PERSPECTIVES ON IMPROVISATION IN BEGINNING STRING PEDAGOGY: A DESCRIPTION OF TEACHER ANXIETY, CONFIDENCE, AND ATTITUDE

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PERSPECTIVES ON IMPROVISATION IN BEGINNING STRING PEDAGOGY: A DESCRIPTION OF TEACHER ANXIETY, CONFIDENCE, AND ATTITUDE (90)

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This study investigated whether or not beginning string teachers use improvisation as a teaching tool and their perspectives towards it in three categories: confidence, anxiety, and attitude. Literature in the field indicates that instrumental teachers do not always include improvisation as part of music curriculum or as a teaching strategy. Responses were collected through a descriptive survey of fourth and fifth grade string teachers in Ohio. Reliability for the survey was high. A larger percentage of teachers reported that improvisation is useful in instruction than employ it in beginning string classes. Teachers also reported teaching improvisation somewhat irregularly and for small amounts of time. Beginning string educators had positive attitudes, high confidence, and less anxiety toward improvisation. Attitude was significantly higher than anxiety which indicates that teachers think improvisation is more valuable than they feel concerned about teaching it. No significant correlations between the categories existed meaning teacher confidence, anxiety, and attitude were independent of each other. Teacher perspectives in confidence, anxiety, and attitude support the use of improvisation as a teaching tool. There are most likely external influences that prevent teachers from using it regularly. Teacher responses to open-ended survey questions suggested that

other possible causes could be lack of time and student readiness. More research is necessary to further understand causes and solutions to the omission of improvisation in beginning string education.

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CHAPTER I

INTRODUCTION

Improvisation in beginning string education is a relatively unexplored field of study. Though Orff and Kodaly, two popular early childhood music pedagogues, incorporate improvisation as a foundational teaching tool (Campbell, 2008), these concepts are frequently not applied in string pedagogy. Skills such as audiation, basic technique, and self-expression can be taught using improvisation while developing beginning instrumental students. Since educators' instructional decisions are often influenced by their perspectives, a description of teacher anxiety, confidence, and attitude could offer insight into whether or not improvisation is used as a teaching tool and why. The relationships between teacher perspectives could help teachers understand their own views of improvisation and what they need to do to use it more effectively in the future. Information about teacher perspectives toward improvisation may help identify and address teachers' concerns while incorporating more creativity in instrumental, particularly string, instruction.

To be effective at promoting understanding for all students, teachers should have many resources and strategies. Research that reveals the ways teacher biases may be affecting their use or disuse of particular teaching strategies is needed in music education. This is of special concern because the benefits of improvisation have been shown through early childhood theories, approaches, and methods but is mostly disconnected from instrumental instruction in practice (Azzara, 1993; Campbell, 2008). A better understanding of teacher perspectives toward improvisation could lead to future studies

and recommendations of ways educators can implement improvisation habitually and naturally in teaching.

Background

Since the first MENC: National Association of Music Education (MENC) meeting in the early 1900's, then called Music Supervisors National Conference, music educators in America have pursued the goal of developing an educational system in which all children have the opportunity to learn music (Mark, 2008). Through the years, research and experience supported by MENC have provided guidance for music educators as the profession has evolved. The MENC National Standards (1994) included improvisation as one domain of music that should be taught in public music education. The third standard states that students should be "improvising melodies, variations, and accompaniments" (Lehman, Asmus, Boyle, Colwell, & Shuler, 1996). Yet in string education, improvisation is not a traditional teaching strategy and is not a Standard commonly incorporated in instruction (Hamann & Gillespie, 2009).

There appears to be a lack of organized improvisation instruction in music classes. Teachers do not seem to be making class time available for students to participate in creative, improvisatory activities (Azzara, 1999; Barkley, 2006). Music education has been criticized for over-emphasizing music literacy and neglecting creativity since the 1960's (Tallmadge, 1960). The problem persists today. Even when teachers attempt to use improvisation, particularly at the beginning levels of instrumental instruction, improvisation may be taught "superficially and unsystematically" because teachers are unaware of the ways improvisation can be used effectively (Lehman, 2000,

p. 5). Teacher perceptions toward teaching improvisation may contribute to the misapplication or omission of improvisation in curriculum.

Authors in the field suggest a few reasons improvisation has not been implemented as effectively as possible. According to Riveire (2006), improvisation may be sacrificed due to shortages of resources, including time and money, and lack of teacher experience in improvisation. Despite those limitations, some educators believe improvisation should be a priority equal to the other Standards in instrumental music teaching. As Aaron (1980) wrote:

> We all have juggled time, energy, and choices to comply with requests for programs, concerts, and competitions. But in preparing children to live in an increasingly technological, manufactured, and depersonalizing world, it is imperative that arts teachers make the time and effort to enrich children's lives. We can be the ones to expand their futures through aesthetic awareness and creative thinking. This is a weighty responsibility, true; but it is, after all, what teaching is all about. Purposeful improvisation offers one of the richest sources for its fulfillment. (p. 83)

Though teachers must consider the amount of class time available while planning the scope of curriculum, improvisation is a skill that can contribute uniquely to a student's musical experience and creative thinking. As improvisation is a MENC National Standard and supports many areas of musical growth, it should not be neglected due to time limitations (Hamann & Gillespie, 2009; Riveire, 2006).

The secondary reason teachers may not incorporate improvisation is lack of personal experience (Riveire, 2006). As teachers emulate the methods used in their own education, lack of improvisation in their training may discourage them from using it (Riveire, 2006; Volz, 2005). Teachers are also more likely to teach and assess the National Standards that they are comfortable addressing (Barkley, 2006). When a teacher is fearful, lacks confidence, or does not value improvisation based on previous

experiences, there is a higher likelihood it will not be included in instruction. A better understanding of teacher perspectives toward improvisation could reveal if teacher confidence, anxiety, or attitudes are possible reasons improvisation is less commonly included in the elementary string classes.

Personal experience in improvisation is not a prerequisite for using it as a teaching tool. Using simple, developmentally appropriate improvisatory activities will most likely help teachers of many backgrounds feel secure (Hamann & Gillespie, 2009). Guidelines for improvisation activities that involve techniques appropriate for young string students are available from multiple sources, including *Performance standards for music: Strategies and benchmarks for assessing progress toward the national standards, grades PreK-12* (Lehman, et al., 1996), *Strategies for teaching strings* (Hamann & Gillespie, 2009), and an article "Using improvisation as a teaching strategy" (Riveire, 2006). These experts suggest simplified ways improvisation can be used with beginning instrumental and specifically string students.

A common misconception is that improvisation is a Standard that is applicable exclusively in early childhood and jazz settings (Baker, 1980). There are many simple improvisatory activities that can be used by students appropriate to their skill level and in genres other than jazz (Hamann & Gillespie, 2009; Kratus, 1991; Riveire, 2006). A lack of experience in jazz improvisation does not disqualify teachers from using general improvisatory activities in instruction. Simple activities can be incorporated in curriculum based on student needs. For example, one and two note melodic and rhythmic manipulations could be accomplished by most beginning string players and is considered an improvisatory activity (Hamann & Gillespie, 2009).

Some authors in string pedagogy have offered alternatives for teachers who do not have backgrounds in jazz. Hamann and Gillespie (2009) described simple techniques for implementing freely creative activities, such as simple rhythmic manipulations, adding dynamics or articulations over a drone, and using simple melodies for call and response exercises. They wrote:

> The enjoyment that both teachers and students feel while improvising can enliven their string playing experience. As students' improvisation skill develops, give them opportunities to improvise on concerts. They will like it, and their parents will have fun seeing and hearing their children create their own music right on the spot! (p. 185)

Learning to improvise is a process that should begin coincidentally with technical training. Students should be encouraged to perform their improvisations and find enjoyment in creating their own music.

Riveire (2006) also suggested accessible ways to incorporate improvisation in string classes by letting students create three note melodies over plucked open string accompaniments, manipulating two notes rhythmically, and having students face each other to conduct musical "conversations" (p. 40). Both authors' suggestions require basic musicianship skills and could be incorporated by teachers with musical training in a variety of genres. Teachers may already use these techniques but do not realize that they are incorporating improvisation in their curriculum; however, more research is needed.

With a basic approach in mind, teachers from diverse backgrounds may find improvisation more practical. Implementation of self-expressive, creative exercises does not need to be complex and can be useful in giving students opportunities to practice and internalize basic concepts (Kratus, 1991). Especially in situations with young students, simplified improvisatory activities should include only fundamental material that is appropriate to the students' skill level. These activities founded on basic technique will

most likely be within the demonstration abilities of the teacher regardless of his or her prior experience with improvisation (Hamann & Gillespie, 2009).

Teachers' preferences and personal experiences influence curriculum (Darling-Hammond, 2005). According to Kelly (2009), teachers are enculturated into particular teaching practices that are reflected in learning experiences students receive. For example, concerts are a part of culture in band and orchestra classes, so teachers may develop practices focused on performance preparation (Aaron, 1980). Often, ensemble instruction is pressured by demands of concert schedules, contests, and productivity. If social expectations place value on product-oriented education, trying a new focus, such as creativity, can be challenging and controversial.

Improvisation is one way teachers can support creative thinking in music classes without sacrificing developmental goals (Koutsoupidou & Hargreaves, 2009). Creative activities are enriching to former teaching methods which do not need to be entirely overturned or abandoned (Hamann & Gillespie, 2009). Instead, improvisation should be recognized and used as a step in the process of musical development, not only as a supplement to curriculum but as a skill and means for growth in creative thinking.

Learning theories suggest that improvisation is a component of skill development. Teacher biases about improvisation in instruction may influence the extent to which it is used in pedagogy which could impact students' musical development. Early childhood music methods, approaches, and Gordon's theory suggest that improvisation takes place in the developmental process between exposure to sound and its symbolic representation (Gordon, 1999; Campbell, 2008).

Teachers may have diverse opinions about who is capable of improvisation and how advanced a student should be to begin improvising (Kratus, 1991). Improvisation is a part of the process in musical development, but is also a product of advanced musical understanding (Kratus, 1991). Dobbins (1980) described improvisation as the epitome of language proficiency, both in music and literacy. This could be misinterpreted to mean that improvisation should not be practiced until students show mastery of musical or literary skills. Dobbins wrote that learning many musical skills without simultaneously developing the skill to create music spontaneously and independently is pointless. The development of creativity skills can and should coincide with technical training (Kratus, 1991). Teachers may or may not realize the importance of introducing independent music creation early in the process of musical development.

While improvisation can be an expression of a high level of musicianship, it must be developed as part of musical understanding. Kratus (1991) observed that some teachers believe improvisation is not applicable for young students and should be reserved for more advanced musicians who have shown mastery of musical knowledge. This should not be a concern because studies show that children as young as two years old participate in musical improvisation (Kratus, 1991).

Kratus described seven levels of development in improvisatory skills starting with unstructured exploration of sounds and increasing in structure and complexity as students progress. Teachers can support students' musical development by limiting tasks to the ability level of students and providing activities that simultaneously practice technique and creativity (Hamann & Gillespie, 2009; Riveire, 2006). Teaching improvisation can occur sequentially and should begin with simple activities, thus relieving teachers who

may feel unqualified or ill-equipped to teach improvisation. Teachers must realize the value and their capabilities of using improvisation in instruction if they are going to be willing to implement it.

Developing music audiation, or the ability to hear music in one's mind, involves improvisation. Research suggests that musical understanding can be developed in a process similar to language (Aaron, 1980; Gordon, 1999). According to Edwin Gordon's (1999) theory of musical development, music audiation is akin to the thought process behind language and involves improvisation in the inferential stage in which students learn to transfer understanding between what they hear in their head and notation. Successful development depends on how well musical experiences meet students' developmental needs. Though he claimed the process of learning music should begin during infancy, Gordon recognized that many students of various ages enter music programs ill-equipped in audiation. Thence, it becomes the music teachers' responsibility to provide appropriate activities to help students develop proficiently. He wrote:

> Nevertheless, with care and understanding, they can be given compensatory, not remedial, guidance and instruction as a group in the formal classroom. The fact must be confronted that the majority of children who enter school lack the readiness to profit fully from general music instruction. The case becomes even more extreme when students are expected to learn to play an instrument and to theorize and read music notation at eight or nine years of age, when many have not yet developed a music listening vocabulary or other fundamental audiation skills necessary for learning to perform well on an instrument. This situation may contribute to the high dropout rate in beginning instrumental music. However, with proper understanding, educators can remedy the situation. (p. 43)

Basic steps in music audiation development include exposure to modeling of sounds, exploration and improvisation, and symbolic representation. Each of these steps can be incorporated by teachers in group instruction to compensate for students' lack of experience in developing understanding of music. Because improvisation is a part of the

process, teachers should use it to help beginning instrumentalists learn to be musical (Gordon, 1999; Azzara, 1993, 1999; Berkowitz, 2008; Dobbins, 1980).

