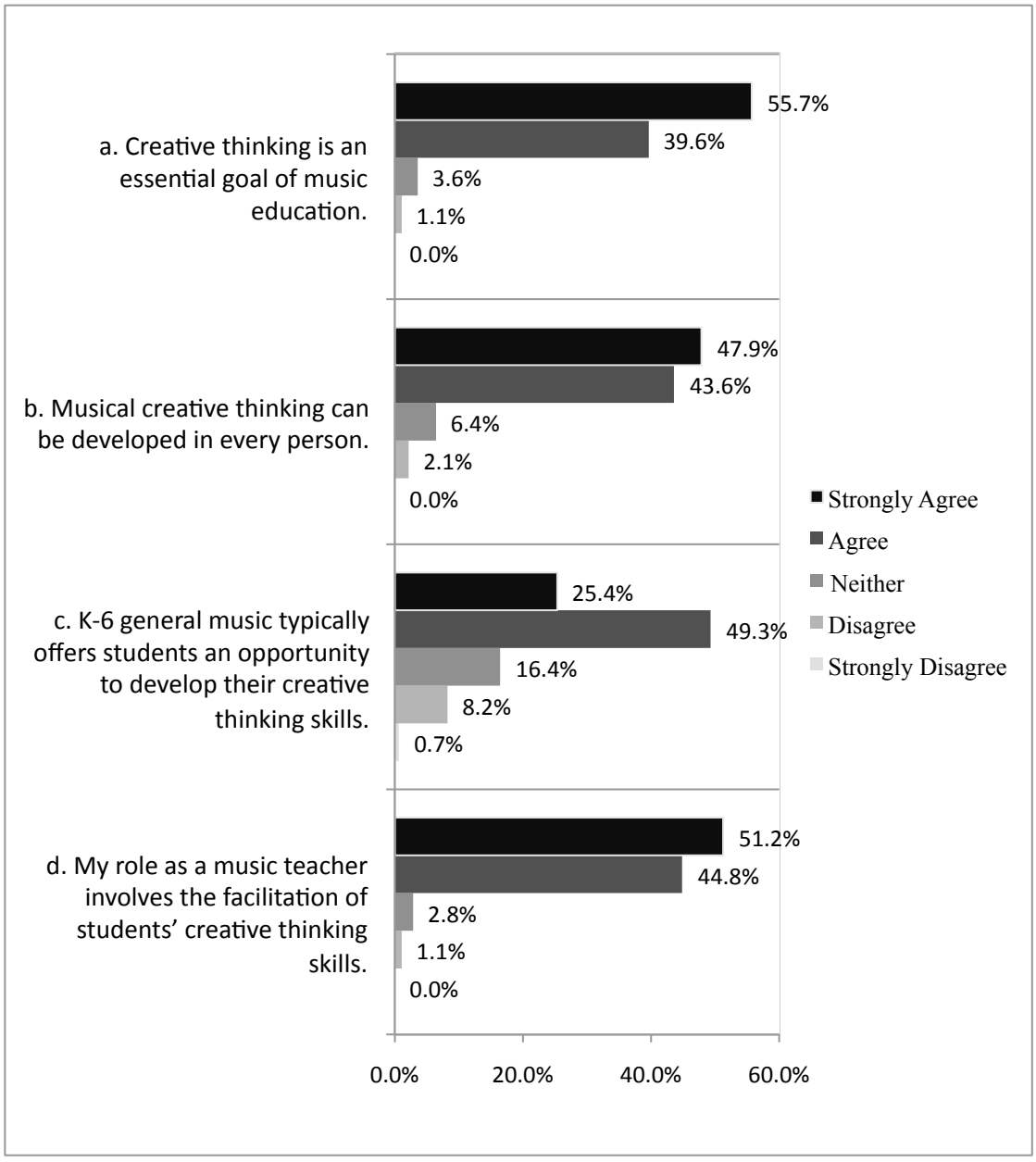
Mode, Means, and Standard Deviations: EGMTs' Perceptions of the Value of Creative Thinking

Item #3, Statements a-d	**Mode**	***M***	***SD***
3a. Creative thinking is an essential goal of musical development.	5	4.49	0.62
3b. Musical creative thinking can be developed in every person.	5	4.37	0.70
3c. K-6 general music typically offers students an opportunity to develop their creative thinking skills.	4	3.90	0.90
3d. My role as a music teacher involves the facilitation of students' creative thinking skills.	5	4.45	0.61

Overall, a majority of participants responded positively to each statement in item #3 a-d. Most EGMTs in this study, 95.3%, viewed creative thinking as essential to general music. Similarly, 91.4% of participants believed that creative thinking could be developed in every person, and 96.1% viewed their role as a music teacher as including the development of students' creative thinking. Interestingly, fewer participants, only 74.5%, responded positively to the statement "K-6 general music typically offers students an opportunity to develop their creative thinking skills." Figure 1 shows the breakdown of response choices for item #3 (statements a-d).

Figure 1.

Participants' Response Choices: Questionnaire Item #3 (Statements a-d)



A Friedman test evaluated pair-wise differences between each of the statements in item #3 (a-d). The test indicated statistically significant results, $\chi^2(3, n=280) = 144.03, p$

< 0.001. Post hoc analysis with Wilcoxon Signed-Rank Tests evaluated pair-wise differences among scores for each statement, while controlling for Type I error with a Bonferroni correction applied, resulting in a new significance level set at $p < 0.017$.

Evaluation of the post hoc tests indicated that a significant difference existed between the responses 3a, 3b, and 3d versus 3c. The results indicated that a significant number of participants' were less positive about the idea that "K-6 general music offers students an opportunity to develop their creative thinking skills" than about other perceptions of creative thinking in the curriculum (see Table 7).

Table 7.

Wilcoxon Signed-Ranks Test: A Pair-wise Comparison of Questionnaire Item #3 a, b, and d versus 3c

Questionnaire Statements	***z***	***p***
3a. Creativity is an essential goal of musical development.	-9.27	.000*
3b. Musical creativity can be developed in every person.	-7.23	.000*
3d. My role as a music teacher involves the facilitation of students' musical creativity.	-9.19	.000*

*Indicates Significance

Questionnaire Item #3 (Statements e-h)

Questionnaire items #3 e-h contained four statements designed to determine EGMTs' familiarity with the individual components of musical creativity, as defined by Webster (1977): musical extensiveness, fluency, originality, and syntax. Participants replied using an ordinal scale of, "1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree." The data were combined to determine the mode, mean score, and standard deviation for each statement (see Table 8).

Table 8.

Mode, Means, and Standard Deviations: EGMTs' Perceptions of the Components of Creative Thinking in Music

Item #3, Statements e-h	**Mode**	***M***	***SD***
3e. The ability to develop more than one solution to a musical problem is an essential component of creative thinking in music (musical fluency)	5	4.35	.69
3f. A musical composition must be unique or original to be creative (musical originality)	2	2.64[A]	.98
3g. A musical composition must make musical sense to be creative (musical syntax)	2	2.41[A]	.97
3h. The longer a musical composition lasts, the more creative it tends to be (musical extensiveness)	2	1.92[A]	.76

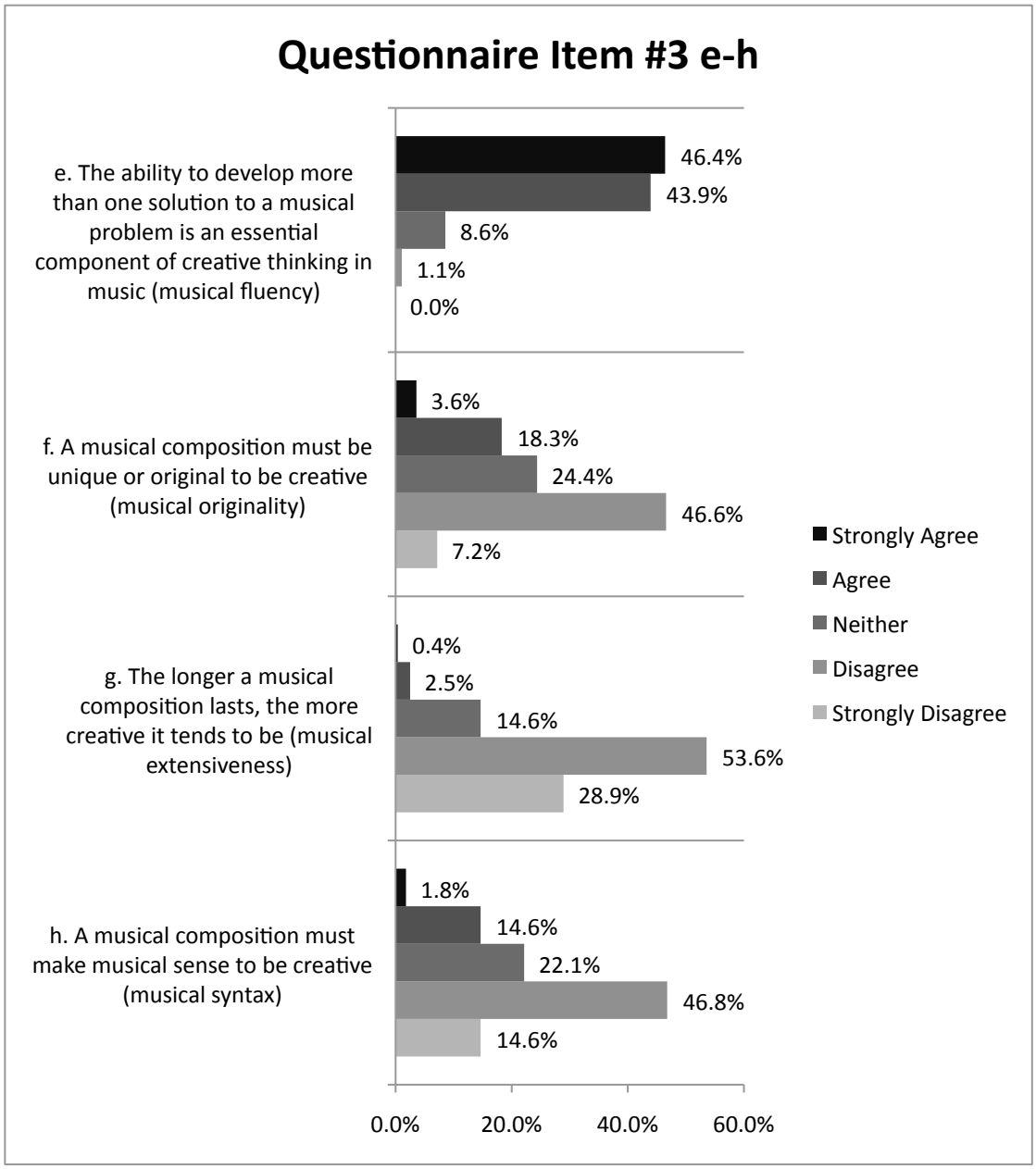
[A] denotes means that fall below the midpoint

Figure 2 shows the percentage of participants' response choices for statements e-h. The majority of participants (90.4%) responded positively to the idea that musical fluency is an important component of creative thinking in music. However, participants seemed less convinced that the components of musical originality, musical syntax, and musical extensiveness have an effect on creative thinking.

Most participants (53.7%) disagreed or strongly disagreed with the idea that music composition must be unique or original to be creative, while only 21.9% agreed or strongly agreed. A majority of participants (61.4%) also disagreed or strongly disagreed that a musical composition must make musical sense for it to be creative. An even larger majority of participants (82.5%) disagreed or strongly disagreed with the idea that a longer composition results in a more creative composition.

Figure 2.

Participants' Response Choices: Questionnaire Item #3, Statements e-h



Questionnaire Item #4

Questionnaire item #4 contained six statements designed to determine the degree to which EGMTs consider themselves well-trained and able to incorporate creative

thinking experiences in music. Respondents replied using a ordinal scale of, "1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree." The data were combined to determine the mode, mean score, and standard deviation for each statement (see Table 9).

Table 9.

Mode, Means, and Standard Deviations: EGMTs' Perceptions of Their Ability to Teach Creative Thinking in Music

Item #4 Statements	**Mode**	***M***	***SD***
4a. I feel well-trained to develop students' creative thinking skills in music.	4	3.80	1.01
4b. I have the resources I need to implement creative thinking experiences in my teaching.	4	3.75	1.01
4c. I have enough time to implement creative thinking experiences.	2	2.44[A]	1.10
4d. I have enough space to implement creative thinking tasks.	4	3.10	1.23
4e. I worry that when students work independently on creative thinking tasks, such as composing or improvising, I might lose control of classroom management	2	2.44[A]	1.15
4f. Activities that emphasize creative thinking (such as composition and improvisation) are part of my school district's music curriculum.	4	3.61	1.02

[A] denotes means that fall below the midpoint

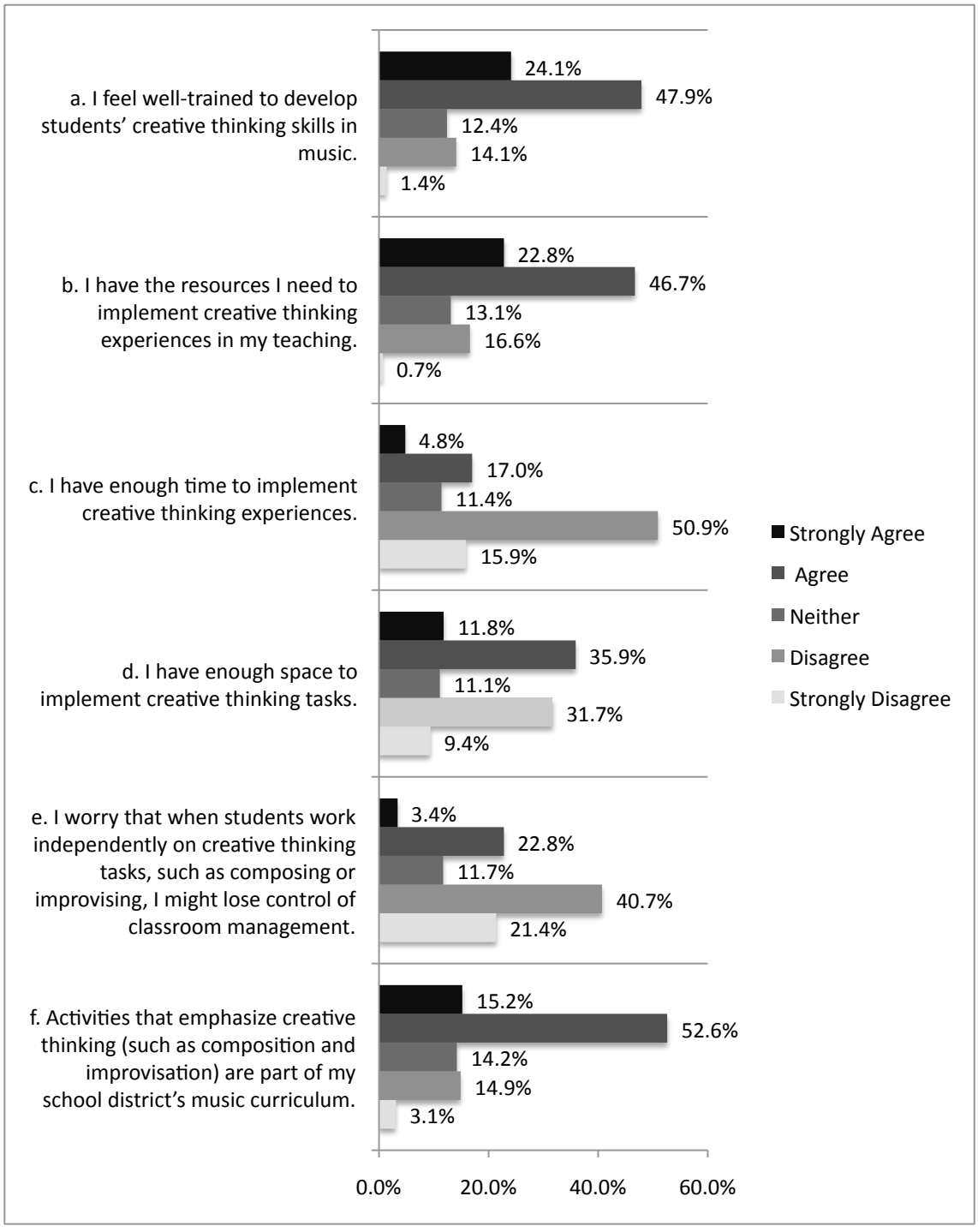
The results indicated that the majority of participants (72%) think they are well-trained to teach creative thinking as a part of general music. A majority of participants (69.5%) also reported having the resources they need to incorporate creative thinking into their curriculum. A majority of participants (62.1%) did not think that classroom management was a significant problem; however, 26.2% of participants reported

worrying about loss of control during creative thinking activities.

