

THE USE OF IMPROVISATION IN UNDERGRADUATE
STRING METHODS AND TECHNIQUES COURSES

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ABSTRACT

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Improvisation is present in music all over the world, and it has been an integral part of music since the beginning of time. Professional organizations, including the National Association for Music Education and the American String Teachers Association, consider improvisation to be an essential part of music education. However, there is a lack of research with regard to improvisation and string music teacher education. With the intent of improving string music teacher education, this study examined the breadth and depth of improvisation in string teacher education, specifically its use in string methods and technique courses. The design of this study most closely resembles that of the Explanatory Sequential Mixed Methods Design, with elements of the Convergent Parallel Mixed Methods Design (Creswell and Plano Clark, 2011). The first phase of the study included a researcher-developed survey regarding the use of improvisation in collegiate string methods and techniques classes. The second phase of the study consisted of follow-up interviews to provide insight into the philosophical and practical applications of improvisation as both a teaching tool and skill for life-long music making and learning. The participants in the first phase of the study included all known string music teacher educators at NASM-accredited schools offering 4-year undergraduate music education degrees. Out of 565 possible participants, 171 responded for a response rate of 30%. The survey results indicate that the majority of string teacher educators are interested in improvisation and feel that it is important to include in music teacher education. Many respondents described improvisation as beneficial to undergraduate music students' musical growth, both technically and

expressively, and for the development of teaching skills for pre-service music teachers.

However, the results also demonstrate that, while string teacher educators may feel strongly about the importance of improvisation, the majority of respondents included improvisation activities in their classes only sometimes to never. Participants reported time constraints and discomfort with improvisation as impediments to including improvisation in their classes.

Many survey participants (n=50) volunteered to take part in the interview portion of this study. The five music teacher educators interviewed not only included improvisation in their teaching but also felt strongly that it was an important component of music education. Analysis of the interview data revealed three main themes: Benefits of Improvisation, Challenges of Improvisation, and Strategies for Incorporating Improvisation. The Benefits of Improvisation theme divided into two sections. The first section, Benefits to Music Students, included the codes Improving Aural Skills, Improving Technique, Creativity, and “Bridging the Gap.” The second section of this theme is Benefits for Pre-service Music Teachers. The second theme, Challenges of Improvisation, included the codes Time Constraints and Class Size, and Student Apprehension. The third theme, Strategies for Incorporating Improvisation, includes the following sub-themes: Acknowledging the K-12 Teaching Reality, Creating a Safe Environment, Keeping it Simple, Incorporating Multiple Styles and Genres, Improving Music Teacher Education, and Resources and Opportunities for Professional Development.

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For my parents, Tom and Suzanne

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CHAPTER 1 INTRODUCTION

Review of Literature

Improvisation is present in music all over the world, and it has been an integral part of music since the beginning of time. The *New Harvard Dictionary of Music* defines improvisation as “the creation of music in the course of performance,” and calls it a “complex art” (p. 406). Berliner (1994) writes that improvisers often refer to improvisation as “real-time composing” and “instantaneous decision making in applying and altering musical materials and conceiving new ideas” (p. 211-222).

Early chant involved improvising a melody around a *cantus firmus* (Randel, p. 392). Bach was a master improviser, as were Mozart and Beethoven (Randel, p. 393). Through the Classical era of Western art music, composers expected individual performers to add ornamentation as they wished and left elements of musical decision-making up to the performer by providing few dynamic markings and asking soloists to perform unwritten cadenzas. Yet, over time, there has been a shift away from improvising, and now improvisation is rare in Western classical music (American String Teachers Association Curriculum, 2011; Azzara, 2002).

Moore (1992) wrote about the importance of improvisation and lamented its decline in classical music. Many classically trained musicians, including collegiate string players, do not improvise. Solomon (1986) commented that many classical musicians fear improvisation or playing without notation, and wrote: “The fact is that we have educated improvisation out of our trained performers...They are taught that it is unimportant, when in fact it may be the most important and vital activity for a musician” (p. 229). The disappearance of improvisation in the classical realm appears to have been a concern for some time. An issue of *The Musical Times*

from the early 20th century shows Crawford (1928) expressing dismay over the lost “art of improvisation,” and that it had been the custom for any pianist to “include an improvisation in his programme” at the mid-19th century (p. 418).

The ability to create music without notation has been lost over the years in classical music education, and yet it is an important skill that a musician can develop. McPherson (1996) identified improvisation as one of the five aspects of musical performance, whether in a “common practice” for the musical idiom, or “freely,” along with the ability to sight-read, perform rehearsed music, play from memory, and play by ear (p. 116). Gordon (2001) wrote “to teach notation and not improvisation is to deny the essence of music” (p. 6) and expressed concern over notation and theory replacing audiation as the means to learn music.

Shuler (1995) shared the concern that music majors are dependent on notation, and improvisation could help to remedy that concern. Crawford (1928) expressed these same apprehensions decades earlier, encountering new students who were capable of reading but unable to play by ear or to modulate at the keyboard, and that the student’s work “depends entirely on his ability to transfer written symbols into corresponding key movement” (p. 418). Crawford’s solution was to incorporate improvisation into the lessons, as a “cure for this state of things,” and he encouraged other teachers to do the same (p. 418).

For some students, notation can be a barrier in the early study of an instrument. In a review of research literature, Kuhlman (2005) sought to understand the roles of musical aptitude and academic ability as factors in beginning instrumental students’ musical achievement and retention. She found that tasks such as playing by ear and improvisation were related to musical aptitude, while the task of reading music notation was related to academic ability. As a result, she posited that instrumental music educators should include improvisation and playing by ear in

their teaching, as the “inclusion of these tasks in beginning instrumental music instruction could minimize the loss of students who possess adequate levels of music aptitude but for whom reading music notation presents a challenge” (p. 41-42).

The National Association for Music Education (NAfME) states that music education should be available to all students and that music education should provide students with opportunities to develop life skills, literacy, and creativity. NAfME supports a comprehensive music education that allows students to “develop not only their music-making skills, but their abilities to create and to respond to music as well” (NAfME Values, <http://musiced.nafme.org>). The National Standards for Music Education help set up the framework for achieving this goal. The Consortium of National Arts Education Associations (1994) included improvisation as the focus of one of the nine National Standards for Music Education, and the 2014 National Coalition for Core Arts Standards includes “Creating” as one of the three main strands of musicianship.

After the release of the 1994 Standards, music education leaders published guides regarding their implementation. Since that time, many other music education researchers and practitioners have contributed to the discussion by writing books and articles on the topics of improvisation and the Standards (Azzara, 1999; Bitz, 1998; Fitzsimonds, 2002; Hickey, 2001; Kratus, 1996; Lieberman, 2002; Riveire, 2006; Priest, 2002; Stabley, 2001; and Volz, 2005). In addition, string educators wrote articles regarding the National Standards, improvisation, and string teacher preparation in *American String Teacher*, the journal of the American String Teachers Association (Bratt, 2002; Kjelland, 1995; Lyne, 1997; and Price and Barrett, 2011). String educators wrote about the need for a change in teacher training, as typical string education course work does not prepare pre-service string educators to teach improvisation or other

Standards such as composition (Riveire, 2006, p. 2). Teachers who have had little experience with improvising in their background and education often are not comfortable with delivering improvisation instruction in their classes. Campbell (2009) wrote, “Because most K-12 teachers were not trained as improvising musicians, improvisation is a vague and distant notion, and pedagogical approaches are unclear when they themselves have had no firsthand experience in the process” (p. 137). Byo (1999), Madura Ward-Steinman (2007), and Riveire (1997) found that in-service teachers were interested in learning more about teaching improvisation. Bernhard (2012) found the same with pre-service music teachers.

More recent articles (Beckstead, 2013; Monk, 2013; Whitcomb, 2013) refer to this discomfort and offer suggestions for incorporating improvisation in both the general and instrumental music classrooms, emphasizing the importance of improvisation for student learning. Clearly, music educators continue to be concerned with teaching improvisation. As schools of music prepare music education students to teach, changing curriculum so that students are comfortable improvising and teaching improvisation is essential.

The National Association of Schools of Music (NASM) includes improvisation in their standards for accreditation. Although it does not require a dedicated class or specific amounts of improvisation instruction, NASM expects accredited schools to include instruction in composition/improvisation in some manner for a Bachelor of Music degree. Often, schools accomplish this through theory, aural skills, and piano classes (<http://nasm.arts-accredit.org>). The 2015-16 NASM Handbook (Section VIII.B.3.) states:

3. Composition/Improvisation. Students must acquire a rudimentary capacity to create original or derivative music. It is the prerogative of each institution to develop specific requirements regarding written, electronic, or improvisatory forms and methods. These

may include but are not limited to the creation of original compositions or improvisations, variations or improvisations on existing materials, experimentation with various sound sources, the imitation of musical styles, and manipulating the common elements in non-traditional ways. Institutional requirements should help students gain a basic understanding of how to work freely and cogently with musical materials in various composition-based activities, particularly those most associated with the major field. (NASM Handbook, 2015-16, p. 99)

Kratus (2007) suggests that music education is in danger of becoming irrelevant, with a disconnect between what students consider “out-of-school” music and “in-school” music (p. 47). The emphasis on the traditional ensemble model in secondary schools continues, despite many experts in the field calling for change (Campbell, P.S. et al, 2016; Grant and Kohut, 1992; Kratus, 2007). Wollenzien (1999) contends:

The performance paradigm that stressed dedication to the art form by talented students was an influential factor on teacher education programs in the early part of this century. Even today, a conflict between those who follow this paradigm and those who try to meet the goals of every student persists, and is present in the makeup of music teacher education curricula throughout the country. (Wollenzien, 1999, p. 11)

Bitz (1998) suggests that educators look to musical genres other than jazz as a starting point for improvisation, such as bluegrass, blues, ska, reggae, rap, klezmer, and rock, which could help to bridge the gap between music in the schools and music in the lives of students. He shares that the elements of melody, harmony, and tempo make them “conducive to improvisation,” along with the appeal that students may be familiar with the genres and may listen to them outside of school (p. 22).

McPherson (1994) surveyed 424 former high school instrumentalists regarding the success of school instrumental music instruction. The results suggested that an important factor in whether the instrumentalists participated in and enjoyed of music as adults was the level of exposure to aural and creative forms of music-making and whether the musician had learned to play by ear or improvise before leaving school.

Students with special needs benefit from improvisation and other creative activities. Kim, Wigram, & Gold (2008) explain that improvisation activities “can foster flexibility and creativity in a structured framework for those children who cannot readily adjust themselves to the unpredictability of daily life,” and that improvisation “is an ideal way to work through issues of control and rigidity with these children” (p. 1764).

Improvisation challenges the brain to “process information differently, using more of the cortex, and strengthening a student’s ability to learn,” (Riveire, 2006, p. 40) and leads to higher-order music thinking skills (Azzara, 1993). The revised Bloom’s Taxonomy (2001) lists “creating” as the highest-order thinking skill. Improvisation fits into this category, as, when improvising, the performer is drawing from previous musical knowledge while creating a spontaneous melodic or harmonic line. Relating the new taxonomy to music education through the National Standards, Hanna (2007) writes:

The verb *improvise* indicates the cognitive process involved...improvise is a type of cognitive process related to the category Create because it is the “putting elements together to form a coherent or functional whole, reorganizing elements into a new pattern or structure.” It can also be further classified in the subcategory *generating* because improvisation is a divergent thinking process of “coming up with alternative hypotheses based on criteria.” (Hanna, 2007, p. 12)

Additionally, Azzara (1993) found that the ability to improvise appears to lead to better understanding of tonal, rhythmic, and expressive elements of music, even when performing from a piece of notated music. Echoing Gordon's statement, "Audiation is to music what thinking is to language," (Gordon, 2001, p. 3) Azzara stated, "Improvisation is to music what speaking is to language" (p. 330). The inclusion of improvisation as part of the music curriculum would provide students with the skills to converse musically before reading notation, just as language learners engage in verbal conversation before learning to read words.

Many researchers point to the importance of improvisation in music education. While improvisation is an essential part of jazz music, improvisation is not only important in the jazz idiom. Improvisation is an essential part of all musical styles and cultures (Azzara, 1993).

Researchers have studied non-jazz-related improvisation with students in the K-12 setting (Azzara, 1993; Beegle, 2010; Bitz, 1998; Brophy, 2005; Douglas, 2005; Guilbault, 2004, 2009; Kanellopoulos, 1999; Kiehn, 2003; McPherson, 1997; Priest, 1997; and Schopp, 2006).

The use of improvisation in the music classroom provides students with the opportunities to create their own music, have complete ownership of the product, and develop musical independence. Instead of re-creating another person's composition or following the directions of a conductor, improvisation frees students to express their own musical ideas. Guilbault (2004) refers to providing students with the tools to create their own music as "the ultimate goal of all music teachers" (p. 65). Welch (1999) writes that improvisation is beneficial to both the student and the music educator, providing the improvising student with the opportunity to problem-solve and create musically, which "facilitates the development of their musical intelligence," and improvisation also allows an educator "insight into an individual's current musical development" (p. 212).

Allsup (2003) observed that, through the improvisation/composition process, students are able to see each other outside of the roles typically “defined *for* them” in the typical band setting. As one participant in his study stated, “Like, Tim has some pretty cool ideas for the drum parts. It’s pretty neat, because he’s always just back there in band tapping away at reading the parts. We never really get to see...what they can do” (p. 34). The use of improvisation in the classroom allows students to develop their own musical identities and ideas, providing them with tools for life-long participation in music.

Gordon (2001) writes, “...the ability to improvise forms a solid foundation for learning to read music notation and for developing musical memory. It is the sum and substance, the *sine qua non*, of audiation” (p. 6). Reimer (1997) echoes this sentiment by stating, “Improvisation is a basic way to think musically, and our note-bound performance culture has led to the atrophy of that way of thinking” (p. 34). Yet, too few music educators find time for improvisation and other creative activities in their music instruction.

Louk (2002) surveyed a sample of fourth-grade general music teachers to examine their attitudes regarding the National Standards. In addition to collecting the survey responses, the researcher observed and videotaped the activities of four master music educators and coded their classroom activities based on the Standards upon which the instruction focused. She found that Standard 3, improvisation, ranked close to the lowest of all the Standards in every aspect of the study (number of observed episodes, amount of time spent, and perceived importance). Louk suggested further research to discover why improvisation received such a low rating from the teachers and why it does not receive more time in the classroom. Orman (2002) found similar results when observing 30 elementary general music teachers (grades 1-6) via videotape. She noted that the teachers strove to include all nine National Standards, but improvisation occupied

only 3.09% of teaching time over an 18-month span. Further, the incorporation of improvisation activities into instruction dropped off after 3rd grade. The researcher speculated that a perceived lack of time was the reason for the minimal use of improvisation (p. 162).

In a survey of accredited schools of music in the north central United States, Wollenzien (1999) found that most schools offered and required classes such as music history, conducting, and teaching methods, but less instruction was offered in the area of improvisation. Laughlin (2004) surveyed 100 group piano class instructors from NASM accredited schools and found that, while most felt that improvisation was an important skill, not all were utilizing improvisation in group piano class.

Kishimoto (2002) investigated the use of improvisation as a teaching tool in a collegiate piano pedagogy class. She found that improvisation was a useful teaching tool and that music students found improvisation to be beneficial and enjoyable. Students found the improvisation exercises helpful not only for developing piano technique but also for music theory (p. 38). Kishimoto pointed out that many in class piano had no piano experience, and not having to read music allowed them to concentrate on the physical coordination aspects of playing piano. Conversely, Kishimoto observed that students who played well with notation were less successful musically without music (p. 39).

Much of the writing pertaining to improvisation in higher education focuses primarily on jazz, ranging from philosophical writings (Alperson, 1987) to discussions of the inner workings of the improviser's brain (Norgaard, 2011). Several researchers have investigated improvisation in the context of jazz studies with undergraduate students. McKeage (2004) and Wehr-Flowers (2006) examined levels of student comfort with improvising and looked at gender roles in jazz.

Studies have addressed jazz improvisation instruction and factors for achievement with undergraduate jazz students (Maceli, 2009; May, 2003; Watson, 2008).

Jones (2005) looked specifically at the incorporation of jazz studies in the music education curriculum by surveying music education administrators at 23 colleges and universities offering a music education degree and then following up with interviews. Several interviewees felt that they had not received sufficient jazz training as undergraduates, and the majority of survey responses indicated that they “agreed” or “strongly agreed” that at least one jazz should course be required for music education students. “Jazz improvisation pedagogy” and “jazz improvisation technique” were identified as important aspects of jazz study, according to the survey respondents. The conclusions of the study were that the music education curricula in these colleges and universities should incorporate more jazz studies to better prepare future educators in jazz instruction. With the research on improvisation in higher education focused primarily on improvisation within jazz, there is a need for more research regarding non-jazz related improvisation and music study in higher education.

To that end, researchers have examined the role of higher education in the preparation of future music educators’ teaching of the Standards and specifically improvisation. In a two-part study, Madura Ward-Steinman (2007) surveyed music education undergraduates and found that confidence in teaching improvisation was low but interest in learning was high. In the second part of the study, she discovered that confidence in teaching improved after an intensive vocal jazz course that included “research-based improvisation instruction” (p. 25). She concluded that colleges and universities need to provide opportunities for undergraduate music education students to study improvisation in order for the future teachers to feel more confident in delivering instruction. Byo (1999), Brophy (2002), and Bell (2003) reported similar findings

with regard to teacher confidence and perceived preparation to implement the improvisation Standard in the schools.

Shuler (1995) advocated for music teacher educators to find ways to teach improvisation to pre-service music teachers, noting that most music education faculty have been educated traditionally, and, even if they have recent teaching experience in a K-12 classroom, “they typically have little experience in teaching improvisation.” Additionally, he stated that music education faculty must lead the cause in bringing improvisation to the undergraduate curriculum and suggested that schools of music “must consider expertise in modeling and teaching improvisation” when hiring new faculty (p. 4).

Abrahams (2000) also called for change in music teacher preparation in light of the National Standards. With regard to improvisation, Abrahams noted that many practicing teachers had not received training in improvisation, and, further, that many college professors had no experience with improvisation either. Describing schools that had changed their music programs to align with the Standards, Abrahams also charged that schools of music provide in-service opportunities for collegiate faculty in order to provide better training for pre-service music teachers, as “teachers cannot teach what they cannot do themselves” (p. 30).

Hickey & Rees (2001) described the discussion during the first College Music Society Institute on Music Teacher Education that highlighted the need for change in music teacher education. They advocated that, while studies such as “music technology, non-Western music, or jazz” would be beneficial to the pre-service music teacher, the academic load for music education majors was currently full with no room for additional courses (p. 7). However, if music teacher educators were to deliver such instruction as an organic part of their methods courses, pre-service music teachers would feel more confident in the delivery of such instruction.

Thornton, Murphy, and Hamilton (2004) created a collaborative project as a direct result of the 2001 College Music Society Institute on Music Teacher Education. Two music theory professors and a music education professor sought to deepen music education majors' improvisation and composition skills through a music education methods course. Working collaboratively, they developed "shared goals, criteria, and descriptors that met our individual objectives for the students as well as the overall goal for the project" (p. 35). The researchers acknowledged that this process required more planning and preparatory time than would be typical for a course but ultimately was to the benefit of the students. They also believed that this type of effort could lead to more of a connection among different classes in the music curriculum.