Improvisation is a valuable skill that is seemingly neglected in instrumental music education. Learning theories and methods suggest that improvisation should be developed similarly to other musical skills or techniques by starting with basics and increasing in complexity (Kratus, 1991). By using appropriate learning activities at the students' skill levels, teachers may feel more comfortable using improvisation in the classroom (Hamann & Gillespie, 2009; Riveire, 2006). With this model in mind, it is important to know how teacher perspectives towards improvisation may be influencing their use of it.

Need for the Study

Little research exists on teacher perspectives of improvisation, and even less is string specific. Using improvisation as a teaching tool fulfills multiple domains of the MENC National Standards and has precedent in learning theories (Goldstaub, 1996; Riveire, 2006). However, according to *The School Music Program: A New Vision* (Lehman, Hinckley, Hoffer, Lindeman, Reimer, Shuler, & Straub, 1994) published by MENC, "Many students gain considerable information about music and acquire rudimentary performing skills, but too few have ample opportunities to improvise and compose music. Teachers who lack these skills tend to assign them a low priority" (p. 4). When skills needed to improvise are primarily rudimentary, teachers should not be inhibited, yet the problem persists.

Insight into teacher anxiety, confidence, and attitude toward improvisation may help inform what can be done to support teachers in making decisions that promote creativity in string instruction. Self-awareness is integral in planning student-centered curriculum (Darling-Hammond, 2005). A description of teacher perspectives of improvisation as a teaching tool would be beneficial to develop this awareness of preferences in planning curriculum. Furthermore, research on teacher anxiety, confidence, and attitudes may lead to suggestions as to why improvisation is or is not commonly included in string instruction and how it can be used more regularly and effectively.

As purveyors of information, teachers and can be influenced by their values and preferences (Darling-Hammond, 2005). Teachers will use activities that they feel are valuable and that they can teach well. Self-awareness among teachers could help improve instruction by incorporating improvisation when it was formerly unknowingly being neglected. To focus curriculum on creativity and student learning, teacher perspectives about improvisation as a teaching tool should be revealed and addressed.

Furthermore, teachers are responsible for providing a learning environment where mistakes can be made as part of the learning process and feedback is not intimidating (Darling-Hammond, 2005; Riveire, 2006). Though some students may not feel comfortable improvising immediately, teachers can make it a rewarding experience if the environment is accepting and anxiety is low. According to Darling-Hammond (2005), students often reflect the expectations of teachers and adopt their teachers' attitudes. Therefore, teachers need to have a positive attitude and be accepting of the "klutziness" (p. 58) phase that may occur as a new skill, improvisation, is acquired.

Mistakes students make while trying to please the teacher and sometimes over-generalize rules should not be interpreted as misunderstanding or loss of prior knowledge (Darling-Hammond, 2005). Teaching improvisation as a new skill may take some class time and may seem to detract from other music learning, but research shows the opposite is true (Azzara, 1999; Gordon, 1999; Koutsoupidou & Hargreaves, 2009). The effectiveness of improvisation should be considered for its long term benefits in developing creative musicianship. As with other musical skills, teacher attitude about the value and effectiveness of improvisation may influence their patience with student development.

Teacher perspectives toward a subject may affect their curricular decisions, student attitudes, and indirectly, student achievement. By studying teacher perspectives in anxiety, confidence, and attitude, recommendations and further study may be made to help implement teaching methods, such as improvisation, more effectively. Ways in which teacher perspectives affect their own teaching and influence students' learning experiences will be presented in this study in further detail.

Purpose and Definition of Terms

The purpose of this study is to describe string teachers' perception of their own confidence, anxiety, and attitude toward teaching improvisation to beginning string students. Key terms in the study include improvisation, teacher confidence, teacher anxiety, and teacher attitude. These terms each have many connotations, but to focus the scope of the study, definitions are based on those used by the original designers of the

model for the survey, the Fennema Sherman Mathematics Attitudes Scales (FSMAS), Fennema and Sherman (1976) and Wehr-Flowers (2006), as well as others in the field.

A singular definition of improvisation does not exist in music, though the general ideas behind different definitions coincide (Azzara, 2002). Improvisation has been defined as "the spontaneous creation and performance of music, including notes, phrasing, and rhythm, without preparation and with impromptu revision" (Burnard, 2000; Bitz, 1998). It is distinguished from composition because revision is done during the performance, not afterwards (Brophy, 2001; Kratus, 1991). It is differentiated from exploration because pattern organization and revision occur simultaneously in the process (Kratus, 1990; Liperote, 2006). For this study, improvisation is defined as the use of patterns and internalized revisions in the creation of spontaneous melodic, rhythmic, or harmonic variations or manipulations.

According to Azzara (2002), "improvisation means that an individual has internalized a musical vocabulary and is able to understand and to express musical ideas spontaneously, in the moment of performance" (p. 172). Guidelines from experts, such as Hamann and Gillespie (2009) and Riveire (2006), and specific skills from the MENC National Standards were used to define what musical vocabulary teachers should use for instruction in improvisation that is appropriate for beginning string players. The achievement standards are presented in detail in *Performance Standards for Music: Grades PreK-12* (Lehman, et al., 1996) including improvisation of:

- answers in a similar style to a rhythmic and melodic phrase.
- simple rhythmic and melodic ostinato accompaniments.

- simple rhythmic variations and simple melodic embellishments on familiar melodies.
- short songs and instrumental pieces using a variety of sounds.

These developmentally appropriate skills provide clarity and uniformity in defining improvisational activities that could be used in beginning string classes.

Teacher confidence was defined as the teacher's perspective of his or her ability to teach improvisation. The confidence scale was designed to measure a person's confidence in their ability to learn and perform a task well (Fennema & Sherman, 1976; Wehr-Flowers, 2006). To teach music effectively, teachers should be capable improvisers so they can "demonstrate techniques, patterns, and phrases within musical styles or to help students become improvisers" (Campbell, 2008, p. 286). Teacher expectation of their ability to demonstrate improvisation is a component of their confidence in using improvisation as a teaching tool. Teacher confidence in their demonstration of improvisation skills may be related to whether or not improvisation is included in the curriculum, feelings of anxiety, and attitudes toward the subject.

The definition of anxiety for this study was provided by Fennema and Sherman (1976) and Wehr-Flowers (2006). Teacher anxiety was defined as the teachers' feelings of dread or nervousness towards teaching improvisation to beginning string players. The anxiety scale in the survey was designed to measure feelings of anxiety, dread, nervousness, and associated bodily symptoms related to performing a task. The questions assessed feelings of ease to feeling distinct anxiety, so it is not a measurement of enjoyment or dislike. Tasks that teachers may feel a level of anxiety in performing include demonstration of improvisation skills and the planning and implementation of

improvisation in a lesson, so these were the focus of questions that addressed teacher anxiety (Riveire, 2006; Applebaum, et al., 1979).

Teacher attitude was defined as expectation of a positive or negative outcome of using improvisation in the classroom based on their perception of how the academic and social community would respond to improvisation in the curriculum. The attitude scale of the survey was designed to measure the participant's anticipation of a positive or negative consequence as a result of success in completing the task (Fennema & Sherman, 1976; Wehr-Flowers, 2006). Attitude was included because teacher attitude toward the subject matter influences what is taught, how it is taught, and who is expected to be able to learn it (Darling-Hammond, 2005). Social perspectives of the aims of education in regard to subject matter often affect what and how teachers choose to teach (Kelly, 2009). Therefore, the ways teachers perceive improvisation valued in their social context in addition to their own value of it may influence their attitude.

In addition to social consequences, teacher perspectives about who is capable of learning improvisation may influence their attitude. According to Goldstaub (1996) and Hamann and Gillespie (2009), improvisation is a teaching tool that can be accessible to teachers from many backgrounds. However, Goldstaub (1996) also observed that some teachers see improvisation as something that people either do or do not do. Whether or not teachers believe improvisation can be achieved by all musicians may influence their attitude toward using it in their classes. Therefore, attitude is the teacher's expectation of a positive or negative outcome based on social acceptance and student achievement.

The definition of improvisation presented in this research provides a framework for the survey questions that were used to gather data for this study. Teacher confidence

described the ways some teachers perceive their abilities to teach improvisation. Anxiety showed ways in which teachers dread or worry about teaching improvisation. Lastly, attitude gave some insight into teacher perceptions of cultural and personal expectations and values regarding improvisation. Understanding of teacher perspectives can offer insight into ways improvisation can serve educators' needs and be used more regularly and effectively in beginning instrumental instruction.

Limitations and Delimitations

Limitations to the study existed that are inherent in the nature of survey design. Some limitations were also applied to focus the scope of the study. One limitation is the connotation of improvisation in learning music. As stated previously, various ideas about the definition of improvisation and who should receive this type of instruction exist among music educators. Improvisation can be perceived as both a teaching tool and a traditional performance idiom (Campbell, 2008). As this study was on teachers of beginning string students, the consideration of improvisation was limited to its use in simple forms as a teaching strategy. Therefore, questions often involved specific, appropriate improvisational activities. Despite the attempts to be specific in forming survey questions, teachers may have interpreted the questions differently than intended.

Terms regarding specific improvisatory techniques were used in lieu of the broad, general term, improvisation. One reason some teachers do not use improvisation for teaching beginning strings is that they think they do not have sufficient experience to teach it well (Applebaum, Kapuscinski, Karr, Kempter, McMichael, Rabin, & Stepner, 1979; Volz, 2005). To avoid lack of personal experience influencing teachers' responses

to survey questions, a basic definition of improvisation was provided and teachers were not asked to provide their own definition of improvisation. Though teachers may not be aware that simplified exercises are considered improvisatory, they are important to the creative development process.

Responses may be slightly inaccurate because teachers are self-reporting for each of the survey questions. This is a common problem in research that requires participants to examine and report their own ideas wherein they must interpret questions with little direction from the researcher (Keavney & Sinclair, 1978). Personal interpretations of responses to and definitions of the wording or vocabulary in the survey questions may result in responses that are not representative of what the researcher is trying to ask.

Some limitations to the study exist due to the system of string education in Ohio. A study by Smith (1997) identified fourth and fifth grade as typical elementary grades in which students are taught in string class. The same study showed that 19% of the school districts in Ohio supported a string education program in the 1994-1995 school year. Smith also found that string programs were much less accessible in low-socioeconomic areas and rural areas. String education was most common in middle-socioeconomic areas near cities. The unique opinions that could be provided by experience from teachers of students in low-socioeconomic demographics and rural areas may not be equally represented in the data because these districts are underrepresented in the population of string educators.

The population was limited to teachers who are already members of MENC. Contact was made through MENC and was made through one medium, email. Only string teachers who are members of the national organization received an emailed link

and invitation to participate in the survey. There may be string teachers in Ohio who are not MENC members and so did not receive access to the survey. An advantage of being assisted by MENC is the organization's reputation and commitment to furthering the profession by making research accessible to teachers. Those teachers already involved in MENC may be most likely to participate in surveys and support research (Nelson & Williams, 1977).

Research Questions

Questions addressed in the present study describe teachers' confidence, anxiety, and attitudes towards improvisation in beginning string education and the relationships of those perspectives. Specifically this study addressed the following:

- Do string teachers use improvisation?
- Do teachers think it is a useful strategy for teaching beginning strings?
- What are teacher perspectives toward using improvisation to teach beginning strings in three categories: teacher confidence, teacher anxiety, and teacher attitude?
- Are there differences between teacher confidence and anxiety and attitude?
- Are there correlations between teacher confidence and anxiety and attitude?

Conclusion

Background information has provided support for improvisation as a part of musical and creative development and has offered possible reasons teachers do not include improvisation in instrumental instruction, including scarcity of time and lack of personal experience. The need for a description of teachers' perceptions of improvisation

has been made apparent as this is a likely reason for the lack of improvisation in teaching. Key terms, such as improvisation, anxiety, confidence, and attitude have been defined and the limitations of the study have been described. Research on the ways improvisation can be used and teacher perspectives are addressed in the next chapter. One of the reasons improvisation is necessary and should be applied in music education was summarized by Dobbins (1980):

> Improvisation is an essential tool for initiating the process of discovering and developing the music within oneself. Nothing is more important for the future of music than the recognition, cultivation, and love of that process. For it is certain that if there is no real music inside us, the sounds that we make will remain no more than cheap, empty imitation. (p. 41)

Deeper understanding of teacher perspectives is important because teachers are responsible for developing students' ownership of music learning which can be fostered using creative techniques that involve student discovery, such as improvisation. As teachers' perceptions are considered in curricular recommendations, this study could inform improvement in the inclusion of creativity, such as improvisation, in musical objectives. The benefits of using improvisation in teaching, present ways it can be used in a beginning string class, and an overview of previous studies on teachers' anxiety, confidence, and attitude are presented in the following chapter.