The results also suggest that a number of participants find lack of space and lack of time to be significant challenges. A majority of participants (66.8%) reported not having enough time to implement creative thinking activities, while only 21.8% of participants thought they had enough time. Although not a majority, 41.1% of participants reported not having enough space, while 47.7% of participants reported having sufficient space in which to facilitate creative thinking tasks. Figure 3 illustrates participants' response choices for the statements in item #4.

Figure 3.

Participants' Response Choices: Questionnaire Item #4



Questionnaire Item #5

The statements in item #5 focused on a variety of learning conditions that may have an effect on students' creative thinking tasks. Participants were asked to "Choose the degree to which you believe the following conditions may inhibit or enhance students' creative thinking tasks." Participants used a categorical scale of: "0=not sure/don't know, 1=inhibits creative thinking, 2=somewhat inhibits creative thinking, 3=has no effect on creative thinking, 4=somewhat enhances creative thinking, 5=enhances creative thinking." The data were combined to determine the mode, mean score, and standard deviation for each statement (see Table 10).

Table 10.

Mode, Means, and Standard Deviations: EGMTs' Perceptions of Learning Conditions and Potential Effects on Creative Thinking

Item #5 Statements	**Mode**	***M***	***SD***
a. When students work alone on a musical task, it...	4	3.22	1.64
b. When students work in small groups with friends on a creative task, it...	4	4.16	1.07
c. When students work in small groups with peers who are not friends, it...	4	3.26	1.44
d. When students know they will be graded by the teacher, it...	4	3.00	1.35
e. When students know they will be evaluated by their peers, it...	4	3.37	1.47
f. When students are given complete freedom for creating, it...	4	3.36	1.48
g. When students are given at least one specified element (i.e., a particular rhythm or text) to create with, it...	5	4.36	0.96
h. When students are given freedom to choose their mode of presentation (i.e., xylophone, dancing, etc.), it...	5	4.31	1.17
i. When students are asked to write down their compositions using traditional notation, it...	2	2.36	1.20
j. When it is noisy while students are working, it...	2	2.43	1.12

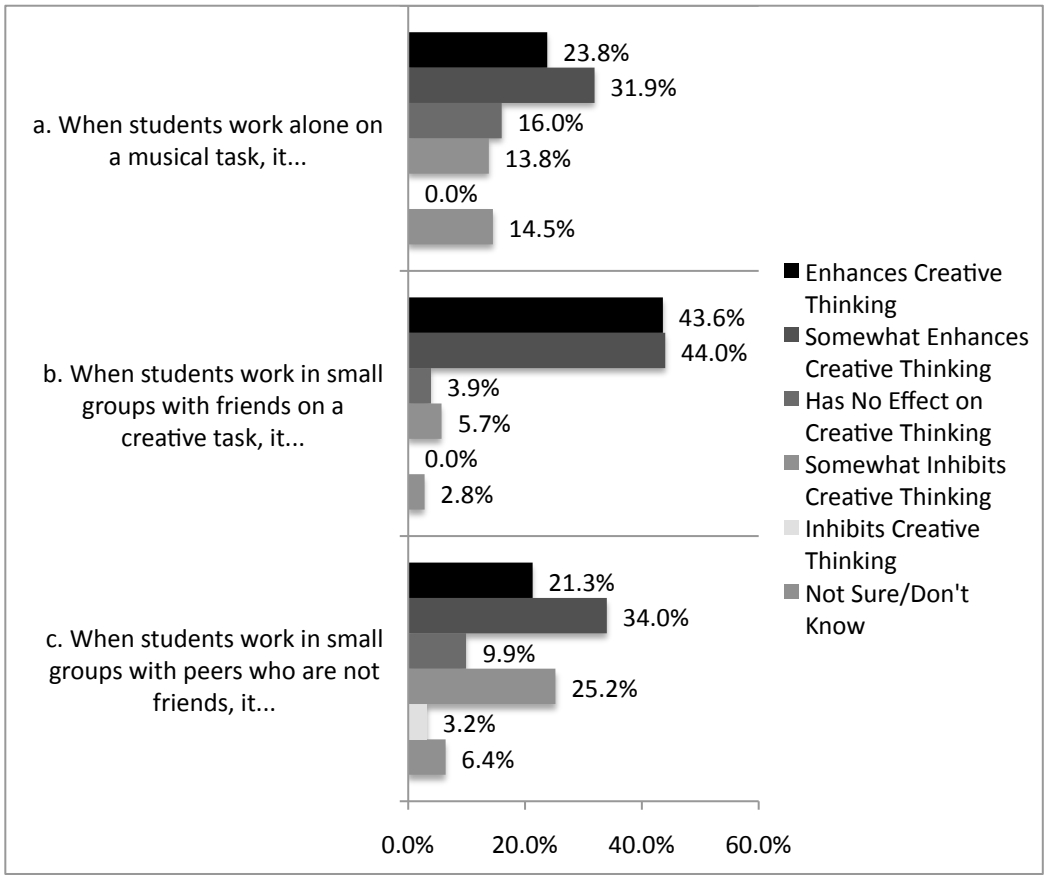
[A] denotes means that fall below the midpoint

Overall, a majority of participants thought that working in groups with friends would enhance (43.6%) or somewhat enhance (44.0%) creative thinking; only a small number of participants (5.7%) thought that working with friends would somewhat inhibit creative thinking. However, participants' answers varied widely as to whether working with peers who were not friends would inhibit or enhance creative thinking. A smaller majority of participants thought that working alone would enhance (23.8%) creative thinking or somewhat enhance creative thinking (31.9%); while only a small portion of participants (13.8%) thought that working alone would somewhat inhibit creative thinking.

Interestingly, 14.5% of participants answered "not sure/don't know", when asked if working alone enhances or inhibits creative thinking. Such an increase begs the question, why did nearly one-sixth of participants answer in this manner? While this is only speculation, it stands to reason that perhaps EGMTs are rarely allowing their students to engage in independent creative work, and therefore they have difficulty answering this question. Figure 4 illustrates participants' response choices for the statements in item #5 a-c.

Figure 4.

Participants' Response Choices: Questionnaire Item #5 (Statements a-c)



Nearly half of the participants (41.4%) indicated that teacher evaluation would enhance or somewhat enhance students' creative thinking; only 26.5% responded that teacher evaluation would inhibit creative thinking. A majority of EGMTs (57.3%) perceived that student evaluation would enhance creative thinking; while 23.5% thought that student evaluation would inhibit or somewhat inhibit creative thinking. Figure 5 illustrates participants' response choices for the statements in item #5 having to do with student evaluation.

Figure 5.

Participants' Response Choices: Questionnaire Item #5 (Statements d-e)

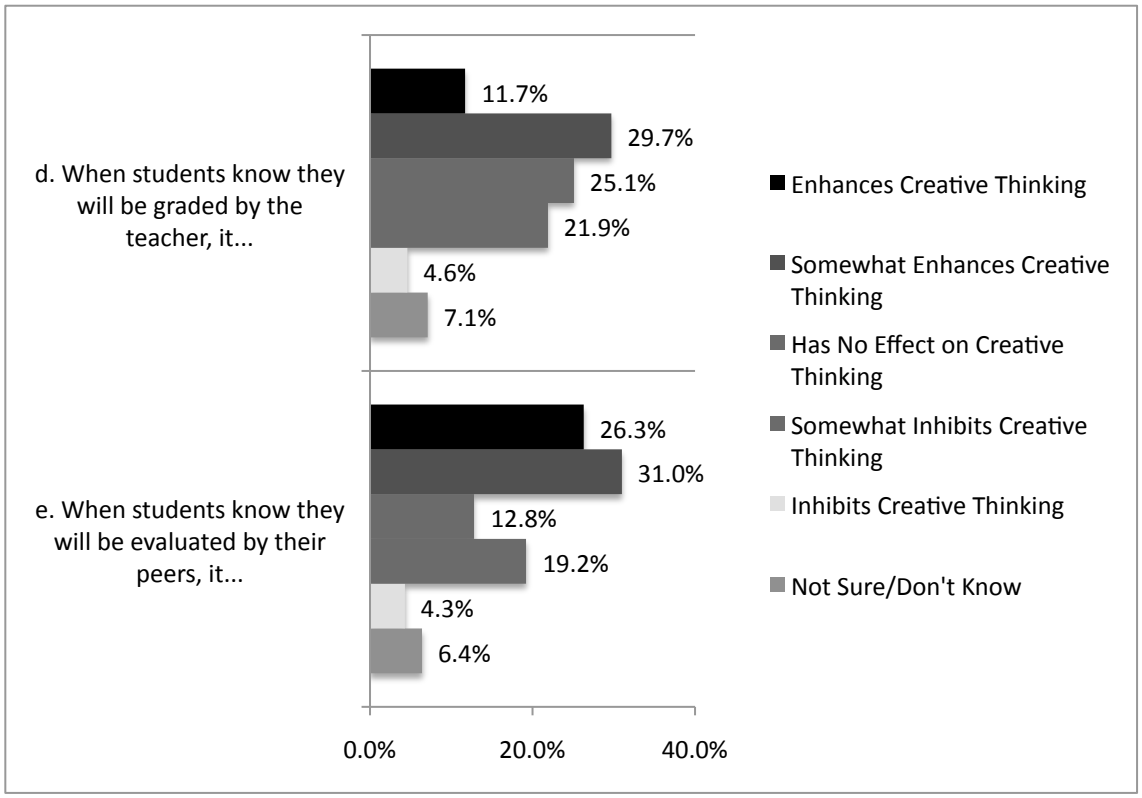


Figure 6 illustrates participants' response choices for the statements in item #5 having to do with student control. The majority of participants (88.7%) thought that allowing students to choose their mode of presentation enhances creative thinking. A majority of participants also indicated that specifying at least one musical element (91.5%) aids students' creative thinking tasks. However, fewer participants (58.8%) thought that complete freedom would enhance students' creative thinking, while 30.9% of participants responded that complete freedom might inhibit creative thinking.

Figure 6.

Participants' Response Choices: Questionnaire Item #5 (Statements f-h)

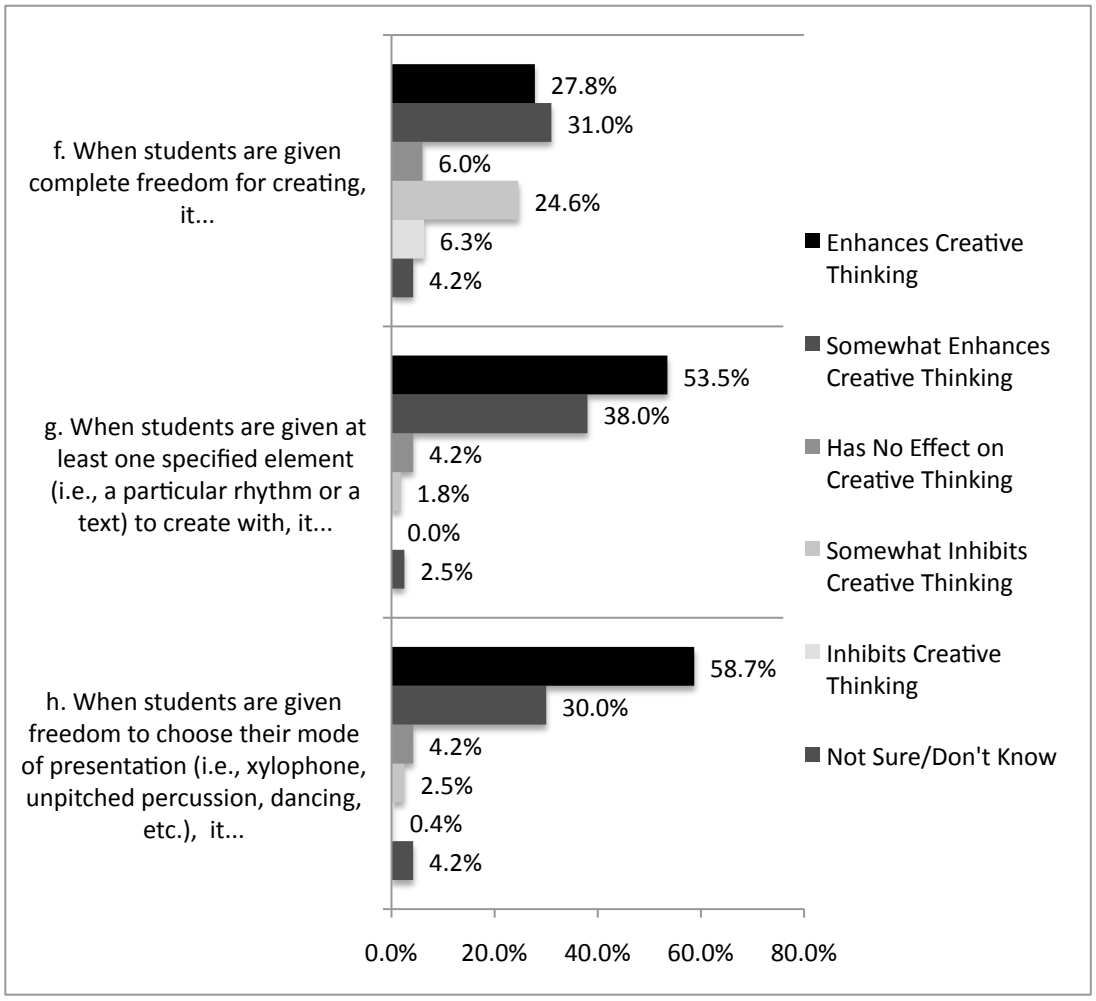
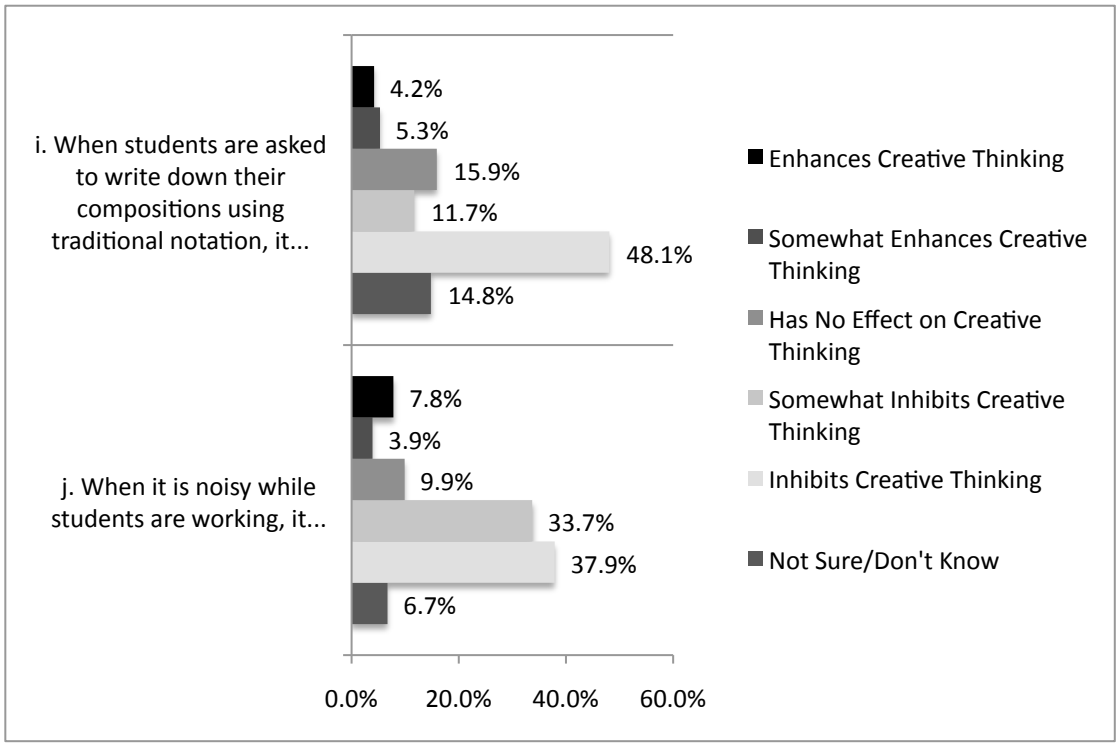


Figure 7 illustrates participants' response choices for item #5 having to do with noise and traditional notation. In both cases, a majority of participants thought that a noisy environment (71.6%) and traditional notation (59.8%) were significant barriers to creative thinking, while only a small proportion of EGMTs thought that they would have no effect or help creative thinking.