The 2014 College Music Society Task Force on the Undergraduate Music Major (TFUMM) based its recommendations on the areas of creativity, diversity, and integration, calling these areas the "three key pillars necessary to ensure the relevance and rigor of the undergraduate music curriculum" (p. iii). TFUMM stated that one of the foundational skills necessary for the 21st-century musician is the ability to improvise (p. iv), and that too many music students graduate without the ability to improvise (p. 4). Rather than adding new courses to meet the certification mandates, TFUMM stated that new requirements could be woven into current courses, and that "cultivating high levels of ability in improvisation, composition, and performance will directly and powerfully enhance music pedagogy" (p. 18).

Other studies have examined undergraduate music education methods courses. Della Pietra & Campbell (1995) combined the study of improvisation and methods classes with an ethnographic look at improvisation training in a secondary music methods course. As part of the 10-week course, the researchers included five weekly improvisation training sessions. They posit

that music education majors need to experience improvisation as part of methods classes, so that improvisation will be an organic part of their teaching.

Renowned jazz pedagogue Jamey Aebersold expressed similar concerns through a letter to the editors of the *Music Educators Journal* in response to a December 2010 article regarding the National Standards for Music Education:

Standards 1, 2, and 3 will never be fully met until our colleges and universities institute basic improvisation requirements for all music ed[ucation] students. Just think how scary it is for green music directors to teach something they know little or nothing about... There is no valid reason students can't be taught to read the notes on the page and play the notes that lie in their minds' musical ear. (Aebersold, 2011, p. 5)

Improvisation in String Education

In 2011, the American String Teachers Association (ASTA) sought to create a curriculum that could connect easily to national and state standards and address the specific needs of string teachers. The main categories of the 2011 ASTA Curriculum are Executive Skills and Knowledge, Musicianship Skills and Knowledge, and Artistic Skills and Knowledge, the latter of which includes improvisation (p. 17). Creative Musicianship is a content area in the Musicianship Skills and Knowledge category, and includes “the ability to improvise variations of rhythmic, melodic, and harmonic patterns, within the traditions and standards of a variety of genres and practices” as one of the skills (p. 18). The curriculum provides learning activities for rhythmic, tonal (melodic and harmonic), and textural improvisation (p. 168-189). Yet, few string educators seem to incorporate improvisation in their teaching, and research concerning improvisation in string education is limited.

Some researchers have examined the use of improvisation in the string classroom by current practicing music educators. Riveire (1997) was unable to find research regarding

improvisation in the string class, leaving her to wonder whether this was because string teachers already were so comfortable with teaching improvisation that they did not need to talk about it or whether they simply did not know where to begin the discussion. She conducted a study examining California string educators' curricular content and attitudes concerning the National Standards and improvisation by sending a survey to a random sample of California string teachers. Riveire hypothesized that most string teachers had little or no improvisation experience and that few teachers were implementing all of the National Standards. She found that, although most teachers appeared willing to implement all the Standards, they were not implementing Standards 3 and 4 (improvisation, composing, and arranging). The respondents indicated that they needed more instructional time and personal experience in order to implement these standards successfully.

In a 2009 researcher-designed survey of Michigan middle and high school string teachers, Conley found that the majority of teachers considered improvisation "somewhat important" but also "rarely" used it as part of their teaching. Results from the survey indicated that string teachers in Michigan overall were willing to incorporate improvisation but felt impeded by a lack of time and materials.

Schulte (2004) investigated the components of a successful first-year string program through a survey of string professionals. She surveyed a panel that included renowned string pedagogues, public school string teachers, string studio teachers/performers, and a school administrator in two rounds of surveys. The second-round results indicated that 84% of participants felt that improvisation should be part of the first-year string experience. Based on responses to open-ended questions regarding the implementation of improvisation, Schulte was not convinced that there was a "clear understanding or knowledge...of how to implement

improvisation in the first-year string class” (p. 123), and that it is still “an area for which more research would be beneficial, since it appears that a deeper understanding and knowledge of improvisation is needed by string teachers so that they can more adequately and easily employ successful improvisation sequencing” (p. 124).

As stated above, some music educators believe that improvisation should be included as a part of methods/pedagogy and technique classes. Some schools have a stand-alone class to teach improvisation, but these usually are focused solely on jazz improvisation. Norgaard (2002) wrote about jazz improvisation with strings and shared anecdotes gathered from various professors of jazz improvisation to determine how improvisation was being taught to string music students. He found that a small number of schools require that music education majors take an improvisation course (p. 60). Referring to a phone interview with Glenn Basham, violin professor at Miami University in Florida, Norgaard shares:

Basham says, “At one university I’m aware of, what passes for meeting the standards of teaching improvisation in public school music education programs is in actuality a couple of short lectures on the recorder on a very rudimentary level as part of the methods class. Basically it comes nowhere close to the intention of the National Standards for actually getting some experience improvising on your instrument.”

(Norgaard, 2002, p. 66)

Norgaard’s article raises the question of how music teacher preparation programs are preparing pre-service string teachers to teach improvisation in their future classrooms. If they have had little to no exposure to improvisation themselves, they are unlikely to include in the education of their own students.

Researchers have found that, while many educators might agree that improvisation is a key element in music instruction and learning, they are unsure how to deliver that instruction and teach improvisation to their students. Additionally, they perceive a lack of class time for improvisation. It appears that improvisation is not used as a teaching tool, nor is it taught in the public school string classroom. However, practicing string teachers and teacher educators appear to be interested in learning more to deliver this instruction. The 2016 American String Teacher Association National Conference offered several workshops for improvisation, in addition to the Eclectic Styles Sessions. Music teacher education programs must find a way to help pre-service music teachers develop the skills and dispositions needed to include improvisation in their classrooms.

Knowing that teachers often “teach as they have been taught,” teacher educator programs must be cognizant of offering music education students opportunities to experience different teaching approaches that include improvisation. Additionally, music teacher educators should provide these opportunities as an organic part of methods classes and as part of a comprehensive approach to teaching. In order for future music teachers to be able to connect with students in the 21st century music world, they must be able to express their own musical ideas through improvisation, and, consequently, music teacher preparation programs must make changes in the curriculum or change the delivery of the curriculum to embrace improvisation.

Purpose and Problems

More research is needed regarding improvisation and string teacher education. With the intent of improving string music teacher education, this mixed methods study seeks to discover the breadth and depth of improvisation’s incorporation into string teacher education, specifically its use in string methods and techniques courses. The specific problems of this study included

separate research questions for the quantitative and qualitative strands, and one research question for the mixing of the data. The specific research problems of this study are as follows:

Survey Research Questions

1. Do string teacher educators feel that it is important to include improvisation as part of string teacher preparation? Why or why not?
2. Do string teacher educators feel that current pre-service string teachers are prepared to include improvisation as part of their teaching? To what degree?
3. Are string teacher educators including improvisation as an organic part of their string methods and techniques classes? If so, what form does this take?
4. What types of opportunities are available for pre-service string teachers to develop their improvisation skills through curricular offerings?

Interview Research Questions

1. Why do these string music teacher educators incorporate improvisation in their classes?
2. What strategies do these string music teacher educators use to incorporate improvisation in their teaching?
3. What strategies do these string music teacher educators suggest for preparing pre-service music teachers to incorporate improvisation in their teaching?

Mixed Methods Research Question

1. In what ways do the quantitative and qualitative data align and differ?

CHAPTER 2 RELATED LITERATURE

Literature specific to improvisation and string teacher preparation is scarce. However, studies involving practicing music teachers and improvisation, practicing string teachers and improvisation, music teacher education and improvisation, and string teacher education and improvisation all inform this study.

K-12 Music Teachers and Improvisation

Beegle (2001) observed that much of the music education research pertaining to improvisation has focused on students and not on teachers as they prepare to include improvisation in their teaching. As such, she sought to examine the use of improvisation by three Orff-trained general music teachers in elementary school settings (p. 2).

Using random purposeful sampling (p. 23), Beegle chose the participants from teachers in the Puget Sound area who had attended Orff-Schulwerk workshops. She observed the teachers at three different school sites over the course of two months and interviewed them before and after each teaching session. In addition, the data included transcribed video observations, notes from meetings with building principals, and lesson plans and other artifacts from the participants. The researcher triangulated the data through multiple collection methods.

Beegle found that, while all three teachers valued and included improvisation in their teaching, they structured their instruction differently and utilized different materials for improvisation. While all three teachers defined improvisation as the “creation” of something “new” as “guided by structured parameters” (p. 88), they differed on the amount of rhythmic and melodic structure necessary for the teaching of improvisation. The teachers also had different means of assessing student accomplishment with improvisation. All three teachers felt that

improvisation was important for their students' growth, and Teacher C asserted that the creative thinking skills gained through improvisation would help the students in other areas of their lives.

The teachers differed in their levels of structure and use of media for improvisation. Two of the teachers outlined specific rhythm and melodic parameters in which the students improvised, while Teacher B allowed for more open and "free" improvising. In the observed lessons, Teacher A used only barred instruments, and Teacher C only recorders, but Teacher B used voice, body percussion, movement, and barred instruments in her classroom improvisations (p. 93). All of the teachers began the improvisations with a rhythmic element. The teachers differed on their approaches to teaching improvisation in the large class setting; Teacher A moved directly from group improvisation to solo, while Teachers B and C moved from whole group to smaller groups or pairs. Teacher C also included solo improvisations (p. 96).

Beegle stated that Orff teachers are encouraged to develop their improvisation skills to help their students (p. 104). The teachers in this study did not have many experiences with improvisation in their own schooling but learned through their Orff training. Teacher A expressed concern that her students would not have opportunities for improvisation beyond elementary school, because the emphasis in junior high and beyond was on "performing groups." When asked how she learned improvisation, Teacher B answered, "By doing it" (p. 56). Teacher B had no improvisation experience prior to Orff training and stated that no one had taught her anything in jazz band (p. 56). Teacher C, having completed three levels of Orff training multiple times, learned to teach improvisation thorough classes in Orff-Schulwerk but, "nobody broke improvisation down" for her (p. 71). As a current teacher of Orff training classes, she stated, "Today, we provide ten times the structure that we were provided when we took training in the late seventies and early eighties" (p.71). While improvisation is a key element of Orff-

Schulwerk, not every music teacher takes Orff training, and therefore, may not be receiving any improvisation instruction.

Reese (2006) examined the perceptions of three elementary music teachers regarding their definitions of improvisation, preparation for teaching improvisation, and strategies for teaching improvisation. The researcher chose her participants by purposefully sampling from elementary general music teachers who held certifications in either Orff-Schulwerk or Music Learning Theory and incorporated improvisation into their instruction.

Reese conducted semi-structured interviews and obtained three videotapes of each participant before the interview. However, she did not observe the videotapes before the interviews. Rather, she used the videotapes (post-interview) to corroborate or dispute the data collected in the interviews. Reese stated that she “assumed a complete observer role in the observation process and, in order to create an unobtrusive measure, the researcher asked each teacher to videotape the lessons for future chronological narrative” (p. 50). The researcher does not state whether she was present to observe the lessons and video-record them herself or merely watched them on video after the interviews. To increase the trustworthiness of the study, Reese transcribed each interview and sent copies of the transcriptions to the participants for a member.

Between the first and third interviews, Reese compiled a list of codes based on previous research and the first interview. She created the following categories: “Definition, Process, Instrumental verses [*sic*] Vocal Improvisation, Teacher Preparation and Purpose for Including Improvisation” (p. 52). After the final interviews, the researcher coded the data within these categories. The category of Teacher Preparation is the most germane to the purposes of this current study.

Reese found that “Each participant recalled a lack of improvisation in their own formal education, as well as a lack in their experiences in music education methods courses” (p. 67). Christine’s collegiate experience with improvisation involved being a member of a vocal jazz ensemble and some improvisation in a theory class. Her Orff-Schulwerk training provided her with many opportunities for improvisation. Heidi, a clarinet major, had minimal undergraduate experience with improvisation in methods and ear training classes. She held Level 1 certification for both elementary general music and instrumental music through the Gordon Institute for Music Learning (GIML), which is where she experienced the most work with improvisation. Paula, the oldest of the three teachers, had no experience with improvisation in her undergraduate and graduate degrees. Also holding certification in both elementary general music and instrumental through GIML, Paula stated that she experienced improvisation through professional development.

Christine recalled (Reese, 2006, p. 68):

“I remember going through the Standards. Going through some of the series textbooks. Seeing improvisation listed. There was nothing discussed on how to teach improvisation, on how to bring it into your classroom. Nothing. It was just sort of an incidental, one of those things you do, but nothing was discussed about how you do it or even why you do it for that matter” (Christine, first interview).

Heidi stated (Reese, 2006, p. 69):

“Well, I feel that my undergraduate experience didn’t train me much at all, but through [certification] workshops that I’ve done, I feel that gave me some of the techniques that I use” (Heidi, third interview).

Reese asked the participants to describe the ideal music education program with regard to improvisation. All of the participants stated that more improvisation experience was important, as well as knowledge of how to teach improvisation to future students.

Paula shared (Reese, 2006, p. 75):

“Four years of improvisation...we are requiring music majors to be in ensembles, and that’s legitimate, but I think equally important is, if there’s time to rehearse that much in ensembles in college, then there’s time to split that time at least half and half...learning improvisatory skills one’s self, so that one can teach” (Paula, second interview).

The other participants shared that more improvisation needed to be included in the undergraduate music education curriculum to prepare future music educators to teach improvisation to their students (p. 77).

Gruenhagen and Whitcomb (2014) sought to examine the extent to which improvisational activities were occurring in elementary general music classrooms, the nature of these improvisational activities, and participants’ perceptions of the quality of their students’ improvisations. The researchers hoped that their results could be used to help music educators plan for professional development and to affect music education curricula. They created a survey based on a questionnaire from a previous study (Whitcomb, 2005 and 2007), adding open-ended questions for the purpose of gathering more than quantitative data.

The first section of the survey gathered demographic data, the second section investigated the improvisation activities and instructional outcomes, and the third section investigated time spent on improvisation and whether improvisation was part of the district music curriculum. The researchers e-mailed the Survey Monkey questionnaire to 1174 possible participants, based on

the NAFME membership database. The survey resulted in 103 responses; the researchers attributed the low response rate to both the timing of the survey (November, pre-holidays) and their lack of ability to send follow-up requests via email. However, the researchers felt the responses provided rich data for the study and analyzed it using descriptive statistics, such as frequency counts and percentages. They reviewed, coded, and analyzed the open-ended responses to find emerging themes.

The analysis of participants' reflections on the improvisation activities revealed three broad themes: (a) process, practice, and experience, (b) sequencing, scaffolding, and modeling in instruction; and (c) collaboration, reflection, and creation. The survey participants reported they were most interested in the quality of the improvisational process rather than the final product. Additionally, they stated that sequencing was the most important component in the instruction of improvisation. The researchers found that the majority of participants thought improvisation was "necessary to the development of students' musical skills, as an important way for students to show musical understanding, and as an empowering creative process that produces independent thinkers and musicians" (p. 392).

Schopp (2006) sought to examine the instructional practices of high school band directors in New York State with regard to the National Standards, particularly with improvisation and composition. Additionally, he sought successful strategies for the teaching of improvisation and composition that could be useful to other music educators. As such, the researcher used both quantitative and qualitative methods to gather this information. He administered a survey, observed six high school programs, and interviewed the teachers of those programs. This summary will focus on his findings regarding improvisation.

Schopp's survey contained both closed and open-ended questions, and he administered it via Survey Wizard. Demographic questions gathered information about the participants' teaching experience, size of school, geographic location, and the inclusion of marching band and sectional lessons. The researcher used a Likert-type scale for questions regarding improvisation, composition, teaching strategies, attitudes toward standards, and time priorities. The open-ended questions allowed for additional comments and asked for recommendations of exceptional programs with regard to composition and improvisation. Schopp created a website for access to the online survey to "provide teachers with a link that was more easily remembered than that produced by the survey instrument" (p. 54).

Between the school years of 2004 and 2006, Schopp sent a letter of invitation to the school addresses of all known high school band directors in New York State. The researcher used the New York State School Music Association (NYSSMA) database as a means of finding all of the potential survey participants ($N=926$). Schopp then sent two follow-up reminder emails to those with email addresses ($N=601$). The number of usable surveys ($N=243$) resulted in a 26.3% response rate, based on the original number of letters sent.

The survey results indicated that less than half of the respondents (44%) taught improvisation to all of their students, but the majority (59%) encouraged them to improvise. The majority responded that including improvisation in their programs was an obtainable goal, yet 13.9% did not, and 20.6% were unsure. Most of the schools (78%) reported having jazz bands in which students improvised. However, the data regarding strategies for including improvisation revealed that the majority of responses fell into the "Sometimes" to "Seldom," or "Seldom" to "Never" categories. Schopp stated, "One could conclude here that little instruction in these areas occurs in New York State band programs and this may be the current tendency in concert band"

(p.113). He posited that the majority of improvisation teaching might be through jazz ensemble. The results also indicated that the top priorities for the directors were concert preparation, teaching lessons, and preparation for festivals (p. 116).

Schopp looked to multiple sources in choosing sites for the case study portion of his research. He relied on teacher recommendations, survey responses, reputation, and citations in professional literature to identify schools with strong improvisation and composition instruction. The researcher visited the sites to observe rehearsals and to interview the band directors. He used a semi-structured interview process with open-ended questions. Schopp was unable to interview one of the directors but collected data through observation at the school.

The researcher categorized the qualitative data in terms of attitudes, strategies, and time priorities. Teachers commented that they felt they should be incorporating improvisation more often in class and that improvisation allowed them to differentiate instruction (p. 150). In terms of strategies for improvisation instruction, the case study participants suggested careful scaffolding of instruction, creating a safe environment, allowing students to become comfortable, creative use of warm-ups and lessons, and providing performance opportunities for creativity.

While most of the survey participants engaged in improvisational activities, the majority of those took place in jazz band rather than in the larger concert bands. The directors identified lack of time and performance commitments as deterrents to the regular use of improvisation in their teaching. Schopp pointed out that even the case study participants, who were including improvisation in their teaching, found time constraints to be a concern. Schopp suggested that fear of improvising deters those who are not including improvisation as part of their teaching (p. 170). Referencing the sentiment that “teachers teach as they have been taught,” Schopp suggested that “if college bands and ensembles modeled a comprehensive musicianship approach

in their rehearsals...we might see a difference in these band members when they become teachers” (p. 179).

K-12 String Teachers and Improvisation

Riveire (1997) sought to investigate the content of the string instruction in California and string teachers’ incorporation of the National Standards in the string classroom. At the time of the study, the National Standards (1994) were relatively new to music education. The researcher wanted to determine if teachers’ attitudes were positive toward the Standards and how the Standards, specifically improvisation, were being included in the curricula. In addition, she wanted to investigate teachers’ musical backgrounds and training, as well as the relationships between their backgrounds and musical confidence with regard to the use of improvisation in string teaching. She hypothesized that most string teachers had little or no musical improvisation experience and that few teachers would be implementing all of the National Standards.