CHAPTER II

LITERATURE REVIEW

A basis for the importance of improvisation in curriculum and ways teacher perspectives influence curriculum are evident in related research. Historical and contemporary applications of improvisation in music education curriculum provide precedent for its use. The benefits in student musical achievement of using improvisation are also salient in studies in the field. Support for understanding teacher perspectives as a foundation for curricular revision and further investigation can be found in research specific to teacher anxiety, confidence, and attitude in music and education.

Improvisation Precedents in String Education

The creative manipulation of melody, rhythm, and harmony through improvisation occurs in a variety of musical genres that are popular in string playing, including Baroque, Classical, Folk, and Jazz (Dobbins, 1980; Riveire, 2006; Tallmadge, 1960). These genres are already being included in string education. However, the proliferation of research and teaching methods on improvisation in jazz education may lead teachers to believe that it is a technique limited to jazz (Baker, 1980). The use of improvisation as a teaching tool does not need to be so limited. Improvisation is a skill that extends across genres and contexts, whether it applies to general music, band, orchestra, or choir.

Creativity is in the doing of music. Instrumental students should be gaining creative as well as technical experiences from the beginning. As Elliot (1995) wrote, “Most of all, musicing reminds us that performing and improvising through singing and

playing instruments lies at the heart of MUSIC as a diverse human practice" (p. 49). Some philosophers may argue that humans cannot make something that is not already made, so nothing is creative (Fuller, 1966). However through performing and improvising music, students experience something that is entirely new. Participation in making music involves a creative process (Elliot, 1995; Volk, 2005). If an element of music creativity, such as improvisation, is neglected, a part of the process will be missing. Even if improvisation occurs within formal musical boundaries, it involves new experiences and understanding that cannot be accomplished in nonmusical ways.

Historically, studies have shown that creativity in musical development leads to healthier identities as musicians. In a case study by Moreno (1939), a professional violinist who was concert master of a major orchestra was treated for performance neurosis by reverting to experiences of spontaneous creativity through improvisation. The performer learned to be creative within the cultural conserves of his orchestra by taking images or ideas and creating music first completely spontaneously, then with gradually applied musical constructs. Essentially, music was worked backwards from the final product to an experience of the spontaneity that inspired the original composer to create a cultural work. Moreno (1939) described the performer's neurosis:

> Two of the factors are produced by the organization of the cultural milieu in which he lives, a maladjustment to the violin and a maladjustment to musical conserves. These factors are linked to a peculiar development of his creative ego, a surplus of motor images which find an easy outlet in spontaneity work but do not so easily find an outlet in the playing of musical conserves. (p. 23)

Moreno was faced with the challenge of helping this violinist learn to incorporate his own creativity with the pre-composed music which his teachers had not equipped him to do.

"Creative-expression skills" (p. 208) developed through improvisation are most often included in curriculum in beginning music classes and in secondary schools; however it is seldom taught as part of a separate class (Campbell, 2008). This suggests that improvisation should be incorporated into children's musical experiences in various music classes in which they participate. At the beginning levels of musicianship, improvisation has an important role in prominent music pedagogy methods, approaches, and theories, such as Kodaly, Orff-Schulwerk, and Gordon's Music Learning Theory (Campbell, 2008). Campbell (2008) noted that exploration precedes improvisation. After some pre-knowledge of patterns and rules is established, improvisation allows students to demonstrate understanding. Exploration should be carefully guided by the teacher to help students develop a deeper and accurate understanding (Goldstaub, 1996). In general music, instrumental, or choral education settings, improvisation can be used with guidance following exploratory activities.

In "A String Teacher's Roundtable" (Applebaum, et al., 1979), six well-regarded string pedagogues were posed the questions, "How much and what kind of improvisation should be part of string education? Do you favor a specific method for teaching improvisation?" (p. 34). Each of the teachers stated that improvisation is important in string education in different forms. Richard Kapuscinski stated that teachers should have strong enough improvisation skills to make new exercises to address individual students' needs and teachers should be able to lead students in improvisation so they are not limited to reading music. Due to self-stated lack of experience in improvisation, Gary Karr avoided the direct question and emphasized the teaching of improvisation in style and articulation. Dale Kempter demonstrated a functionalist perspective of improvisation

as a way to increase string players' marketability in popular music styles and a way to retain and recruit students. Bernard Stepner made the point that basic techniques of improvisation could be taught and after that the students' personal musicianship would guide their creations. Samuel Applebaum recommended using patterns for manipulation and variation which can motivate students and encourage students to "think and listen more deeply" (p. 35). Themes among the teachers' responses include the importance of incorporating improvisation in string curriculum and the role of teachers in using simple, appropriate improvisation activities to guide student learning.

Improvisation is a natural, essential part of creative development and participation in music (Elliot, 1995; Volk, 2005). As many students do not receive adequate systemized instruction in improvisation outside of specific music classes (Gordon, 1999; Campbell, 2005), it should be included in string education which already provides contexts in which improvisation is traditional (Dobbins, 1980; Riveire, 2006; Tallmadge, 1960). Historical evidence illustrated the importance of creative development in musical identity, specifically in the case study of a professional string performer (Moreno, 1936). Some string teachers already reported that improvisation is important and needs to be guided by the teacher (Applebaum, et al., 1979).

Student Musical Achievement

Improvisation has been proven a successful tool for teaching music reading and performing to beginning instrumentalists (Azzara, 1993; Gordon, 1999; Guilbault, 2004; Kratus, 1994). As improvisation is a part of the process in musical development,

research that provides understanding of developmentally appropriate objectives and evidence of student musical achievement should be acknowledged.

Age and creative development are considerations in implementing improvisation appropriately. In a study of children's musical creativity by Kiehn (2003), growth in creative musicality occurred between grades two through four, and there was a leveling of creativity between grades four and six. Reasons for this leveling were not suggested. Research by Brophy (2001) suggested that children's improvisation became much more structured around the age of nine, or fourth grade, and showed an increase in the use of patterns and sequences in melodic creation.

The increase in structural manipulation or increased understanding of patterns in music found by Brophy (2001) explained what could be perceived as a "leveling" of creativity as described by Kiehn (2003). Since creativity in music is often expected to occur within conventional rules, an increased awareness of structure and patterns could benefit students in learning to improvise. Teachers of fourth through sixth grade instrumental classes have the first opportunity to introduce structured improvisation since students in this age group have a better understanding of patterns and sequence.

Neurological studies have suggested connections between speech and musical improvisation processes. In a clinical study by Berkowitz and Ansari (2008), brain scans of musicians involved in an improvising task showed neural regions that are usually associated with sequence processing, selection and retrieval, and maintenance of rules, and task sets were active. Both have been implicated in language production and processing, action, and the visual and auditory perception of action. Researchers demonstrated that if a relationship in brain use exists, it is between domain-general

actions, such as language and music. This connection suggested a similarity between the way brain operations for language and music develop.

The ability to hear music in one's mind either independently imagined or from visual cues is called audiation. Audiation equips students to create and perform cohesive music (Gordon, 1999; Liperote, 2006). Improvisation is part of the process and is influenced by the development of audiation skills. Work by Gordon (1999) suggested that musical understanding develops very similarly to language development. First, children listen and begin to repeat sounds and words. These sounds begin to form patterns and progress from nonsense to aural labels and visual symbols. Improvisation is used in the process to practice hearing patterns internally and then execute them on an instrument or vocally. Those structures and patterns are building blocks for students' creativity.

According to Gordon (1999), once children have a basic musical vocabulary, they begin to chain and manipulate sounds and patterns similarly to asking questions and creating responses. By creating their own combinations, children develop a deeper understanding of how to use what they know and how to be expressive. Teaching musical language involves listening, modeling, and creativity in manipulating sounds and patterns. All of the components are necessary to develop a strong inner-ear.

Creativity and a deeper understanding of music can develop simultaneously. In a study by Kratus (1994), audiation skills and the compositional process were positively related. Gordon's Intermediate Measures of Music Audiation (IMMA) was administered to a group of nine year olds who were then asked to compose a melody on the keyboard. Kratus found that exploration was not enough to produce a musical result, but children

with better audiation created more cohesive melodies and rhythms. Kratus (1994) suggested that studies that show a negative correlation between audiation and creativity neglects other elements of musicality, such as the compositional process, and are based on improvisational activities that do not allow time for revision.

Improvisation is a skill that requires development (Kratus, 1994). At a high-level of improvisation, students can audiate well enough to make creative and musical revisions on the spot. Young students who do not have much musical experience may show lower signs of creativity until audiation and improvisation skills are more fully developed. Practicing improvisation and audiation simultaneously is suggested to contribute to students' development of musical literacy (Gordon, 1999; Azzara, 1993, 2002).

Students' harmonic understanding can be supported by experiences in improvisation (Guilbault, 2004). In his study, Guilbault (2004) found that students who received instruction in improvisation with a root accompaniment used implied harmonic functions and held the tonic pitch and tonality better than students who did not improvise with accompaniment. This finding supported Gordon's theory that improvisation can be used to develop tonal audiation. The participants were fifth grade instrumental students, which showed that beginning instrumentalists are capable of using improvisation effectively in an educational context to develop musically.

Musical syntax, originality, and flexibility are supported by educational experiences in improvisation (Koutsoupidou & Hargreaves, 2009). In a study by Koutsoupidou and Hargreaves (2009), music students in an experimental group received music instruction that incorporated free improvisation. Activities were often in response

to visual, verbal, or audio stimuli or were extensions of familiar music. Improvisation was also designed to show emotions, ideas or themes and was based on simple intervals or question and answer patterns. Instruction for the control group was directed toward using the voice, instrument, and motion to understand music concepts or theory and involved reproduction and repetition of teacher-led activities. Pre-tests showed similar levels of creativity in improvisations between the groups. In the post-test, the experimental group who had experience in improvisation had higher gains on improvisations in musical syntax, originality, and flexibility. The scores of the control group actually declined in musical originality and syntax. Furthermore, students in the experimental group demonstrated more advanced manipulation of musical instruments and more willingness to use their voices and experiment with different sounds.

As improvisation skills develop, students gain mastery and ownership of musical language, even in the beginning stages of instrumental development. A study by Azzara (1993) found that elementary instrumental students who received instruction including improvisation scored higher in composite etude performance scores than those who received instrumental music instruction without an emphasis on improvisation. He wrote that "improvisation ability appears to transfer to a student's clearer comprehension of the tonal, rhythmic, and expressive elements of music in an instrumental performance from notation" (p. 339). Improvisation can equip students with the ability to become fine musicians, but this requires teacher involvement along with student engagement.

Student musical achievement is supported by improvisation in areas of literacy, musicality, and technique. It is a step in the process of musical development that should be integrated with technical training (Gordon, 1999; Kratus, 1994).

Teacher Involvement

Music educators are often allowed freedom in making curricular decisions (Kelly, 2009). According to Kratus (1990), music teachers are challenged to balance technical training and creative development in student learning, which is a complex task. Kratus (1990) recommended setting goals in three areas: person, process, and product. Creative activities can be chosen that contribute to goals within those three broad categories. Assessment should evaluate the students' success in completing the behavior that was the objective of the activity, not the "goodness" of the outcome (p. 37). Quality may be important, but observable behaviors that indicate personal musical growth are more useful in assessment. As teachers determine the goals and objectives of instruction, creativity and improvisatory exercises should be a resource in planning.

Acquisition of improvisatory skills seems to improve when teachers are active in the learning process. A study by Coy (1989) showed that middle school band students who received instruction in improvisation from a teacher scored higher in improvisation performance skills than students who were given instructional material to learn independently. In the same experiment, Coy (1989) surveyed attitudes of both student groups towards improvisation before and after six weeks of instruction; however, a comparison of the gain scores of both groups did not show a significant difference between students' attitudes. Coy concluded that middle school students could learn the fundamentals of jazz improvisation in six weeks using an instruction manual and practice tape, but student learning levels are increased with teacher instruction. Teacher involvement is beneficial in student learning of improvisation.

Koutsoupidou (2005) conducted a study to investigate teachers' perceptions and practices in teaching improvisation in England. Most commonly, improvisatory activities were used as response to visual, verbal or audio stimuli or for expression of emotion, themes, moods, and ideas (p. 369). The majority of English music teachers reported incorporating improvisation on their own initiative. One important reason for including it was the National Curriculum. Two main reasons teachers reported not including improvisation were lack of experience and lack of familiarity with improvisation (p. 369). Classroom discipline and time limitations were also important reasons improvisation was reported as not included in instruction. Koutsoupidou wrote, "The high percentage of teachers who use improvisation on their own initiative (76%) implies that they understand the value of improvisation; their attitudes are not based on whether they are obliged or not to use it, but on their personal enthusiasm" (p. 373). In other words, teacher perspective was not based on curriculum requirements but personal beliefs about the value of improvisation.