Figure 7.

Participants' Response Choices: Questionnaire Item #5 (Statements i-j)



Note the number of participants that answered "not sure/don't know," to item #5i (14.8%). In comparison to the number of participants reporting "not sure/don't know" to most other statements in item #5, this is a fairly large number.

Research Question #2

In what manner do EGMTs incorporate creative thinking experiences into their lessons?

a. *What creative thinking activities do EGMTs design for their students?*
b. *How frequent are creative thinking experiences in the elementary general music classroom?*
c. *What techniques, if any, do EGMTs use to assess students' creative products?*
d. *What challenges, if any, do EGMTs face when incorporating creative thinking*

experiences into their lessons?

Six items on the questionnaire examined EGMTs' practices of teaching musical creative thinking skills. One question asked participants to rate how often they engage in a number of various creative thinking tasks. The open-ended questions investigated challenges that EGMTs face when implementing creative thinking tasks for students, as well as ways in which EGMTs go about assessing their students' work.

Questionnaire Item #6

Questionnaire item #6 asked participants to self-report, "On average, how often do you ask your students to engage in the following creative thinking experiences?" Participants (*N*=281) responded using a scale of: "1=never, 2=rarely (between 1-3x/year), 3=sometimes (between 4x-6/year), 4=frequently (between 7-9x/year), 5=often (more than 10x/year)." The data were combined to determine the mode, mean score, and standard deviation for each type of creative activity (see Table 11).

Table 11.

Mode, Means, and Standard Deviations: Frequency of Creative Thinking Experiences in the General Music Classroom

Creative Thinking Experiences	**Mode**	***M***	***SD***
Improvise rhythms to play as body percussion	5	3.76	1.14
Create movement or dance to music	5	3.70	1.14
Improvise with classroom instruments	4	3.62	1.06
Compose music for classroom instruments that is not notated	2	3.08	1.09
Improvise with their voices	2	3.05	1.21
Improvise on recorder	2	2.56	1.22
Create a song to sing that is not notated	2	2.51	0.95
Compose music for classroom instruments that is notated	2	2.36	0.88
Compose or improvise with found sounds (recycled)	2	2.35	1.02
Create a song to sing that is notated with traditional notation	2	2.21	0.85
Create listening maps to existing pieces of music	2	1.88	0.91
Arrange a pre-existing song, such as a folk song	1	1.77	0.94
Invent their own form of musical notation	1	1.72	0.87

Most commonly, participants reported implementing improvisatory experiences for voices, percussion instruments, and body percussion. EGMTs also reported commonly facilitating creative movement or dance, and non-notated instrumental compositions. Typically, participants reported facilitating compositional activities with notation only one to three times per year. EGMTs reported rarely facilitating the following activities: arranging music, inventing notation, and creating listening maps.

Questionnaire Item #7

Participants (19.1%) responded to the statement, "If applicable, list other creative thinking experiences that you have implemented in your classroom that are not included in the list above." Participants shared a variety of additional experiences they have used

in their classrooms. Their responses varied widely, including activities such as integrating sound and music into storybooks, creating art projects to reflect music, and writing lyrics for existing songs. The open-ended answers were coded using content analysis, in a Microsoft Excel spreadsheet. Codes were then double checked and triangulated with a team of three general music teachers. Table 12 illustrates the codes and responses to item #7.

Table 12.

Additional Creative Thinking Experiences as Shared by Participants (*n*=54)

Code	**Task**	***N***
S	Add music or sound to poetry and stories	10
A	Create an art project to go with composed music (or vice versa)	10
Mov	Use movement to show musical elements	8
T	Use technology to create songs or musical pieces	8
L	Add or changes lyrics to a song	7
Drama	Use theater/drama to accompany songs	5
Var	Compose a variation to a given melody	4
O	Create an ostinato or rhythmic accompaniment to a given song	3
D	Improvise music as part of a drumming circle	2
E	Students decide how to add musical expression to a song	2
G	Change the style or genre of a song	1
H	Compose chord progressions	1
W	Compose based on musical elements from a particular culture	1
Voc	Exploration of vocal timbres	1
Q&A	Improvise “question and answers”	1
J	Journal about music while listening	1
F	Student guided exploration of sound and instruments	1
R	Students compose songs for classroom routines, such as lining up	1
Props	Use props to dramatize music/stories	1

Questionnaire Items #8-12

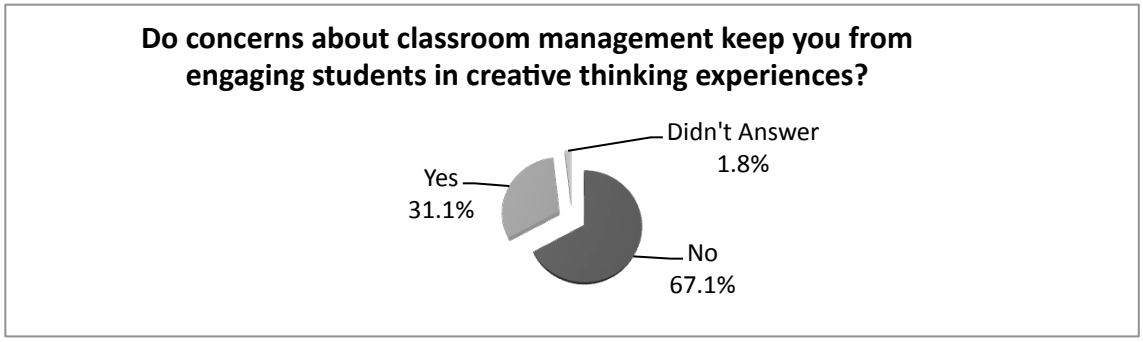
Questionnaire items #8-12 contained closed- and open-ended questions designed to further explore participants’ practices of creative thinking. Participants responded with

a yes or no. Those replying yes provided an open-ended explanation. The open-ended answers were coded using content analysis, in an Excel spreadsheet. Codes were then double checked and triangulated with a team of three general music teachers.

Item #8 asked, "Do concerns about classroom management keep you from engaging students in creative thinking experiences?" The majority of participants (*n*=190) replied "no," however approximately one-third of participants (*n*=88) replied "yes," while some participants chose not to reply (*n*=5). Figure 8 illustrates the breakdown of responses.

Figure 8.

Responses to Questionnaire Item #8



Of the participants who answered "yes" to item #8, 94.3% provided additional information (*n*=83). Their responses yielded 12 common themes. The most frequent comments included worries that the lack of structure would lead to behavior problems, and that students would become too noisy or talkative (see Table 13).

Table 13.

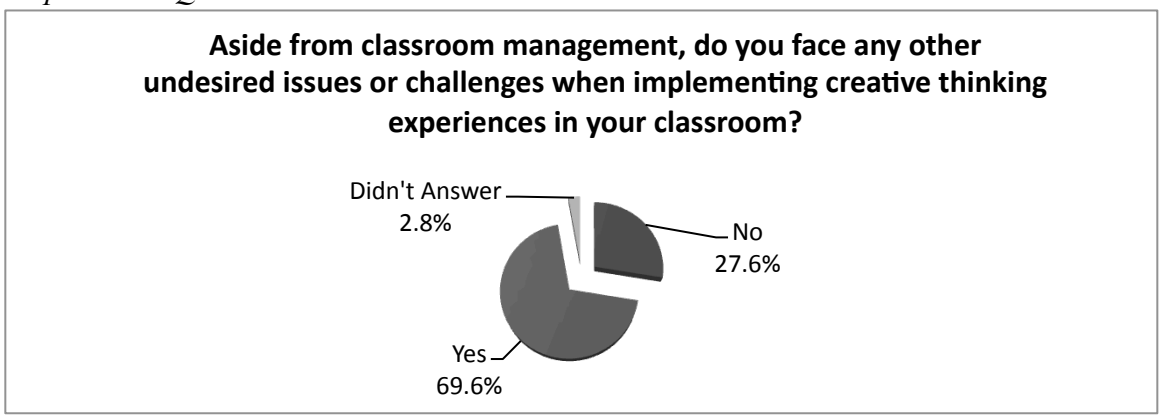
Common Concerns by Participants: Classroom Management as a Barrier

Code	Teacher Concern	*N*
F	Too much freedom/lack of structure	19
T	Too noisy/students are too talkative	16
C	Class sizes are too big	8
BD	Too many students with existing behavior problems	8
S	Some students waste time	7
I	Individual nature of the work makes it hard for teacher to help	6
Space	Lack of adequate space	6
D	Teacher is afraid of losing control	6
Social	Students lack the social skills necessary to work with others	5
L	Little support from administrators with behavior issues	4
Stress	Stressful for teacher	3
Dis	Too much focus on discipline, not enough focus on music	3

Questionnaire item #9 asked, "Aside from classroom management, do you face any other undesired issues or challenges when implementing creative thinking experiences in your classroom?" The majority of participants (*n*=197) replied "yes," while a little less than one-third of participants (*n*=78) replied "no." Some participants chose not to reply (*n*=8). Figure 9 illustrates the participants' response choices.

Figure 9.

Responses to Questionnaire Item #9



The results indicated that a majority of EGMTs (69.6%) think they face difficult challenges when trying to implement creative thinking in their classrooms. All of the participants that responded "yes" to item #9 (*n*=197) shared their perspective of challenges that they face when facilitating creative thinking tasks. In this study, lack of sufficient teaching time was reported to be the most significant challenge that teachers face. Space also seems to be a significant issue for EGMTs. Over 40% of EGMTs felt that they did not have adequate space to implement creative thinking tasks successfully. EGMTs reported lack of space leads to overly noisy work, in which students cannot easily think in sound, and it also leads to classroom management issues because students are trying to work on top of one another. Other challenges included lack of instruments, other curricular priorities, students who need additional accommodations, lack of training on the part of the teacher, and resistance from students about "being creative." See Table 14 for a complete list of participants' reported challenges.

Table 14.

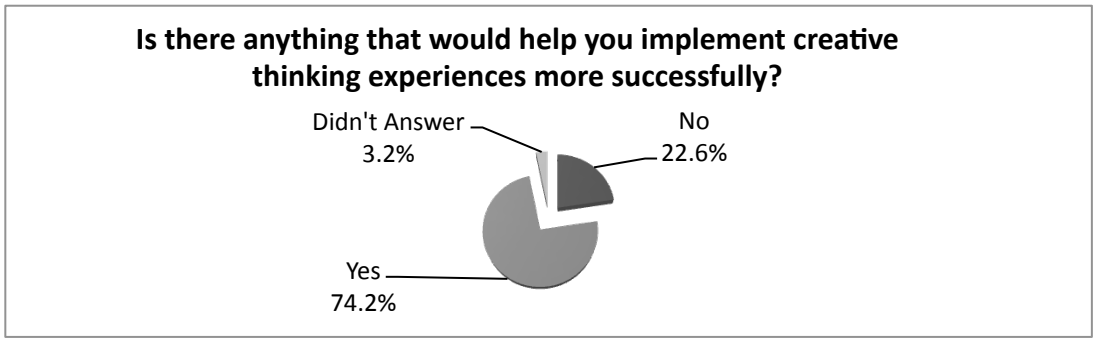
Common Challenges Reported by Participants: Barriers to Implementing Creative Thinking

Code	Challenges	*N*
T	Lack of time with students	91
LS	Lack of space (too crowded and/or too noisy)	38
I	Lack of instruments	18
O	Other curriculum priorities (including performances)	15
SE	Students need too much attention or educational accommodations	12
L	Lack of training, ability, or confidence on the part of the teacher	10
R	Resistance from students about being "creative"	10
C	Teaching on a cart	10
E	Lack of experience on the part of the student	9
Admin	Administration and/or parents question the value of creativity	8
Coop	Students do not have enough practice working cooperatively	7
W	Students work at different rates	6
Tech	Lack of access to technology	4
LC	Large classes	3
PT	Lack of planning time	3
NWS	Afraid that teaching creative thinking will "stifle" creativity	2
S	Stressful	2
P	Worry about making it a positive experience for all learners	2
Eval	Grading is difficult	1
Qual	Low level of quality in creative work	1

Questionnaire item #10 asked, “Is there anything that would help you implement creative thinking experiences more successfully?” The majority of participants (*n*=210) replied “yes,” while a little less than one-fourth of participants (*n*=64) replied “no.” Some participants chose not to reply (*n*=9). Figure 10 illustrates their response choices.

Figure 10.

Responses to Questionnaire Item #10



All of the participants who answered "yes" to item #10 (*n*=210) shared ideas for addressing the challenges they face. Thirteen categories of comments emerged from the data (see Table 15).

Table 15.

Open-ended Responses to Questionnaire Item #10

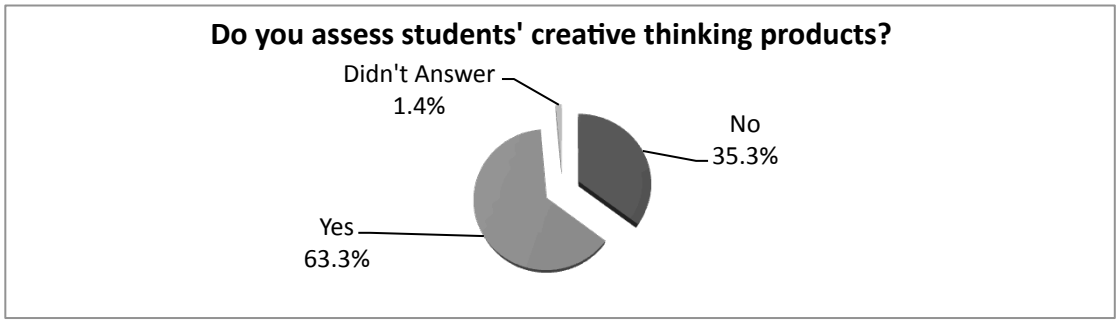
Code	**Ideas for Solving Challenges that serve as Barriers to Creative Thinking**	***N***
T	More time	93
S	More space	28
PD	Professional development in creative thinking	28
A	Another teacher or adult in the room or smaller classes	22
I	More instruments	20
Coll	Ideas for lessons from other teachers/opportunities for collaboration	17
LP	Pre-made materials/lesson plans	10
PT	Additional planning time	9
Admin	More support from administration	8
Room	An appropriate space for teaching music	5
RS	More respectful students	5
HS	Homogeneous groups of students	4
IT	Increased access to technology	3

Questionnaire item #11 asked, "Do you assess students' creative thinking products?" The majority of participants (*n*=179) replied "yes," while slightly more than

one-third of participants (*n*=100) replied "no." Some participants chose not to reply (*n*=4). Figure 11 illustrates the response choices.