Riveire distributed a survey to a random sample of secondary string teachers (158) from the Bay, Central, and Southern sections of California. The questions on the survey focused on musical training and experience, teaching experience, attitude toward change and curriculum, and teacher self-confidence in teaching and performing improvisation. The first section of the survey titled “Musical Abilities and Attitudes” had three sub-sections. Riveire used a six-point Likert-type scale for the first sub-section: “Music Teacher Attitude Inventory.” The answer choices ranged from strongly agree to strongly disagree. She included negative statements in this section to ensure that the subjects were reading carefully and were not marking with “mindless compliance” (Riveire, p. 31). In the remaining two sub-sections, the researcher again used Likert-type items to assess the subjects’ self-confidence in performing improvisation and teaching string techniques and improvisation, and gave respondents the following choices:

excellent, good, competent, weak, poor, or “cannot do this.” The second section addressed “Content,” and asked teachers to check the student level (beginner, intermediate, advanced, or “I’d like to, but I don’t do it yet”) at which certain skills were taught. Riveire also asked “yes or no” and open-ended questions pertaining primarily to improvisation. The final two sections of the survey, “Teaching Experience” and “Musical Experience and Training,” provided option responses from which the teachers chose and provided a space for “other” responses as well.

Of the 158 surveys distributed by Riveire, 54 were completed and returned. The results showed that the string teachers’ attitudes were highly positive about the National Standards overall but that they lacked confidence in teaching and performing improvisation. Teachers identified time limitations and emphasizing technical skills as reasons for not including improvisation in their teaching. Riveire’s conclusions were similar to her hypotheses: most teachers were willing to implement the National Standards but were uncertain about how to implement those related to improvisation, composing, and arranging. She also concluded that string teachers needed more instructional time and personal experience in order to implement these standards successfully.

With the knowledge gained from a limited body of research, it becomes clear that music teacher preparation programs must devote more time to preparing future teachers to teach improvisation and incorporate improvisation into their classrooms. Music education programs need to include more opportunities to gain confidence with this type of skill. Riveire (1997) suggests that future research “explore ways to integrate the standards better into the college Music Education major’s curriculum in order to provide more models of innovative teaching for new teachers” (p. 71).

In a pilot study, Conley (2009) sought to determine the extent to which string teachers incorporated improvisation in the middle and high school string classrooms in Michigan. Specifically, the researcher investigated whether middle and high school teachers included improvisation in their string classes, the frequency of these types of activities, what sort of improvisation activities were included, how the teachers rated the importance of improvisation in the string classroom, and possible impediments to including improvisation in the string classroom.

After obtaining email addresses through the Michigan School Band and Orchestra Association Directory, Conley sent a seven-question, online survey to all known high school and middle school string educators in Michigan. The researcher sent 236 surveys via *SurveyMonkey*TM. The survey contained short-answer questions, Likert scale responses, and open-ended questions. The survey began by defining possible improvisation activities, such as making up tonal and/or rhythmic patterns by singing or playing on an instrument, rhythmic or tonal conversations, or improvising melodies and /or accompaniments over chord changes, in order to avoid the possible perception that improvisation is limited to jazz or improvising over chord changes.

The survey questions gathered information regarding grade levels taught, whether improvisation activities were incorporated in the string classroom, the frequency of improvisation in the string classroom, the perceived importance of improvisation in the string classroom, and the degree to which certain factors impeded the incorporation of improvisation in the string classroom. Additionally, the respondents answered open-ended questions to identify the type of improvisation activities used, if improvisation was incorporated in the string classroom, and, if so, why. Respondents had the option to add general comments as well.

Of the 236 possible participants, 81 teachers responded. However, three teachers did not complete the entire survey, resulting in a 33% response rate. Of the 78 respondents who completed the survey, 36 (44%) were middle school teachers, 31 (38.3%) taught middle and high school, and 14 (17.3%) taught high school. Fifty-two (65%) of the teachers reported including improvisation, and 29 (36.3%) did not include improvisation in their classroom activities.

Of the 52 respondents who reported incorporating improvisation, most reported that the frequency of improvisation activities was low. The most frequent response was “rarely,” which was chosen by 42.3% of the respondents. “Once a month” and “once a week” also represented large percentages of the respondents at 30.8% and 25%, respectively. Even though more than half of the string educators who responded reported including improvisation in their classroom activities, they mostly did so infrequently.

String teachers who responded to the survey lacked consensus concerning the importance of improvisation in the string classroom. The observed standard deviation was 1.05, which was considerably greater than the theoretical standard deviation of .66 and revealed a wide range of variability in the responses. Many of the participants (41.8%) perceived that improvisation was “somewhat important,” with the next most frequently chosen responses (“moderately important” or “important”) being close in terms of the percentages of respondents (22.8% and 24.1%, respectively). Three respondents chose “not important,” which accounted for 3.8 % of the participants.

The participants rated perceived impediments to incorporating improvisation in the string classroom using a four-point scale ranging from “not an impediment” (1) to “very strong impediment” (4). Many teachers (45.9%) identified “Lack of time to teach/incorporate improvisation” as a “very strong impediment” to including improvisation in the string classroom.

The mean for this category was 3.12, making it the impediment that the teachers identified most strongly. “Lack of experience in how to teach/incorporate improvisation” was the second most strongly perceived impediments with 19.2% of respondents. In the open-ended optional comment section, several respondents mentioned large class sizes as an impediment and expressed concern about classroom management issues. These findings are similar to those of Schopp (2006) and Blockland (2014).

The open-ended questions revealed several trends. The second open-ended question, “If so, why do you include improvisational activities?” received 52 responses and ranged from the practical aspects of improving technique and musicianship to promoting student creativity, improving self-esteem, and reaching out to students who struggle with reading notated music. Many of the respondents described using improvisation to improve listening skills and ear training skills. Others included improvisation as a means of teaching to auditory learners, increasing the joy of playing an instrument, giving students musical freedom, and solidifying rhythmic stability. One teacher commented, “Too many reasons to list—I wish I could do more” (p. 8) while another said, “Was always scared of it myself, don’t want my students to be” (p. 8).

Based on the responses to this survey, many Michigan string teachers included improvisation in their classrooms. However, improvisation activities typically took place once a month or even less frequently, and some teachers did not choose to incorporate improvisation or believe in its importance in the classroom. One respondent stated, “I do believe improvisation is an important skill but question anyone who thinks this is a good idea in the classroom” (p. 9). The results of this pilot survey show that Michigan string educators had a wide range of beliefs regarding the incorporation of improvisation in the string classroom.

Blockland (2014) sought to investigate the use of improvisation by secondary string teachers in Maryland and Virginia. The specific research questions asked string teachers to identify what resources support them in teaching and using improvisation as recommended by national music Standard Three (improvisation), what reasons string teachers give for not including improvisation as recommended by National Music Standard Three, and if a relationship existed between teacher self-efficacy and the incorporation of improvisation for those who do and do not teach it. Using a sequential explanatory mixed methods design, Blockland administered a survey and conducted follow-up interviews.

She developed the Secondary String Educator Improvisation Experiences and Practices (SSTIEP) for use as her survey instrument by adapting survey questions from Riveire (1997), and Schopp (2006). She revised the survey after receiving feedback from past and present doctoral students at Shenandoah University in a pilot test of the instrument. The survey included questions about the frequency of improvisational activities of teachers who include improvisation and a provided a separate section for participants to list reasons for not including improvisation. The survey used a 4-point, Likert-type scale with no neutral option, which “forced a positive or negative response to each question” (p. 74). The response options included Strongly Agree, Agree, Disagree, or Strongly Disagree.

The study participants included members of the Maryland and Virginia chapters of the National Association for Music Education (NAfME) who taught strings in middle or high school settings during the 2012-13 school year. Blockland sent the survey via *SurveyMonkey*TM to 533 possible participants and received 117 usable surveys for a response rate of 22%. Survey participants volunteered for follow up interviews via the survey and provided contact information.

The quantitative survey data revealed that the majority of respondents Strongly Agree (55%) or Agree (37%) that students should play a variety of musical styles in string orchestra class. The majority of respondents also Agree (74%) or Strongly Agree (11%) that string students should learn to improvise melodies, variations, and accompaniments, as outlined in the 1994 National Standards for Music. Most participants shared that they Agree (49%) or Strongly Agree (13%) that improvisation is an essential skill for string students. However, when asked if they taught students to improvise as part of the school orchestra program, the majority of participants responded Disagree (51%), with others responding Agree (36%), Strongly Disagree (10%), and Strongly Agree (3%).

To clarify, the researcher combined the four categories into two, Agree and Disagree. The majority of respondents Agree (91%) that students should play a variety of musical style in string orchestra class, including rock, classical, fiddling, and ethnic styles. The majority of respondents also Agree (85%) that students should learn to improvise melodies, variations, and accompaniments. The majority of participants indicated that they Agree (62%) that improvisation is an essential skill for string students. However, the majority (64%) indicated they did not include improvisation in class.

The next section of the survey included questions about the participants' preparation for implementing the National Standards in their classrooms. Again, the response options included Strongly Agree, Agree, Disagree, or Strongly Disagree. The majority of respondents Disagree (40%) or Strongly Disagree (25%) with the statement "My undergraduate training emphasized teaching to meet the National and State Music Standards including improvisation." The majority of responses to "I was taught to improvise as part of my undergraduate education and feel confident modeling for my students" were Disagree (39%) and Strongly Disagree (23%).

When asked about attendance at professional development sessions to learn instructional strategies for teaching improvisation, the responses were close for Agree and Disagree. The respondents who chose Agree (42%) or Strongly Agree (9%) slightly outnumbered those who chose Disagree (38%) or Strongly Disagree (11%). The overwhelming majority disagreed that their state has offered sufficient professional development opportunities to prepare them to teach improvisation, with responses of Disagree (62%) Strongly Disagree (23%), Agree (15%), and Strongly Agree (0%). When asked if their “knowledge of instructional practices for improvisation comes primarily from books and articles,” the participants responded with Disagree (46%), Agree (43%), Strongly Disagree (10%), and Strongly Agree (1%).

Again, to provide a clearer view of the data, the researcher combined the four response options for this section into two categories, Agree or Disagree. Further, she “separated it into those participants who indicated that they do or do not include improvisation” to allow for comparison (p. 78). Most of the respondents from both groups (65%) indicated that they lacked improvisation instruction in their undergraduate studies. Of the respondents who included improvisation, 50% indicated that they did not feel comfortable modeling for their students, while 70% of those who did not include improvisation reported feeling uncomfortable modeling. The majority of participants (67%) who included improvisation reported that they had attended professional development opportunities regarding improvisation (67%), while only 41% of those who did not include improvisation indicated attending professional development opportunities focused on improvisation. Both groups felt that their respective states did not provide enough professional development opportunities related to how to incorporate improvisation into their teaching (80% of participants who included improvisation and 87% of participants who did not include improvisation).

The next section of the survey investigated string teachers' self-efficacy when delivering improvisation instruction. Participants reported high levels of confidence when teaching a prepared composition, with 80% choosing Strongly Agree, 16% choosing Agree, and only 3% choosing Disagree. The majority of participants expressed that they agreed (44%) or strongly agreed (21%) that they had confidence with teaching students to improvise a harmony or accompaniment part for a composition. Participants reported high levels of confidence (44% strongly agreed and 43% agreed) when teaching students to create an ending for a musical phrase in the classical tradition. The researcher asked the participants to respond to the statement "I am **not** confident teaching students to improvise an ending for a musical phrase in any style." More participants reported that they disagreed (48%) or strongly disagreed than that they agreed (23%) or strongly agreed (7%). When asked if they felt confident teaching students to create an ending to a jazz selection, the participants reported about equal amounts of agreement and disagreement (Strongly Disagree was 12%, Disagree was 35%, Agree was 32%, and Strongly Agree was 21%).

The majority of participants reported confidence with teaching students to improvise over a 12-bar blues progression (Strongly Agree, 28% and Agree, 32%), while 27% chose Disagree and 12% chose Strongly Disagree. Similarly, the respondents indicated confidence by disagreeing with the statement, "I am **not** comfortable teaching students to improvise in alternative styles such as jazz, pop, and fiddling," with the majority disagreeing (Disagree, 43% and Strongly Disagree, 15%), while some chose Agree (32%) and Strongly Agree (10%). The participants indicated high levels of confidence with teaching students to ornament a melodic line in the Baroque style. Overall, the participants who included improvisation in their teaching reported higher levels of confidence than those who did not include improvisation.

Blockland asked the participants who did not include improvisation to share their reasons not including it. Participants selected any that applied from the following options: “1) Standard orchestra repertoire does not include improvisation. 2) I never had any training in improvisation. 3) My students do not play well enough to improvise. 4) I prefer to teach only in the classical style. 5) There is not enough time in the schedule to add improvisation” (p. 84). The participants also could choose to provide an open-ended response. “There is not enough time in the schedule to add improvisation” received the most responses (100%). The remaining options received the following: “Standard orchestra repertoire does not include improvisation” (59%), “I never had any training in improvisation” (46%), “My students do not play well enough to improvise” (30%), and “I prefer to teach only in the classical style” (13%).

Blockland coded the open-ended responses and came up with several categories, listed here in italics and quotes. Some supported the “*Lack of instructional time*” choice, with statements including, “There is not enough time to do everything in music,” and “It’s a matter of trying to get the kids ready for adjudication and other performances” (p. 88). The second most common response was “*Concentrating on technique*,” with respondents sharing they taught beginners and focused on teaching students the fundamentals of playing an instrument, rather than teaching them to improvise. One participant stated, “Often during improv my students fail to maintain good technique so I avoid the problem” (p. 88). Participants also identified the “*Constraints of repertoire*,” explaining that orchestral repertoire does not often require improvisation. For example, one participant shared that there was a “Lack of improvisational literature in my school’s library [and that] expectations of orchestral students and parents doesn’t typically include improvisation” (p. 88).

Participants also felt that “*Students lack theoretical foundation*” necessary for improvisation. Some comments included, “Students do not have the theory knowledge necessary for improvisation,” and “Some of my students barely know the names of the individual notes; let alone which ones to combine to make chords” (p. 89).

Three participants identified “*Lack of teacher training*” and “*Lack of teacher confidence*” as reasons for not including improvisation. One participant stated, “My comfort level is a portion of the issue, but I also feel that even within the framework of a more contemporary program, which focuses on modern compositions, the formal concert hall setting of most orchestra concerts lends itself better to notated compositions” (p. 89). Other identified a lack of training as the issue; “I feel like I don't know how to teach improv in the ‘orchestra class’ because that's not how I learned” (p. 89).

Other participants described class size and levels of ability as concerns. Respondents stated, “I have many different levels of performance ability in my group, but I include improv if I can,” and “One of my classes has 62 students that I teach alone and I just can't figure out how an improvisation lesson would work with 62 seventh graders. I would like to include more of standard three in my program but it's difficult to fit with such large class sizes” (p. 90). The last two categories were “*Rethink class structure*” and “*Students unwilling to try.*” One participant stated that none of the options applied: “None of the above – I just need to ‘think’ it into my plans” (p. 90). Two participants shared their perception of what their students wanted: “Most string students are unwilling to try it – don’t even want to attempt literature that is not CLASSIC,” and “I gear my teaching to what the students really love about orchestra, and that is the classical Western literature” (p. 90).

To prepare for the interview phase of the study, Blockland conducted a pilot interview and made changes based on that interview. The researcher chose interview participants via purposeful sampling, including public and private school teachers from both states in rural, suburban, and urban areas, and multiple socioeconomic levels. Blockland conducted eight telephone interviews, using “a combination of a standardized open-ended interview instrument, and informal conversational interview questions” (p. 65).

The two main focus questions addressed in the interviews were “1) What are the practices of secondary string teachers regarding the National Music Standards in general and improvisation in particular? and 2) How has the inclusion of National Music Standard three (improvisation) changed your instructional practices” (p. 91)? Blockland divided the interview data into the following categories: (a) self-efficacy, (b) training, (c) best practices, (d) National Music Standards, (e) improvisation effect on musicianship, (f) reasons for lack of inclusion, and (g) emergent themes (p. 91).

Many of the interviewees responded positively to the National Standards, and most responded that improvisation was the most difficult Standard to implement. The interview participants agreed that strings student could learn to improvise but expressed concerns regarding meeting the high school level of proficiency recommend by the National Standards. With regard to questions about their improvisation training, the interviewees shared they had received little training for improvisation in their course work. One stated, “I took a jazz methods class during my undergraduate degree; to say that we really learned to improvise in that class would be a stretch” (p. 94).

The majority reported they had not participated in professional development regarding teaching improvisation. One participant shared she had attended improvisation clinics at the

American String Teachers Association national conferences. Another shared reading articles published by NAFME but stated there was no “Aha, That’s a great idea on how you do it” moment from reading those articles (p. 94). Another participant expressed concern over the lack of string options with improvisation: “What I’ve noticed is that when it comes to jazz, especially with the MEA, the band aspect is very singled out. A lot of what I’ve seen, in the real world, is anything [that is] jazz related has nothing to do with strings” (p. 94). The interview participants shared that they learned about improvisation on their own, through various performing experiences, and through trial and error. Some had Celtic fiddling and jazz experience. One participant had no improvisation experience but included it in her teaching, while another shared “Trial and error, figuring out what works for the kids and for me” as her strategy (p. 95).

All interviewees shared that lack of instructional time was a factor in students’ abilities to meet the proficiency level of National Standard Three, Improvisation. One participant shared that individual students may be capable of reaching the proficient level, but for most students it is an inaccessible goal. While she uses Celtic fiddle tunes to introduce her students to improvisation, she explained, “Quite frankly we never really get much beyond that because of the time constraints within the class room” (p. 96). The interviewees reported that “concentration on technique” is an area that takes up most of the instructional time. One explained, “...I spend so much time beefing up those fundamentals that teaching improvisation is a little bit harder,” while another shared, “We don’t get as much improvising as I would like because lack of time. When we do it is really fun. I have trouble with basics because I want them to be able to shift and be able to do vibrato by the time they get to high school” (p. 96).

The participants also discussed “constraints of repertoire,” specifically with regard to performance assessments and graded repertoire lists. One said, “They’re taking music from

[graded] lists and teaching them this music for months for these assessment festivals. Then they use that music to teach the standards; however, improvisation is rarely allowed in these music lists” (p. 97). Most interviewees described feeling comfortable with improvising, while two did not. One stated, “Ironically, no, not at all; however, I’m quite determined to make sure my students do not suffer the same fate” (p. 98).

The second focus question of the interview asked about best practices and the impact of improvisation on teaching and rehearsals. The initial data codes were: method book, warm-up activities, group improvisation, assessment, and during rehearsal. The following emergent themes were added to complete the coding for this question: teacher modeling, individual instructional unit, call and response, highly structured, student improvisation featured, and additional improvisation opportunities” (p. 98-99).

Three participants used methods books, including a jazz band method and *Fiddlers Philharmonic* (Dabczynski & Phillips, 1996) and *Jazz Philharmonic* (Sabien & Philips, 2000). Many incorporated modeling and call and response activities. One interviewee used *Smart Music*™ to provide an aural model. One used fiddle tunes as an individual learning unit, not part of every day; “Let’s dip our toes in this,” and then, “Let’s go back to the real world of orchestra music” (p. 100). Many participants incorporated improvisation as part of warm-up activities, using echo activities, improvising with scales, or improvising over a bass line. Participants all agreed that this does not away from instruction time. One stated that improvisation “doesn’t take time away from anything, any kind of teaching is positive. They’re learning from it, and it trains the ear as much as it trains the finger” (p. 101). The participants shared that improvisation had a positive impact on students’ musicality in various ways, including aural skills, flexibility, and focus. One shared, “The hardest thing for them to do is to be comfortable with playing away

from the sheet music” and “its fun when I say play something different, [this allows them to] start to figure out how to create something. For me, it’s getting back to thinking out of the box” (p. 102). The participants advised to keep things simple in order to not overwhelm students. One stated that students play “one big blurb” when given no parameters, so he restricts an activity to just one note, played with any rhythm over eight bars (p. 102).