Creative development should be considered as teachers develop goals in curriculum (Kratus, 1990). Teachers' value of creativity and improvisation will be evident in the development of objectives and assessment. Teacher involvement in the process of creative development is also beneficial to student, particularly in improvisation (Coy, 1989). Developing improvisation in curriculum is primarily a teacher initiative and should be planned accordingly (Koutsoupidou, 2005). Since teachers have the most responsibility in ensuring that creativity is incorporated in music instruction, their perspectives may have an influence on whether or not it is used regularly.

Teacher Anxiety

Studies on teacher anxiety are less prevalent than those that focus on students. Keavney and Sinclair (1978) pointed out discrepancies in the research that has been done, particularly dismantling research that may support the idea that teacher anxiety decreases as experience increases. Keavney and Sinclair suggested that anxiety is related to the degree a person feels threatened. In the context of education, teacher anxiety may be a reaction to what he or she perceives to be a threatening class environment. In Keavney and Sinclair's study, the three manifestations of anxiety manifest were somatic responses, such as sweaty palms and quickened heart rate, "thoughts about inability to cope with the threat" (p. 275), and over-learned coping styles. Some stimulators of teacher anxiety included concerns, concept of self and others, and dogmatism.

According to Keavney and Sinclair (1978), variables within the categories of causes could be altered to alleviate anxiety if they are related. Behaviors that could contribute to or reduce teacher anxiety included communication with students and dogmatism. There was a negative relationship between teacher anxiety and communication with students. More research is needed to examine how and why teacher-student communication can diminish or contribute to teaching effectiveness. Dogmatism was sometimes used by teachers as a coping mechanism for anxiety. This resort may lead to an authoritarian teaching style.

Anxiety toward using improvisation could result in a decrease in teacher rapport and communication with students and a less creative teaching approach (Keavney & Sinclair, 1978). Naturally, some teachers feel anxiety when faced with a new challenge, especially one that is not within their normal experiences, which can interfere with

making student-based instructional decisions (Darling-Hammond, 2005; Riveire, 2006). Senyshyn (1999) suggested that teachers could use anxiety as a positive and creative force by recognizing their potential to overcome. A negative reaction occurs when teachers react to anxiety by reverting to practices that limit the creativity of individuals. Senyshyn referred to negative anxiety as despair, or the lack of hope in successfully performing a task.

One response to despair is to view skills as "ends in themselves" (Senyshyn, 1999, p. 33), which can lead to a lack of creative, meaningful experiences. When teachers focus on technique or the task of improvisation instead of the students' personal experiences, they may forget the individual creativity of each student. The level of negative anxiety, or fear and worry, teachers associate with using improvisation in beginning string classes may impact whether or not and how it is used in the classroom.

Teacher Confidence

A teacher will most likely be more successful in teaching improvisation if he or she possesses confidence to model improvisation for students. Modeling and imitation have been shown to be part of the tradition in improvisation education and invaluable when using improvisation as a teaching tool, especially for beginning students (Brophy, 2001; Azzara, 1993; Dobbins, 1980). Unfortunately as stated earlier, teachers who lack improvisation skills themselves tend to assign it a low priority (Lehman, et al., 1994).

Confidence, or the teacher perspective of how well they can teach the subject, could be indicated by their willingness to model it for students. Modeling is a valuable teaching tool for many areas of musicianship and is particularly useful when using

improvisation. In a study by Dickey (1991), skill development in middle school instrumentalists who received rehearsal instruction with nonverbal teacher-student modeling were compared to those who received only verbal instruction. According to Dickey, verbal instruction was the primary mode of communication in instrument ensembles. The use of melodic imitation and rhythmic models by teachers who used nonverbal modeling led to increased improvement in students' ear to hand skills and kinesthetic response more than those who only received verbal instruction. The study indicated that while music theory and terminology may not be taught effectively using nonverbal instruction, ear to hand skills and kinesthetic response can be taught more effectively by incorporating nonverbal modeling.

In another study of junior high instrumentalists, Hewitt (2001) found that students who listened to a model during self-evaluation improved in the areas of tone, melodic accuracy, rhythmic accuracy, interpretation, and overall performance, more than those who did not listen to a model. Categories of intonation, technique and articulation, and tempo did not show a difference between the group who heard modeling and the group who did not during self evaluation. Both studies illustrated that modeling is a valuable teaching tool.

Once aware of limitations due to low confidence or fear due to a lack of experience, teachers could be proactive in pursuing ways to become proficient in the skills needed to promote meaningful improvisatory opportunities for students (Campbell, 2008; Riveire, 2006). Being confident in modeling and relating instructions in improvisation to students reflects teacher confidence in using improvisation as a teaching tool.

Teacher Attitude

A multiple case study by Burnard (2000) found that children's concepts about improvisation were influenced by their teachers' concepts of improvisation. Children's definitions were primarily based on what they had learned from their music teachers. The way a teacher values and perceives improvisation will influence the ways students view improvisatory experiences. Eventually, students should develop their own understanding of improvisation. In reference to the importance of using improvisation in music education, Guilbault (2004) wrote, "When a teacher provides students with the readiness and skills to create and improvise their own music, music becomes the property of the students themselves, and this should represent the ultimate goal of all music teachers" (p. 65). Until students have formed personal experience and understanding of improvisation, their concepts will most likely be based on their teachers' values.

Jazz has typically dominated improvisation, which may incline teachers to adopt the attitude that it is inappropriate in other ensemble settings outside of stage or jazz band (Baker, 1980). New strategies and understandings of musical development suggest the art does not need to be as complex as the jazz idiom, but can be used in a developmentally appropriate way to deepen understanding in many musical ensembles (Bitz, 2001; Hamann & Gillespie, 2009; Baker, 1980; Volz, 2005). On one hand, concern about the difficulty and appropriateness of teaching improvisation may influence teachers' value of it in beginning string classes negatively. On the other, the merit of improvisation in sequential learning could contribute to positive teacher attitude.

Several articles have been published in support of using improvisation as a teaching tool. The idea that improvisation is both a tool for development and

demonstration of mastery in a musical skill is not a new idea (Dobbins, 1980; Baker, 1980). According to Baker (1980), "The teaching of form, scales, modes, chords, nomenclature, instrumental and vocal technique, ear training, rhythm, meter, articulation, forward motion, theory, melodic construction and development, and style all can be approached through the use of improvisation" (p. 49). The value of improvisation is apparent. However, little research and writing has been done recently to describe the attitudes of teachers regarding the successfulness of using improvisation as a teaching tool, especially with beginning string instrumentalists.

Educators are challenged to learn while teaching when a relatively unfamiliar concept is introduced as a teaching strategy. According to Sherin (2002), the attitude a teacher has when approaching a new device may influence the success of the tool's incorporation. In her study, Sherin described the way teachers approached content knowledge and pedagogical knowledge in math education reform. Sherin found that teachers' development in pedagogical knowledge was paired with student learning. When teachers were challenged to incorporate new materials, develop adaptive teaching styles, and direct student-centered instruction, they learned to formally consider what pedagogical devices would best fit a situation. As new pedagogical ideas are developed and tried, teachers who have open, willing attitudes towards learning and adjusting content and pedagogical knowledge may be more successful. Potentially, teachers can gain as much musical and pedagogical growth as students from using improvisation as a teaching tool, but attitude may be a factor in teachers' capacity to adaptation (Hamann & Gillespie, 2009; Baker, 1980).

A teacher's attitude will have an effect on what and how curriculum is used in the classroom (Darling-Hammond, 2005). Though moving away from tradition and personal experience may be challenging, teachers are in a position to accept and teach new values, such as creativity (Azzara, 1999; Liperote, 2006; Riveire, 2006). Teachers need to be involved and supportive if students are to learn and use improvisation (Aaron, 1980; Baker, 1980).

Conclusion

Literature in the field showed the benefits of improvisation in instrumental education and the importance of the teacher's role in incorporating improvisation in string education. Teacher perspectives, including their confidence, anxiety, and attitude, influence what is included in curriculum and how it is taught. In turn, these ideas will shape students' musical experiences and understanding from the beginning stages of skill acquisition.

Improvisation has the potential of being included in beginning string curriculum with positive results, and some studies suggest the exclusion of creativity development may even cause some students a disservice. Questions about whether or not teachers realize the value of improvisation, whether or not they use it, and more specific information regarding their perspectives of improvisation in beginning instruction remain. Key issues in the research have been expounded upon, but quantitative data describing teacher perspectives is limited.

CHAPTER III

METHODOLOGY

A quantitative methodology has been used in this study to describe teacher anxiety, confidence, and attitude toward using improvisation in instruction. Data was collected through a survey of fourth and fifth grade string teachers in Ohio. The responses were analyzed for reliability, means, differences, and correlations. Details of the design and methodology follow.

Population and Sample

The population selected for this study was fourth and fifth grade string teachers in Ohio. Subjects were those who chose to participate in the survey online and have at least one year of experience teaching fourth and fifth grade strings. Ohio was the state selected due to accessibility of contact information and scope of the study. It was expected to have a representative, reasonable sample size. The number of school districts that support a string program in Ohio is neither extremely high nor low compared to other states supporting validity of the study (Smith, 1997). Ohio had the fourteenth highest number of districts that host string education programs in the United States during the 1994-1995 school year (Smith, 1997).

Research suggests that improvisation can be developed simultaneously with technical skill and can be used to teach musicality and creativity from the first stages of instruction (Gordon, 1999; Kratus, 1994); therefore, teachers of beginning strings were selected for the study. Improvisation in performance-based large ensemble classes comes with unique challenges that will not be addressed in this study (Volz, 2005), so teachers

were asked to responsd in regard to teaching beginning strings. Elementary schools most commonly begin offering string education in grades four and five, so string teachers of those grade levels programs were the population (Smith, 1997).

Design

The purpose of this study was to describe teacher confidence, anxiety, and attitude towards using improvisation in beginning string classes and the correlations or differences between those perspectives. A descriptive quantitative survey was developed by adapting the Fennema-Sherman Mathematics Attitudes Scale (FSMAS) to collect the data. The survey can be found in Appendix A. FSMAS was ideal because it has precedent in both math and music education and has been used to reliably evaluate student perspectives in confidence, anxiety, and attitude. FSMAS was first developed to measure the difference between male and female students in confidence, anxiety, and attitude toward mathematic tasks (Fennema & Sherman, 1976). According to Fennema and Sherman (1976), confidence, anxiety, and attitude can be studied together or independently using the same model.

Wehr-Flowers (2006) used the FSMAS in a music education study to measure the anxiety, confidence, and attitudes of male and female students towards jazz improvisation. The Wehr-Flowers (2006) model was useful in developing questions specific to music that were reflective of the original scale. Though gender was a factor in Fennema (1976) and Wehr-Flowers (2006) studies, it was not a focus in the present study. The survey was tested for validity by Sarubbi in 2003 (Wehr-Flowers, 2006). Questions from the original version of FSMAS were general enough that the survey was

usable across disciplines. Mathematical terms were replaced by music improvisation terms in the Wehr-Flowers study. The use of the FSMAS in both math and music education contribute to the validity of the measurement tool.

For the present study, three changes were made to Wehr-Flowers' (2006) version of FSMAS to make it relevant to teachers. First, words in questions referring to students were replaced by words referring to teachers. Second, words referring to administrators were used instead of words in the original model referring to teachers. Lastly, improvisatory skills teachers need to use to implement improvisation replaced questions about conducting and jazz improvisation.

The survey questions were reviewed by two experienced teachers enrolled in a graduate music education course at Kent State University. A brief explanation of improvisation was added at the beginning of the survey as a result of their feedback. Questions were developed based on improvisatory skills that are age appropriate for beginning string students according to MENC Standards and leading string educators, such as Donald Hamann and Robert Gillespie.

Skills teachers needed teach improvisation were selected for inclusion in the survey questions using curriculum guidelines that can be adopted by string educators from various backgrounds (Hamann & Gillespie, 2009; Riveire, 2006) and MENC. According to the MENC Task Force for National Standards in the Arts (1994) and Lehman, et al. (1996), the improvisatory skills that teachers should be using in beginning instruction include

- major and minor scales.
- simple syncopation and rhythmic manipulation and accompaniments.

- spontaneous melodic construction of simple two and three note melodies and simple embellishments on familiar melodies.
- answers in a similar style to a rhythmic and melodic phrase.

The questions were grouped into four categories: background, confidence, anxiety, and attitude (Barkley, 2006). Background questions addressed whether participants have experience in teaching fourth and fifth grade strings and asked how much time teachers think they need to teach improvisation and whether or not they think it is an effective tool. If a teacher responded that they do not have experience teaching fourth and fifth grade strings, the survey directed them to the final page thanking them for participating; however, they did not have access to the other survey questions and were not included in the sample. Only responses from participants who report having at least one year of experience teaching fourth and fifth grades strings were included in the data.