Figure 11.

Responses to Questionnaire Item #11



Of the participants that answered "yes" to item #11, 97.8% provided a description of their process for assessing students (*n*=175*)*. Participants' most frequent comments included the use of rubrics, observation and verbal feedback, and grades based on participation (see Table 16).

Table 16.

Open-ended Responses to Questionnaire Item #11

	Type of Assessment	**N**
TR	Rubric/guidelines based on meeting required musical elements	114
O	Observation and verbal feedback	18
E	Participation/effort only	18
P	Peer comments/feedback	11
S	Student self assessment	4
LG	Letter grades	3
SR	Student created rubric	3
AQ	Grade for originality/aesthetic quality	2
A	Maintain artifacts for portfolios (photos, video and audio recording)	2
Ref	Student reflection	2

Questionnaire item #12 was an optional item. It stated, "Describe one of the most successful creative thinking experiences that you have implemented with students." The participants' suggestions represent a wide array of ideas, including: arranging folk songs, composition projects using classroom instruments (unpitched percussion, pitched percussion or recorders), cross-curricular activities such as writing about musical performances, exploration of sound, improvising, creating listening maps, writing new lyrics to existing songs, creating movement to accompany music, creating large-scale performance pieces such as musicals and operas, using props or found sounds to create or respond to music, and technology based compositions. All teacher responses from this question (*N*=125) are reprinted and categorized according to grade level and type of activity (see Appendix C).

Research Question #3

Do the variables of years of experience, level of education, or professional development training in elementary general approaches have an impact on EGMTs' perceptions or teaching practices of creative thinking?

A Kruskal-Wallis test determined if there was a relationship between EGMTs' years of teaching experience and their perceptions or teaching practices of creative thinking. For the purposes of calculations, participants were grouped into one of four categories: 0 to 10 years (*n*=133), 11 to 20 years (*n*=76), 21 to 30 years (*n*=45), and 31 or more years (*n*=24). For items #1a-i, #3a-d, #4a-f, and #6a-m, the scores for each independent group were compared. There were no significant differences found between years of experience and perceptions, or between years of experience and teaching practices of creative thinking.

A Mann-Whitney U test determined if there was a relationship between EGMTs' level of education, and their perceptions or teaching practices of creative thinking. Participants were grouped into one of two categories: undergraduate degree (n=134) or graduate degree (n=149). Only one significant difference was found. The results indicated a significant difference between level of education and perception of amount of space (U=7606.00, p=.008); participants who only had a bachelors degree (*Mean*=2.89, *SD*=1.220) perceived not having enough physical classroom space to implement creative thinking activities than participants who had a master's or doctoral degree (*Mean*=3.28, *SD*=1.218).

This interesting finding leads one to speculate about potential reasons for the difference in perception. While I cannot comment definitively without further investigation, two possibilities come to mind. It is possible that EGMTs with a higher level of education may teach in larger or wealthier school districts that have the means to provide better teaching environments for their employees. Alternatively, EGMTs with a higher level of education may possess more flexibility of mind to find ways to work within whatever spaces are provided to them. However, at this point, such ideas are purely speculation, and more research would be necessary to determine a reason for the difference in perceptions.

A series of Kruskal-Wallis H tests determined if there was a relationship between professional development training and EGMTs' perceptions of creative thinking. For each type of professional development, participants were assigned to one of three categories: untrained, trained by workshops only, and trained through levels courses. A post hoc analysis was run after each Kruskal-Wallis test to determine which pairs

exhibited significant differences. A Bonferroni correction was applied to avoid Type I errors, resulting in a new level of significance, set at $p = 0.0167$. Table 17 illustrates only the significant Kruskal-Wallis findings.

Table 17.

Means and Significant Kruskal-Wallis Results for Professional Development Training versus Participants' Perceptions

Questionnaire Statement	Untrained	Workshops Only	Levels	*K*	*p*
Dalcroze	(*n*=170)	(*n*=69)	(*n*=13)	*df* = 2	
I worry that when students work independently on creative thinking tasks, I might lose control of classroom management	2.81	2.52*	2.12*	8.316	.016
Orff Schulwerk	(*n*=50)	(*n*=95)	(*n*=123)	*df* = 2	
My role as a music teacher involves the facilitation of students' creative thinking skills	4.49*	4.31*	4.62	9.655	.008
I feel well-trained to develop students' creative thinking skills in music	3.71*	3.63*	4.30	21.864	<.000
World Music Drumming	(*n*=145)	(*n*=89)	(*n*=19)	*df* = 2	
I feel well-trained to develop students' creative thinking skills in music	3.66	4.01	4.21	10.455	.005
I worry that when students work independently on creative thinking tasks, I might lose control of classroom management	2.63	2.22*	2.00*	10.076	.006

*=Non-significant pair-wise post hoc analysis

An evaluation of the post hoc results suggests that EGMTs highly trained in Dalcroze and World Music Drumming were less likely to worry about classroom management when students are engaged in creative thinking tasks than their untrained counterparts. The results also suggested that EGMTs highly trained in Orff Schulwerk and World Music Drumming think they are better trained to encourage students' creative

thinking skills than non-trained EGMTs. Additionally, highly trained Orff Schulwerk teachers were more likely to perceive that their job includes developing students' creative thinking skills than non-trained EGMTs.

A similar process was used to determine if there was a relationship between professional development training and EGMTs' facilitation of creative thinking activities. A post hoc analysis was run after each Kruskal-Wallis test to determine which pairs exhibited significant differences. Non-significant pairs are marked in the table. A Bonferroni correction was applied to avoid Type I errors, resulting in a new level of significance, set at $p = 0.0167$. Table 18 illustrates only the significant Kruskal-Wallis findings.

Table 18.

Means and Significant Kruskal-Wallis Results for Professional Development Training versus Participants' Facilitation of Creative Thinking Activities

Questionnaire Statement	Untrained	Workshops Only	Levels	*K*	*p*
Dalcroze	(*n*=170)	(*n*=69)	(*n*=13)	*df* = 2	
Improvise on the recorder	2.59	3.06*	3.18*	11.415	.003
Orff Schulwerk	(*n*=50)	(*n*=95)	(*n*=123)	*df* = 2	
Improvise on the recorder	2.16*	2.33*	2.88	17.436	<.000
Arrange a pre-existing song, such as a folk song	1.42	1.74*	1.92*	8.523	.014
TI:ME	(*n*=201)	(*n*=30)	(*n*=22)	*df* = 2	
Create a song to sing that is notated with traditional notation	2.14*	2.30*	2.68	10.403	.006
Compose music to play on a classroom instrument that is notated	2.29*	2.50*	2.86	12.002	.002
Compose with found sounds (recycled and/or handmade instruments)	2.24	2.70*	2.94*	16.499	<.000
Invent their own form of musical notation	1.65*	1.67*	2.41	12.192	.002
Arrange a pre-existing song, such as a folk song	1.69*	1.73*	2.32	9.151	.010

*=Non-significant pair-wise post hoc analysis

The results indicate a relationship between professional development training and participants' practices of facilitating creative thinking. Dalcroze and Orff Schulwerk trained EGMTs were more likely to report teaching recorder improvisation than untrained EGMTs. Orff Schulwerk teachers were more likely to ask students to arrange folk songs than untrained EGMTs. Participants with training in TI:ME reported facilitating compositional tasks, invented notation, and arranging tasks more often than their untrained peers.

Caution must be taken in generalizing these results to the larger population of EGMTs, due to the unusual sampling of this study, as well as the low response rate. Furthermore, the number of participants with formal training in Dalcroze, TI:ME, World Music Drumming, and Music Learning Theory (Gordon) is relatively small for a thorough statistical comparison.

Reliability of the Survey Instrument

Cronbach's alpha analyses were used to determine the reliability of the close-ended questions of the survey instrument. Analysis was applied to six individual subsections of the questionnaire: the national content standards for music, EGMTs' perceptions of the value of creative thinking in the curriculum, components of creative thinking, resources for facilitating creative thinking, learning conditions, and creative thinking activities. Table 19 illustrates the results of the analyses.

Table 19.

Cronbach's Alpha Results

Survey Subsets	**α**
National Content Standards (Item #1a-i)	.796
Value of Creative Thinking in the Curriculum (Items #3a-d)	.710
Components of Creative Thinking (Items #3e-h)	.438
Resources for Creative Thinking (Items #4a-d)	.743
Creative Thinking Learning Conditions (Item #5)	.652
Creative Thinking Activities (Item #6)	.850

In evaluating reliability using Cronbach's alpha, alpha scores .65 and above indicate that the questions/statements are acceptably correlated for exploration of constructs (Schmitt, 1996). Most of the sections of this survey had acceptable to excellent reliability, with one exception: the section on components of creative thinking and learning conditions. These findings indicate that EGMTs do not fully comprehend the components of creative thinking, or alternatively, the components of creative thinking need to be re-evaluated in the research literature.

Summary

This chapter began with an introduction and a description of the participants that chose to submit surveys. Following that information, an introduction of the quantitative data allowed for a presentation of observable statistical trends. An examination of the data from the open-ended questions provided a deeper understanding of the statistical trends, by providing explanations for EGMTs' responses.

Results from the first research question indicated that EGMTs highly value creative thinking in general music, and view it as an essential learning goal. However,

the other musical goals stated in the national standards received a higher status value when compared to improvisation and composition. The results also indicated that EGMTs have strong opinions as to the learning conditions that inhibit or enhance creative thinking tasks, but these opinions are not necessarily uniform amongst all participants.

Results from the second research question indicated that EGMTs tended to favor improvisatory tasks over compositional tasks, and that tasks requiring notation were used quite infrequently. Responses from participants provided a depth of understanding into the challenges that EGMTs face when facilitating creative thinking tasks. Participants also provided a number of suggestions for helping to overcome such challenges.

The findings of this study yield a number of implications for educational practice. The next chapter discusses and synthesizes both the quantitative and qualitative data presented in this chapter. The chapter also includes suggestions for further research, as well as a summary of this investigation.

CHAPTER V
SUMMARY AND DISCUSSION

Introduction

Chapter V summarizes the purpose of this study and restates the research questions. This chapter includes a discussion of the findings that expands upon the questionnaire data in an effort to provide practical applications for this research, as well as suggestions for continued scholarly research in the area of creative thinking.

Summary of the Study

The literature presented in Chapter I argues for the importance of creative thinking as part of the general music curriculum. Many music researchers and philosophers propose that creative thinking is integral to a child's musical development (i.e., Csikszentmihalyi, 1996; Gardner, 1993; Webster, 1990a). Additionally, teachers and administrators often comment that an important outcome of public schooling is the development of students' creative thinking skills (Kampylis et al., 2009). However, the literature presented in Chapter II indicates that creative thinking tasks are commonly neglected as part of the music curriculum, and that little research exists examining the attitudes of music educators towards creative thinking (Orman, 2002; Webster 1990a; Whitcomb, 2005).

The purpose of this study was to investigate the perceptions and teaching practices of elementary general music teachers' (EGMTs) facilitation of students' creative thinking. This study examined: (a) EGMTs' perceptions regarding the inclusion of creative thinking as part of the elementary general music curriculum, (b) how EGMTs facilitate implementation of creative thinking activities, (c) the extent to which EGMTs

incorporate creative tasks in their classrooms, and (d) the degree to which they feel successful in guiding children's creativity. Three basic research questions guided this investigation:

1. *What are EGMTs' perceptions of creative thinking and its role in music education?*
    a. *To what extent do EGMTs value creative thinking as part of the general music curriculum?*
    b. *Are EGMTs aware that the skills of extensiveness, fluency, originality, and syntax contribute to increased creative thinking skills in music?*
    c. *To what degree do EGMTs think they are sufficiently trained to incorporate creative thinking experiences in music?*
    d. *What are EGMTs' perceptions regarding learning conditions that may inhibit or enhance students' creative thinking products?*
2. *In what manner do EGMTs incorporate creative thinking experiences into their lessons?*
    a. *What creative thinking activities do EGMTs design for their students?*
    b. *How frequent are creative thinking experiences in the elementary general music classroom?*
    c. *What techniques, if any, do EGMTs use to assess students' creative products?*
    d. *What challenges, if any, do EGMTs face when incorporating*

creative thinking experiences into their lessons?

3. *Do the variables of years of experience, level of education, or professional development training in elementary general approaches have an impact on EGMTs' perceptions or teaching practices of creative thinking?*

In order to examine the aims of this study, I developed an online survey designed to collect information from teachers throughout the United States. Randomly selected members of MENC (who had indicated general music as their primary teaching responsibility) received an invitation to complete the online survey. Subsequently, due to a low response rate, I issued another invitation to e-mail subscribers of an elementary general music listserv (Music K-8). By the time the online survey closed, 309 EGMTs (representing 47 of the 50 states) had submitted questionnaires, 283 of which were considered complete for the purposes of analyzing the data.

In order to address research questions one and two, descriptive statistics were applied to Likert-type scale-data, while open-ended responses were coded, categorized, and counted for frequency. The third research question was addressed by applying a series of non-parametric statistical tests to determine if any of the independent variables (experience, level of education, or professional development) were related to the differences in teachers' perceptions or facilitation of creative thinking activities. The results of the study were analyzed and presented in full (see Chapter IV).

Discussion of the Findings

EGMTs' Perceptions of Creative Thinking

As previous research indicated (Abdulla, 2002; Kampylis et al., 2009; Westby & Dawson, 1995), teachers and administrators alike report creative thinking to be an

essential goal of K-12 education. Therefore, it is not surprising, that a significant number of EGMTs in this study (95.4%) agreed, or strongly agreed, that creative thinking is an essential goal of music education. Nor is it surprising that a vast majority of participants (96.9%) agreed, or strongly agreed, with the idea that their role, as a music teacher, involves the facilitation of students' creative thinking skills. These results concur with previous research findings that indicated the vast majority of music teachers also perceive creative thinking as an important outcome of music education (Strand, 2006; Whitcomb, 2005).

Yet, these findings are somewhat incongruent with the fact that participants rated composition and improvisation as less important than all other national content standards for music education, including singing, playing instruments, listening, reading music notation, and interdisciplinary activities. These findings are consistent with previous investigations that suggested EGMTs rated composition and improvisation as less important than other musical activities (Peddell, 2005: Phelps, 2008). These findings beg the question: why do many EGMTs perceive creative thinking as an essential goal of elementary general music, when they typically rate composition and improvisation as less important than other musical skills?