Three interviewees featured student improvisations in concerts. Most interviewees shared that they would like to provide more opportunities for small improvisation ensembles, but some stated that student schedules were busy, making this difficult. One participant encouraged his students to join the jazz program, while another encouraged hers to join local bluegrass and fiddling groups.

Blockland found that the five main reasons that string teachers in Maryland and Virginia do not include improvisation include: a lack of instructional time, constraints of the repertoire, lack of teacher training, concentrating on fundamental technique, and that the students lack the theoretical foundation necessary for improvisation. She found that teachers in Maryland and Virginia felt a lack of professional development opportunities related to improvisation, and that teachers’ self-efficacy with regard to improvisation affected the teacher’s use of improvisation in their classes. Teachers with higher self-efficacy were more likely to teach improvisation.

Music Teacher Education and Improvisation

The previous studies indicate that most music educators in the K-12 setting are not incorporating improvisation in their teaching. Researchers have found that while many of these educators are not confident with teaching improvisation, some would be interested in including improvisation if they had more training, such as professional development and instruction

received in music teacher preparation programs. Several studies have investigated the use of improvisation in undergraduate music education.

Wollenzien (1999) surveyed collegiate music departments in the North Central Division of the Music Educators National Conference in order to ascertain the requirements of the music education degrees and time allotted for various topics in the music classes. The results indicated that most of the institutions gave more time to conducting, music history, and pedagogy than to music as an integrated subject, music for unique learners, or the teaching of improvisation.

Wollenzien concluded that improvisation and the teaching of improvisation should receive more attention. He asserted that time constraints or perceived lack of importance were the reasons for the lack of class time devoted to improvisation. However, since Wollenzien administered the survey shortly after the National Standards were developed, perhaps music education curricula have changed since that time to include more emphasis on improvisation.

Fonder and Eckrich (1999) examined the impact of the National Standards on the curricula of music teacher preparation programs. They developed a questionnaire consisting of short-answer and open-ended questions and submitted the draft to five music education professors throughout the country for feedback. The researchers then revised the questionnaire and piloted this revised questionnaire by sending it to two music education department chairs. Then, they sent the final survey via mail to the music department chairs of all NASM member schools.

The survey instrument gathered demographic information, including the enrollment of the institution, enrollment of undergraduate music education majors, combined enrollment of undergraduate and graduate music majors, and degrees offered. The remaining eight questions concerned the National Standards and any substantial changes that institutions had made in terms

of curricula as a result of their adoption by MENC. Fonder and Eckrich defined substantial as “changing the final examination, final project, exit requirements, or final demonstration” in any of the offered courses (p. 30). In the event that changes had occurred, the researchers asked the participants to elaborate further in terms of whether those changes had happened in the areas of music theory, music history, music education, chamber music and ensembles, or liberal arts and other sequences. The final question asked if an exit examination or competency demonstration was required for music education majors in order to graduate.

Fonder and Eckrich received 267 completed surveys, a return rate of 48%, which they deemed “sufficient to justify generalizations from the data,” as this response was considerably above the norm for mail questionnaires (p. 30). The researchers found statistical significance between the total of music major enrollment and changes made because of the National Standards. Over 57% of schools with enrollments of over 500 music majors made changes, compared with 21% of schools with less than 50 music majors. The data showed that, with a “slight deviation of schools having music major enrollment of 101-300” (p. 34), the percentage of schools who made changes increased consistently as the numbers increased for music major enrollment. Additionally, schools with over 200 music education majors were the largest percentage of schools reporting changes (61%), while schools with less than 30 music majors reported less change (24%). Nearly 65% of schools responded that they had made changes for exit examinations or competency demonstrations for music education majors in order to graduate.

The most changes were made in music education courses and programs ($n=65$ or 77%); music education programs reported changes in course material, required texts, lesson plan expectations, and course evaluations. However, when schools mentioned an increase in the use

of improvisation, the change typically was due to changes in the theory course sequence rather than within music education courses or programs.

Recognizing potential issues of validity with self-reported data, Fonder and Eckrich followed up with phone conversations with the deans of three of the responding institutions. The deans acknowledged that the motivation for change may have been the National Standards, but other factors like NASM or changing state standards were at least as large an influence. This could have been the case with regard to improvisation; the researchers pointed out that NASM membership had voted to increase the level of attention with regard to composition and improvisation in 1991, several years before this survey. The information from this survey indicates that schools and departments of music were making changes in their curricula, whether they were responding to NASM reviews, evolving state standards, or the National Standards, to include more improvisation in their curricula.

Bernhard (2012) sought to determine the level of confidence of undergraduate music education majors with teaching improvisation as outlined by the benchmarks for the NAfME K–12 Achievement Standard 3: Improvising melodies, variations, and accompaniments. He used the Survey of Confidence in Teaching Improvisation (SCTI), a measure developed by Madura (2007) for a previous study. The 15-item questionnaire asked participants to rate their confidence in teaching improvisation activities with the following five-point rating scale: 1 = *no confidence at all*, 2 = *almost no confidence*, 3 = *slight confidence*, 4 = *moderate confidence*, and 5 = *great confidence*. The survey instrument used the exact wording of NAfME's 12 improvisation achievement benchmarks for Grades K–4, 5 to 8, and 9 to 12. Examples of the statements included: “improvise answers in the same style to given rhythmic and melodic phrases (Grades K-4), improvise simple harmonic accompaniments, improvise melodic embellishments and

simple rhythmic variations on given pentatonic melodies and melodies in major keys (Grade 5-8), and improvise original melodies over given chord progressions, each in a consistent style, meter, and tonality (Grades 9-12)” (p. 68). Additionally, the measure asked the participants to rate their own ability to improvise and to rate their interest in learning more about teaching improvisation.

Bernhard distributed the survey to 335 undergraduate music education majors at a public university school of music via Angel, a campus electronic course management system. The final response rate, after follow-up emails and subsequent requests to non-responders, was 58.51% ($N = 196$). Participants reported “moderate confidence” with teaching the Grades K–4 standards of improvisation level ($M = 3.94$), “slight” to “moderate confidence” for Grades 5-8 ($M = 3.66$), and “slight confidence” for Grades 9-12 ($M = 3.27$). Additionally, the participants reported “slight” to “moderate confidence” for their own ability to improvise ($M = 3.55$), and indicated “moderate” to “great interest” in learning more about how to teach improvisation ($M = 4.55$). Bernhard also was looking for any differences according to year in school or instrument. The freshman, sophomore, and junior means leaned toward “slight confidence” with teaching improvisation ($M = 3.35, 3.38, \text{ and } 3.48$ respectively), while the senior means leaned toward “moderate confidence” ($M = 3.89$). Woodwind majors indicated “slight confidence” ($M = 3.33$). Brass, voice, and piano majors indicated “slight” to “moderate confidence” ($M = 3.55, 3.67, \text{ and } 3.81$, respectively). String and percussion majors had the highest means, reporting “moderate confidence” ($M = 4.12 \text{ and } 4.18$, respectively).

The increase in confidence coincided with increased years in school. Bernhard posits that this may be due to “general maturation and development of teacher identity” (p. 70). However, at this institution, music education majors participate in improvisation in their theory, aural

skills, and piano classes in the first two years of the program. Additionally, they experience improvisation in their upper level music education classes and are required to incorporate improvisation in their lesson plans for teaching practica. Perhaps their increased confidence is the result of more exposure to teaching improvisation through their course of study. Because the undergraduates wanted to learn more about teaching improvisation, Bernhard (2012) suggests that improvisation be integrated more into the curriculum: “Instead of being considered as an addition to the curriculum, improvisation could be used as a more creative technique for teaching and learning music...When done successfully, this practice could continue fostering, and perhaps improve, performance technique, while simultaneously providing space for more creative exploration” (p. 71).

Della Pietra and Campbell (1995) sought to examine pre-service music educators’ understanding of improvisation as musicians and as teachers. The researchers stated that the impetus for the ethnographic study was the belief that “the strengthening of secondary school music programs is at least partially linked to the training of prospective teachers in the techniques of improvisation” (p. 115). Specifically, the researchers wanted to examine students’ understanding of the link between improvisation and analytical listening, how improvisation includes both musical and social interactions, and ideas to incorporate improvisation into the school music curriculum.

The study took place within a 10-week secondary music methods course. As part of the course, the researchers included five weekly improvisation training sessions. In addition to readings and discussion regarding improvisation ensembles in the secondary school settings, the improvisation training included “directed analytical listening” of model pieces and “the imitation of selected patterns and phrases deemed characteristic of the model pieces” (p. 114). The five

musical models were rhythmic percussion ensembles of various countries. Students listened to the model three times with discussion, and by the third time demonstrated understanding of key rhythms through body percussion of found sounds. The researchers taught any rhythms that the students performed inaccurately through imitation (p. 116).

After the aural analysis, the students worked in two small groups for improvisation. The groups did not change throughout the 5-week training. The students worked together to create group improvisations using classroom instruments based on the models they had just analyzed. After working together for 20 minutes, the students performed their improvisations for each other.

The two participants (referred to as informants by the researchers) were music education majors and members of the secondary methods course. The researchers chose these participants based on their ability to articulate their feelings on the subject of improvisation and its pedagogical use. Both students described minimal experience with improvisation before the 5-week training. Data included pre-study and post-study “inventories and verbal protocols” about improvisation, videotapes and audiotapes of the weekly small-group work sessions and performances, weekly student-written reflections, and researchers’ evaluations. While the researchers collected data from all members of the class, they only analyzed the data for emergent themes from the two participants, with a 90% inter-rater agreement for the coding.

The researchers found that the informants’ development throughout the improvisation training reflected that of the rest of the class. By the third week, one participant (Lisa) began to see the musical model from a pedagogical point of view, describing a piece as “four beat pattern” or “easy structure,” as opposed to her earlier descriptions of “catchy” and “feel-good” (p. 119). The other participant (Paula) already had two years of teaching experience and described the

models through an educator lens earlier than Lisa. Paula shared that, while “getting started [in improvising] is difficult and uncomfortable, the more experience [one has] with it, the more comfortable it is” (p. 122). Despite being more hesitant with improvisation than her colleagues in the class, Paula expressed optimism with her own learning: “I can improvise. It is a skill that can be built” (p. 122). Additionally, Paula’s experience in the class changed her perception from jazz being the single vehicle for teaching improvisation to students to using “as many models as possible: contemporary, popular, and multicultural” (p. 122).

Della Pietra and Campbell frequently referred to constructivist philosophy in their review of literature and discussion, and described the large role that the members’ previous experiences played in informing their processes and their interactions as they contributed to the group improvisations. The researchers suggested that this could be an avenue for more research for music teacher educators regarding improvisation. The data indicated that both improvisation skills and the development of tools for teaching improvisation to others could be gained in a methods course. As such, the researchers suggested that teacher educators re-think the content of methods classes in order to prepare pre-service music teachers more fully to meet the needs of diverse populations.

Rinehimer (2012) sought to investigate the teaching of improvisation in general music methods courses for music education majors. She designed a survey to gather information about instructor “experiences, approaches, and perspectives relating to the teaching of improvisation” in general music methods courses (p. 5). The questionnaire contained 29 open and closed questions as well as a self-efficacy scale pertaining to jazz performance (adapted from Watson, 2010). The survey also invited respondents to discuss improvisation in the university general music methods course further in an interview; unfortunately, none of the participants chose to be

interviewed. Rinehimer administered the questionnaire via SurveyMonkey to all participants at the Mountain Lake Colloquium and had a response rate of 56%. The participants ($N = 45$) consisted of teachers of general music methods courses at the collegiate level.

The first part of the survey asked for extensive demographic data. The participants were from all over the United States (the majority being the North Central Midwest and South Atlantic) and one from Canada. The researcher reported that 96% of the participants held bachelor degrees, 91% held master degrees, and 80% held doctoral degrees. The survey revealed that 69% of participants held certifications in Orff, Kodály, Dalcroze or another specialized study. Out of the 45 surveyed, 43 collegiate instructors had taught general music in a K-12 school setting, with 93% having experience teaching at the elementary level.

The majority (63%) had taught elementary general music for 10 years or less. At the secondary level, 32 participants had taught middle school general music, with 88% doing so for 10 years or less. Of the 45 subjects, only 15 had taught high school general music, with the majority ($n = 9$) having taught it for less than four years.

The participants' primary instruments varied, with piano and voice in the majority (67%). The participants also listed a variety of secondary instruments, ranging from piano and voice to winds and strings. Rinehimer noted, "Surprisingly, no one identified strings as an improvisation instrument, although six participants named strings as their secondary instrument. This might suggest that improvisation instruction may be lacking in traditional string settings" (p. 51).

Only 40% reported formal study of improvisation, which included university teacher training courses ($n = 3$), jazz performance courses ($n = 2$), Orff certification ($n = 2$), vocal *a cappella* group ($n = 1$), and Dalcroze certification ($n = 1$). Last, the survey asked about years of experience teaching university general music methods courses for music education majors. Of

the 45 participants, 38 had taught elementary general music methods, 26 had taught secondary general music, and 13 had taught combined levels.

The second part of the survey asked respondents to quantify their feelings regarding the importance of teaching improvisation, time spent on improvisation in class, and pedagogical methodologies and strategies used for teaching improvisation in the methods class. With regard to the importance of teaching improvisation, 53% stated they strongly agreed that teaching improvisation is important ($n = 24$), 42% agreed ($n = 19$), 2% disagreed ($n = 1$), and 2% strongly disagreed ($n = 1$). Nearly half of the participants ($n = 21$) spent 10% of class time addressing improvisation, with an additional 14 (33%) spending 20% of the class time. Two instructors spent 40% or more of a semester's time on improvisation.

The participants used a four-point Likert-scale, ranging from "a great deal" to "none at all," to answer the question about methodology. The majority of subjects (55%) used Orff-Schulwerk ($M = 3.36$) "a great deal," with Kodály ($M = 2.90$) and Dalcroze ($M = 2.90$) used "some," and Gordon ($M = 1.88$) and personal jazz background ($M = 1.88$) less. Participants also used approaches such as World Music Drumming, the Comprehensive Musicianship model, and Constructivism (p. 39) in their classes.

The researcher used the same four-point Likert scale to identify strategies for teaching improvisation in the collegiate general music methods courses. Nearly all participants (98%) reported using modeling ($M = 3.69$) and group improvisation ($M = 3.64$) "a great deal" (71% and 67% respectively) or "some" (26% and 31% respectively). Other strategies included improvising with Orff instruments ($M = 3.57$), singing ($M = 3.45$), improvising within a form ($M = 3.40$), rhythmic speech ($M = 3.31$), and individual improvisation ($M = 3.29$). Through the open responses, participants also shared the use of body percussion, soundscapes and movement,

frequent use of electronics and prompts like books, imagery, and text.

With regard to assessment, 80% of the participants revealed they used peer teaching in class as the primary means of assessment (there is no description of how this was used), followed by class improvisations (73%). The respondents reported using student lesson plans more frequently than any other document as a written assessment. Additionally, the survey asked respondents to describe their frequency in addressing the National Standards achievement levels for improvisation. At the elementary and upper elementary/middle school, the majority of respondents reported they addressed the achievement levels in two or more classes per semester. At the high school level, respondents reported addressing the national achievement levels in one class session. The researcher noted that 53% did not address the highest high school improvisation standard, “improvise stylistically appropriate harmonizing parts in a variety of styles” (p. 44).

The next portion of the survey explored the participants’ self-efficacy with improvisation. Participants rated their responses using a 5-point Likert scale ranging from “1--Strongly Disagree” to “5--Strongly Agree,” for thirteen statements including “I enjoy practicing improvisation,” “Other people have more talent for improvisation than I do,” and “I could teach music educators how to teach improvisation.” The researcher found significant correlations between the use of group improvisation ($r = .305, p < .05$) and total self-efficacy, and between use of both modeling ($r = .357, p < .05$) and group improvisation ($r = .388, p < .05$) and their teaching self-efficacy. Finally, 89% of the participants responded that they would be interested in learning more about teaching improvisation, with most choosing an intensive workshop (69%), followed by Orff-Schulwerk training (67%), readings (62%), and a Dalcroze workshop (52%).

The results indicated that, although only a few participants had formal training in improvisation, all but two teachers ($n = 43$) agreed that improvisation should be included in the general music methods course requirements. Rinehimer stated that this was supported by previous research (Gruenhagen & Whitcomb, 2012). The results also indicated that the majority of the collegiate faculty devoted approximately 10% of class time to improvisation. The researcher suggested that further research could investigate if this amount of time was a result of “personal confidence in teaching improvisation, lack of class time in the semester, because of lack of training, or preference for other activities” (p. 67). The results of this study indicate that general music teacher educators are interested in including improvisation as part of their general music methods classes. Further research about improvisation use in all music methods courses would be beneficial to music teacher preparation programs.

Stringham, Thornton, and Shevock (2016, in press) sought to examine the curricular decisions, experiences, and values of instrumental music teacher educators with regard to creative practices in instrumental methods courses, specifically improvisation and composition. Using an explanatory sequential mixed methods design with a follow-up explanations variant (Creswell and Plano Clark, 2011), the researchers surveyed instrumental music teacher educators, identified areas of interest from the survey for further inquiry, and interviewed select participants for more depth of information.

The researchers created and distributed a survey to instrumental music teacher educators, described as those who taught “courses related to the teaching of wind, percussion, and/or string instruments in an ensemble setting” (p. 6). Using the National Association of Schools of Music Directory (2011) of accredited schools, the researchers identified institutions with music education degrees ($N = 486$) and used the institutions’ websites to identify prospective

participants. They sent email requests instrumental music teachers educators to participate in the study or to forward the request to the appropriate faculty member ($N = 1,051$), with two email reminders. The response rate was 30.54%, with 321 usable responses. The survey questions asked for demographic information, levels of experience and comfort with improvisation and composition as teachers and performers, and perceptions of student comfort with performing and teaching improvisation and composition. Participants also identified the prioritization of the National Standards in methods courses, and the teaching of improvisation and composition in the music curriculum.

The demographic information revealed that the majority of participants held doctoral degrees, taught full-time, and ranked as assistant or associate professor. The participants' years of experience included teaching in the K-12 music setting ($M = 9.55$ years), higher education ($M = 14.61$ years), and instrumental methods courses ($M = 12.39$ years). Participants used an eight-point Likert-type scale (from "no priority" to "high priority") to indicate the prioritization of each of the 1994 National Standards in their methods classes based on "(a) the amount of class time devoted to the standard and/or (b) the quantity and quality of assignments devoted to each" (p. 8). The results indicated that performing on instruments received the highest priority, followed by reading and notating, while improvising, composing, and singing received the lowest priority.

The survey asked respondents to describe their levels of training and comfort with improvisation and composition using a five-point Likert-type scale. Respondents indicated they had more experience with composition in their training as musicians, music educators, and music teacher educators than with improvisation. Although participants reported similar levels of comfort with both composition and improvisation, they expressed greater comfort with teaching

improvisation than composition. Respondents regarded themselves more as improvisers and improvisations teachers than as composers and composition teachers.