After the background questions, participants were requested to disregard instructional time restraints while completing the rest of the survey. This was done to give insight into teacher perspectives of improvisation without the variable of time resources so focus would be on the teaching tool more than logistics. Questions about confidence were designed to measure teachers' willingness to model and teach skills, such as melodic creativity, rhythmic manipulation, and scales. On the topic of anxiety, questions measured teacher feelings of unease in planning lessons that involve teaching or demonstrating improvisation. Finally, attitude assessed teachers' willingness to use improvisation and perception of its value in beginning string classes.

Coding of answers included the categories of confidence, anxiety, and attitude. A Likert-type scale was used to collect data based on the extent of a participant's agreement

with statements with the categories, which were confidence, anxiety, and attitude. Likert-type scales are commonly used in studies of attitude (Borg, Gall, & Gall, 2003). Teachers were asked to respond by selecting a level of agreement from five choices: strongly disagree, disagree, neutral, agree, and strongly agree. For analysis, each choice was assigned a point value.

The average ratings were determined using the same scale for positive and negative questions (1 for strongly disagree, 2 for disagree, 3 for neutral, 4 for agree, and 5 for strongly agree) because any answer was an indication of confidence, anxiety or attitude. One would expect that if positive questions received a higher score, negative questions would receive a lower score and should be indicated in the average ratings. To determine the reliability, positive questions were assigned the original scale (1 for strongly disagree to 5 for strongly disagree), and negative questions used a reversed scale (1 for strongly agree, 2 for agree, 3 for neutral, 4 for disagree, and 5 for strongly disagree). This scale reversal was used to make sure the survey as a whole was consistent and that each question measured the same perspective in a category. Results are reported in the following chapter.

Reliability tests were analyzed since this survey has not been administered to a teacher population. Reliability had only been tested for student populations (Wehr-Flowers, 2006). Furthermore, changes to the survey questions based on the context warranted reliability testing. According to Borg, Gall, and Gall (2003), Cronbach's Alpha and the Spearman-Brown Split Half coefficient are commonly used in education research and can be used to assess the reliability of the test as a whole and for each category. Cronbach's Alpha, which is commonly used to compute test score reliability of

non-dichotomous responses, was used to measure the internal reliability of the whole test, excluding the background questions. Cronbach's Alpha was analyzed by Wehr-Flowers (2006) for internal reliability as a test of perspectives in a music performance subject (p. 342). In the present study, it was used to assess the internal reliability of the survey as an assessment of perspectives toward a teaching tool.

Both positive and negative questions were included in each category (confidence, anxiety, and attitude), so the Spearman-Brown Split Half coefficient, or Spearman-Brown prophecy formula, was used to estimate the consistency of the positive and negative questions in anxiety, confidence, and attitude. The Spearman-Brown Split Half coefficient reported the reliability coefficient for each category, meaning anxiety, confidence, and attitude, from questions six to twenty-three. Since each category (confidence, anxiety, and attitude) had three positive and three negative questions in the present study, the equal length coefficient could be used.

Paired *t*-tests, or dependent-samples tests, were utilized to compare the differences between all means in the same group of respondents for pairs of confidence and anxiety, anxiety and attitude, and attitude and confidence. According to Phillips (2008), Paired *t*-tests are especially useful when collecting ordinal data where 5 is strongly agree, 4 is agree, 3 is neutral, 2 is disagree, and 1 is strongly disagree (p. 181). A two-tailed test was used to reveal differences between the pairs in either direction (Phillips, 2008, p. 181). This analysis was used to show whether or not significant differences exist between three pairs: teacher confidence and anxiety, confidence and attitude, and anxiety and attitude.

Pearson *r*, or the product-moment correlation coefficient (*r*), was used to analyze significant relationships between the three categories of anxiety, confidence, and attitude. Pearson *r* is measures correlations between data that is "expressed as continuous scores" (Borg, Gall, & Gall, 2003, p. 334). Since teachers reported responses on a scale, the ratings could be reported at any point on the continuum from 1 to 5. This possibility means the measurements formed a continuous score (Borg, Gall, & Gall, p. 621). The three categories are considered separate data sets that can be compared to each other and the rating was a continuous score, so Pearson *r* has been used to show whether correlations exist between the sets. Though data may appear to show correlation by comparing ratios, Pearson *r* was necessary to discern if correlations were significant.

Procedure

The survey contained twenty-three questions. Design and revisions have taken place since March, 2009. The Kent State Institutional Review Board (IRB) application was submitted on October 14, 2009. Approval from the IRB was received on October 20, 2009 as Level I/Exempt research.

The survey was posted on Survey Monkey, a well-known, professional internet research website, recommended by Kent State University from January 2, 2010 to February 10, 2010. According to Borg, Gall, and Gall (2003), web-based data collection is becoming widely accepted in educational research. A research director at MENC compiled a list of email addresses based on membership data for teachers who reported teaching elementary school strings in Ohio on their membership profile. MENC was provided with a generic hyperlink to the Survey Monkey page, which was distributed to

the email list by MENC on January 21, 2010. A reminder email was sent by MENC on February 4, 2010. Data collection ended on February 10, 2010.

The population was based on the number of emails MENC was able to provide with the assumption that the national professional organization would have access to the maximum number of string teachers in Ohio. A total of 284 teachers were emailed the link to the survey. Of those, 39 teachers responded to the survey. However, only 35 of those teachers had taught at least one year of fourth or fifth grade strings. All responses were anonymous. Survey Monkey collected and ran basic analysis on the responses including averages per category and per question and the number of people who skipped the question. Data was password guarded so only the researcher had access to the information. After the survey was closed, the data was reported to the researcher in PDF format. Data was saved on a USB storage device and on the researcher's computer, which is also password guarded.

After the data was collected, it was entered in Predictive Analytics SoftWare (SPSS/PASW) for reliability testing and statistical analysis. Based on recommendations from a doctoral candidate from the Kent State Measurement and Evaluation office, reliability tests included Spearman-Brown Split Half Coefficient for internal reliability within categories and Cronbach's Alpha for internal reliability within the survey. Paired *t*-tests were run to show the differences between the responses and the means for the categories. Then, Pearson *r* was used to analyze relationships between the categories.

Conclusion

This study was designed to answer the research questions about teacher perspectives toward improvisation in a quantitative paradigm. Using a survey method, teacher responses to questions regarding their confidence, anxiety, and attitude toward using improvisation in teaching were collected. The FSMAS has been used previously with reliable results, and its use in both math and music supports the validity of the scale. Literature in the field that suggests developmentally appropriate uses of improvisation in beginning strings was used to modify the questions. The outcomes of the survey give insight into teacher perspectives in confidence, anxiety, and attitude toward using improvisation activities that are appropriate and beneficial for students. Results are reported and discussed in the following chapters.

CHAPTER IV

RESULTS

The results of this study offer insight into teacher perspectives of improvisation as a teaching tool in beginning strings in three categories of teacher perspectives: anxiety, confidence, and attitude. Data collected through the survey and the analyses are results of the study. Responses from those who chose to participate are presented as descriptive statistics, reliability coefficients, average ratings and means, and statistically significant differences and correlations. Percentages of responses to the background survey questions are found in Appendix B. Percentages of responses to each Likert-type question are found in Appendix C.

Descriptive Statistics

Of the population (N = 284), thirty-five teachers responded to the survey. This was a response rate of 12.3% which is acceptable with caution (Phillips, 2008, p. 156). Teachers who responded to each question, or item, in a category have been counted as the sample for that category so as to include the highest number of participants. In the category of teacher anxiety, the sample size was twenty-five (n = 25). Twenty-seven teachers were the sample for the other categories, teacher confidence and attitude (n = 27).

For teacher confidence, all questions were answered by twenty-eight teachers; however, one teacher skipped question 11: “Most musical tasks I can teach well through modeling, but I am not comfortable demonstrating improvisation for beginning string students.” The participant may have accidentally skipped the question or may not have

been capable of answering if having never demonstrated improvisation. In the category of attitude, twenty-seven teachers responded to every item.

In the anxiety category, twenty five respondents replied to all questions (n = 25). One teacher did not respond to item 13: "I do not worry when I think about demonstrating improvisation." Another teacher did not respond to item 14: "I am usually at ease teaching students a musical skill and letting them apply it by manipulating familiar melodies and rhythms independently." Again, these questions may have been skipped accidentally or teachers who lack experience teaching improvisation may not have been able to answer the question. No additional contact with teachers was pursued to determine the reasons some questions were skipped to protect the anonymity of the participants.

The first and second background questions asked teachers whether or not improvisation is a valuable teaching tool and whether or not they use it. Of teachers who responded to the question, 86.2% responded that improvisation is a useful teaching tool. The percentage of teachers who reported using improvisation was 62.1%. These percentages make clear that not every teacher who thinks improvisation is useful is incorporating it in instruction.

The next question addressed how often teachers use improvisation to teach beginning string players. The highest percentage of teachers who responded to the question answered "sometimes (5-10 times a year)" at 41.4%. "Often (10-20 times per year)" and "always (more than 20 times per year)" were selected by 13.8% of the teachers who answered the question. 44.8% said they use it "rarely (1-5 times per year)" or never "(0 times per year)."

The final background question asked teachers how much time they would need each week to teach improvisation. Ten minutes a week was selected by the majority (60%) of teachers. 20 minutes weekly was selected by 32%, and 30 minutes weekly was selected by 8%. Four of the thirty-two teachers who responded to the question specified that they could incorporate improvisation in five minutes or less class time per week. These percentages show that in general teachers do not think improvisation needs to consume a large amount of class time to be effective.

Statistical Analysis

Reliability of the survey overall and within the categories for questions six through twenty-three were acceptable. Cronbach's Alpha was used to calculate the internal consistency of the test. Internal consistency was 0.95. This reliability coefficient indicated the survey was reliable in measuring teacher perspectives.

The potential Cronbach's Alpha was calculated to see if omitting any of the nineteen scale questions would improve the reliability. The only question that would have improved reliability if excluded from the results was question 22: "Parents and administrators would think I was wasting time if I teach my students to make up their own music" would have increased Cronbach's Alpha to 0.952. To include the most survey questions and since the original coefficient was acceptable, the question was not omitted.

The internal consistency of each category was analyzed using Spearman-Brown Coefficient. This statistic also revealed an acceptable reliability coefficient. For confidence, the internal consistency between the three positive and three negative items

was 0.86 (Spearman-Brown). All of the items in the confidence category contributed to the reliability of the category. Anxiety had an internal consistency variable between the positive and negative items of 0.96 (Spearman-Brown). All of the items in the anxiety category contributed to the reliability of the category. Finally, the Spearman-Brown coefficient for attitude was 0.83 for the six items. Table 1 illustrates the inner-reliability coefficient for all categories.

Table 1
Spearman-Brown Coefficient for Each Category

Category	Spearman Brown Coefficient
Confidence[b]	.86
Anxiety[a]	.96
Attitude[b]	.83

Note. [a]*n* = 25. [b]*n* = 27.

All items in each category could be included in the analysis without adjusting for improved reliability. The test had high reliability as a whole and acceptable reliability within the categories.

A Likert-type scale was used to measure teacher agreement to statements regarding the use of improvisation in beginning string classes. More teachers answered questions regarding confidence and attitude (*n* = 27) than anxiety (*n* = 25). Within the categories, some items had higher ratings than others. The scale for questions that contribute to the ratings in a category ranged from 1 for strongly disagree, 2 for disagree, 3 for neutral, 4 for agree, and 5 for strongly agree.

Each category has three questions that assess positive perspectives toward improvisation and three questions that assess negative perspectives regarding improvisation. The means of each category show the average rating for all the items in

the category. Higher means indicated more confidence, less anxiety, and a more positive attitude toward improvisation as a teaching tool. Simple analysis of the ratings reported by the participants shows the average rating for each category.

Attitude had the highest overall rating (3.19) of the three categories. Positive items in attitude had an average rating of 3.65. Negative items in attitude had a corresponding lower average rating of 2.72. The average rating for positive items in the category of confidence was 4.01. The corresponding negative questions in the confidence category had an average rating of 2.24. Anxiety had the lowest overall average rating of 3.04. Positive questions in the anxiety category assessed teacher's lack of anxiety toward improvisation with an average rating of 4.04. This rating corresponds with negative questions in the category of anxiety which had an average rating of 2.04.

The total of the means of responses to the six items in each category show that attitude and confidence were scored slightly higher than lack of anxiety. Table 2 illustrates the total of the means of each question in confidence, anxiety and attitude.

Table 2
Means for Each Category

Category	Mean	Standard Deviation	N
Confidence	18.67	1.86	27
Anxiety	18.20	1.08	25
Attitude	19.11	1.72	27

The items that reflected highest rates of teacher confidence were item 6: "Generally, I feel secure about teaching students to make up their own two and three note

melodies" and item 8: "I can demonstrate an improvised phrase that my students could play their own response to." Both items had an average rating of 4.18.