A small, but still noteworthy, portion of EGMTs (15.5%) cited lack of confidence in their own ability to compose, improvise, or otherwise engage in musical creative thinking, based on their own musical training. Statements by participants included, "I'm not extremely creative myself. I don't feel comfortable composing/improvising," and, "I don't feel adequate to lead creative thinking experiences." An examination of these particular participants' musical training suggested that most had a traditional performance

or music education background, where heavy emphasis is placed on musical performance, staff notation, and analysis of the Western musical canon, almost exclusively (Regelski, 2005). Teachers educated in this kind of model often lack experience engaging in composition, improvisation, arranging, and using creative thinking to respond to, listen to, and/or evaluate music.

In fact, 28 participants commented on their own lack of training in the open-ended questions, when they were asked, "Is there anything that would help you implement creative thinking tasks more successfully?" Replies from participants included, "enough background knowledge [and] experience to be knowledgeable enough to create," and "having hands on experiences improvising/composing/creating myself." This is consistent with findings from previous research (Campbell, 1991; Hargreaves, 1999; Strand, 2006) that also suggested that EGMTs perceive themselves as having a lack of experience engaging in creative thinking tasks.

Yet, it is important to note that in my study, only about one-sixth of participants indicated that they felt unprepared to teach creative thinking skills to children. This is in contrast to the research of Bell (2003) and Whitcomb (2005) in which a majority of participants reported that they lacked sufficient training to implement composition and improvisation projects in their classrooms. Differences between the findings in the Bell and Whitcomb studies versus the present study may be because of several factors. The participants in Bell's study were not all general music teachers, and choral and instrumental instructors whose jobs focus largely on technical performance may struggle more with the open-ended nature of creative thinking. Additionally the number of participants in Bell's study was limited to 14, and may have been too low to generalize

outside of her study. While the number of participants in Whitcomb's study was greater (*N*=144), her participants were limited to one geographic region (Indiana), which may also have accounted for the variances in the study's findings.

However, the most likely reason for the differences between the outcomes of the Bell and Whitcomb studies versus the present study may come from the use of different terminology. Bell's study used the terms "composition" and "improvisation," Whitcomb's used only the term "improvisation," while the present study used the term "creative thinking." A number of studies have suggested that terminology plays an integral role in the findings of studies focused on creative thinking (i.e., Cropley, 1999; Plucker et al., 2004; Sternberg, 1998). In this study, composition and improvisation were clearly defined to participants as examples of creative thinking in music. However, some EGMTs may already perceive the terms composition and improvisation as being innately different from the term creative thinking.

Campbell (1991, p.22) discusses comments from music educators who view music as "inherently creative," but perceive activities such as composition and improvisation as redundant, or unimportant, in the curriculum. In other words, music is already creative, so why should one bother to teach children to compose or improvise? Support for this view, in the form of open-ended narratives from the questionnaires suggested that some participants view composing as an extra activity that is not critical to the core of music learning. Such statements included, "Not as much time as I need to cover the core content required by the state in addition to 'extra' things I would like for them to do," and "there's just too much to do to 'worry' about implementing composition as a regular part of my curriculum."

Another possible reason for perceiving composition and improvisation as less important than other content standards is that a majority of EGMTs (71.7%) view composition and improvisation as hard to implement and time-consuming. A number of participants commented that they had external obstacles, such as performance expectations or curriculum standards, which kept them from facilitating regular creative thinking tasks in their teaching. Comments from participants included statements such as, "I don't feel that I have adequate time to teach the curriculum I need to and have much time to spend on creative thinking experiences."

Components of Creative Thinking

Participants reported a high level of agreement with the idea that fluency, the ability to develop more than one solution to a musical problem, is an essential component of creative thinking in music. Conversely, participants disagreed that originality, syntax, and extensiveness, are essential components of creative thinking. A majority of participants (54.3%) disagreed with the idea that a musical composition must be unique or original to be creative (originality). Most participants (61.8%) also disagreed with the idea that a musical composition must make musical sense to be creative (syntax). A large majority of participants (82.1%) disagreed with the statement that the longer a musical composition lasts, the more creative it tends to be (extensiveness).

The participants in this study are not the only critics of the idea that extensiveness is an important component of creative thinking. Previous researchers (Brown, 1989; Hocevar & Bachelor, 1989; Michael & Wright, 1989) question the validity of extensiveness as a measure of creative thinking, suggesting that the length of output is irrelevant. Additionally, in his research on the effects of sound exploration on the

musical creative thinking scores of children, Fung (1997) found that extensiveness was the one area of creative thinking not enhanced by training. More research would help our understanding of the connections between extensiveness and creative thinking in music.

While the connection between extensiveness and creative thinking in music may be questionable, and therefore may account for EGMTs' disagreement on this issue, it seems problematic that EGMTs disagree with the idea that originality is a component of creative thinking. Originality of thought is one of the few components that scholars agree is essential to creative thinking (Starko, 2001). Additionally, a number of surveys indicated that general classroom teachers correlate originality with creative thinking (Abdulla, 2002). So, why do the EGMTs in this study perceive originality as an unimportant component of creative thinking?

While there has been little data-based research on EGMTs' perceptions of creative thinking, the data from this study suggest that participants are using creative thinking projects as a way to assess students on previous music learning, but not specifically for the purpose of developing students' skills of creative thinking tasks. Consider the following narratives from the open-ended questions, "With my creative assignments, I generally have certain requirements that they have to follow. They have to use a certain type of note, etc. I don't assess how pretty their tune is, just that they followed the directions and used the notes appropriately," or "there is usually a focus or requirement rhythmically or melodically that needs to be met in the assignment." In fact, over half of the teachers (n=119) that reported assessing their students' creative thinking tasks graded purely on including specific musical elements. Very few participants (n=9) made any mention of assessing based on originality of the work itself. In other words,

the data suggest that participants expect students' creative work to fit into a set of musical guidelines, and that originality is not what they are looking for. If EGMTs are only using creative thinking tasks as an assessment of musical learning, then they are not looking for creativity, but rather, they are looking for the "right answer."

Learning Conditions and Creative Thinking

A considerable number of EGMTs perceived two major learning conditions as having a negative effect on students' creative thinking: a noisy environment and the use of traditional music notation as part of the creative task. In Strand's (2006) investigation participants also commented on noise being a hindrance to successful creative thinking. It stands to reason that when students are working in the medium of sound, a noisy environment may make the task more difficult. However, while the teacher may find a noisy environment difficult to deal with, students who are fully engaged in the creative thinking process may have the ability to "tune out" the noise around them.

In his work on creative thinking, Csikszentmihalyi (1988) indicates that when individuals or groups are fully engrossed in a creative task, they lose awareness of time, other people, and distractions around them. However, the ability to engage in creative thinking on this level, called "flow" or "optimal experience," requires three conditions: 1) the activity must have a clear set of goals, which adds direction and structure to the task; 2) the individual must have confidence that he or she is capable to do the task at hand, while at the same time, perceiving an element of challenge; and 3) the activity must provide clear and immediate feedback, which helps the person negotiate any changing demands and allows him or her to adjust the performance to maintain the flow state.

Achieving flow with students may be one way to overcome the challenge of a noisy environment.

Another condition that EGMTs perceived as inhibiting creative thinking is the use of traditional notation as part of the creative thinking process. The perceptions of EGMTs in this study mirror the findings of researchers who have also indicated that notation often impedes the creative thinking of children (Hamilton, 1999; Upitis, 1990; Wiggins, 2007). Children are capable of creating music that is far more complex and interesting than they are able to notate. When students use traditional music notation, they often simplify their compositions to make it "fit" into the symbols they know how to write, thereby destroying the complexity of their work.

A considerable number of EGMTs perceived several learning conditions as likely enhancing students' creative thinking products: friends as co-workers, freedom to choose their mode of presentation, and parameters with at least one given musical element. Much like the research of Miell and MacDonald (2000), EGMTs perceived that students working with friends on creative products would enhance their level of creativity. Unlike the solitary work of some musical masters, children's creative thinking is a highly social and interactive affair (Doig, 1941; Pond, 1980; Wiggins, 2003).

The majority of EGMTs reported that when students choose their mode of presentation (movement, xylophone, unpitched percussion instruments) the quality of their creative work improves. This mirrors the findings of Amabile and Gitomer (1984), who found that when children were given the freedom to choose their medium for a visual art product, they made more creative collages than children who were given no such choice.

EGMTs showed agreement that providing students with at least one musical element (such as a given rhythm or set of pitches) enhances student creativity. Amabile (1998) acknowledges the benefits of providing structure on the creative thinking process. A carefully chosen structure or framework provides a challenge which, in turn, enhances intrinsic motivation—a necessary component for creative thinking.

EGMTs' Facilitation of Creative Thinking Activities

Overall, one of the most important findings of this study indicates that EGMTs neglect many of the activities that fall under the umbrella of creative thinking, while at the same time reporting that they perceive creative thinking as essential. Additionally, in this study, there are a number of EGMTs who rarely, or never, engage in facilitating creative thinking tasks for their students.

The most commonly reported creative thinking activities only occurred four to six times per year, as reported by the majority of participants. These activities included: improvising rhythms using body percussion, creating movement or dances to music, using classroom instruments to improvise music, composing music to play on classroom instruments (not notated), and improvising with their voices. Tasks that occurred least frequently (less than one to three times per year, as reported by most participants) included: creating listening maps, arranging pre-existing songs, and inventing graphic notation.

Overall, EGMTs reported using improvisatory activities more frequently than compositional activities. Because time is such a critical factor for EGMTs, it is likely that improvisational activities are preferred because they happen in the moment, and therefore require less time than compositional activities. Additionally, EGMTs may

often implement improvisational activities in a whole group setting. The participants in this study also reported frequent use of movement and dance, which is another activity that EGMTs can implement in a whole group setting. Compositional activities, on the other hand, typically require students to work independently or in small groups, which many teachers cited as being difficult for children and a potential classroom management issue. Because whole group settings are easier to manage than individual or group work, it stands to reason that EGMTs prefer activities that allow for large group participation.

Participants reported using tasks that did not require traditional notation more frequently than tasks that included notation. Musical notation adds yet another layer to the compositional process; young students require a great deal of personal attention from the teacher when writing traditional notation. Additionally, participants perceived traditional notation as a condition that hampers creative thinking. Therefore, participants' perceptions mirrored research findings, which indicated that traditional musical notation often leads to less expressive and less creative products (Auh & Walker, 1999; Webster, 1998; Wiggins, 1999). Interestingly, Auh and Walker (1999), and Barrett (1997) found that children maintained the expressive and creative quality of their compositions when using "invented notation" as an alternative to traditional notation.

The most under-used form of creative thinking reported in this study was the use of invented notation and listening maps. A number of researchers have reported that invented notation and listening maps are a valuable teaching tool in elementary general music (Bamberger, 1991; Barrett 1997, 2004; Davidson & Scripp, 1988; Gromko, 1994; Piejak, 2002; Upitis, 1990). Scholarly research on invented notation suggested that students can better communicate their understanding of music to teachers and peers

through its use. Additionally, invented notation helps develop memory of musical sounds, functions as an important intermediate step toward developing skill in reading and writing traditional musical notation, helps students become more sophisticated listeners/evaluators of music, and can function as spring board for creating their own music.

Other potential reasons why EGMTs may choose not to implement compositional tasks include lack of time, lack of resources, the difficulties of back-to-back class schedules, and large quantities of students in each class. Additionally, a number of participants indicated that they would engage students in more composition using traditional notation if they had better access to technology. However, overall, EGMTs commented on their lack of access to technology saying, they wish they had "more access to computers so we can use online music creation software," and "I would like more access to technology (I only have 3 computers in my classroom, and I am not allowed to take music classes to the computer lab.)"

Finally, an unexpected finding of this investigation indicated that participants felt apprehension about implementing creative thinking in their classrooms because of the external pressure of opinions by parents and administrators. Comments by EGMTs in this study included, "People (outside adults like classroom teachers and administrators) do not always see the value in child-created music," and "Some administrators do not appreciate creative thinking that can cause noise or [that is] not a sit down approach." Another EGMT stated, "I receive some flack from parents and other educators about the 'lack of product' in my room. The children seem to understand that the creative process is often more important than the end product, but the adults that surround me, often do

not subscribe to this theory. I find myself justifying my program VERY often. It's exhausting and at times, disheartening."

Assessment of Creative Thinking

While a majority of the EGMTs in this study reported assessing the creative thinking products of their students, a sizable amount (approximately one-third) stated that they did not use any kind of assessment. Of the EGMTs who do use assessment, the most common form was a teacher-created rubric. Overwhelmingly, the responses indicated that teachers were assessing their students' creative work on the basis of musical content, but not necessarily "creativity." Additionally, none of the participants reported using any of the components of creative thinking (extensiveness, fluency, originality, and syntax) as a basis for assessing creative thinking products.

Some teachers commented on why they did use originality or the term creative as a basis for evaluating student work. One participant explained, "I do not grade the 'creativity' because I think many of my students don't get to do that a lot and so have a hard time. In that case, the process is more important than the product." Several other EGMTs expressed a fear of critiquing children's creativity, worrying that it might do irreparable harm to the child's future motivation. It seems that some EGMTs naturally perceive evaluation as something potentially harmful to the outcome of students' creative thinking.

The responses of the majority of participants suggested that EGMTs largely use creative thinking as a way of assessing student understanding of musical concepts, rather than as a way of enhancing students' ability to engage in creative thinking. Participants discussing assessment often made comments such as, "I assessed their products based on

the guidelines I had provided…basically, did they follow directions?" and "I just check to see if they followed the directions of the project. If it makes sense to them, then it works for me."

Implications for Practice

This study yields a number of implications for shaping practice in music education. Overwhelmingly, EGMTs perceive creative thinking as an important outcome of general music education, however the results of this study indicate that creative thinking activities are implemented relatively infrequently in their classrooms. Thus, EGMTs seem to hold contradictory perceptions of creative thinking. From these findings, two questions arise: Are EGMTs contradictory perceptions inhibiting factors that hinder their efforts to promote creative thinking in their students? And, if yes, how do we, as a profession, overcome these contradictions and inhibiting factors?

Initially, two things may be necessary to understand these conflicting perceptions: continued scholarly research on aspects of music education related to creative thinking, and the opening of a dialogue between practitioners and researchers. While scholars have long struggled with the difficulty of disseminating their findings to practitioners, it should continue to be a goal. Technology, I believe, opens new avenues of communication that were previously unavailable. University professors, pre-service teachers, district coordinators, and EGMTs can now communicate through a variety of means, such as Skype, Facebook, Google, and other wikis, list-servs, and websites. These forms of communication are widely used today, and allow for people all across the country to rapidly interact with one another to engage in scholarly debate, shared vision making, and the development of new ideas.

Unfortunately, EGMTs have an incredible number of limiting factors that they face when implementing any kind of music learning including: lack of physical teaching space; lack of teaching and preparation time; inadequate professional development; tight schedules with back-to-back classes; large classes; and lack of access to technology. While these are problems not specific to creative thinking tasks, many participants cited them as reasons why they struggle to implement creative thinking tasks.

A number of EGMTs suggested several ideas that would help them overcome the challenges they face when implementing creative thinking. Participants suggested more training, professional development, guides and textbooks with effective step-by-step teaching strategies, a chance to observe experts, and opportunities to discuss creative thinking with other teachers, mentors, and researchers. Additionally, EGMTs expressed a desire for more teaching time and more physical classroom space. Aside from helping EGMTs find ways of overcoming the lack of time and space, continued advocacy could also help address these difficult issues. Advocacy efforts are always ongoing, however, it takes a long-term commitment and effort to enact change.

Data from the open-ended questions suggest that assessment and evaluation of creative thinking in the music classroom may be another area of educational practice that needs to be addressed. Because one-third of participants indicated that they do not assess children's creative work, it seems that the educational community needs to further discuss the issue of assessing students' creative products. What should that assessment focus on: musical elements, behavior, participation, originality, or a combination of factors?