Respondents reported the least amount of agreement with statements that their students consider themselves to be improvisation teachers and composition teachers. They reported the greatest agreement with statements that it was important for the students to feel comfortable improvising, composing, teaching improvisation, and teaching composition. However, they reported it was less important that their students consider themselves to be improvisers and composers, or improvisation teachers and composition teachers. Participants reported that improvisation could be learned in improvisation class ($M = 4.74$) and applied lessons ($M = 4.04$), whereas the teaching of improvisation could be learned in improvisation pedagogy class ($M = 4.57$), and music education methods courses ($M = 3.85$).

In the second phase of the study, the researchers used the quantitative results to identify areas to be investigated with more depth qualitatively. These included participants' experiences with improvisation and composition, their implementation of improvisation and composition in their methods classes, or the reasons they choose not to include improvisation and composition in their methods classes. The researchers chose eight participants to interview based on their responses regarding the priority of improvisation and composition in their methods classes and their willingness to participate in an interview.

Of the eight interviewees, three had reported "lowest priority" or "no priority" on the survey regarding the inclusion of improvisation and composition in their methods classes, four had indicated "highest priority," and one had reported "highest priority" for improvisation and "no priority" for composition. The researchers used "loosely structured" interviews to allow participants to "discuss what was most important to them" and used follow-up questions for

depth of knowledge (p. 11). Four themes emerged from the interviews: life experiences, techniques, no room, and jazz.

The life experiences theme included three sub-categories; early life experiences, experiences outside of academia, and current life experiences. The researchers found that most of the participants had enjoyed positive life experiences with improvisation, and this may have influenced their decision to include improvisation in their methods classes. By contrast, an oboe-playing participant relayed that improvisation was not part of his training; in fact "...it was almost kind of beaten out of me," with his teachers being "very strict about playing exactly what was on the page" (p. 12). The researchers speculated that this might have been a reason for his giving improvisation a low priority in his methods classes.

The participants shared techniques for including improvisation and composition in both instrumental methods classes and separate courses. One participant suggested devoting "one week of every methods class to doing improv stuff," although another cautioned that it is difficult "to make room for the basics," and suggested specific courses for improvisation and composition (p. 13). Other participants suggested that composition and improvisation experiences should be included in final class projects, applied study, music theory, history, and general music classes.

The "no room" theme emerged in three separate strands, including no room in the instrumental methods class, no room in the undergraduate curricula, and no room in the accrediting bodies' requirements for educator training programs. While participants shared concerns about a lack of room in the methods courses to include improvisation and composition, they also shared that adding those classes was difficult, with limited time and credit hours in the

undergraduate curriculum. Additionally, participants reported concerns “with increased government requirements for music teacher training programs” (p. 14).

The researchers purposely chose to not include jazz in the interview questions, as the study was about composition and improvisation, regardless of genre. However, many participants discussed jazz in their interviews. Some participants viewed jazz as synonymous with improvisation, and some with minimal jazz experience did not initially regard themselves as creative. Other participants spoke of teaching creativity without teaching jazz. Several participants referred to students with jazz experience as being stronger improvisers.

The researchers integrated the data from both phases of the study and interpreted the results. With regard to the instrumental music methods professors’ prioritization of the National Standards in their classes, researchers found that the respondents prioritized all musical skills (with the exception of singing) over composition and improvisation. The interview data supported this, with participants reporting not enough time or a lack of room in their courses to include composition and improvisation. The survey data suggested that participants supported students learning about improvisation and composition, but not necessarily in the instrumental methods courses, which also aligned with the “no room” theme from the qualitative portion of the study. However, “no room” also appeared with regard to a lack of room in the music education curriculum and requirements. While there appears to be interest and support for improvisation and composition, the participants did not consider them as important as other topics in the instrumental methods class.

Survey participants reported little experience with improvisation in their training as musicians, music educators, and music teacher educators. The interview participants described mixed life experiences with improvisation. Those who had experienced jazz in early life or who

played traditional jazz instruments reported having more improvisation opportunities and comfort with improvisation. Those who studied less traditional jazz instruments reported a lack of improvisation in their education. Survey participants reported more experience with composition than improvisation. The researchers surmised this might be due to having experienced composition as part of music theory classes.

The survey participants reported that it was most important for the students to feel comfortable improvising, composing, teaching improvisation, and teaching composition. However, they reported that it was less important that students consider themselves improvisers and composers than improvisation teachers and composition teachers. The interview participants felt that students should receive more improvisation and composition instruction, but many did not feel confident with including these activities in their music education courses. Another reason for the non-inclusion of improvisation and composition was the “no room” theme. The survey participants did not place a high priority on the inclusion of improvisation and composition in their methods classes but shared that students could develop those skills in other coursework, or “on their own time” (p. 19). Interview participants that did incorporate improvisation and composition into their classes shared the techniques they use.

The researchers summarized that, while music teacher educators feel that improvisation and composition study is important, they do not include it in their classes. However, the participants suggested that it be incorporated in other classes. The researchers posited that “a change in pre-service preparation curriculum would necessitate a change in culture,” and perhaps a need for a change in the definition of teaching instrumental music in the public schools (p. 21). The researchers suggested future research could investigate the amount of composition and improvisation activities in the classrooms of undergraduates who received instruction in

composition and improvisation in their methods courses. Additional research suggestions included investigating the efficacy of composition and improvisation taught in stand-alone classes as compared to integration in methods courses, case studies of exemplar methods course instructors who utilize composition and improvisation activities, and the effect of gender on the experiences of music teacher educators and music education students. The researchers also recommended a deeper study into the relationship of life experiences and attitudes toward composition and improvisation.

String Teacher Education and Improvisation

Smith (1995) sought to examine undergraduate string teacher education in American colleges and universities. She selected a random sample of 180 NASM-accredited teacher-training institutions from the six MENC (now NAfME) divisions. Her research questions were “(a) What types of string education courses are required for undergraduate music education majors? (b) What content is included in these courses? (c) How does string teacher education vary in different regions of the country? and (d) How well are undergraduate students being prepared to function as future public school string teachers?” (p. 141).

In developing the survey, Smith sent a preliminary draft to 20 public school string teachers in Florida to assist in determining which topics to include in the questionnaire. She then sent the survey to the music chairpersons at 15 Florida colleges and universities with NASM accreditation. Finally, the researcher sent the questionnaire to three music education researchers for feedback, which she used to guide her final revision of the survey.

Smith received an outstanding overall response rate of 82.5% (N = 149) with nearly equal representation from all six MENC divisions. Smith found statistically significant differences between the string teacher preparation programs in different regions of the country, with

institutions in the North Central Division requiring the largest number of separate string techniques and string methods courses for all music education majors. The schools in this region also required the most contact hours per week per course and had the largest number of string education specialists teaching the courses. Smith posited that this region, as a group, did a significantly better job of preparing pre-service music teachers to meet specific string teacher competencies than did institutions in other regions of the country. She also discovered that the instructors of these courses were divided equally between applied studio teachers and music education string specialists in all six divisions.

Smith found that the principal topics covered in the undergraduate string techniques courses included proper posture and instrument set-up, bow hold, tone production, basic bowings and articulations, and tuning procedures. She found that the string methods classes predominantly covered the selection and maintenance of string instruments, method book and repertoire selection, recruitment and maintenance of string programs at all grade levels, rehearsal techniques and teaching methods, and administrative details. While it is unclear if Smith asked specifically about the use of improvisation, it appears to not have arisen as a primary topic. However, this study provides a snapshot of string teacher education at the time and context for comparison to this current study's findings.

Summary

Research shows that, while there is a lack of improvisation in music teacher education and more specifically, in string music education, in-service and pre-service music educators are interested in learning more about improvisation and its potential as a teaching tool. Currently, no studies examine the status of improvisation in string music education classes. This study investigated to what extent current string music teacher educators are using improvisation in

their collegiate classrooms but also to discover how they are using improvisation. This information would benefit string music teacher educators, future and current string teachers, and string students in K-12 schools.

CHAPTER 3 METHODOLOGY

Researcher's Lens

My interest in this topic derives from my experiences, or lack thereof, with improvisation. I grew up listening to my father's jazz records and went to nearly every jazz band concert from middle through high school. I wanted so much to be part of that group and to play that music. I never asked to join, because the prevailing attitude was that string players (other than double bass) were not a part of that ensemble. Later, during my undergraduate studies, I was thrilled to be part of the jazz lab when the jazz arranging class tested out their "string arrangements." We were playing written-out parts, with no improvising, but just to play with the jazz lab was exciting for me. I admired all of the jazz lab members and regarded them as musicians of the highest caliber. I also felt that I was lacking as a musician because I could not do what they did in terms of improvising. As an undergraduate music education and performance major, I had no exposure to improvisation in my applied performance studies or in my education methods courses. I did not pursue learning to improvise then, because I felt inadequate in terms of my technique; looking back, I wonder whether the study of improvisation would have strengthened my technique, aural skills, and musicianship.

During my public school teaching career, I was fortunate to have the opportunity to play with two regional symphony orchestras, a renowned opera training orchestra, and a string quartet that remained together for a decade. While this was musically satisfying, I knew of friends who were involved with improvisation, and I wanted to learn more. Improvising unnerved me; I felt lost without the "dots on the page," and believed that I was less musical than my improvising friends. I wanted to be a musician who could create her own music and spontaneously create with others. Wanting to learn more, I attended several conference workshops about

improvisation and eventually participated in a jazz improvisation class during my doctoral studies. These experiences allowed me to grow as a musician and as a music teacher.

As a public school teacher, I found that many of my students stopped playing their instruments after graduation. They would remark how much they missed making music when they came back and visited me at the high school. Additionally, parents and other adults often expressed to me how much they wished they “had never stopped playing” an instrument. This troubled me, as I wanted my students to be lifelong music makers. If they had the ability to improvise, the students would be able to create music at anytime with any musician, and no notated music would be necessary. Most of my students enjoyed popular music, including jazz, rock, country, and hip-hop. Playing in a band in those genres often involves creating a melodic solo, and the ability to create harmonic accompaniment. Perhaps my students would be able to play in that setting if they developed improvisation skills, and perhaps they would play genres of music other than classical. They would be able to create music of their own. I attempted to incorporate improvisation into our classroom. I invited guest artists to work with my orchestras, and, while some of my students enjoyed the experience, others were decidedly reticent, afraid of being “wrong.” This strengthened my resolve to find alternate ways to include improvisation in my classes and to make it an organic part of our learning.

As I learn more about improvisation, through research and my own exploration, I am able to include it more as part of my teaching. I have presented interactive workshops at the state and national levels, sharing ideas and a philosophy of improvisation. At my current institution, I use it in my studio teaching, methods classes, and clinics with middle and high school groups. While teaching at my previous institution, I created a class where improvisation, composition, and arranging were daily activities, in order to give my students the chance to explore. The creativity

and peer teaching that occurred in that class was inspiring. There was creative freedom, because we created a safe environment and my students were willing to go outside of their “comfort zone.” My teaching and playing have improved because of my study of improvisation, and I wish to learn more from other musicians and music teacher educators. All of this led to my desire to do this study.

Rationale for Mixed Methods Design

The purpose of this mixed-methods descriptive study was to investigate the use of improvisation in undergraduate string methods and string techniques courses. Currently, research on string music teacher education and improvisation is scarce. In order to study the use of improvisation in undergraduate string methods and technique classes in depth, I incorporated both quantitative and qualitative research methods into this study. Creswell (2003) suggests that the combination of both quantitative and qualitative methods can lead to a more thorough understanding of a topic: “This ‘mixing’, or blending of data...provides a stronger understanding of the problem or question than either by itself” (p. 215). Reichart and Rallis (1994) also support this. Gordon (2005) stated quantitative and qualitative methods are complementary and could be used together to create a more “complete” view of a topic (p. 62). Using both quantitative and qualitative techniques will provide a rich picture of the topic, “for the broad purposes of breadth and depth of understanding and corroboration” (Johnson et al., 2007, p. 123).

Mixed Methods Design

The design of the study most closely resembles an Explanatory Sequential Mixed Methods Design (Creswell and Plano Clark, 2011). Creswell and Plano Clark (2011) describe this as a mixed methods design in which the researcher begins the study with a quantitative phase

and follows up with a qualitative phase, “for purposes of explaining the initial results in more depth” (p. 82).

The quantitative phase of this study was a researcher-developed survey regarding the use of improvisation in collegiate string methods and technique classes. Patten (2007) states that a survey describes the “attitudes, beliefs, and behaviors of a population” and that researchers “draw a sample of a population, study the sample, and then make inferences to the population from the sample data” (p. 9).

The qualitative phase of this study included follow-up interviews to provide insight into the philosophical and practical applications of improvisation as both a teaching tool and skill for life-long music making and learning. Patten describes qualitative research as an effective means of studying unknown topics and suggested that researchers can “start with broad questions and refine them during the course of interviews as various themes and issues start to emerge” (p. 21).

I followed the Explanatory Sequential Design in that I collected the data in the order described above, and analyzed the data for each phase separately. I also needed the first quantitative phase of the study in order to identify a purposeful sample of participants for the second phase. However, in the Explanatory Sequential design, the quantitative and qualitative strands are not of equal importance, and the qualitative data is primarily used to explain the quantitative results. Since both phases are of equal importance in this study, it aligns with the Convergent Parallel Design in this way. Further, I had determined that I wished to interview music teacher educators who used improvisation in their teaching for a deeper understating of the topic, and that decision was not the result of questions that arose from the analysis of the quantitative data. I obtained permission from the Institutional Review Board for the survey and

interviews at the same time. I analyzed both sets of data separately, and present and discuss the quantitative and qualitative results in Chapters Four and Five of this paper.

The Explanatory Sequential Design calls for separate research questions for each phase, and a mixed methods research question for the merging of the data. In addition to the quantitative and qualitative research questions, Creswell and Plano Clark suggest the researcher “could pose a question about the integration of the data-bases” in the study (p. 164). Creswell and Plano Clark (2011) state, “At the interpretive stage in this design, the analysis is used to address the mixed methods question about whether and how the qualitative data help to explain the quantitative results” (p. 221). The mixed methods research question is: “In what ways do the quantitative and qualitative data align or differ?” In Chapter Six, I discuss whether and how the quantitative and qualitative align. In other words, in what ways do the qualitative results support, conflict with, or enhance the quantitative results?

Phase One: Quantitative Survey

The research questions for this portion of the study are as follows:

1. Do string teacher educators feel that it is important to include improvisation as part of string teacher preparation? Why or why not?
2. Do string teacher educators feel that current pre-service string teachers are prepared to include improvisation as part of their teaching? To what degree?
3. Are string teacher educators including improvisation as an organic part of their string methods and techniques classes? If so, what form does this take?
4. What types of opportunities are available for pre-service string teachers to develop their improvisation skills through curricular offerings?

Survey Design

I reviewed questionnaires and rating scales from research methods literature and survey-based research studies (Austin, 2006; Bernhard, 2012; McCaskill, 1998; Riveire 1997; Salvador, 2010; Schopp, 2006; and Strand, 2006). Then I designed the survey based on examples from the survey literature as well as my own personal research and teaching experiences. The survey is primarily quantitative with some opportunities to provide open-ended responses (see Appendix B). I included definitions of key terms at the start of the survey to help dispel any confusion.

The following are definitions that I provided for the sake of clarity.

Definitions for the Survey

Pedagogy/Methods Classes:

Classes in which music education majors primarily study the art of teaching string instruments.

Techniques Classes:

Classes in which music education students learn to play orchestral string instruments: violin, viola, cello, and double bass.

Improvisation:

For the purposes of this study, I am defining improvisation as a spontaneous musical creation developed rhythmically, melodically, and/or harmonically.

I created the survey using *SurveyMonkey*TM and then presented the questionnaire to two other music education researchers who have survey development and quantitative research experience for review and feedback regarding the clarity of questions, content, and ease of survey completion. Additionally, I shared the survey with Teacher Education colleagues who have research experience. I made changes based on the feedback, mostly to improve clarity and ease of taking the survey online.

Survey Participants

Fowler (2014) describes the advantages of conducting Internet surveys, such as low cost and the potential for quick responses. One disadvantage, however, is creating the address list. I wanted to reach the broadest audience possible and initially sought to survey every known collegiate string educator in the United States. As I began to create the list of potential participants, I discovered a wide variety of types and formats of music education programs across the country. For example, some schools offer a 5-year undergraduate program, some a 4-year undergraduate program, and others a 4-year undergraduate with a subsequent Master of Arts in Teaching for certification. I decided that I wanted to control for the variable of length of degree program in my results. I chose to limit the pool of participants to string music teacher educators at National Association of Schools of Music (NASM)-accredited schools offering 4-year undergraduate music education degrees. Using the NASM website (<http://nasm.arts-accredit.org>), I identified survey participants via the “Accredited Institutional Members” link, which provides a list of every accredited school of music, organized by state. First, I checked each school listed in all 50 states as well as in Washington, D.C. to determine whether each offered a 4-year music education degree. If the institution offered a 4-year music education degree, I then studied the school’s website to find the string music education professor(s). If that information was not readily available, I contacted the music education chairperson, music department chairperson, and/or dean to ask for the contact information of the appropriate faculty member. I also contacted other faculty members and administrative assistants for contact information. In addition, I checked course listings and schedules to find the correct instructor. Some schools responded that they did not have a string program, did not teach string classes, or were in between string education faculty members and were conducting a search. Other

administrators and faculty responded that they would forward my request for information to the appropriate faculty member. I organized the email addresses by National Association for Music Education (NAfME) Division.

Table 1: Email Addresses by NAfME Division

NAfME Division	Number of Emails Sent
Eastern	83
North Central	151
Northwest	30
Southern	161
Southwestern	117
Western	42

Total: 585

Survey Procedure

I distributed the surveys via email. In the introduction to the survey, I identified myself, described the study, and explained that that all responses would remain confidential and that participating in the survey indicated the respondents' consent (Fowler, p. 141). I requested that the recipients forward the email and survey to the correct faculty member in the event that they, themselves, did not teach string methods and techniques classes. The survey was password protected, and I included the password in the email containing the survey link. However, I did have a couple of recipients ask for the password, which I then supplied. I sent the surveys on October 21, 2014, with a follow-up email on October 30, 2014 and a final request on November 5, 2014. I included all email addresses, even those that I thought may be "undeliverable". In one case, I found two different addresses for the same individual at the same institution and sent the survey to both, not knowing which address was correct. (As anticipated, one did return as "undeliverable".) In cases in which an instructor taught at more than one institution, I sent emails to both institutions. The accompanying email requested that instructors at multiple institutions respond to only one survey. Of the emails sent ($N=585$), 18 addresses were returned as

“undeliverable,” resulting in a final *N* of 567 potential participants. Seven people responded that they forwarded the survey to another faculty member. Eventually, I received 171 completed surveys for a response rate of 30%.

Survey Data Analysis

The survey results included demographic and participant data from the first two sections of the survey. I reported this data using percentages and number of responses in each category. For the third section of the survey, which investigates the amount and type of improvisation used the string methods/techniques classes, I reported means and standard deviations for each question as well as the percentages and numbers for each response option. I reviewed and coded the open-response question data to identify emerging themes.

Phase Two: Qualitative Interviews

The research questions for this portion of the study are:

1. Why do these string music teacher educators incorporate improvisation in their classes, and what are the perceived benefits and challenges of doing so?
2. What strategies do these string music teacher educators use to incorporate improvisation in their teaching?
3. What strategies do these string music teacher educators suggest for preparing pre-service music teachers to incorporate improvisation in their teaching?