In the anxiety category, participants rated positive questions higher and negative questions lower showing lower levels of anxiety. Item 14 was the highest scored positive item, and item 16 was the negative question with the highest average rating. The majority of teachers responded in agreement with the statement in item 14: "I am usually at ease teaching students a musical skill and letting them apply it by manipulating familiar melodies and rhythms independently" showing a lack of anxiety and an average rating of 4.19. Most teachers disagreed with anxiety item 16: "I get a sinking feeling when I think about incorporating improvisation in a lesson," so the average rating for that item was 1.89. These two items demonstrate the correspondence between positive items, which reflect lack of anxiety as high, and negative items, which show presence of anxiety as low.

Three items in the attitude category had the highest ratings. Item 18: "Every student should have the opportunity to invent their own melodies" had an average rating of 4.26. Additionally, the majority of teachers agreed with item 20: "I think improvisation is an effective teaching tool for beginning string students" yielding an average rating of 3.85. Responses to the statement in item 23: "Having students create their own melodies does not contribute to the goals of my string program" mostly expressed disagreement and had the lowest average rating for attitude of 2.15. Positive and negative questions showed support for improvisation in teacher attitude.

The average rating of attitude was 3.19; however, the average rating for one positive item in the category fell below 3.0. The majority of responses to item 19:

"Parents and administrators would or do think I am more successful in teaching if my students can improvise their own music" were neutral and the average rating was 2.85. Also, the average rating for one negative item was above neutral in attitude. The average rating of attitude for item 21: "Having students perform self-created melodies on concerts is not a priority for me" was 3.81. A majority of teachers (70.4%) reported that improvisation was not a priority in programming concerts. This suggests that while teachers who responded generally have a positive attitude toward improvisation they do not think parents and administrators find including improvisation to be part of successful music teaching and teachers do not see improvisation as a skill that should be programmed in performances.

The average ratings of the questions suggest that anxiety is lower than confidence and attitude. Analysis of Paired *t*-tests and Pearson *r* were conducted to determine if differences or correlations were significant.

Since the categories are being compared with the same participant group for each category, Paired *t*-tests were computed for confidence and anxiety, confidence and attitude, and anxiety and attitude at a probability level of 0.01. Table 3 shows the paired categories, difference between the group means, standard deviation, and *t*-score.

Table 3
Paired t-tests

Pair	*M*	*SD*	*T*
Confidence-Anxiety[a]	.32000	1.00416	.802
Confidence-Attitude[b]	-.44444	2.06311	-1.119
Anxiety-Attitude[a]	-.96000	1.64520	-2.981*

Note. [a]$n = 25$. [b]$n = 27$.
*$p<.01$

The Paired *t*-test indicated no difference between confidence and anxiety, $t(24)=.802$, $p = .430$. Twenty-four of the same teachers answered all questions in both confidence and anxiety categories. There is also no difference between confidence and attitude, $t(26) = -1.119$, $p = .273$. Twenty-six teachers answered all questions in both confidence and anxiety. The only difference in the pairs was between anxiety and attitude. Attitude is significantly higher than the anxiety, $t(24) = -2.910$, $p = .008$. Twenty-four teachers answered all questions in attitude and anxiety categories.

A statistical difference was expected to occur between each category. Confidence in using improvisation as a teaching tool was expected to be significantly lower than teachers' lack of anxiety. Attitude was expected to be significantly higher than confidence and anxiety since more teachers indicate improvisation is useful in instruction. The lack of significant differences may be a consequence of a small sample-size or other factors that will be addressed in the following chapter.

Pearson *r* was used to analyze correlations between the categories of confidence, anxiety, and attitude. Table 4 shows the Pearson *r* for the categories. Correlations were tested for significance at $p < .01$.

Table 4
Pearson r

Category	Confidence *R*	Anxiety *r*	Attitude *r*
Confidence	1	0.115[a]	.189[b]
Anxiety		1	0.092[a]
Attitude			1

Note. [a]$n = 25$. [b]$n = 27$.
**$p < .01$

No significant relationships exist between the categories. Analysis of Pearson *r* indicates no relationship between confidence and anxiety, $r = .115$, $p = .583$. There is

also no relationship revealed between confidence and attitude, $r = .189$, $p = .344$. Lastly, no relationship is shown between anxiety and attitude, $r = .092$, $p = .662$.

Correlations were expected between each category. A positive relationship was expected between confidence and attitude. A negative relationship was expected between confidence and anxiety as well as attitude and anxiety. Since no correlations exist, the categories of confidence, anxiety, and attitude are apparently independent of each other.

Conclusion

Descriptive statistics reveal a discrepancy between teachers who indicate improvisation is a useful teaching tool and those who actually implement it in instruction. Teachers also agree that improvisation can be incorporated in a small frame of time; most say with at most ten minutes weekly. Yet 86.2% of teachers report including improvisation sometimes or rarely, meaning ten times or less, each year. These findings suggest that improvisation is applied in instruction infrequently and for short amounts of time.

Reliability of the survey was high both as a whole and within the categories indicating that the data reflects teacher perspectives consistently. A positive attitude, high confidence, and lack of anxiety are indicated in the average ratings. Further analysis shows that attitude is significantly higher than anxiety among teachers. Since no correlations between the categories were revealed, the categories seem to be independent of each other. The lack of significant differences and correlations was not expected and may be a disadvantage of the small sample size. Implications of the results, possible

reasons for the outcomes, and recommendations for future research are presented in the next chapter.

CHAPTER V

DISCUSSION

Research Questions

Results of the survey suggest some answers to the research questions as follows. Percentages of responses to Likert-type scale questions can be found in Appendix B.

The first research question asks: Do string teachers use improvisation? Some string teachers are using improvisation already in beginning string classes. However, the descriptive statistics show that a smaller percentage of teachers use improvisation (62.1%) than those who indicate it is a useful teaching tool (89.7%). This disparity means that some factor is preventing teachers from incorporating improvisation, a creative endeavor, in beginning string instruction. Though teachers may support the idea of improvisation, it is not being employed in practice.

The amount of time teachers are using improvisation in instruction is also problematic. The majority of teachers reported using improvisation ten times or less per year. In other words, students would be receiving guidance in improvisation about once a month. This frequency may to be insufficient as improvisation should be a regular part of the process in musical development (Gordon, 1999; Kratus, 1994). The highest percentage of teachers reported the amount of time required to teach improvisation in beginning strings as 10 minutes per week. However, four teachers indicated they could incorporate improvisation in as little as five minutes per week. The issue is that improvisation is seldom incorporated on a weekly basis. The minimal amount and infrequency of the time allotted to improvisation highlights the issue that improvisation is

not being used effectively or systematically as a means for musical development, which was also observed by Lehman (2000).

Though the method of data collection was quantitative, teachers were given the opportunity to answer why they use or do not use improvisation. In counting the frequency of common responses, lack of instruction time and lack of technical preparedness of the students was salient. A similar study was conducted by Deas (2009) in which piano teachers reported the most prevalent barrier to teaching improvisation was time constraints. Data from the present study showed that teachers only need about ten minutes weekly to use improvisation. Yet some teachers do not have enough instructional time to incorporate it.

Demands and limitations on instructional time may truncate teacher decision making to the point of excluding important components in creative development, such as improvisation. However, as Deas (2009) pointed out, “Time is a question of priorities” (p. 8). Improvisation is a teaching tool that can be incorporated smoothly and naturally with sequential instruction (Gordon, 1999). Teachers may not be aware of ways improvisation can be incorporated seamlessly in sequential instruction. By treating improvisation as part of music learning in contrast to an isolated skill, teachers may find it more efficient.

The level of student technicality required to incorporate improvisation in instruction successfully also appears to be an issue for a few teachers. Resources of activities that contribute to technical and creative development simultaneously may aide teachers in implementing improvisation more regularly with beginning students. Other research demonstrates that students in fourth and fifth grade are capable of successfully

participating in improvisatory activities (Brophy, 2001; Azzara, 1993). Creative activities in improvisation can be used seamlessly while developing understanding of technique.

Reasons teachers gave in support of using improvisation included to help assess individual students and to promote creativity and musical ownership. These indications suggest that teachers who use improvisation are aware of the ways it can serve multiple functions in the classroom for skill assessment, technical reinforcement, and creative development. Teachers who see more than one benefit of using improvisation most likely also realize that it enhances their teaching and the students' experience rather than detracting from time that could be spent on other activities.

The second research question asks: Do teachers think improvisation is a useful strategy for teaching beginning strings? The majority of string teachers (86.2%) agreed that improvisation is a useful teaching strategy for beginning students. Teachers were given the opportunity to describe why they think improvisation is useful. The three most commonly reported reasons included exercising imagination and creativity, playing the notes and developing left hand technique, and building ear training and listening skills. Ways improvisation benefits students in these areas seem to be apparent to practicing teachers and are also supported by literature in the field.

A few teachers (13.8%) indicated they do not think improvisation is useful in teaching beginning string students. Two reasons were specified. One response was that students should first establish technique. Another response was that class time is better spent on basic musicianship, and time keeping was given as an example. Both show evidence of the wariness of teachers in developing sequences and learning activities that are sensitive to students' needs. However as stated previously, literature in the field

suggests that improvisation can be included from the very beginning of music instruction through exercises as simple as making open string melodies and chaining rhythm patterns in new, creative orders (Hamann & Gillespie, 2009; Riveire, 2006). In fact, some researchers concur that improvisatory skills should begin development in childhood (Gordon, 1999; Campbell, 2008). Resources that offer suggestions for creative activities that are sensitive to the limits of ability and time resources experienced in beginning instrumental, particularly string, classes should be available to teachers.

The third research question asks: What are teacher perspectives toward using improvisation to teach beginning strings in three categories: the teacher's own confidence, their own anxiety, and their own attitude? The average ratings for the categories indicate that the teachers who responded to the survey agreed more often with confidence and attitude and disagreed more often with anxiety. Attitude had the highest average rating (3.19), then confidence (3.13), and anxiety (3.04). Teachers who participated in the study generally perceived themselves as confident and having a positive attitude toward teaching improvisation. Anxiety was the least present in teacher perspectives. Teacher confidence, attitude, and lack of anxiety support the use of improvisation in beginning string pedagogy.

The majority of teachers who responded to items in the confidence category agreed or strongly agreed to all items relating to positive confidence and disagreed or strongly disagreed with all items regarding lack of confidence. Teachers are confident in the skills needed to teach improvisation including teaching two and three note melodic improvisation, major and minor scales, demonstrating phrases, and syncopation.

Capability to perform and provide the content knowledge necessary to teach improvisation in beginning string classes is not a primary concern for teachers.

Two survey questions indicated lower teacher confidence. Twenty-five percent of teachers agreed or strongly agreed with the statements "Communicating instructions to beginning string players about how to make up a good melody is or would be too challenging" and "Teaching the concept of syncopation to fourth and fifth grade students as a way to manipulate familiar rhythmic patterns is not possible in my situation." These statements measure teacher confidence in the success of using improvisation as a teaching tool but require the students to be able do certain skills, such as interpreting instructions and performing syncopation. Though more research should be done, it seems that when teachers were asked confidence questions regarding their own skills, the majority of teachers reported high confidence. When asked questions in which student involvement would influence the success of the activity, there was a higher percentage of teachers reporting lower confidence.

In the category of anxiety, the majority of teachers responded to all items relating to lack of anxiety with agree or strongly agree and all items relating to a sense of anxiety with disagree or strongly disagree. The majority of teachers reported feeling at ease letting students apply skills to manipulate familiar melodies and rhythms (84.6%). Anxiety does not seem to be primary reason teachers do not always incorporate improvisation in instruction.

When asked about level of discomfort in planning to use improvisation, 70.3% of respondents disagreed or strongly disagreed with the statement "Planning to teach using improvisation makes me feel uncomfortable," and 81.4% disagreed or strongly disagreed

with the statement “I get a sinking feeling when I think about incorporating improvisation in a lesson.” This shows that the majority of teachers feel at ease in planning strategies for teaching improvisation. Since responses were self-reported, this does not mean that teachers fully understand how to make improvisation a regular and efficient part of sequential teaching.

Of the teachers who responded to statements regarding anxiety, almost no teachers reported strongly agree for items that showed anxiety. A few teachers responded to questions measuring presence of anxiety with agree indicating a slight level of anxiety, but the only item that elicited a strongly agree response was item 17: “I am at a loss when I think about planning a beginning string lesson that incorporates improvisation.” Some teachers may not be aware of how to incorporate improvisation in a lesson.

No teachers reported strongly disagree for statements measuring lack of anxiety. For example, strongly disagree was not reported to the statement “I do not worry when I think about demonstrating improvisation.” This means that teachers did not report a strong presence of anxiety in their perspectives toward teaching improvisation.

According to the average ratings of the categories, teachers had a positive attitude toward teaching improvisation. Attitude was the highest scored category. However, the majority of teachers did not always respond as expected to positive and negative questions in the category. This could indicate that teacher attitude was more specific to the items surveyed. Item 21, “Having students perform self-created melodies on concerts is not a priority for me,” is the negative attitude item with which the majority of teachers (70.4%) agreed or strongly agreed. Giving students the chance to perform their improvisations is an enjoyable and rewarding part of the art (Hamann & Gillespie, 2009).