Recommendations for Future Research

Due to the complexity of creative thinking, numerous opportunities exist for further research in music education. Future research on the teachers' role in facilitating creative thinking tasks will aid in greater understanding of the impact teachers have upon students' creative thinking processes and products. Additional research will provide much needed guidance to teachers who want to increase their effectiveness in developing children's ability to think creatively in music.

The literature review indicates that, to date, few data-based investigations have explored the effect of learning conditions such as reward, motivation, teacher evaluation, task constraint, or environmental conditions on the creative thinking process or products of students. Certainly, teachers are much more effective when they deliberately set up learning environments to enhance creative thinking, however the results from this study suggest that EGMTs rely heavily on personal perceptions and preferences, rather than data-based research, to design activities and manipulate learning conditions for their students.

Continued research on teachers' perceptions of creative thinking could lead to a better understanding of the variances in teachers' individual definitions of such words as composition, improvisation, creative thinking, and creativity. These terms are widely used in music education, but this study suggests that the use of such words sometimes leads to confusion, misunderstanding, and even apprehension among practitioners and researchers. A deeper understanding of perceptions of creative thinking could lead to greater dialogue between pre- and in-service teachers, university instructors, and researchers about the myths and meanings surrounding these complex terms. Such

dialogue is essential to developing a shared vision about the role creative thinking plays in music education.

This study indicates that many EGMTs engage in professional development courses such as Orff, Kodaly, and Dalcroze, as part of their continued training. There exists a need for future research to focus on the role creative thinking plays within each of these teaching approaches. As discussed in this study, teachers with a high level of Orff training perceive themselves as more comfortable teaching creative thinking skills, use them more often, and rate tasks such as compositions and improvisation as more important than their untrained counterparts. Further research would identify ways in which this and other teaching philosophies can be incorporated into both the elementary and undergraduate settings.

Participants expressed a desire for further understanding of effective techniques and pedagogical strategies that will aid in developing students' creative thinking skills. Case studies of master teachers facilitating creative thinking, and the techniques they utilize, would provide in-depth information; data-based investigations on the variety of teaching strategies educators employ when implementing creative thinking activities would also provide a wealth of new ideas. Such research assists practitioners in developing new teaching skills, as well as overcoming logistical challenges.

In addition to studies that focus on in-service EGMTs, a need exists for research that evaluates and describes successful undergraduate programs—those which thoroughly prepare pre-service teachers for their role in developing students' creative thinking skills in music. Traditional undergraduate programs in music education often concentrate on performance and competency based skills, rather than creative thinking. However, the

national content standards for music, as well as most state and local curriculums, mandate that skills associated with creative thinking in music should be included in the general music curriculum.

Finally, research focused on the nature of musical creative thinking and the role it plays in how people learn and experience music throughout their lives would be extremely useful. It is important to determine if engaging in the creative thinking process improves overall musicianship or the intrinsic motivation to participate in music making throughout one's life. Additionally, it is necessary to determine how creative thinking activities in educational settings affect music appreciation, understanding, and continued participation in music.

APPENDIX A

TPPFMC QUESTIONNAIRE

TPPFMC

Hello, my name is Sarah Bobenhouse Fairfield, and I am a Ph.D. candidate at the University of Iowa, studying music education.

Please consider completing this survey on creative thinking. It will take about 15 minutes. The purpose of this survey is to examine elementary general music teachers' perceptions of creative thinking, and how they implement creativity in their classrooms. Currently very little data exist on general music teachers' perceptions of this subject.

If you do not have time to complete the survey in one sitting, you may save the data by clicking on the "next" button at the bottom of any page, and then re-enter the survey at a later time. Be sure to use the same computer to complete the survey, if you plan to take advantage of this feature.

IMPORTANT NOTE: At the end of the survey, please be sure click on the "done" button.

If you have any questions regarding this questionnaire, or would like me to share the findings of this study with you, please e-mail me at sarah-bobenhouse@uiowa.edu.

Thank you very much for your time!

TPPFMC

1. How important are each of the National Content Standards for Music as part of an elementary general music curriculum?

	Unessential	Somewhat Unessential	Neither Essential or Unessential	Somewhat Essential	Essential
a. Singing, alone and with others, a varied repertoire of music	◯	◯	◯	◯	◯
b. Performing on instruments, alone and with others, a varied repertoire of music	◯	◯	◯	◯	◯
c. Improvising melodies, variations, or accompaniments	◯	◯	◯	◯	◯
d. Composing and arranging music within specified guidelines	◯	◯	◯	◯	◯
e. Reading and notating music	◯	◯	◯	◯	◯
f. Listening to, analyzing, and describing music	◯	◯	◯	◯	◯
g. Evaluating music and musical performances	◯	◯	◯	◯	◯
h. Understanding relationships between music and other disciplines	◯	◯	◯	◯	◯
i. Understanding music in relation to history and culture	◯	◯	◯	◯	◯

2. Do you believe there are other experiences essential to an elementary general music curriculum, which are not currently part of the National Content Standards?

◯ No

◯ Yes

If yes, please specify:

TPPFMC

3. For the purposes of this survey, the term "creative thinking" will be used to refer to any experience which requires students to develop their own ideas or products. This includes experiences such as composing, improvising, arranging, making up movement, and creating listening maps. This definition excludes experiences such as singing or performing music written by other composers, or dancing movement choreographed by others.

Based on this definition, rate the degree to which you agree or disagree with the following statements.

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
a. Creative thinking is an essential goal of music education.	◯	◯	◯	◯	◯
b. Musical creative thinking can be developed in every person.	◯	◯	◯	◯	◯
c. K-6 general music typically offers students an opportunity to develop their creative thinking skills.	◯	◯	◯	◯	◯
d. My role as a music teacher involves the facilitation of students' creative thinking skills.	◯	◯	◯	◯	◯
e. The ability to develop more than one solution to a musical problem is an essential component of creative thinking in music.	◯	◯	◯	◯	◯
f. A musical composition must be unique or original to be creative.	◯	◯	◯	◯	◯
g. The longer a musical composition lasts, the more creative it tends to be.	◯	◯	◯	◯	◯
h. A musical composition must make musical sense to be creative.	◯	◯	◯	◯	◯

TPPFMC

4. Rate the degree to which you agree or disagree with the following statements about creative thinking in elementary general music.

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
a. I feel well-trained to develop students' creative thinking skills in music.	◯	◯	◯	◯	◯
b. I have the resources I need to implement creative thinking experiences in my teaching.	◯	◯	◯	◯	◯
c. I have enough time to implement creative thinking experiences.	◯	◯	◯	◯	◯
d. I have enough space to implement creative thinking tasks.	◯	◯	◯	◯	◯
e. I worry that when students work independently on creative thinking tasks, such as composing or improvising, I might lose control of classroom management.	◯	◯	◯	◯	◯
f. Activities that emphasize creative thinking (such as composition and improvisation) are part of my school district's music curriculum.	◯	◯	◯	◯	◯

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5. Choose the degree to which you believe the following conditions may inhibit or enhance students' creative thinking tasks.

	Inhibits Creative Thinking	Somewhat Inhibits Creative Thinking	Has No Effect on Creative Thinking	Somewhat Enhances Creative Thinking	Enhances Creative Thinking	Not Sure/Don't Know
a. When students work alone on a musical task, it...	◯	◯	◯	◯	◯	◯
b. When students work in small groups with friends on a creative task, it...	◯	◯	◯	◯	◯	◯
c. When students work in small groups with peers who are not friends, it...	◯	◯	◯	◯	◯	◯
d. When students know they will be graded by the teacher, it...	◯	◯	◯	◯	◯	◯
e. When students know they will be evaluated by their peers, it...	◯	◯	◯	◯	◯	◯
f. When students are given complete freedom for creating, it...	◯	◯	◯	◯	◯	◯
g. When students are given at least one specified element (i.e., a particular rhythm, or a text) to create with, it...	◯	◯	◯	◯	◯	◯
h. When students are given freedom to choose their mode of presentation (i.e., xylophone, unpitched percussion, dancing, etc.) it...	◯	◯	◯	◯	◯	◯
i. When students are asked to write down their compositions using traditional notation, it...	◯	◯	◯	◯	◯	◯
j. When it is noisy while students are working, it...	◯	◯	◯	◯	◯	◯

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6. On average, how often do you ask your students to engage in following creative thinking experiences?

	Never	Rarely (between 1-3x/year)	Sometimes (between 4-6x/year)	Frequently (between 7-9x/year)	Often (more than 10x/year)
a. Create a song to sing that is *not* notated	◯	◯	◯	◯	◯
b. Create a song to sing that *is* notated with traditional notation	◯	◯	◯	◯	◯
c. Compose music to play on a classroom instrument that is *not* notated	◯	◯	◯	◯	◯
d. Compose music to play on a classroom instrument that *is* notated	◯	◯	◯	◯	◯
e. Improvise with their voices	◯	◯	◯	◯	◯
f. Improvise with classroom instruments	◯	◯	◯	◯	◯
g. Improvise on recorder	◯	◯	◯	◯	◯
h. Improvise rhythms to play as body percussion (clapping, patting, stomping, etc.)	◯	◯	◯	◯	◯
i. Compose or improvise with found sounds (recycled and/or handmade instruments)	◯	◯	◯	◯	◯
j. Create movement or dance to music	◯	◯	◯	◯	◯
k. Invent their own form of musical notation	◯	◯	◯	◯	◯
l. Create listening maps to existing pieces of music	◯	◯	◯	◯	◯
m. Arrange a pre-existing song, such as a folk song	◯	◯	◯	◯	◯

7. If applicable, list other creative thinking experiences that you have implemented in your classroom that are not included in the list above:

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8. Do concerns about classroom management keep you from engaging students in creative thinking experiences?

- ◯ No
- ◯ Yes

If yes, please explain:

9. Aside from classroom management, do you face any other undesired issues or challenges when implementing creative thinking experiences in your classroom?

- ◯ No
- ◯ Yes

If yes, please explain:

10. Is there anything that would help you implement creative thinking experiences more successfully?

- ◯ No
- ◯ Yes

If yes, please describe:

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11. Do you assess students' creative thinking products?

- ◯ No
- ◯ Yes

If yes, please describe your assessment process:

12. (Optional) Describe one of your most successful creative thinking experiences that you have implemented with students. (Please include the intended grade level/range.)

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13. Please answer the following question about your professional and educational background.

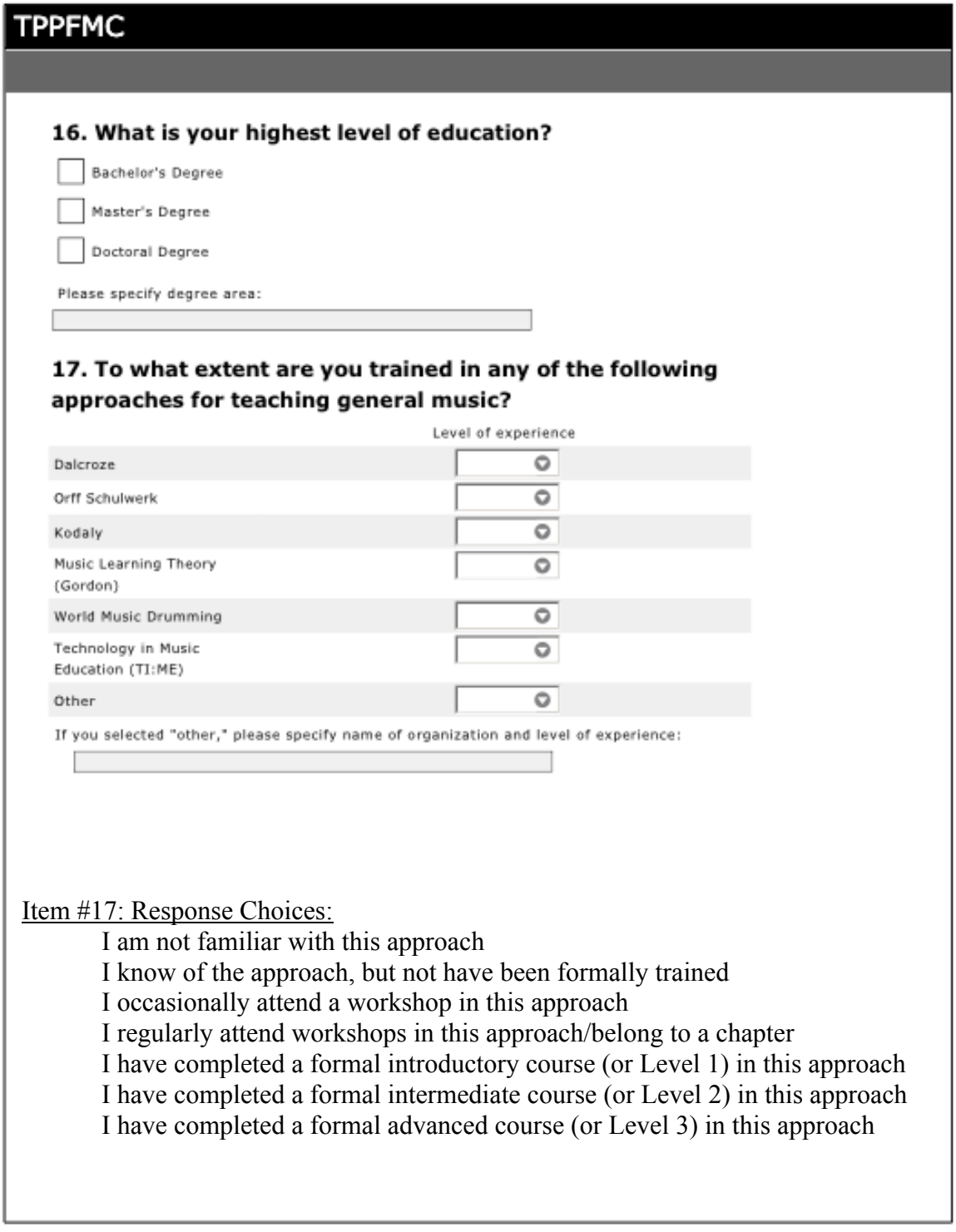
In what state do you currently teach?

14. What areas of music do you currently teach? Please specify a grade level for each area.

	Pre-K	k	1	2	3	4	5	6	7 or higher
General Music	☐	☐	☐	☐	☐	☐	☐	☐	☐
Band Lessons	☐	☐	☐	☐	☐	☐	☐	☐	☐
Orchestra Lessons	☐	☐	☐	☐	☐	☐	☐	☐	☐
Direct a Band	☐	☐	☐	☐	☐	☐	☐	☐	☐
Direct an Orchestra	☐	☐	☐	☐	☐	☐	☐	☐	☐
Direct a Choir	☐	☐	☐	☐	☐	☐	☐	☐	☐

Other (please specify)

15. How many years have you taught general music at the elementary level?



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16. What is your highest level of education?