Interview Participants

As part of the survey, I asked participants if they would be willing to participate in follow-up interviews (Jones, 2005; McCaskill, 1998; Schopp, 2006). For interview participants, I sought to find string music teacher educators with improvisation experience who had successfully incorporated improvisation into their teaching. Survey participants had the option to

volunteer for interviews and/or suggest other educators who would be strong candidates for this portion of the study. Additionally, I solicited suggestions from colleagues and members of the American String Teachers Association to find a rich, purposeful sample.

A significant number (50) of survey participants volunteered to participate in the interviews. I selected the potential interview volunteers based on their responses of “Often” to the survey question regarding frequency of improvisation use in the classroom. I then discussed possible candidates with a member of my dissertation committee familiar with the field of string teacher education and further narrowed the list based on knowledge of the potential participants’ research, improvisation presentations, reputation with improvisation, reputation as a teacher, and ability to provide information that would be helpful for the study. I sent a request for interviews via email to seven survey participants, and five responded. I included the interview questions and a letter of consent in each email. As each participant returned the consent form, we scheduled an interview, with all participants choosing to complete the interview via telephone.

Interview Procedure

I sent the interview questions to the participants via email before our interviews, so that they would have the chance to prepare if they desired. I asked each participant verbally for permission to use speakerphone so that I could record the interviews on three devices: an Olympus VN 5000 Digital Voice Recorder, Garage Band, and Automatic Call Recorder, a voice recording application on my phone. I used three methods of recording to safeguard against the possible loss of data for all but one participant. I did not record Peter Jensen via the Olympus VN 5000 Digital Voice Recorder, but used the other two methods.

I transcribed all interviews, using the Olympus VN 5000 Digital Voice Recorder with the exception of Jensen’s interview, which I transcribed using the Garage Band recording. I sent a

transcription to each participant for member checking, and consequently made any requested corrections to the transcripts. Then I analyzed the data.

Interview Data Analysis

I reviewed and coded the qualitative interview data to identify emerging themes. I did not use a coding software program. After each interview was member-checked by the interviewee, I read the transcripts multiple times to find the salient ideas.

Saldaña (2013) suggests “pre-coding” by “circling, highlighting...underlining, or coloring rich or significant participant quotes or passages that strike you” (p. 19). Saldaña also suggests that more than one coding method may be appropriate, depending on the study (p. 59), and that some coding methods “overlap slightly in function” and can be “mixed and matched” (p. 60). I utilized In Vivo (Saldaña, p. 91) and Structural (Saldaña, p. 84) coding. In Vivo Coding uses the words of the participants and is useful for “beginning qualitative researchers learning how to code data, and studies that honor and prioritize the participant’s voice” (p. 91). Saldaña explains that Structural Coding is useful for studies “employing multiple participants” and “standardized or semi-structured data-gathering protocols” (p. 84). He also states that Structural Coding is useful for interview transcripts and open-ended survey responses (p. 84).

I used pre-coding (Saldaña, p. 19) to highlight salient phrases. I used In Vivo (Saldaña, p. 91) and Structural (Saldaña, p. 84) coding as part of the First Cycle of the coding process. I then grouped the codes into categories and larger themes emerged.

After I completed my coding, I sent the transcripts and codes out to two music education colleagues familiar with qualitative research for peer review. Before sending out the member-checked transcripts, I assigned a pseudonym to each participant and removed any identifying

material, such as name of school, articles or books published, conference presentations, and other names in the field. This analysis triangulation added to the trustworthiness of the study.

Merging the Data

After analyzing the data of each phase separately, I merged the data. As stated earlier, I analyzed the ways in which the qualitative results support, conflict with, or enhance the quantitative results. Creswell and Plano Clark (2011) suggest that the researcher “interpret the quantitative and qualitative data sets to answer the mixed methods questions” as a strategy for minimizing the validity threat in an explanatory design (p. 242). They also suggest connecting results by “drawing inferences” at the end of the study and as part of the “larger interpretation being made in the conclusion or discussion section of a study” (p. 237).

CHAPTER 4 SURVEY RESULTS

With the intent of improving string music teacher education, this study seeks to discover the breadth and depth of improvisation's incorporation in string teacher education and specifically in string methods and technique courses. I created and distributed a survey via Survey Monkey to all known string music teacher educators at NASM-accredited schools with 4-year music education degree programs in the United States in order to examine the use of improvisation in undergraduate string techniques and methods courses (see Appendix B). I share the results of that survey in this chapter.

Out of 565 possible participants, 171 responded for a response rate of 30%. Survey Monkey indicated that seven participants did not complete all of the survey. However, of those seven, two participants answered all but three questions, with the one incomplete question being the request for interview participants. The other five participants ranged from completing nearly half to almost all the questions. The margin of error for the survey is 7% and the confidence level is 95%.

Institutional Demographic Information

The first section of the survey asked for institutional demographic information, specifically in which National Association for Music Education (NAfME) region their school resided (see Table 2). The most responses came from the North Central region, and the fewest came from the Western and Northwest regions. Five respondents skipped this question; they may have been applied or adjunct faculty members who were unfamiliar with NAfME or the NAfME regions.

Table 2: NAFME Region Representation

	Response percent	Response count
Eastern	20.48%	34
North Central	34.34%	57
Northwest	4.22%	7
Southern	21.08%	35
Southwestern	13.25%	22
Western	6.63%	11

Total = 166

Question 2 asked participants to provide information regarding undergraduate music education enrollment (see Table 3). The majority of respondents reported enrollments of 0-50 music education students, with the smallest percentage reporting over 200 music education students. Three participants skipped this question. Some of the participants may not have known this information if they were not music education faculty members, were adjunct faculty, or perhaps were new to the institution.

Table 3: Undergraduate Music Education Student Enrollment

Number of students	Response percent	Response count
0-50	37.50%	63
51-100	29.17%	49
101-200	22.02%	37
Over 200	11.31%	19

Total = 168

Question 3 asked participants to provide information regarding undergraduate string music education enrollment (see Table 4). The overwhelming majority reported string music education enrollment between 0 and 10 students. Three participants skipped this question. Again, some participants may not have known this information if they were not music education faculty members, were adjunct faculty, or perhaps were new to the institution.

Table 4: Undergraduate String Music Education Student Enrollment

Number of students	Response percent	Response count
0-10	64.29%	108
11-20	23.21%	39
21-30	5.36%	9
31-40	4.17%	7
Over 40	2.98%	5

Total = 168

String Techniques Classes

The next section of the survey pertained to secondary string techniques classes, defined as classes in which music education students learn to play orchestral string instruments: violin, viola, cello, and double bass. Question 4 asked if the respondents' schools offered these classes. Out of 170 responses, the majority responded yes (93.53%, n=159) with a small percentage responding no (6.47%, n=11). One participant skipped this question; perhaps he or she did not teach secondary string techniques or know about this class.

Question 5 asked about the organization of these classes, with four options from which to choose. The majority of those reporting said that their classes were heterogeneous, with mixed instruments and in ensemble style (see Table 5). I included an option of "other" for this question to allow participants to describe their particular setting if it did not fit the choices I offered. However, SurveyMonkey did not include the "other" as part of the total responses when calculating the percentages, and so I re-calculated them by hand. Nine "other" responses revealed a variety of teaching situations. Four described teaching all four string family instruments in one semester in the context of homogenous individual sequential units; one of these also stated that the class played as an ensemble at the end of the semester. Two indicated splitting the semester into two parts and teaching violin/viola in one and cello/bass the other,

with one respondent qualifying with “if under 12 students in the class.” One participant described teaching violin and viola in one class, but having separate classes for cello and bass. Another spent half the semester on violin and the rest on the remaining three instruments. One participant shared that the class spent half the term on cello and the rest on violin/viola.

Table 5: Instruments Taught in Secondary String Techniques Classes

	Response percent	Response count
Homogenous (individual classes for violin, viola, cello, and bass)	9.26%	15
Divided by upper and lower string (violin/viola and cello/bass)	19.14%	31
Heterogeneous (mixed instruments, ensemble style)	50.62%	82
Both homogenous and heterogeneous	15.43%	25
Other	5.55%	9

Total = 162

Question 6 asked participants to describe the students taking the secondary string techniques classes (see Table 6). The vast majority responded “All music education majors (wind/percussion/string/vocal/piano).” I included an option of “other” for this question to allow participants to describe their particular setting if it did not fit the choices I offered. Twenty-seven participants chose the “other” option, with most responding that only instrumentalists (including string majors) took these classes. Some indicated that vocal music majors could take these classes as electives, and two participants reported that non-music majors took these courses. These responses indicated that institutions might track by major performance area to decide who takes each of the required classes.

Table 6: Students in Secondary String Techniques Classes

	Response percent	Response count
String majors only	2.41%	4
Wind/percussion/vocal/piano music education majors	9.64%	16
All music education majors (wind/percussion/string/vocal/piano)	71.69%	119
Other	16.26%	27

Total = 166

Questions 7 through 9 asked participants to describe the frequency, length, and number of class meetings for secondary string techniques courses. Question 7 asked how often the secondary string techniques classes met, with the options of 1, 2, or 3 classes per week (see Table 7). I based the choices on multiple higher education music programs in which I have participated, taught, or observed. In retrospect, I should have included options for 4 and 5 days a week as well or provided an “other” option. Fifteen participants did not answer this question, perhaps because they did not see an option that accurately described their class. Most classes met twice a week, with some also meeting once or three times per week.

Table 7: Frequency of Secondary String Techniques Classes

Frequency	Response percent	Response count
1 class per week	22.44%	35
2 classes per week	59.62%	93
3 classes per week	17.95%	28

Total = 156

Question 8 asked participants to identify the length per class of the secondary string techniques classes (see Table 8). Most classes met between 45 and 60 minutes per class period. Thirteen participants skipped this question.

Table 8: Length in Minutes of Secondary String Techniques Classes

Minutes per class session	Response percent	Response count
45-60	82.91%	131
61-75	8.23%	13
76-90	3.16%	5
91-105	5.70%	9

Total = 158

Question 9 asked how many weeks (per semester, trimester, quarter, etc.) the secondary string techniques classes meet, with options from 10 to 15 weeks (see Table 9). The majority of respondents chose 15 weeks, with significantly fewer choosing 14 weeks, and few choosing the remaining options. Fourteen participants chose not to answer this question.

Table 9: Length in Weeks of Secondary String Techniques Classes

Number of weeks	Response percent	Response count
10	7.01%	11
11	0.00%	0
12	3.18%	5
13	5.10%	8
14	24.20%	38
15	60.51%	95

Total = 157

Question 10 asked participants to identify who teaches the secondary string techniques classes at their institution (see Table 10). I included an option of “other” for this question to allow participants to describe their particular circumstance if it did not fit the choices I offered. The two most frequently chosen responses, music education faculty and performance faculty, were close in number. The majority of “other” responses were descriptions of performance faculty positions, with one response of “string pedagogy,” and another describing a “string specialist with experience in heterogeneous class teaching,” which may have been adjunct faculty. This question also indicated that respondents could “choose any or all that apply” from

the choices offered, so participants may have been inclined to choose “other” to elaborate on their situation.

Table 10: Instructors of Secondary String Techniques Classes

	Response percent	Response count
Music Education Faculty	48.39%	75
Performance Faculty	43.23%	67
Adjunct Faculty	30.32%	47
Music Education Teaching Assistants	12.90%	20
Performance Teaching Assistants	4.52%	7

Total Respondents = 155

String Methods/Pedagogy Classes

The next section of the survey pertained to string methods/pedagogy classes, defined as classes in which music education majors primarily study the art of teaching string instruments. Question 11 asked if the participants’ schools offered these classes. The majority responded yes (74.70%, n=124) with around 25% responding no (25.30%, n=42). Five participants chose not to answer this question; perhaps they did not know any information about this class at their institution.

Question 12 asked about the organization of these classes, with six options to choose from as well as “other” (see Table 11). The majority of participants chose “Heterogeneous (mixed string instruments).” Eight participants chose “other,” with three respondents indicating that string techniques and string methods were part of the same class, as “one class to teach both how to play all four instruments and how to teach them.” Two respondents shared that the string pedagogy courses were designed for string performance majors and open to music education majors as electives. One participant responded, “Methods classes are not just ‘strings’ but all methods are taught together.” Another respondent said, “Students have the opportunity to enroll

in Suzuki Talent Education Pedagogy training class,” but it was not clear whether that was in addition to a string methods class or in place of one.

Table 11: Instruments Taught in String Methods Classes

	Response percent	Response count
Homogenous (individual classes for violin, viola, cello, and bass)	12.60%	16
Divided by upper and lower string (violin/viola and cello/bass)	10.24%	13
Heterogeneous (mixed string instruments)	44.88%	57
Heterogeneous (mixed string/wind/percussion instruments)	8.66%	11
Both homogenous and heterogeneous (mixed string instruments)	12.60%	16
Both homogenous and heterogeneous (mixed string/wind/percussion instruments)	4.72%	6
Other	6.30%	8

Total = 127

Question 13 asked participants to describe the students taking string methods classes (see Table 12). The majority responded, “All music education majors (wind/percussion/string/vocal/piano).” Nineteen participants chose “Other” and described a variety of situations. Several alluded to tracking by major, indicating that all instrumental students or instrumental music education students took the course, but not students for whom voice or piano were the primary performance emphasis. I am interpreting “instrumentalists” to indicate that the respondents were not including pianists, as the option for “All music education majors” included piano. Some respondents described specific string major groupings, including “violin/viola only,” both string music education and string performance, and string performance

majors only. One participant said “BMP,” which I interpreted to mean string Bachelor of Music Performance.

Other participants spoke of required versus elective classes: “String and WBP required, Vocal and General elective;” “Sometimes a few wind, percussion or brass students will elect to take the course. Sometimes performance majors also elect to take the course. It is required of string majors only,” and “Any music education major (this class is an elective).” One participant wrote of specific courses tracked by major instrument, such as “String-track students take String Ped; Band- and Vocal-tracks take String Methods -- split 50/50 with technique listed previously,” although the differences between “String Ped” and “String Methods” is unclear. Another respondent described different levels of string methods classes: “One of our string methods courses is for all music ed majors; the advanced class is only for string music ed majors.” As with the secondary string techniques class, participants described a wide variety of teaching and learning situations.

Table 12: Students in String Methods Classes

	Response percent	Response count
String majors only	28.90%	37
Wind/percussion/vocal/piano music education majors	7.87%	10
All music education majors (wind/percussion/string/vocal/piano)	48.43%	62
Other	14.84%	19

Total = 128

Questions 14 through 16 asked participants to describe the frequency, length, and number of class meetings for string methods courses. Question 14 asked how often the string methods

classes meet, with the options of 1, 2, or 3 classes per week (see Table 13). Again, I based these choices on programs in which I have participated, taught, or have observed. I should have included options for 4 and 5 days a week here as well as well. Fifty-two participants did not answer this question, perhaps because they did not see an option that fit their class. Most classes met twice a week, followed by once and three times a week. For question 15, respondents identified the number minutes per class that string methods classes meet. The majority reported between 45 to 60 minutes per class (see Table 14). Question 16 asked how many weeks (per semester, trimester, quarter, etc.) the string methods classes met (see Table 15). The majority met for 15 weeks, with significantly less choosing 14 weeks, and few choosing the remaining options.

Table 13: Frequency of String Methods Classes

Frequency	Response percent	Response count
1 class per week	31.09%	37
2 classes per week	52.10%	62
3 classes per week	16.81%	20

Total = 119

Table 14: Length in Minutes of String Methods Classes

Minutes per class session	Response percent	Response count
45-60	74.17%	89
61-75	10.00%	12
76-90	5.83%	7
91-105	10.00%	12

Total = 120

Table 15: Length in Weeks of String Methods Classes

Number of weeks	Response percent	Response count
10	7.5%	9
11	0.00%	0
12	3.33%	4
13	5.83%	7
14	26.67%	32
15	56.67%	68

Total = 120

Question 17 asked the respondents to identify who teaches the string methods classes by choosing any or all that applied to their institution (see Table 16). The majority of responses indicated that music education faculty, followed closely by performance faculty teach string methods. The “other” responses included an instructor with multiple positions, including applied cello and string methods; a Suzuki Teacher Trainer; an orchestra conductor; and string pedagogy faculty. This question also indicated that respondents could “choose any or all that apply” from the choices offered, so participants may have been inclined to choose “other” to elaborate on their situation.

Table 16: Instructors of String Methods Classes

	Response percent	Response count
Music Education Faculty	54.31%	63
Performance Faculty	37.93%	44
Adjunct Faculty	25.00%	29
Music Education Teaching Assistants	5.17%	6
Performance Teaching Assistants	0.86%	1

Total Respondents = 116

Improvisation Classes

Questions 18-20 pertained to improvisation courses. Question 18 asked if improvisation classes were available to all music majors at the participants' institutions. More than half responded no (57.58%, n=95), although improvisation classes were available at 42% of the institutions of those who responded (42.42%, n=70).

Question 19 asked who teaches the improvisation classes, if offered (see Table 17), and instructed participants to choose any or all that applied to their institution. The majority responded that jazz faculty members taught these classes. Those who chose "other" added piano faculty (n=2), theory faculty with "jazz background" (n=1), Early Music faculty (n=1), and jazz graduate assistants (n=1). One participant wrote "Music education faculty," leading me to interpret this to be vocal or general music education, as I had specified instrumental music education options in the survey choices. Of the 70 participants who could have answered this question, only one did not respond.

Table 17: Instructors of Improvisation Classes

	Response percent	Response count
Jazz Faculty	94.20%	65
String Performance Faculty	10.14%	7
String Education Faculty	4.35%	3
Wind/Brass/Percussion Performance Faculty	15.94%	11
Wind/Brass/Percussion Education Faculty	8.70%	6

Total Respondents = 69

Question 20 asked if an improvisation course was required for music education majors (see Table 18). Most participants responded no, with 11% responding yes and 15% not sure. Five

participants did not answer this question. Some participants may not know this information if they are not music education faculty, are adjunct faculty, or perhaps new to the institution.

Table 18: Improvisation Classes Requirement for Music Education

Response	Response percent	Response count
Yes	11.45%	19
No	72.89%	121
Not sure	15.66%	26

Total = 166

Participant Information and Experience with Improvisation

The next section of the survey asked for participant demographic information and experience with improvisation. Question 21 asked participants to describe their position at their institution (see Table 19). The majority of respondents were music education faculty, followed closely by performance faculty. The “other” responses included orchestra conductors (n=3), musicology faculty (n=1), music theory and composition faculty (n=1), string pedagogy faculty (n=1), music education graduate teaching assistant (n=1), and performance teaching assistant (n=1). Four described themselves as music education and performance faculty, and it is unclear if they had selected that option as well as “other.” Twelve participants did not answer this question.

Table 19: Participants’ Position at Institution

	Response percent	Response count
Music Education Faculty	32.08%	51
Performance Faculty	26.42%	42
Music Education and Performance Faculty	15.72%	25
Adjunct Faculty	25.79%	41

Total = 159

Question 22 asked participants to describe how many years they have been teaching at the collegiate level (see Table 20). The two most frequent responses included those with the most experience (16 plus years) and those with the least (0-5 years). Four participants did not answer this question.