However, teachers may have opinions or expectations about programming concerts that override their value of or attitude towards improvisation.

Since community expectations may influence the value teachers place on improvisation, educators were asked to project how the most immediate influences from outside the classroom, parents and administrators, may perceive improvisation in instruction. Teacher views about the value of improvisation to the community suggest that teachers do not think including improvisation in instruction would contribute to the acknowledgement of their success. On the other hand, there was no indication that teachers believe parents and administrators would think it was a waste of time. Educators' expectations of community support or opposition to improvisation in the classroom does not seem to be an important factor in determining whether or not to use it.

No teachers strongly agreed and only 11.1% agreed with the statement, "Parents and administrators would or do think I am more successful in teaching if my students can improvise their own music." The majority responded neutrally. One reason teachers may not have an opinion about whether or not improvisation would reflect their success in the community may be that they do not consider it important to include in performances. A large majority of teachers reported that improvisation is not a priority to program on concerts, so teachers may see improvisation as part of instruction that happens outside of the public eye. Discomfort or issues with defining success according to administrators and parents may also have made this question difficult to answer.

While the majority of teachers are neutral toward whether or not using improvisation would improve parent and administrator opinion of their success, the next highest percentage (22.2%) expressed that parents and administrators would not think

they are more successful if students are taught to improvise. In other words, about one out of five teachers do not think parents and administrators would view their teaching as more successful if children are provided with instruction on how to create their own music. Public opinion may be seen by some educators as being focused on non-creative objectives. The perception that creativity is not valued in the community could be dangerous as these expectations often influence what teachers chose to include in instruction.

On the other hand, the majority of teachers disagreed or strongly disagreed with the statement, "Parents and administrators would think I was wasting time if I teach my students to make up their own music." The next highest percentage of teachers was neutral toward the statement, and a very small percentage agreed that parents and teachers would see improvisation as a waste of class time. Teachers apparently do not think parents and administrators see improvisation in the as a waste of instructional time, but they also do not think the community would view student improvisational skills as and indication of successful teaching. On the assumption that teachers will structure class activities to convince parents and administrators of instructional success, even if it is not viewed as a waste of time, the perceived lack of opinion that improvisation is a sign of success may lead teachers to use class time in ways that will more readily convince parents and administrators of teacher accomplishment.

Agreement or disagreement of the majority of teachers in the categories of confidence, anxiety and attitude indicates that there are other factors involved in teachers' decisions about whether or not to include improvisation in the curriculum. One might expect that if teachers have high confidence, good attitudes, and low anxiety, the teaching

tool would be used by all who think it is effective. This situation is not the case, which indicates that external factors, such as time resources and student abilities, may influence teacher decisions about whether or not and how to include improvisation in the curriculum.

The fourth research question asks: Are there differences between the categories of teacher confidence and anxiety and attitude? Teacher attitude was found to be significantly higher than anxiety in using improvisation as a teaching tool. Teachers have a more positive attitude toward improvisation as a teaching tool than feelings of dread or worry about using it. The point that teachers have a positive attitude toward improvisation is strengthened as attitude is significantly more positive than anxiety. Since teacher attitude is higher than their anxiety, anxiety is most likely not a limiting factor on the incorporation of improvisation in curriculum. Teachers value improvisation far more than they worry about teaching it, but still some who report thinking improvisation is useful are not implementing it.

Otherwise, no significant differences were found between teacher confidence and anxiety or teacher confidence and attitude. The lack of differences means that no categories were significantly higher or lower than any others, except between attitude and anxiety. It makes sense that no differences existed because confidence was high, lack of anxiety was high, and attitudes were positive. However, differences were expected to exist based on research in the field that indicates a primary reason improvisation is not included in teaching is due to teacher lack of experience (Koutsoupidou, 2005; Riveire, 2006; Volz, 2005). Confidence was expected to be lower than anxiety and attitude. Results of the present study suggest that teacher confidence is not limiting their use of

improvisation. One explanation is that lack of experience does not necessarily impact teacher confidence but may limit teachers' resources in implementing improvisation. Since the later seems to be the case, information should be provided and accessed by educators to remedy the situation. As stated earlier, materials are available for teachers that provide ways to use improvisation in skill and creative development (see page 10).

The fifth research question asks: Are there correlations between teacher confidence and anxiety and attitude? No correlations existed between teacher confidence, anxiety, and attitude in the data. This means a significant relationship does not exist between the categories according to this study. Apparently, teacher anxiety, confidence, and attitude are independent of each other. This may be because teaching improvisation includes many facets of teacher involvement including communicating knowledge and performing skills in demonstration. Teachers may feel very confident in some aspects of improvisation and more anxious in others. Attitude could be a similar issue. For example, teachers may think that improvisation is valuable in class, but may feel less confident or more anxious about it in other ways. Correlations were expected to exist between all three categories (anxiety, confidence, and attitude). The lack of correlations indicated that teacher perspectives in anxiety, confidence, and attitude are independent from each other.

Applications in Music Education

The majority of teachers responded with higher ratings of confidence and attitude than of anxiety. Some of the descriptive statistics of individual items from the categories is of interest. Statements that rated highest in teacher confidence and attitude and lowest

in anxiety included student improvisation of melodies and teacher demonstration. The majority of the teachers (85.7%) reported feeling secure about teaching students to create their own melodies in the confidence category, and 88.9% agreed that students should have the opportunity to invent their own melodies. Teachers reported low anxiety by agreeing in that they do not feel bothered by teaching students to make up a melody (85.2%). Furthermore, 84.6% reported feeling at ease teaching students a skill and allowing the students to use the skill to manipulate familiar melodies and rhythms. Having students manipulate and create their own melodies using skills from the classroom seems to be an area in which the majority of teachers feel confident, have positive attitudes, and feel at ease.

In items rating teacher perspectives in demonstration of improvisation, the majority of teachers also indicated high levels of confidence and lower levels of anxiety. Most of the teachers (82.2%) agreed or strongly agreed that they could demonstrate an improvised phrase to which students could respond with another improvised phrase. In addition, 73.1% of teachers responded to the statement in anxiety item 13: “I do not worry when I think about demonstrating improvisation” either as agree or strongly agree. The difference in the percentage suggests that while teachers may feel confident in demonstrating improvisation, there are some who also experience some worry when thinking about actually doing it.

The research in this study revealed that some teachers who believe improvisation is a useful teaching tool are not using it in their string classes. The majority of teachers have confidence, good attitude, and low anxiety toward teaching with improvisation.

Teacher perspectives indicate that there are external factors that affect teachers' decision to include improvisation in the curriculum.

Teachers should be aware of ways in which their own perspectives and other factors are affecting the curriculum. It is apparent that perspective may not be the primary issue preventing teachers from using improvisation. However, not every teacher who thinks improvisation is useful is incorporating it in beginning string pedagogy. Upon identifying limitations to creativity, particularly improvisation, in instruction, advocacy and materials can be provided to facilitate increased use of improvisation as a teaching tool.

As stated earlier, expectations from the community, such as parents and administrators, may have more influence on the ways music is taught than is realized (Kelly, 2009). The members of the community who have influence on student learning can be involved in supporting changes to incorporate creative learning processes, such as improvisation, that develop students' musicianship technically and creatively. Administrators should equip teachers with the time resources and support necessary to make music an area of arts education that involves imagination and deeper understanding of musical communication. Improvisation can be incorporated in little class time. Other studies have shown that improvisation skills develop procedurally; therefore, learning improvisation requires teacher guidance and modeling (Coy, 1989; Kratus, 1990, 1991, 1994). Time should be available during class for these types of demonstrations and learning.

Parents of students in string classes can also be vital in supporting creativity in music education because their expectations will shape student attitudes (Darling-

Hammond, 2005; Kelly, 2009). While teachers may not see parents as antagonistic toward improvisation in school, parental support could further justify educators in developing students both technically and creatively. For improvisation to become more regularly included in instruction, teachers may need increased support for spending class time on creative endeavors. Continued support and involvement from parents in helping students become more technically proficient as well as musically and creatively independent could be an invaluable resource as teachers strive to set students on the road to becoming life-long musicians.

Teachers seem to have a variety of perspectives that could be a result of the multifaceted nature of improvisation. While the reliability of the survey in measuring the categories was high, improvisation is a complex learning activity that has many different factors, and teachers may have different perspectives in different areas (Kratus, 1990). Attitude was a category in which the majority of teachers reflected differences between agreement with positive and negative statements, particularly in the item regarding improvisation in concert programming. A shift of focus from traditional performances consisting entirely of composed music may be necessary to incorporate improvisation in a concert. Public displays of improvisation show support for creativity in instruction. Allowing children to perform their own improvisations, however simple, could show them that both teacher and community value and respect their toils as young, creative musicians.

Guiding students in creating their own melodies using technical skills was common in items that showed especially high average ratings for confidence and attitude and low average ratings for anxiety. This could be a good starting place for teachers who

feel less secure. Melodies can be incorporated in simple creative activities with little background knowledge of technique or improvisation, which may make them ideal in working with young string students. Not only is creating or manipulating melodies one of the simpler ways to use improvisation, it can be one of the most flexible. Melodies can cover any range with at least two notes, can be as rhythmically complex as desired, and can be useful in developing ear training skills that lead to better understanding of phrase and harmonic rhythm.

Modeling and demonstration were items that also showed high average ratings for confidence and attitude and low average ratings for anxiety. Teachers reported feel secure about their ability to demonstrate improvised phrases in ways that include the students, such as call and response. No strong sense of worry was associated with demonstration, which is conducive to teaching improvisation because modeling is a primary medium of music instruction.

Since teachers already have confidence in the skills required to successfully model for students, perhaps expanding teachers' repertoire in what to model would be helpful. In Deas' (2009) study, piano teachers indicated that teacher training and better resources as two primary ways to assist teaching improvisation (8). Acquiring more knowledge about what to incorporate in demonstration when using improvisation as a teaching tool requires teachers to understand what beginning students should be able to do in the first year of study. Resources, such as handbooks and textbooks, with bountiful suggestions are available to teachers who wish to develop their understanding of what and how to demonstrate when teaching improvisation. As teachers seem to think

improvisation is valuable in string education, these bases of knowledge should be used to work within the current learning environment.

Though a few teachers reported that beginning students are not prepared to use improvisation and class time is too limited, the majority of teachers indicated positive attitudes and confidence and low anxiety toward using improvisation as a teaching tool. Since teachers seem to have confidence and positive attitude toward incorporating improvisation in curriculum in beginning string classes, more resources need to be available to them. Teachers should be given enough time in music classes to incorporate creative activities that offer students technical challenges as well as higher order thinking opportunities. When music is taught in a restrictive environment with limited time resources, the repercussions involve sacrifice of creativity in music instruction. This constraint on development can have negative results in students' musical identities (Moreno, 1939). This study shows that teacher perspectives in confidence, anxiety, and attitude are supportive of improvisation as a teaching tool. Though teachers seem to recognize that improvisation is an important part of learning music, something seems to be limiting the practical application of opportunities for creativity in the classroom.

Implications for Further Research

Further research on teacher perspectives of improvisation as a teaching tool is needed. Multiple methods of research would be useful to collect information that would to facilitate the improvisation in string pedagogy. Case studies of teachers who use improvisation regularly and successfully could provide valuable insight in the best ways to incorporate improvisation efficiently in the music learning process. A deeper

understanding of teacher perspectives could be attained by re-administering the present survey and expanding it to a mixed methods study by conducting interviews.

The present study could be improved by distributing the survey to a larger population and receiving a higher number of responses. The greatest threat to the validity of this study is that the sample may have been biased since the participants were those who chose to respond to the survey and the sample was small (Phillips, 2008, p. 161). These teachers may already have had an interest in improvisation that led them to respond to questions in a way that is not representative of the population.

If more teachers had participated, there may be a different set of results. For example, one might expect to see some correlations between the categories. The response rate may have been improved by increasing the population size and sending the link to surrounding states, such as Michigan, Pennsylvania, and Indiana. Though the response rate may have been similar, additional responses would contribute to the analysis.

A mixed-method approach may be useful in forming a deeper understanding of teacher perspectives toward improvisation. A few school districts could be selected from which string teachers would be asked to participate in a survey and interview. Additional personal contact may increase the response rate and teachers who were not initially interested in improvisation may be more inclined to participate. As there was little accountability for participation in the current survey, teachers who already have an interest in improvisation were most likely to respond. A study that involves a survey and additional interview questions focused on understanding why teachers use or do not use improvisation and their previous experiences with improvisation may encourage more

teachers from diverse backgrounds to participate. Furthermore, qualitative observations of instrumental classes could provide insight into how musical creativity is being reinforced in daily teaching.