- [ ] Bachelor's Degree
- [ ] Master's Degree
- [ ] Doctoral Degree

Please specify degree area:

17. To what extent are you trained in any of the following approaches for teaching general music?

	Level of experience
Dalcroze	
Orff Schulwerk	
Kodaly	
Music Learning Theory (Gordon)	
World Music Drumming	
Technology in Music Education (TI:ME)	
Other	

If you selected "other," please specify name of organization and level of experience:

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Item #17: Response Choices:

I am not familiar with this approach
I know of the approach, but not have been formally trained
I occasionally attend a workshop in this approach
I regularly attend workshops in this approach/belong to a chapter
I have completed a formal introductory course (or Level 1) in this approach
I have completed a formal intermediate course (or Level 2) in this approach
I have completed a formal advanced course (or Level 3) in this approach

APPENDIX B

HUMAN SUBJECTS OFFICE

APPROVAL MEMO

Human Subjects Office
340 Medicine Administration Building
Iowa City, Iowa 52242-1101
319-335-6564 Fax 319-335-7310
irb@uiowa.edu
http://research.uiowa.edu/hso

IRB ID #: 200909705

To: Sarah Bobenhouse Fairfield

From: IRB-02 DHHS Registration # IRB00000100,
Univ of Iowa, DHHS Federalwide Assurance # FWA00003007

Re: CREATIVE THINKING IN ELEMENTARY GENERAL MUSIC: A SURVEY OF TEACHERS' PERCEPTIONS AND PRACTICES

Approval Date: 10/23/09

Next IRB Approval Due Before: N/A

Type of Application:	**Type of Application Review:**	**Approved for Populations:**
☒ New Project	☐ Full Board:	☐ Children
☐ Continuing Review	Meeting Date:	☐ Prisoners
☐ Modification	☐ Expedited	☐ Pregnant Women, Fetuses, Neonates
	☒ Exempt	

Source of Support:

This approval has been electronically signed by IRB Chair:
Elona McLees, CIP
10/23/09 1507

APPENDIX C

PARTICIPANTS' RESPONSES: EXAMPLES OF THEIR MOST SUCCESSFUL CREATIVE THINKING TASKS IMPLEMENTED WITH STUDENTS

Arranging Music

Students in grades 2 through 5 have composition projects as part of their learning. We practice taking what we know and changing/improvising as a class. Then we work to write down what we have created. Sometimes this begins as a class created composition so that the process is modeled. Then we go on to individual creations. Most students enjoy the opportunity to perform their compositions for their class.

Composition (Percussion)

Most successful? Last week was the second week that they heard a poem about Martin Luther King. It had three phrases at the end that could turn into an ostinato. Students chose which phrase they wanted to work with. Met in groups and came up with a movement. Then they shared with the class. Some had time to have all three groups perform their ostinatos at the same time while I read the poem.
My kindergartners compose patterns of short and long sounds, notated with lines and dots. The next class, I put them with a partner (who created a different pattern). Each choose an instrument and they decide together how many times to play each pattern and what form to use (AB or ABA).
My first graders LOVE to make up songs. Criteria may include using their spelling words or thoughts about holidays.
I do a several step project with 2nd grade. We take a chant, learn the rhythm, form, etc. Then they are paired up and given an animal to write about - their chant must fit the rhythm of the chant we already learned. They are then allowed to perform it on instruments of their choice.
They had notated sol and mi on the song "Engine, Engine, Number 9," then I asked them to change the title to a different number, and make up new words that rhymed, then they each sang their new song for the class.
2nd graders created their own four bar rhythm patterns to represent various animals of their liking. Then they were allowed to pick an un-pitched instrument to play their composition.
Create accompaniment to stories and use varied instruments.
Writing sol, mi, and la with 1st graders. They could arrange 8 notes in whatever order they wanted. We also did rhythm patterns using ta and ti-tis.
We do a piece called Skin and Bones that tells the story of an old woman that lives near a grave yard. I have the children create a B-section that continues the story and they can only tell their part of the story with instrument sounds.
Working on time signature and notes per measure the students' show what they have learned by creating an inventive measure(s) using 16th notes.
Students must compose a rhythmic soundscape to describe elements of weather. This becomes a unique section B of a rondo.

Recycled found sound group project, they compose a piece where each student plays a different ostinato and perform together. They notate each part
Having students work in small groups to write their names on index cards, arrange them in any order, and clap them so that they fit into four beats is also usually a successful activity.
Creating color poems and performing them with percussion instruments -tone color enhanced the poetry and excited the students because their products were interesting and created moods.
Creating sound compositions to lullaby poems.
Beginning Orchestra - Grades 3-5. Using standard notation, at home, students compose a piece for their instrument, which they have played and changed, if necessary, until they like it. Then we all play it together.
Completed last year with 3rd - 5th grade classes. I have about 30 laminated sheets that have one measure (in 4) worth of various melodic combinations which employ eighth notes, eighth rests, quarter notes, quarter rests, and half notes. Each student had 5 seconds to choose 2 sheets. They then had to copy those two on to regular staff paper in any order and after, learn to play it on the metallophone. The next step was to take on a partner and add his/her two measures to theirs and both learn to play both compositions. They then added on one or two more partners repeating the previous work. After which they added lyrics. Big project. They had a great time.
Composing a melody for a song/chant that included "back to school" phrases. Small groups used 1 pentatonic xylophone to create a melody for their phrase, then notated it using letter names in a grid. We combined phrases in the order voted on by the class for a class song. Each child could play "their" phrase. We then used these phrases to create different forms.
They are given a dozen or so small phrases of music from songs they have been singing through the first part of the year, mainly using do, re and mi. They work with teams to pick a key (C, F or G) and they create the form/length by arranging their desired phrases. Each member of the team is responsible for picking one phrase and learning it on the xylophone. Once the form is set, each member writes out their own copy of the song in standard notation. They must then perform together, with each member performing his or her own phrase (but without pauses...heading for the teamwork portion of the grade here). The performances are recorded and then played back for discussion in a later lesson.
Short notated compositions for xylophones.
4th grade Students (in small groups either 2 or 3 students) composed a 3 part song using traditional and/or their own notation. Students had to use 1 pitched instrument, and 2 non pitched instruments of their choosing. The song had to last 30 seconds. Students video taped the rehearsal and watched their performance to decide if they wanted to change anything. They then performed their songs for the class.
Carnival of the Animals with 4th graders. A full study of Saint-Saen's work then in groups compose music for your own animal using pitched and unpitched percussion.
Giving 4th graders 4 notes (G, A, C, D) to play and improvise with a jazz accompaniment - 8 counts - not overwhelming, but successful.
Giving students a poem to learn (whole group), then assigning small groups a set of pentatonic boomwhackers to set the poem to music.

A great project that I invented for my National Board--- a unit starting with the state map for every three kids; they picked 10 place names; they arranged the names into a 16 beat pattern; they notated the rhythm with words using a grid system (one beat per box); they created a steady beat with non-pitched percussion and said the poem AS written down; they chose a npp instrument for every kid and performed it with voice and beat; instruments with word rhythms and a beat; then voices, instruments; and then they had to create an ending. We video-ed their progress EVERY class period and boy, did that keep them on task! The wildest group of boys ended up with the coolest ensemble, cooperation AND music wise. 4th grade. Abbreviated version of process. Took 6 or 7 class periods! Then all groups did it as a rondo at a parent performance.
Doing accompaniments to the song "Rain, Rain." The students created ostinato patterns and we layered our favorites. Then, we arranged the entire song. The kids LOVED it. This was done with 4th grade students using recorders, voices, Orff instruments, non-pitched percussion instruments, and dramatics including lighting effects and movement.
All of my students create a composition of some type. In grades 4 and 5, they work in small groups to "pen" a poem, then compose a melody and record their song.
Students in grades 4 & 5 composed a 16 beat rhythmic piece in a form (AABA, AABB, ABBA, etc). After they notated it, they became the conductor for two others (groups of 3) to perform their piece on classroom instruments. The groups played all 3 pieces, chose their favorite and prepared it to share with the class. Students were assessed on the writing component and also on the performance component. The entire project took 4 (I remember I thought it would take 3 periods and it took one more) class periods or 55 minutes with class size of 32
Special Education, ages 9-12; Halloween "sound track"; Students were divided into two groups of @ 6 students each. Each group sat at a large table on which was placed a variety of interesting rhythm instruments, white construction paper and markers. Each group was instructed to create a "sound track" lasting from 1 to 3 minutes for a Halloween experience and to use the paper and markers to "write down your ideas and final decisions so that they make sense to you: so that you can repeat the music from your papers". Some groups started by creating a story line, others explored instrument sounds and created patterns they considered "scary". Interestingly, even the groups with little or no writing skills used the markers and paper to notate their creations in a way that they could describe and use to repeat the performance.
5th grade. Using a spoken round and given several examples that implement rounds, diversity in tempo of the poem, pitch and dynamics. The students are asked to devise a plan in groups of 4 or 5 using percussion instruments to double vocal lines. The students are required to have 1) a plan. 2) a steady beat. 3) texture 4) dynamics. They perform their compositions for class and each composition is discussed as to aspects that the class found appealing and whether the criteria was met.
5-6th grade: I gave each group of students a short poem. There were to determine a rhythm to chant the poem in unison and then create a rhythm piece using ostinato, the rhythm of the words, and a steady beat. Students shared their product with the class and created a recording that was posted on the internet.
Creating melodic motifs and using them to create short songs following form patterns. Original compositions that are performed on concert.

Creating rondos in cooperative groups using all available instruments and a theme with choices of variations
Fourth and fifth grade students writing and performing rhythms based upon their dream breakfast menus.
Fourth grade-create, notate, and perform own 16 measure composition
My oldest group is 5th graders and I had them compose an ostinato pattern to a Native American song using instruments.
6th and 7th grade: Compositions. 1. Brainstorm ideas about what lyrics are about on songs they know. (Groups) 2. Brainstorm different ideas for lyrics. (Individual) 3. Write down lyrics. 4. Type up lyrics. 5. Write down rhythm to lyrics using short and long lines. 6. Write down numbers of notes over each line. 7. Teacher adds chords to song and sings it for the whole class, if the composer so wishes.
Grade 6: Rhythm and instrumentation leading into notation composition. 1. Divide class into groups of 4-5 students - each student in their group needs a different color marker. 2. Place a large piece of butcher paper on the floor for each group. 3. Use an air popper (no lid) and popcorn onto the paper. 4. Each student may eat as much popcorn as he/she desires - however, they must replace each piece of popcorn with a marker circle. 5. Students have created a rhythm composition. 6. Students decide beats, note value, dynamics and how the whole composition fits together. 7. Creative thinking - yes, fun - YES!!
Students work in groups of 2 or 3 on xylophone compositions. As above, they have a few requirements. The kids come up with amazing results after about 3 days of work. We videotape their performances, and they love to watch themselves and others. They love the freedom of playing "whatever they want".
In 6th grade music (all girls' school), we listened to a short song from Asia. We analyzed the notes in the song and used only those notes to make up new melodies on the glockenspiel. I gave the option for them to notate their new melodies using the staff or notate by writing the letter names. I was surprised by how many actually notated using the correct notes. They were split into groups 3-4 to a group, each writing a few measures. Then they put them together to create a song. After working on it for a class period, they played their song for the class.
My 6th graders spend the year learning about the mechanics of music then spend 4th quarter creating their own piece with lyrics, melody, harmony, expression
Grade 6--making music with artwork
In grades 1-6, students compose. In most instances, it is a group/whole class effort in which I guide the students and settle any debates over rhythm and pitch. I do not dictate tonality, rhythm, melody. . . When the songs are good, the students know it. When they sound less good, they know and make revisions. I've done this for about 8 years. Our school has 50 or more original compositions which I use in my teaching and I feel it just gets better.
Letting the children create "B" sections of songs using Orff instruments.

One that I really enjoyed was a full class of 5th and 6th graders, working on Jon Madin's piece "clouds" on xylophones. After we learned it, I played the recording, and we discovered that the recording had some variations in the piece. My students decided that if he can make changes, then so could they. Each class came up with their own, unique variation of the piece, and all of their choices reflected past experiences from our class. It was a great way for me to "see into their thinking". I ran out of time before the end of the year, but I wanted to record each class's variation for the others to hear. Generally, we do a lot of marimba music - also Walt Hampton's stuff, and the students readily pick up ideas from these pieces and use them to create their own pieces.
Our 6th Grade Students this year are working on a composition to play at the end of the year. We experimented with making music in 5 squares (5 finger hand position) and playing it on the Orff instruments. Now we have created a 16 measure rhythm. We talked about 2-3 lines having the same rhythm. Their assignment for tomorrow is to take this rhythm and write 1-2-3-4-5 above each note. We will eventually put this into standard notation, add chords, and make it into an A-B-A or A-B-A-C or other form.
"String" compositions where kids hang rhythms on a string - K-5 and perform as a rondo

Composition (Recorder)

4th grade - they write a song to be played on their recorders using beat boxes with a five line staff in each beat box. They then play the song for the class in a recorder recital. I am working on a research project for my master's degree in which the students are learning music vocabulary words and then doing compositions based on these words. These projects will include graphic notation and modified notation.
With 3rd, 4th, and 5th grade, towards the end of our recorder unit, I have each class write a song for recorder and play it together. They make joint decisions (or take turns) about rhythm and melody. At the end, we hear each classes song and they vote on which is their favorite. We talk about what makes a composition "sound better" to our ears.
I gave some guidelines (number of measures, how many instruments, which rhythms, which notes) and let them compose a short 4-part piece. Every piece had one recorder and 3 non-pitched percussion instruments of their choice. I did this with 5 grade and it took us about a month of 50-minute classes. We performed for each other.
Recorder compositions, these are done after students complete their Recorder Karate unit. This includes the use of a soprano recorder as well as unpitched percussion instruments.
The one I use most often is to have recorder students - 4th grade - use a known written melody and change the melody using pitches they know to get them to play more at home (this is a homework assignment) they then play for class if they are comfortable doing this. Those with more ability soon start changing the rhythm and extending the song or creating completely new pieces. This is the main compositional creative work I have kids do due to time restraints.

Cross-Curricular Activities

Individual projects - essays on what their favorite holiday song reminds them of, including smells, sights, etc. and why it is their favorite.
One of my favorite activities with 1st and 2nd grade is listening to the "Carnival of Animals." After we have discussed and explored concepts like high/low, fast/slow, loud/quiet and compared them to animals and other objects, I play excerpts from Saint-Saen's "Carnival of the Animals." I play each excerpt (ex. Tortoises) once (twice if it's really short) and have the student draw a picture of what they think the music could be representing. At the beginning of the lesson, I do not explain that it is called "Carnival of Animals." I love to see what students come up with on their own when then hear each piece. I select a few students to explain what they drew after each excerpt and why they drew it using the musical terms we have previously learned. At the end of the lesson, I tell the students the name of each piece and we listen to it again to see if they can hear why the piece was titled so. This activity could honestly be done at any grade level with more advanced musical explanations of drawings, though I do find with the older grades (4/5) that the drawings are less creative with "Carnival of the Animals". I sometimes use Debussy's "L'Apres-Midi d'un Faun" or Holst's "Mars" or "Jupiter." The pieces are longer and I have more creative thinking.
playing a piece of program music and having the kids write a story about what they heard in the piece. Most of the time, their ideas are very similar.
Writing original commercials for a fairy tale program

Exploration/Play

I have experimented with having "choice time" in my 2nd-4th gr. Music classes. I set up various centers in the room, and the students were free to use the pitched and non-pitched instruments, compose music, use a listening center, create movement, etc. I observed most of the students involved in musical behaviors, such as creating songs/music, composing/notating music, & creating dances. Afterwards, I also asked the students to write about and to tell me about what they chose to do, and most of them confirmed that they had some musical objective in mind.
I've really enjoyed pulling out mallet madness and world drumming; It puts me on my toes, because I'm a slave to the paper and this puts all of us on the same playing field-I'm a product kind of person instead of an experience kind. I've also picked poetry and put each verse with a group of kids and a bucket of instruments-that worked well.