Table 20: Years Taught at the Collegiate Level

Years	Response percent	Response count
0-5	31.74%	53
6-10	17.37%	29
11-15	15.57%	26
16+	35.33%	59

Total = 167

Question 23 asked the primary performance medium of the participants, with the overwhelming majority choosing string instruments (see Table 21). The “other” category revealed two conductors, with one adding “formerly a wind player,” guitar and composition (n=1), wind and string (n=1), and “Bass, guitar, and 5-string banjo” (n=1). Seven participants did not answer this question.

Table 21: Primary Performance Medium

	Response percent	Response count
String	92.07%	151
Wind/Brass/Percussion	5.49%	9
Piano	1.22%	2
Voice	1.22%	2

Total = 164

Improvisation Experience

Question 24 asked if the participants had experienced improvisation during their undergraduate education. The vast majority had not experienced improvisation during their own undergraduate education (72.12%, n=119). Yet, 27.88% (n=46) of the participants did experience improvisation in undergraduate study, which is surprising given that the majority of

participants were string players and perhaps steeped in the classical conservatory model of Western art music. However, it also is possible that the “Yes” responses included the participants who identified as vocalists, pianists, guitarists, or wind/brass/percussion instrumentalists. Six participants did not answer this question.

Question 25 asked those who indicated having improvisation experience as part of their undergraduate education to describe their improvisation experience (see Table 22). Participants chose any or all of the options that applied to their experience. The majority responded “As a part of curricular study,” although nearly 47% said that they had experienced through school-related extracurricular activities. Of the 46 participants who could have answered this question, only one did not respond.

Table 22: Participants’ Improvisation Experiences in Undergraduate Study

Response	Response percent	Response count
As a part of curricular study	64.44%	29
Through school-related extracurricular activities	46.67%	21
Outside of school	33.33%	15

Total respondents = 45

Question 26 asked if the participants’ undergraduate institutions offered a separate improvisation course (see Table 23). Most responded no, with the remainder nearly equally divided between yes and unsure. Five participants did not answer this question.

Table 23: Participants’ Opportunities for Improvisation Classes in Undergraduate Study

Response	Response percent	Response count
Yes	23.49%	39
No	52.41%	87
Not sure	24.10%	40

Total = 166

Question 27 asked those participants who had responded that their undergraduate institution had a separate improvisation course to describe whether they participated in this

improvisation class and why. Of the 39 who had responded “Yes” in Question 26, only 33 responded to this question. Some of the responses did not answer the question “why,” but just stated “yes” or “no.” The reasons expressed for why they did not take the class was that there was not enough time in an overloaded music education curriculum, classes were limited to jazz majors, classes were jazz-based, lack of desire, lack of encouragement, fear of improvising, and the class was not a requirement for the degree. The majority of those who chose to take the classes did so because of personal interest in learning about improvisation or because it was a requirement because they were a jazz major.

Question 28 asked participants to describe their personal levels of comfort with improvisation on a 5-point Likert-type scale ranging from “1-Not comfortable” to “5-Extremely comfortable” (see Table 24). The majority of participants reported being “Somewhat comfortable” with improvisation. Seven participants did not answer this question. The mean was 2.95, and the standard deviation was 1.19. Overall, participants were somewhat comfortable with improvisation. However, the observed standard deviation was 1.19, significantly higher than the theoretical standard deviation of 0.66, revealing a wide range of personal comfort levels with improvisation.

Table 24: Participants’ Personal Level of Comfort with Improvisation

1 Not Comfortable	2 Minimally comfortable	3 Somewhat comfortable	4 Sufficiently comfortable	5 Extremely comfortable
10.98% (18)	26.83% (44)	32.32% (53)	15.85% (26)	14.02% (23)

Note: $M = 2.95$ and $SD = 1.19$

Total = 164

Improvisation in Undergraduate String Classes

The next section of the survey addressed improvisation classes in undergraduate music programs. Question 29 asked participants to identify how prepared they believed the current pre-service string teachers from their institutions were to include improvisation as part of their teaching (see Table 25). They responded using a 5-point Likert-type scale ranging from “1-Not prepared” to “5-Extremely prepared.” The results indicate low participant confidence in their pre-service string teachers’ preparation to include improvisation in their future teaching. Eight participants did not answer this question.

Table 25: Perception of Pre-service String Teachers’ Preparation with Improvisation from Participants’ Institutions

1 Not prepared	2 Minimally prepared	3 Somewhat prepared	4 Sufficiently prepared	5 Extremely prepared
22.09% (36)	44.79% (73)	22.09% (36)	10.43% (17)	0.61% (1)

Note: $M = 2.23$ and $SD = .93$

Total = 163

Question 30 asked participants to indicate how prepared they perceived current pre-service string teachers in general were to include improvisation as part of their teaching (see Table 26). They responded using a 5-point Likert-type scale ranging from “1-Not prepared” to “5-Extremely prepared.” With only four responses for “4-Sufficiently prepared” and no one choosing “5-Extremely prepared,” the distribution is extremely skewed to the right, indicating a lack of confidence in pre-service teachers’ preparation to include improvisation in their future teaching. Nine participants did not answer this question.

Table 26: Perception of Pre-service String Teachers' Preparation with Improvisation in General

1 Not prepared	2 Minimally prepared	3 Somewhat prepared	4 Sufficiently prepared	5 Extremely prepared
21.60% (35)	53.09% (86)	22.84% (37)	2.47% (4)	0.00% (0)

Note: $M = 2.06$ and $SD = .73$

Total = 162

Using an open-ended response format, question 31 asked participants to share the perceived benefits, if any, of including improvisation in methods and/or technique classes. Forty-four participants did not answer this question, whereas 127 responded. The majority of responses enthusiastically described several benefits, although some did not believe it to be beneficial. One respondent wrote, “Teaches musicianship, creativity, technique; offers opportunity to focus on assessment; vehicle for teaching cross-cultural principles; vehicle for teaching National Stds.” Another described more benefits: “Enhanced ear training, freedom on instrument (musically and physically), stronger foundation in theory established (knowledge and connections of/between keys and scales), internalization of pulse and creativity/non-reliance on the page.” Another stated, “Too many to name here!” and “It is essential to the creative development of their future students. It is also an essential component of the natural pedagogy of learning music.” Analysis of the open-ended responses yielded several codes, categories, and themes. The themes include Musicianship and Creativity, Pre-service Music Educator Preparation, and No Benefits.

Musicianship and Creativity

Participants talked about the many ways in which improvisation can help students develop their musicianship, ranging from helping them develop technical skill to enhancing the development of creativity and expression. Some respondents believed that improvisation improved ability to concentrate on developing technique because of the absence of notation, as

improvisation “allows students to focus on right- and left-hand activities without the confounding variable of ‘music reading.’ And it allows students another method for self expression.” Respondents described how improvisation helps with ear training and aural skills, and connects music theory to instrumental performance. Improved listening skills as a result of improvisation included listening for better intonation as well as better ensemble-playing skills and collaboration with others: “It frees students from notation, allowing them to think how to be musical responsive and interactive with others. As they respond to others, they are thinking about their technique and listening more carefully to intonation. They also come to appreciate the many ways one can be expressive with a string instrument.” One participant described the overall musical benefits of improvisation study as, “It improves their understanding of harmony, melody, rhythm, and meter. It also improves their ear to hand skills, audition skills, and it is fun and empowering.”

Many participants stated that improvisation study leads to students becoming well-rounded musicians. One participant shared, “Improvisation should be included in music study for all instruments at all levels. At the college level it is sometimes too late, but absolutely necessary to being a well prepared musician.” Participants also stated that improvisation leads to improved sight-reading skills, resulting in improved audition skills. Others shared that improvisation helped students feel more comfortable with harmonizing and transposing, as well as composition and arranging.

Several participants identified creativity as a benefit of students being provided with experience in improvisation, with many referring to freedom and exploration, an opportunity for expression, and ownership of one’s musical creation. One respondent stated: “Critical thinking, building creativity, spontaneity, urging players to come up with their own ideas rather than

following directions.” Another shared “...Improvisation, even at the beginner level, strengthens musical thinking. I define this for my students as the ability to think in terms of sound (as opposed to notation or technique)...Improvisation experiences in lessons, when properly designed, gives all students the opportunity to create with musical materials... to synthesize, which is a higher order of learning than simply performing from notation...”

Pre-service Music Educator Preparation

Along with comments regarding musicianship and creativity, participants talked about the importance of modeling the teaching of improvisation to pre-service music educators. One participant said, “If we don't, students generally don't introduce it to their students.” Respondents shared the advantages of improvisation as a teaching tool and discussed the importance of modeling how to incorporate improvisation in the classroom and how to create a safe classroom environment for students. For example, one participant stated, “I include improv in my methods classes to help students who are unfamiliar with improv to become more familiar. Additionally, by modeling methods of teaching and incorporating improv in methods and techniques classes, my students will have strategies that they can use to incorporate improv into their own classes one day.” Many participants emphasized the need for pre-service teachers to try improvising in a safe environment and to become more comfortable on the instruments. One comment summed up the benefits of creating a safe classroom environment for pre-service teachers: “It makes students less reluctant to try it in their own teaching. It is also fun--I have found that, even when students are not highly competent on strings, and are self-conscious of their ability to improvise, the classes in which we do it are their favorites!”

Respondents suggested that improvisation study helps pre-service teachers in personal development as well and develops higher order thinking skills. Participants identified self-

directed learning, the ability to synthesize, critical thinking, exercising the mind differently, and independence as outcomes of improvisation study. Several described the importance of flexibility in teaching and playing. One stated that improvisation “Allows students to better understand how to teach and perform music. Also encourages flexibility in teaching and performing, which is an important professional component in schools today.”

Some participants in this study believed that the use of improvisation in the classroom models instructional strategies for pre-service teachers. Participants shared examples of how improvisation allows for differentiation of instruction in the classroom: “...Some students will excel at improvisation who may be less gifted at ‘decoding’ the symbolic nature of printed notation.” Respondents also identified the usefulness of improvisation in individual assessment. One participant wrote, improvisation activities give “...the teacher an opportunity to see how students are doing individually with pitch, posture, tone without having to pull students into the hallway one at a time. Gives the students a sense of mastery on the instrument from a (*sic*) the beginning of learning to play.”

Respondents referred to providing music education students with improvisation so that they can fulfill requirements of the National Association of Schools of Music (NASM) handbook. The inclusion of improvisation also provides a model for pre-service string educators to help their future students fulfill the National Music Standards (National Association for Music Education and National Coalition for Core Arts Standards, 1994 and 2014). Respondents emphasized the need for improvisation to be part of music teacher education: “The more classes in which this skill can be included, the more practice and application opportunities. It's no longer something that can be reserved for pre-service teachers who plan to teach jazz band.”

No Benefits

While the overwhelming majority of responses shared benefits of improvisation, a few participants expressed the opinion that there were no benefits. Of these responses, participants reported a lack of time for including improvisation, that improvisation was less important than other topics, and that improvisation was not appropriate for beginning-level instrumental instruction. One responded, “To be honest, I think it's more important to teach students how to play the instruments. They aren't typically ready to learn a more advanced skill like improvisation, even after a couple of semesters.” One respondent acknowledged potential benefits, but expressed concern over lack of time for instruction: “If there was enough time to teach even the basics of string instruction there would be benefits to the teaching of improv, but there is no real benefit to include it when I don't even have time to teach the viola at all.” Another stated, “I do not think it is important given the time I have with these students.” Overall, however, participants expressed enthusiasm about the benefits of improvisation in the string methods and techniques classes.

Question 32 asked participants to share the drawbacks, if any, to including improvisation in methods and/or technique classes. Although 52 participants did not answer this question, the 119 open-ended responses revealed several codes, categories, and themes. The following themes emerged: Time Constraints/Overcrowded Curriculum, Technical Skill Level, Student/Instructor Discomfort, and No Drawbacks.

Time Constraints/Overcrowded Curriculum

The majority of participants responded with concerns about time constraints and an overloaded curriculum. Many discussed a lack of time to cover a multitude of topics during the semester. One participant illustrated the amount of material involved in what is often a single-

semester class: “I am given 15 classes to teach all the string instruments...and try to include ways to teach strings as well. There are no drawbacks to teaching improv, but including it becomes a choice I make with my limited teaching time. I also need to teach shifting and vibrato, and the inclusion of one essential skill may lead to the exclusion of another.” Another respondent echoed that sentiment: “Class is already impossibly packed with content - trying to teach all four instruments (and how to teach them) in one semester to voice and wind students to the level that they could teach in the schools is an impossible ideal...”

Others shared that perhaps improvisation could be included elsewhere: “There simply is not time to do this meaningfully and sequentially in most methods classes. This should be approached in Theory or other venues,” and “Our class teaches four instruments in a semester. I think to have enough time to teach improvisation, it should be a separate class.” However, another respondent acknowledged the congested music education curriculum: “Our degrees are already crowded. Including required improv classes is something we believe in, but keeps the degree credit heavy.”

Several respondents stated that the primary importance of the class was to teach pre-service music teachers how to play the instruments and how to teach them; they regarded improvisation as something that took time away from the basic performance skills, which should be the focus of the class. Participants shared, “Students must know the basic foundations of playing first,” and that improvisation “takes focus away from main goal of class- to develop technique...” and left “less time for performance technique and general information on orchestra teaching.” One participant said, “No drawbacks, but understand the purpose of the string class is to learn to play the instruments and be able to teach a beginner.” Also concerned about time constraints, one participant stated, “There is not enough time within the course of a 4-year career

to teach them how to teach string instruments properly. Adding to their load of things to know is not a good thing. Improvisation is a VERY useful skill for performers. I do not see it as a helpful skill in public school string programs.”

Technical Skill Level

Concerns about technical skill level surfaced in two ways: that students did not have the technical skills on new instruments to be able to improvise and that the lack of technical skills and comfort with new instruments caused apprehension toward improvisation. These respondents seemed to perceive improvisation as something requiring a high technical skill level and not as something that could help build technique, which contrasts with those who saw technique building as one of the benefits of improvisation. One participant shared: “While I do believe improvisation is very important - I do not see it as a successful venture within a string methods class where students are not string players, and struggle with simply learning the instrument.” Another stated, “...improvisation is difficult enough on a familiar instrument, let alone a foreign one.” While participants overwhelmingly stated that improvisation helped student develop technique and musicianship when discussing the benefits of improvisation, some respondents expressed concerns in their responses to Question 32 that technique can get “sloppy” as a result of engaging in improvisation. One participant expressed concerns that improvisation “might delay note reading and willingness to comply with written notation,” while another shared: “Although improv. is great, I think that the general problem is that improv can sometimes provide less structure for students. It can also pose problems with note reading. Students who have trouble reading music will not continuously have the reinforcement of seeing and reading notes on the page. It also may cause students to ‘disobey’ musical markings when reading the music in front of them simply because ‘i don't feel like it’.”

Student/Instructor Discomfort

Participants shared concerns that students would be apprehensive of improvisation. As discussed earlier, some students may feel less comfortable improvising at all, let alone on an instrument other than their major performance medium. Participants stated, “Some students may feel unhappy or uncomfortable if they feel that time is spent on improvisation on an instrument that they do not yet feel confident or proficient,” and “...Students may not be technically ready to do much more than the most basic improvisation.” One participant alluded to the typically classical music background for string majors: “It makes string players very uncomfortable and can be a cause of additional stress.” Others pointed out that many students have no prior experience with improvisation and that it is therefore unsettling. They believed that improvisation might result in “fright or unfamiliarity on the part of the students...many students have had little or no experience and thus are scared...,” and might be “difficult for students who are not jazz oriented.”

Participants stated that instructors share that apprehension about improvisation, especially those who feel that they have a lack of preparation. They stated that the “...instructor may not have any expertise/ experience discomfort,” and that “it's scary for students and teachers...Can be difficult to teach without sufficient preparation one's self...Little institutional support.” One participant shared, “I don't see any drawbacks. I think improv is great. I'm just not comfortable or knowledgeable.”

No Drawbacks

Nearly half of the respondents reported that there were no drawbacks to including improvisation. One stated, “None. It simply takes planning, creative teaching, along with some measure of interest and capability on the part of the teacher.” Some participants qualified their

statements with observations of course content and time constraints, but were positive about improvisation: “I don't think there is a drawback. The challenge I find is making sure to get through all of the course content in one semester.” One pointed out, “...Sadly, it is just not part of our interpretation of western music art culture,” while another echoed, “We think we won't need it...ever. Which is not totally true.”

Question 33 asked participants to identify the frequency with which improvisation is used in their string methods classes, using a 5-point Likert-type scale ranging from “1-Never” to “5-Always” (see Table 27). Participants chose “N/A” if they did not teach those classes. The majority of responses indicated “2-Seldom,” followed closely by “1-Never” and “3-Sometimes.” Six participants did not answer this question. The observed standard deviation of 1.02 is much higher than the theoretical standard deviation of .66. The distribution is extremely skewed to the right, indicating that more than half of the respondents who taught those classes are incorporating improvisation in their string methods classes from “sometimes” to “never.” Few incorporate it “often” or “always.”

Table 27: Frequency of Improvisation in String Methods Classes

1 Never	2 Seldom	3 Sometimes	4 Often	5 Always
22.42% (37)	24.85% (41)	21.21% (35)	10.91% (18)	0.00% (0)

Note: $M = 2.26$ and $SD = 1.02$

Total = 131

Question 34 asked participants to identify the frequency of the use of improvisation in their string techniques classes, using a 5-point Likert-type scale ranging from “1-Never” to “5-Always” (see Table 28). Participants chose “N/A” if they did not teach those classes. Seven participants did not answer this question. The results of Table 28 are similar to those of Table 27. The distribution of scores is positive, with “3-Sometimes” being the most often chosen, with “1-

Never” and “2-Seldom” closely following. The distribution again is extremely skewed to the right, indicating that most of the respondents are incorporating improvisation in their string methods classes “sometimes” to “never.”

Table 28: Frequency of Improvisation in String Techniques Classes

1 Never	2 Seldom	3 Sometimes	4 Often	5 Always
30.15% (41)	25.74% (35)	32.35% (44)	11.76% (16)	0.00% (0)

Note: $M = 2.26$ and $SD = 1.01$

Total = 136

Question 35 asked participants to identify the frequency of the use of ten specific improvisation activities in their classes using a 5-point Likert-type scale ranging from “1-Never” to “5-Every class” (see Table 29). Participants could choose “other” and describe activities that were not included on the list. A range of 155-161 participants responded, depending upon the type of activity, and ten participants did not answer this question.

Participants reported the use of call and response with both tonal and rhythm patterns as the most predominantly used improvisation activities, with means of 3.18 (rhythm) and 3.05 (tonal). The observed means are higher than the theoretical mean of 3.00, and indicate that the majority of respondents use call and response with rhythm and tonal patterns as part of their instruction occasionally to regularly. This may be because these activities lend themselves easily to warmups and are more accessible to students who are learning a new instrument. The observed standard deviation of 1.25 for both activities is higher than the theoretical standard deviation of .66 indicating a wide variety of responses.