The items with lowest reliability were in the attitude category and based on perceived opinions of parents and administrators. Teachers may be uncomfortable, not know, or not be willing to conjecture how the community values improvisation. The questions could have been rephrased with "I believe parents and administrators would…" so the intent of the question to measure the teacher perspective of the topic was clearer. Another issue with these questions may have been that teachers think parents and administrators value improvisation differently. If the study was administered again, making separate questions regarding teacher perspective of parent and administrator support in using improvisation as a teaching tool may improve the reliability.

More research exploring the differences in perspectives toward using improvisation in the classroom between teachers who have improvisation experience and those who do not could be revealing. Studies on this topic could provide suggestions for how teacher training in improvisation could support or hinder the inclusion of improvisation in curriculum.

Research investigating teacher perspectives of specific facets of improvisation may be useful. Studies could be done about teacher perspectives of isolated issues in teaching with improvisation, such as having students perform improvisation in concerts. The ways teachers perceive the value of improvised performance could be compared to their value of improvisation in the classroom or their value of performing from notation. Another study that could yield interesting results would be to investigate the effects of

improvisation experience on life long musicianship. Both of these studies could provide philosophical insight to the profession.

Investigation of teacher pedagogical knowledge in improvisation would be logical based on the results of this study. While teachers seem confident and positive with little anxiety toward teaching improvisation, they may also be unaware of the ways in which improvisation can be used efficiently and effectively. Teacher confidence in modeling improvisation and lack of anxiety in planning for improvisation suggested teachers are prepared to teach improvisation. Expanding resources and understanding about how to practically apply improvisation in sequential instruction may further equip teachers.

Future research could investigate how teachers think improvisation can be used and offer suggestions for new ways to use improvisation that are time sensitive and developmentally appropriate. An open-ended survey in which teachers list the current method books and teaching techniques they use most often would illustrate how improvisation is or is not being incorporated in instruction. Furthermore, an administration of a musical achievement test may be revealing of teachers' capabilities of demonstrating improvisation and their content knowledge on the subject.

Finally, more research into external factors that may be causing teachers to use limited or no improvisatory activities in teaching beginning strings should be conducted. Suggestions for causes of the lack of creativity in music classes can be deduced from literature in the field, but more investigation is needed to determine probable causes of the issue. Knowing the reasons for lack of creativity in curriculum is necessary to inform teacher and the education community about ways to make improvisation more accessible

to a larger student population. Continued of neglect of improvisation in curriculum requires inquiry into why teacher practices are not in alignment with their beliefs.

Conclusion

This research shows that teacher confidence and attitudes are positive and teacher anxiety is low in using improvisation as a teaching tool. Furthermore, teachers seem to think improvisation is a valuable teaching tool, but they do not always use it in beginning string pedagogy. Since teacher confidence, anxiety, and attitude do not seem to be the cause of the lack of improvisation in the beginning string classroom, the search for understanding why this important process and skill in music development is neglected should continue. Expectations from the community and lack of resources are two factors that may be limiting creativity in the classroom; however, more research is needed that unveils the reasons improvisation is not being used more often.

Improvisation has many benefits for developing musicianship in young students and may be a contributing factor to students' development as life long musicians (Azzara, 1993; Dobbins, 1980; Elliot, 1995; Gordon, 1999; Kratus, 1990; Riveire, 2006). The majority of teachers are aware of the value of improvisation and have confidence they can teach it, but it is still lacking in beginning string education. Further research should be conducted to investigate causes for this stemming of creativity in the classroom. Meanwhile, teachers should be self-aware of differences in their own perceptions towards improvisation and be creative in finding solutions to external limitations on creativity in curriculum.

Beginning string students can develop a sense of musicianship and ownership from their very first notes (Gordon, 1999). From the moment they hold the instrument

and pluck the strings, their journey as a musician begins. Those first musical experiences embark students on a mission to become creative and technically proficient musicians, people who can create something that is uniquely, musically their own. It is good to know teachers agree with the value of improvisatory experiences and feel confident and not anxious in guiding students to becoming technically and expressively proficient. There is still a need for information about why improvisation is not used more commonly from the start, particularly in string education and how it can be.

Until the issues surrounding the lack of improvisation are addressed, students are at risk of developing technical knowledge that is not internalized or applied independently or creatively. Teacher perspectives may not be the leading cause in the lack of improvisation in string pedagogy, but there is still a disconnection between those who think improvisation is useful and those who are using it (Azzara, 2002; Lehman, 2000). The issue of restricting creativity and teacher judgment in instruction is eminent. Ignoring this problem and continuing to teach young instrumentalists in non-creative ways puts students at a disadvantage since it is a functional part of higher thinking in musical development. Educational research and resources should be directed toward making creative as well as technical development available to all students.

Improvisation is a tool that can be implemented to improve both students' technical ability and creativity starting at a young age. Teacher attitude shows that professional educators realize improvisation can be useful, but the importance of it as a part of musical development may be overwhelmed by demands on short rehearsal time and a minimal understanding of how to use improvisation as a normal part of sequential instruction. Improvisation is one tool that would greatly benefit students and has the

potential to be included in instruction because teachers already support it and feel confident about it. Teachers can learn how to naturally apply improvisation in students' musical development and use it more frequently. An increase in creativity, particularly improvisation, in music education would be a victory in demonstrating teacher perspectives and values in practice.

APPENDIXES

APPENDIX A: Survey

1. Welcome

As part of a master's thesis at Kent State University, I am conducting a research study to describe string teachers' attitude, anxiety, and confidence towards using improvisation as a teaching tool for beginning string players. For the purpose of this study, improvisation is defined as the spontaneous creation and manipulation of musical patterns including notes, phrasing, and rhythm. Improvisation can be as simple as two note melodies and rhythmic manipulation.
If you are willing to participate, please click on the responses that are most appropriate to you. The survey consists of 23 questions and should take about ten minutes to complete. Time constraints on instruction are addressed in the background questions, so answer questions five through twenty-three as if time is not a concern.
Your identity will remain anonymous. There is no requirement to participate in the survey and you may withdraw at any time. Additional information can be obtained by contacting Kimberly A. Smith by phone at 330-672-3328 or email ksmit106@kent.edu or Craig Resta by phone at 330-672-4803 or email cresta@kent.edu.

1. Do you teach or have you taught beginning string students in fourth and/or fifth grade for at least one year?

- ○ Yes
- ○ No

2. Background Questions

These questions will give the researcher some background information about your teaching experience and typical use of improvisation in teaching.

1. Do you think improvisation is a useful teaching tool for beginning string students?

- ○ Yes
- ○ No

Why or why not?

2. Do you use improvisation, or the spontaneous creation of music, as a teaching tool with beginning string players?

- ○ Yes
- ○ No

Why or why not?

3. How often do you use improvisation for teaching beginning string players?

- ○ Never (0 times per year)
- ○ Rarely (1-5 times per year)
- ○ Sometimes (5-10) times per year)
- ○ Often (10-20 times per year)
- ○ Always (20 or more times per year)

4. If you were to teach using improvisation, how much time would you need each week to teach that skill?

- ○ 10 minutes
- ○ 20 minutes
- ○ 30 minutes

Other (please specify)

_____

3. Teacher Perspectives Toward Improvisation in Beginning String Pedagogy

1. Confidence (Part 1)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
6. Generally, I feel secure about teaching students to make up their own two and three note melodies.	○	○	○	○	○
7. I am sure I could teach major and minor scales to fourth and fifth grade beginning string students for use in creating their own music.	○	○	○	○	○
8. I can demonstrate an improvised phrase that my students could play their own response to.	○	○	○	○	○

2. Confidence (Part 2)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
9. Communicating instructions to beginning string players about how to make up a good melody is or would be too challenging.	○	○	○	○	○
10. Teaching the concept of syncopation to fourth and fifth grade students as a way to manipulate familiar rhythmic patterns is not possible in my situation.	○	○	○	○	○
11. Most musical tasks I can teach well through modeling, but I am not comfortable demonstrating improvisation for beginning students.	○	○	○	○	○

4. Teacher Perspectives Toward Improvisation in Beginning String Pedagogy

1. Anxiety (Part 1)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
12. It does not bother me at all to teach students an interval or scale and let them make up their own melody.	○	○	○	○	○
13. I do not worry when I think about demonstrating improvisation.	○	○	○	○	○
14. I am usually at ease teaching students a musical skill and letting them apply it by manipulating familiar melodies and rhythms independently.	○	○	○	○	○

2. Anxiety (Part 2)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
15. Planning to teach using improvisation makes me feel uncomfortable.	○	○	○	○	○
16. I get a sinking feeling when I think about incorporating improvisation in a lesson.	○	○	○	○	○
17. I am at a loss when I think about planning a beginning string lesson that incorporates improvisation.	○	○	○	○	○

5. Teacher Perspectives Toward Improvisation in Beginning String Pedagogy

1. Attitude (Part 1)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
18. Every student should have the opportunity to invent their own melodies.	○	○	○	○	○
19. Parents and administrators would or do think I am more successful in teaching if my students can improvise their own music.	○	○	○	○	○
20. I think improvisation is an effective teaching tool for beginning string students.	○	○	○	○	○

2. Attitude (Part 2)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
21. Having students perform self-created melodies on concerts is not a priority for me.	○	○	○	○	○
22. Parents and administrators would think I was wasting time if I teach my students to make up their own music.	○	○	○	○	○
23. Having students create their own melodies does not contribute to the goals of my string program.	○	○	○	○	○

6. Thank You

Thank you for participating in this survey. Your collaboration is greatly appreciated.

APPENDIX B: Teacher Responses to Background Survey Questions

Question	Response	
1. Do you teach or have you taught beginning string students in fourth and/or fifth grade for at least one year?	Yes – 89.7%	No – 10.3% *These respondents were not included in the remainder of the survey.
2. Do you think improvisation is a useful teaching tool for beginning string students?	Yes – 86.2%	No – 13.8%
3. Do you use improvisation, or the spontaneous creation of music, as a teaching tool with beginning string players?	Yes – 62.1 %	No – 37.9%
4. How often do you use improvisation for teaching beginning string players?	Never – 24.1%	
	Rarely – 20.7%	
	Sometimes – 41.4%	
	Often – 6.9%	
	Always – 6.9%	
5. If you were to teach using improvisation, how much time would you need each week to teach that skill?	10 minutes – 60.0%	
	20 minutes – 32.0%	
	30 minutes – 8.0%	

APPENDIX C: Teacher Responses to Likert-type Scale Items

Question					
Confidence	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
6. Generally, I feel secure about teaching students to make up their own two and three note melodies.	0%	7.1%	7.1%	46.4%	39.3%
7. I am sure I could teach major and minor scales to fourth and fifth grade beginning string students for use in creating their own music.	7.1%	7.1%	28.6%	25.0%	32.1%
8. I can demonstrate an improvised phrase that my students could play their own response to.	3.6%	10.7%	3.6%	28.6%	53.6%
9. Communicating instructions to beginning string players about how to make up a good melody is or would be too challenging.	17.9%	50.0%	7.1%	21.4%	3.6%
10. Teaching the concept of syncopation to fourth and fifth grade students as a way to manipulate familiar rhythmic patterns is not possible in my situation.	28.6%	35.7%	10.7%	21.4%	3.6%
11. Most musical tasks I can teach well through modeling, but I am not comfortable demonstrating improvisation for beginning students.	48.1%	18.5%	25.9%	7.4%	0%
Anxiety					
12. It does not bother me at all to teach students an interval or scale and let them make up their own melody.	0%	11.1%	3.7%	51.9%	33.3%
13. I do not worry when I think about demonstrating improvisation.	0%	19.2%	7.7%	42.3%	30.8%
14. I am usually at ease teaching students a musical skill and letting them apply it by manipulating familiar melodies and rhythms independently.	0%	7.7%	7.7%	42.3%	42.3%
15. Planning to teach using improvisation makes me feel uncomfortable.	22.2%	48.1%	18.5%	11.1%	0%
16. I get a sinking feeling when I think about incorporating improvisation in a lesson.	37.0%	44.4%	11.1%	7.4%	0%
17. I am at a loss when I think about planning a beginning string lesson that incorporates improvisation.	37.0%	40.7%	7.4%	11.1%	3.7%
Attitude					
18. Every student should have the opportunity to invent their own melodies.	0%	0%	11.1%	51.9%	37.0%
19. Parents and administrators would or do think I am more successful in teaching if my students can improvise their own music.	3.7%	18.5%	66.7%	11.1%	0%
20. I think improvisation is an effective teaching tool for beginning string students.	0%	0%	37.0%	40.7%.	22.2%
21. Having students perform self-created melodies on concerts is not a priority for me.	0%	3.7%	25.9%	55.6%	14.8%

22. Parents and administrators would think I was wasting time if I teach my students to make up their own music.	14.8%	55.6%	25.9%	3.7%	0%
23. Having students create their own melodies does not contribute to the goals of my string program.	14.8%	63.0%	14.8%	7.4%	0%

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