Improvisation

"Q+A": I play the "question" and they tap out their "answer". Students take turns and pass the instrument around the circle. The song, "Ding, dong, walla-walla bing-bong": It's ABAC, with B being a scat-sung vocal solo. Students take turns stepping into the solo spot. I've heard some amazing solos. Variations on "Teddy bear, teddy bear": we have a constantly growing collection of animal verses that we act out together.
Beginning improvisation works best when you give students guidelines. So, a beginning improvisation activity (3rd grade) might look like this. The teacher presents a poem. Students learn to speak poem and pat rhythm. Teacher gives students the tonal parameters, ie what key they are in, what the tonal center (most important note) is. Students play rhythm on one pitch, then two, etc. Students them improvise to the rhythm of the poem. Again, giving students the guidelines discussed in the previous question makes them more successful. As they gain experiences, eliminating the perimeters.
Instant Opera. Following much improv training in theater, verbal, vocal, gibberish, mime and melisma, students are able to improvise an opera with several characters. Works especially well with my choir.
Drum circles and setting up an instrumentarium are universally successful no matter what the age group.
Conversations with drums (so far...)
Call and response activities work great for improvising (students improvise short rhythms).
Improve drumming. Each student makes up his/her own rhythm in common time and the class then repeats it together. My students love this!
Once we learn a new note or pitch, students in all grades have the opportunity to improvise and compose. Sometimes it's formal, as in written down...other times, it's just vocal.

Listening Maps

Creating listening maps with 2nd graders music notation with kindergarten using symbols/pictures.

Lyrics

We had a song called "No More Pie." (I think it is a John Frieirbrand CD.) The original song has about 5 stanzas. The students had to discover the rhyming structure and the relation of the thoughts between the stanzas, and we composed additional verses together. K-2
5th grade - writing new words to a familiar song and making it about our school. We "re-wrote" Woody Guthrie's "This Land is Your Land" and titled it "This School is Your School." (Creative, I know, but I let the 5th graders choose almost everything)

They write the words to a potential song or rap; We discuss possible music ideas to go along with that idea. They write a melody on their own (I make corrections and offer ideas) I add chords or harmony. One of my 4th graders has won a church competition twice; My grandson wrote a praise song that is sung frequently at our church; Two separate groups of girls are writing music for our school talent show.
I did a unit on Lyrics in popular music with 7th and 8th grade students. We studied Weird Al Yankovic. I then had them choose a song from Hairspray (The dance department was doing a 60's show in the spring, so they were all learning dances to the songs from the musical) and had them create new lyrics that tied into another subject, such as a science or math lesson that they were learning.
I just this week had my fifth graders create a blues song (one verse) using "aab" form. The words needed to fit with the melody of Leadbelly's "Good Mornin' Blues.
Students would improvise lyrics to twelve bar blues as I accompanied on the Banjo. When I taught children with Emotional Disturbances, this resulted in very well thought out songs that rhymed, were full of meaning. All things considered, I counted this a musical success if not asocial/emotional one.
Composing and writing the lyrics to our own patriotic songs as well as learning about the expected songs-sending the words to the songs and letters from the composers to President Obama-2nd and 3rd grades
Using a book that has many folksongs rewritten, I had the students do the same thing.

Movement

We read Dr. Seuss' My Many Colored Days, listening to the music. We then spend 10 minutes or so each day dancing/moving creatively to each page/piece of music/color. One color per day, small groups at a time, while others sit and observe. I also use scarves. This sparks so much interest in tempo, dynamics, mood, color and movement.
I enjoy this activity with my kindergartners at the beginning of the year. During this time, we are still exploring our personal space and how to use and move different parts of our bodies. I ask the students to stand in their personal space. As I play a song (Eensy Weensy Spider) I ask the students to tell me the story of the song using their arms and hands. Most students already know the traditional movements that accompany this song. I play the song again and ask them to tell me the story using just their head, or feet, or some other part of their body. This really gets them thinking about how to use different parts of their bodies.
We use nylon scarves to wave when listening to a recording. Students can demonstrate fast/slow, loud/soft, etc. as they listen to the music. Not all students will demonstrate these concepts in the same way.
Creative movement using Saint-Saens "Aquarium."

Students begin with movements from an outdoor activity, we explore changing the speed of the activity, and also adding detail to the movement. The rhythmic body movement is then accompanied by another group of students, arranging different timbres to interpret the movement (a "sound track" per say) Next, they need to arrange with another person, setting parameters of 8 beats for each movement sequence, (which turn into being accompanied by an eight beat long rhythm) The 2 people are then asked to choose a pattern (aaba, or abab, or abba) and they create a final product that is a 32 beat long rhythm. Then we add a simple ostinato to accompany the main rhythm. The final product is performed for the class, has rhythmic accuracy and form, timbre interest, and 2 parts that are complementary.
Create "scarecrow dances" in small groups. Parameters were for the dance to follow the form of the Orff volume piece used, and to apply different movement qualities for the different sections of the piece. (A section was "scarecrow rules" for movement, B section was "scarecrow fantasy world" where movement was uninhibited.)
Groups came up with 8 beat movement pattern. They came up with different levels and movements in each group.
I often have 5th grade students create a rain dance to Native American music in small groups. I am often amazed at the cooperation and creativity they demonstrate.
My 5th/6th grade students were divided into groups and were asked to create Mississippi steamboats. Each boat had to have moveable parts, props could be included, and all students in each group were to be a part of the boat. We were learning a song about the Mississippi river and life on a riverboat.
A 6th grader once asked to choreograph the "Hoedown" music. The entire class loved the activity.

Performance Based/Large-Scale Creations

Kindergarteners wrote lyrics for our own original mini musical for the story of the 3 Billy Goats Gruff then collaborated with a group of 7th grade students about 3 hours from our school to write some simple music to match the lyrics we wrote.
One of my most informative experiences is at the end of first grade. After spending the year performing many rhymes with varied accompaniments - beat based body-percussion, movement or instruments, instrumental color, varied vocal timbres, etc. - students (individual or 2's or 3's) choose from a set of unfamiliar rhymes and "create a piece" using any resources used during the year. Responses vary from straightforward speaking of the rhyme while tapping (or not quite tapping) the beat, to elaborately enacted vocal & movement dramatizations with instrumental accompaniments, introductions, interludes.
We retold the story "The Little Old Lady Who Wasn't Afraid of Anything". Students were allowed to choose an instrument to represent each of the characters and play that instrument in whatever way they wanted. We retold the story with some of the students acting it out.

Original Tone Matching Song - "Mr. Potato Head" Where did he go? How did he get there? Without a credit card or money, what did he encounter and how did he solve the problems? This was more of a creative writing in a story form. The children were permitted to use any unpitched instruments or Orff instruments in pentatonic keys of C, F, or G (they knew which bars to remove in each key) and then the story and accompaniment were relayed to the other children and the classroom teacher. They were also permitted to draw scenes of their story. The really cool thing about this - the art teacher and classroom teachers got "into" the project and allowed the students to work on it outside of music class. Oooooo, they were soooooo proud of themselves!
Using children's literature offers many instances for creativity; "Rumble in the Jungle" by Giles There are 13 short poems that I distribute to my 3rd graders. They usually pair up to create their renditions of a given poem. They have the choice of speaking rhythmically, singing, adding percussion, movement, props, etc. to make the poem come alive. They also know that there will be time to share w/the class, so a little pressure is on them to deliver the goods.
We created operas using social studies curriculum. The class could create whatever story they wanted, but all of them had to agree on the plot and characters. then they had to write the songs and sing them.
Students in groups of four, make up their own verse and moves in to "Green Sally Up" then they perform it for the rest of the class and we film it so they can watch themselves. Grades 3-5. Great activity!
Cross-curricular unit on "The Star-Spangled Banner." Students work collaboratively in small groups throughout the entire unit. Each class is a hands-on guided instruction activity that adds to a collection of material telling the story of the writing of our national anthem. The culminating project is technology based. Students re-create the story by creating a movie in Windows MovieMaker. A tool kit of public domain photographs, documents, as well as sound effects, and audio files that are purchased or permission granted is available for their use in the movie. The end of the movie is a presentation of their version of the anthem that they have created with Sony's Acid software (purchase via a grant). All movies are presented in class. An ballot is given to students to vote for "Best Picture", "Best Song", and "Best Screenplay". This unit is enjoyed by all and I look forward to doing it every year.
Grade 4-6. To integrate writing to boost standardized testing scores, we did a listening lesson on Brahms. We listened to several selections, then listened to sections of his first symphony. Students had the choice to be a newspaper reporter and review the "premier" of the concert, or be Brahms and write a diary entry following the premier of the concert.
Finding sound sources to use when telling a story, using sound effects that represent characters in the story or sound effects of action. Also a chinese New year parade where some students parade like a dragon and others make the chinese instrument sounds and fire cracker sounds.

Arrangement of Vietnamese song, "Wind on the Hill" for Fifth Grade English Handbell Choir. Students learned song in music class, created handbell accompaniment, movement, Orff instrument accompaniment, rhythm instrument accompaniment (wind chimes), & added solo singing. Enhanced it for a show with similarly styled Asian costumes in multi-colored jewel tones. Usually do one creative piece per year for Fifth Grade Handbell Choir. Students have arranged "Shake the Papaya Down", "Israeli Hora," & "Black Snake." Arrangement may start with just melody line from music text or may be derived from arrangement of handbell music. Orff inst., rhythm inst., movement, & singing are common additions.
Grade 5, 6. We created our own opera from the ground up. Entitled "Nathaniel and the Medallion of Ra", it was a story about a boy who is visited by a ghostly Egyptian child asking for the boy's help in recovering a stolen medallion. The students wrote the story, helped write the music, created the orchestra, acted and sang the parts, helped in costuming and scenery production, made the props, ran the backstage area, did the publicity. It was an enormous task but all-encompassing and very successful. Currently, we are writing another opera (6th grade) based on our state's historical figure. The sixth grade writing students wrote the libretto after researching the subject. Choir students are writing some of the music and performing the roles. The performance will be in May. It will be accompanied by a string quartet and will take place in a professional performing arts center.
5th and 6th grade extra-curricular chorus group - they came up with ideas for a theme, helped choose songs (from options I provided), and wrote connecting dialogue to create a musical that they then performed both for parents and for the rest of the students at school.
Grade 5-6. We learned about the elements of a musical and an opera. Students then created their own mini-musical with speaking and singing, or create a mini-opera with all singing. Requirements were using movement, voice, and instruments or body percussion at least once in the 2-3 minute presentation. "Composition" was optional - whiteboards and markers were available, but less than 50% of the groups used notation. Most notation was "Megan does her part, Madison plays the triangle for a doorbell, Jordan enters" or "start with drums, add tone bells, add cymbals." I didn't witness any traditional music notation.
I have been trained in the Metropolitan Opera's Creating Original Opera program and have implemented that at my school. COO is a very structured program but the final product is completely student created. It is fantastic! I do many less structured projects, too, but that is the largest project and involves much collaboration with other colleagues.
In 5th grade each year, we do a project in small groups (3-4 students) where the group creates their own STOMP compositions using buckets, basketballs, brooms, pots, and pans, etc. We develop a rubric together after watching STOMP on DVD. We videotape the group compositions and evaluate them. In 3rd grade, we write a pentatonic melody for a simple poem as a class, then choose poems and write pentatonic melodies in pairs.
I had 5th grade students act out the characters to "The Legend of Sleepy Hollow" using instruments and props. It was a simple activity that they enjoyed greatly.
6th Grade. Write (lyrics and music) a musical play and perform the play in public.

6th grade-making up a video for a song. I divide students into groups they may choose a song and make up a video for the song. I then video tape each group and the show it as a classroom project.
In 6th grade, the students were given the opportunity to provide movement or accompaniment to a selection to be performed at our winter concert. Some chose to use Orff instruments, others Unpitched Perc, others created movement with scarves. This was a challenge for some because there were a lot of choices, but because it was done in a group setting, with my guidance of course, the students came up with some great functional, yet creative ideas. We performed all ideas as a class, but voted for our favorites to present in the concert. I think the students took a lot of pride in their performance!
In celebration of the Lunar new Year, students improvised on the pentatonic scale (on octave bells) while another group made up a "Dragon Dance", another group improvised movement with Ribbon Dancers, and the final group played a predetermined rhythmic pattern on percussion. Then, they rotated stations!
STOMP project with 6th graders where they composed their own musical pieces using traditional and nontraditional percussion instruments.
Student in Grades 6-8 works in small groups to create mini musicals with a familiar fairy tale theme, suitable for presentation to primary students. They created the script as a group. Each student created 1 to 2 songs to complement the script, preferably using contrasting styles, and the students/group decided how to present the songs, using instrumental and/or percussion accompaniment. Starting from a familiar story greatly increased the chance of a creative product within the set time and allowed more opportunity to be creative with the songs.

Props

Paper music. Kindergarten. We take a piece of paper and see how many sounds we can make with it. Each sound gets a picture. Students compose their own piece of music by drawing the pictures in a row, then we perform those pieces of music.
2nd-4th students created black light puppets and choreo for Carnival of the Animals... very fun, very creative. Took a long time to produce, but was a great integration of art & music.
Making instruments with found objects
Students made their own instruments. They could use whatever they found around the house. This was done with 3rd graders.
5th Grade Students listened to a piece of Music in 4/4 time. In groups of 4, they were asked to write-out a rhythmic cup game for 2 measures, then teach it to the rest of the class until we had created a full circle activity.
Using items from the classroom (pencils, books, instruments, scarves, parachute, cups, etc) they are to create movement or rhythms to show the form of a piece of music.

Technology

5th grade working with garage band and "building" their own song.
Setting some Shel Silverstein poems to music was very rewarding. This was a 5th grade project. Having only one computer, we did one composition per class. We began the Finale notation in class, but I had to finish it. Each class played their, and the other classes', composition. It was very time consuming, but the children all worked hard, even some who rarely bother paying attention.
Sibelius Groovy City - with piano students demonstrating understanding of form. Upper elem.
Students were to compose a song with a partner using only the black keyboard keys. They had to decide who was playing the high and who was playing the low and when/how. They had to be able to read their own composition. They used the symbols for the black keys to notate their song.
Grade 4 - Fourth Grade Original Pentatonic Music with Bordun Accompaniment Fourth graders worked in groups of two. They were to create a melody in A A B A form (like Ode to Joy by Beethoven) for the recorder in the key of G Major or e minor. They were to end on the key tone (major or minor.) The song had to be titled and had to be notated correctly on staff paper. They then would go to the computer and notate their song. This was a major snag, of course, as we only had one computer and the classes had to wait their turn, and some teams were quicker than others. (The project took WEEKS to complete because of the computer snag.) The children then would perform their song for their class peers and their classroom teacher. When their "book" was completed, each child had a take-home masterpiece. This was also given to: the principal, the superintendent, the elementary coordinator, and the school board! Evaluation again was performance and adherence to the stated form. Oh yes, if borduns were used, the team would choose other classmates or me as their teacher to play the Orff instruments as they played their recorder. It was a really cool project. The only negative, again, was the time involved. And . . . .we even had music TWICE a week for 40 minutes/class. I cannot imagine doing such a project when you have a class for only one time each week.
Last summer I had a guitar class of about 20 kids, grades 4-6. We met every day for an hour, for 4 weeks. By the end of that time, teams of 2 or 3 kids had "written" songs which we recorded and produced our own CD. I was amazed at some of the work that came from these kids. It was summer, so we could work outside and they had plenty of time to try different things. We actually spent the first two weeks or so learning a few basic chords and strums so they would have some tools. But what was really neat was that, in some cases, they by-passed the conventional and made up their own sounds and "chords". It was a great experience, difficult to duplicate in my usual schedule of covering over 300 kids a week.
Students listened to "Poeme Electronique" and then created short free-form electronic compositions with 2-3 tone colors.

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