Teacher modeling of improvisation was the next highest mean (2.35), but it was lower than the theoretical mean of 3.00. Half of the respondents modeled improvisation minimally or never. The observed standard deviation of 1.19 is higher than the theoretical standard deviation

of .66 indicating a wide variety of responses. Exploratory improvisation with rhythmic and/or tonal parameters was the next highest mean (2.09), and again the distribution was skewed to the right. Nearly 60% of the respondents never or minimally involved students in exploratory improvisation (with or without parameters), the creation of melodic lines over drones or chord changes, the creation of bass lines or root melodies, or use jazz standards or fiddle tunes as a basis for improvisation. The “Use of jazz standards as a basis for improvisation” was the lowest mean (1.44) and had the highest percentage of “1-Never” (67.72%) responses. This activity might require more time in class and more developed technical skills, so the low mean makes sense given the participant concerns about lack of instructional time and student technical skill level as drawbacks to improvising.

The open-ended responses provided other ideas for incorporating improvisation in the string classroom. Participants described using Baroque bass lines, Gregorian chant, an instructor-created “blues comp line,” and the D pentatonic scale as foundations for improvisation. Other participants suggested the use of ethnic folk music and the Middle Eastern taqsim. Another described the creation of new arrangements of folk songs, adding “mood indicators” such as “angry” for improvisation activities. One respondent suggested “improvising ‘scary’ music soundtracks using unconventional/special effects sounds, then notating them using graphic score techniques,” which would allow students an opportunity to explore sound creation on their instruments. Some respondents described activities such as learning melodies and fiddle tunes by ear, creating chords as an ensemble, and using Orff techniques “including folk songs, rondo form, and movement games,” which are not specifically improvisation activities but develop the ear and give pre-service music teachers some ideas to use in their future classrooms.

Table 29: Frequency of Improvisation Activities

	1- Never	2- Minimally	3- Occasionally	4- Regularly	5- Every class
Use of call and response using rhythm patterns M=3.18, SD=1.25, N=158	17.09% (27)	8.23% (13)	24.68% (39)	39.24% (62)	10.76% (17)
Use of call and response using tonal patterns M=3.05, SD=1.25, N=158	18.35% (28)	10.76% (17)	28.48% (45)	32.28% (51)	10.13% (16)
Instructor modeling improvisation for the class M=2.35, SD=1.13, N=161	32.30% (52)	18.01% (29)	33.54% (54)	14.29% (23)	1.86% (3)
Exploratory improvisation with rhythmic and/or tonal parameters M=2.09, SD=1.06, N=159	41.51% (66)	18.24% (29)	30.82% (49)	8.81% (14)	0.63% (1)
Creation of melodic lines over drones M=1.93, SD=1.00, N=158	44.94% (71)	25.32% (40)	22.15% (35)	6.96% (11)	0.63% (1)
Creation of melodic lines over chord changes M=1.83, SD=0.97, N=156	50.64% (79)	21.79% (34)	21.15% (33)	6.41% (10)	0.00% (0)

Table 29: (con't)

	1- Never	2- Minimally	3- Occasionally	4- Regularly	5- Every class
Use of fiddle tunes as a basis for improvisation M=1.83, SD=0.93, N=157	47.13% (74)	27.39% (43)	21.02% (33)	3.82% (6)	0.64% (1)
Exploratory improvisation without rhythmic and/or tonal parameters M=1.82, SD=0.99, N=159	50.31% (80)	25.16% (40)	17.61% (28)	5.66% (9)	1.26% (2)
Creation of bass lines/root melodies M=1.73, SD=1.01, N=155	59.35% (92)	16.77% (26)	16.13% (25)	7.10% (11)	0.65% (1)
Use of jazz standards as a basis for improvisation M=1.44, SD=0.74, N=158	67.72% (107)	22.78% (36)	7.59% (12)	1.27% (2)	0.63% (1)

Question 36 asked participants to describe the primary impediments to incorporating improvisation their classes, using a 4-point Likert-type scale ranging from “1-Not an impediment” to “4-Very strong impediment” (see Table 30). Participants could choose “other” and describe an impediment that was not identified in the survey list. A range of 155-161

participants responded to this question, depending upon the activity, and eight participants did not answer this question.

The participants rated “Lack of time to teach/incorporate improvisation” as the biggest impediment to the inclusion of improvisation in their classes. The observed mean of 2.84 was higher than the theoretical mean of 2.5, and this category received the highest number of “4-Very strong impediment” responses, indicating that the majority of participants consider a “Lack of time to teach/incorporate improvisation” to be a strong impediment to including improvisation in string methods and techniques classes. The observed standard deviation of 1.05 was higher than the theoretical standard deviation of 0.5, indicating a wide variety of responses, and the distribution is skewed to the left. The next highest mean of 2.01 was “Lack of materials,” followed by “Lack of teacher experience” and “Lack of teacher confidence” with improvisation with means of 1.91 and 1.89, respectively. The impediment with the lowest observed mean (1.73) and lowest observed standard deviation (0.85) was “Student discomfort with improvisation.”

The open-ended responses emphasized lack of instructional time and student discomfort with improvisation compounded by a lack of student confidence with instruments not in their major field. Two participants stated that their students were getting improvisation experience in other classes. Others shared a lack of perceived importance, with one participant saying, “Not a primary goal in the mind of teachers (myself and students in peer- and field-teaching experiences). It could be explored more often; it's simply not seen as a possibility or priority as often as it could be.”

Table 30: Perceived Impediments to Incorporating Improvisation in String Classes

	1 Not an impediment	2 Somewhat an impediment	3 Strong impediment	4 Very strong impediment
Lack of teacher confidence with personal improvisation skills M=1.89, SD=0.92, N=160	41.88% (67)	34.38% (55)	16.88% (27)	6.88% (11)
Lack of knowledge in how to teach/incorporate improvisation M=1.85, SD=0.92, N=157	45.22% (71)	30.57% (48)	18.47% (29)	5.73% (9)
Lack of experience with teaching/incorporating improvisation M=1.91, SD=0.96, N=160	42.50% (68)	31.87% (51)	17.50% (28)	8.13% (13)
Lack of time to teach/incorporate improvisation M=2.84, SD=1.05, N=161	13.04% (21)	25.47% (41)	25.47% (41)	36.02% (58)
Lack of materials for teaching/incorporating improvisation M=2.01, SD=1.02, N=159	38.99% (62)	32.70% (52)	16.35% (26)	11.95% (19)
Student discomfort with improvisation M=1.73, SD=0.85, N=155	49.03% (76)	33.55% (52)	12.90% (20)	4.52% (7)

Summary

Research Question 1 asked if string teacher educators felt that it is important to include improvisation as part of string teacher preparation, and why or why not. The survey results indicate that the majority of string teacher educators are interested in improvisation and feel that it is important to include in music teacher education. Many respondents described improvisation as beneficial to undergraduate music students' musical growth, both technically and expressively, and for the development of teaching skills for pre-service music teachers. However, participants reported concerns such as time constraints, an overloaded music education

curriculum, and student and faculty discomfort with improvisation as impediments to including improvisation in their classes.

Research Question 2 asked if string teacher educators felt that current pre-service string teachers are prepared to include improvisation as part of their teaching, and to what degree. The results of the survey indicate that the majority of participants feel that pre-service string teachers were minimally prepared to include improvisation in their future teaching, both from the participants' institution and the profession in general. The results indicated that the majority of participants were not using improvisation as part of their teaching in string techniques and methods courses, for a variety of reasons. If the pre-service music teachers were not receiving improvisation training or observing improvisation instruction modeling in their string education classes, they would be less prepared to teach it and may be less likely to include improvisation in their future instruction. Additionally, if it was not included as part of instruction by their professors, the students may perceive improvisation as having little value in the string classroom.

Research Question 3 asked if string teacher educators were including improvisation as an organic part of their string methods and techniques classes, and if so, in what form. The results demonstrate that, while some string teacher educators may feel strongly about the importance of improvisation, the majority of respondents included improvisation activities in their classes only sometimes to never. The participants indicated that they used call and response (both rhythmic and tonal) activities the most often, followed by the instructor modeling of improvisation for the class and exploratory improvisation with parameters.

Research Question 4 asked what types of opportunities are available for pre-service string teachers to develop their improvisation skills through curricular offerings. The minority of participants (70, 44.42%) stated that improvisation classes were available to all students, with a

small number (19, 11.45%) reporting that it was a required class. As part of the open-ended responses to Question 32, two participants suggested music theory classes or classes where students would play on their primary instruments.

CHAPTER 5

INTERVIEW RESULTS

Whereas the survey was intended to provide a general sense of how often and how much improvisation was included in string class instruction as well as to get an idea of the types of activities that teachers included in their classes, the follow-up interviews were designed to provide a more in-depth look at the practice of string teachers educators who were using improvisation as an essential component of their instruction. By investigating how they employ improvisation in their classrooms, it may be possible to inform the practice of others who are interested in incorporating more improvisation into their instruction. I interviewed five string music teacher educators who incorporated improvisation deeply into their teaching practice in order to answer the following research questions:

1. Why do these string music teacher educators incorporate improvisation in their classes?
2. What strategies do these string music teacher educators use to incorporate improvisation in their teaching?
3. What strategies do these string music teacher educators suggest for preparing pre-service music teachers to incorporate improvisation in their teaching?

Many survey participants ($N= 50$) volunteered to take part in the interview portion of this study. The five music teacher educators that I chose to interview not only included improvisation but also felt strongly that it was an important component of music education. I have assigned a pseudonym to each interviewee and have removed any identifying information.

Participants

David Campbell

David Campbell is a veteran professor in a school of music at a large research university, and teaches both undergraduate and graduate classes in music education. His pre-collegiate teaching background includes 3 years of teaching strings in a public school. Campbell had no experience with improvisation during his undergraduate courses, but he now plays violin with local jazz musicians to develop his improvisation skills. Throughout the interview, Dr. Campbell was enthusiastic in talking about the use of improvisation in undergraduate music education, peppering the conversation with emphasized words and animated speech. When asked at the conclusion of the interview if he would like to add anything, he laughed and said, “No, I think you’ve covered my two cents. Maybe too much, I’m sorry. *[laughs]* But it’s a topic I live with in my head, everyday.”

Donna Cooke

Donna Cooke teaches string techniques and instrumental methods classes at a small Christian university. She taught private and Suzuki lessons in addition to strings and general music classes in the K-12 setting. While she did not experience improvisation as part of her undergraduate instruction, she played violin in the jazz band during her senior year in high school, and her private teacher taught her some improvisation through classical cadenzas. Dr. Cooke is passionate about world music and utilizes it with her string techniques class as an opportunity to improvise.

Peter Jensen

Peter Jensen has “always improvised” since he “was a little kid,” first on the piano and then with the violin. Because his undergraduate degree is in jazz performance, he did not take

any education methods courses as an undergraduate. Before Dr. Jensen began teaching music education courses at a school of music in a large research university, his teaching experiences included teaching improvisation classes as an adjunct professor, teaching strings and orchestra classes at a private school, and private studio teaching. Dr. Jensen brings years of jazz performance experience and improvisation research to his teaching.

Jake Peterson

As the applied double bass instructor at a large school of music within a small comprehensive state university, Jake Peterson also teaches double bass techniques and pedagogy to string music education majors. As performance major in both classical and jazz, Professor Peterson did not take any education methods courses. He experienced improvisation in his undergraduate course work through his jazz courses. Before teaching at the collegiate level, Prof. Peterson taught private bass and worked as a clinician for high school groups. A proponent of using improvisation as a means to teach problem solving and develop student independence, Prof. Peterson sees improvisation as “more of a global thing” and is interested in the idea of improvisation across disciplines, specifically combining improvised music with dance or literature.

Zach Roberts

Zach Roberts teaches music education courses and directs the National String Project at a large, private, religiously affiliated university. Dr. Roberts taught for over 20 years in public schools and enthusiastically discussed the use of improvisation in both his high school teaching and in his collegiate string and instrumental methods courses. Having had no experience with improvisation during his undergraduate studies, Dr. Roberts became interested in learning more after an improvisation experience as an adult: “I had an opportunity at a summer camp to

[improvise], and it was one of the scariest things I've ever done! And I thought, this is ridiculous. What they were asking me to do was *not* that hard, but as a classically trained musician, I had never experienced it in a less stressful environment.” Dr. Roberts was passionate about the topic of improvisation and eager to share ideas and discuss the importance of improvisation in the classroom.

Themes

The semi-structured interviews included questions about pre-collegiate teaching, experience with improvisation, perceived preparation of pre-service string teachers, the importance of improvisation, and classroom strategies and suggestions for the inclusion of improvisation in music education classes (see Appendix E). The participants shared promising practice models and ideas that might help others in the incorporation of improvisation in string classes. The participants came from a variety of backgrounds and taught in dissimilar situations, yet they shared many commonalities and beliefs. After multiple rounds of coding and categorizing, the following themes emerged: Benefits of Improvisation, Challenges of Improvisation, and Strategies for Incorporating Improvisation. These themes related directly to the research questions, which is not surprising as the research questions guided the content of the interviews and served to help organize the data.

Benefits of Improvisation

The first research question asked why these string music teacher educators incorporated improvisation in their classes. The main theme of Benefits of Improvisation divided into two sections. The first section, Benefits to Music Students, includes the codes: Improving Aural Skills, Improving Technique, Creativity, and “Bridging the Gap.” The second section of this theme is Benefits for Pre-service Music Teachers. This research question also included the theme

of Challenges of Improvisation. The codes for this theme include Time Constraints and Class Size, and Student Apprehension.

Benefits to Music Students

In talking with the participants, it became clear that the inclusion of improvisation was strongly grounded in their teaching philosophy and that improvisation was central to their philosophies rather than simply a classroom activity. The participants felt that improvisation was important to include in coursework, because it benefitted their students as musicians and as future teachers. The participants spoke of the benefits of improvisation for students in both undergraduate and K-12 settings, and shared a variety of reasons for including improvisation in their teaching, including increasing students' technical development, creativity, independent learning, and confidence.

Improving Aural Skills

Some participants shared that improvisation activities help to develop aural skills. Roberts said he sees improvisation as "this century's way of teaching ear training." He continued, "I think, you know, the old 'plunk it out on piano and write it down', and what we all did as university undergrads in musicianship class, is so unfriendly to people who may *not* be professional musicians. It's so unfriendly to me anyway. I would love to have been able to figure out ways just to play back what I heard...a lot of times I thought...what the teacher is playing on the piano, how would I play that on my instrument, and then I would write it down. I think that what I didn't have as an undergrad was the ability to on my instrument, to echo." Roberts' use of echo activities in both K-12 and collegiate classes help students develop this skill. He stated, "...It's really developing rhythm and the ear, a rhythmic sense, a rhythmic pulse, and the ear" regarding improvisation. Cooke stated, "Some of the 2nd finger issues go away" when using

improvisation because “they’re listening more closely.” She explained, “When you’re improvising, you do pay a lot of attention to the sound, because you’re trying to decide if it’s working, so I think it really helps with intonation.”

A significant amount of music instruction is notation-based music in our public schools and colleges, and many students may be reliant on written music. Roberts shared, “It’s funny because in the ‘60’s there was such a backlash against rote learning. The whole big Suzuki tour that took place in the early 1960’s where these 2- and 3-year-olds are coming in playing major concertos, and they learned it all by rote. The thought with rote learning is, these kids can’t read *period*, they can’t read a book at two or three, why would we expect them to read music?”

In addition to improving aural skills, Roberts added that improvisation activities provided a chance to include music theory as well. He shared: “The nice thing about it is I get to teach music theory while we’re doing this. Because...I’ve talked about triads, and we’ve spelled triads in D major and in A major, and then I’ve talked about tonic and dominant, I chord, V chord, you know, I start using all the terminology. We as musicians go around and we call the tonic chord, the root chord, the “I” chord, the D chord, it has so many names, but we can start explaining what those are at a very basic level. I was using those terminologies interchangeably with middle school eighth graders. And I don’t know about you, but I didn’t know those terms until I got to college! [laughs] I felt like improvisation gave me the opportunity to introduce theory concepts to the kids without having to test them on it in a written form because they were actually *doing* it.”

Improvisation activities can help students develop their ability to learn by ear and could prove helpful for students who may have never experienced “sound before sight” in their early instrumental studies. Additionally, some string students struggle with intonation on their

instruments and in aural skills classes. Improvisation activities could provide links among applied lessons, aural skills, and music theory, rather than having each of these being separate “silos” of learning in the music curriculum.

Improving Technique

The participants felt that the use of improvisation helps string students further develop technique. Campbell stated, “I have seen first-hand evidence that...improvisation is intrinsically motivating to students, so I use it as something to enrich and to lead them on in their own technical and musical development.” Jensen shared, “...there’s also some research that shows you learn your technique better, you learn your scales better, if you’re able to improvise over those scales.” When asked if using improvisation activities helped her students build technique, Cooke agreed “Oh, definitely!” She shared that in addition to helping improve intonation, as stated earlier, other technical skills improved as well: “...I think the chance to be improving [*improvising*], for some students, relaxes them enough that their bowing gets better. They get a more relaxed bow hold.”

Peterson uses improvisation to teach multiple musical elements in his methods courses and in his studio teaching, such as intonation, rhythm, vibrato, bowings, scales, and bow distribution. He explained: “So, it’s getting off the page, and providing variables that are going to change. They could be variables from the point of rhythm, duration of notes and, if you’re holding an extended note, impact on bow control and vibrato and things like that...It’s not what’s on the page, it’s off the page, but it’s in terms of the pure technique of what’s going on.” Peterson described a bow distribution activity in which he sets the metronome, but the student does not know the duration of the note until Peterson tells him, just before each change of bow. He explained, “So in other words, they’re dealing with bow distribution in a variable situation.”

Peterson also has his students improvise based on Gregorian chant. “So the end result is that we’re both constructing our line in response to what the other person is doing, but... in real time, we’re coming up with intervals, that we have to tune, ensemble playing. It has to be sound production, rhythm, intonation, since we’re not all playing unisons, we’re playing sixths, we’re playing octaves, we’re playing thirds, we’re playing fourths, and...when it really works, everyone goes--that’s sort of a light bulb moment--when we’re going along and then you hit the unison and it stayed in tune, it’s like holy [...], what was that?” He noted that these types of activities give students a different way of practicing and listening carefully for good intonation.

Creativity

The participants felt that improvisation provided opportunities for students to develop creatively, both musically and in practicing. Campbell said that improvisation provided a creative outlet in his classes for both native string players and those learning string instruments for the first time. He shared, “Because music is music, so once they have some tools to be able to make some music on the instrument, we can go past just repeating what someone else has already written but we can build upon it ourselves through our improvisation.” Cooke stated, “Music is about having fun, it’s not about being perfect every time. It’s about trying new things and being creative.”

Jensen also spoke of creativity and how teachers are often the ones controlling the creative aspects of music making. He said, “...We dictate what they play, how they play it, how they bow it, where the dynamics are,” and he asked, “...If we compare that to the definition of creativity, which is that the creator creates something that’s novel and appropriate, do these kids create something that’s novel and appropriate? No, they don’t. So, is it a creative activity? No, not really.” He called improvisation a “natural and easy way” to be creative “because all of a

sudden, they have choices about notes, so by definition it's creative. It's not the only way to be creative, but you can't improvise without being creative, because you're creating something that's novel..."

Peterson also spoke about improvisation presenting music students with another means for musical and personal expression. He described three different jazz trumpeters who played very melodic solos instead of performing the technical displays that were so popular at the time. He shared, "And it sort of impressed upon me the idea that playing this music, one can be an individual, one can develop one's own personality...so I feel as though that possibility, that idea, is a really important thing to impress on people, especially younger people, where there's this pressure to conform."

Roberts shared that improvisation provided him another venue for teaching phrasing. He explained, "And the call and response, I might introduce it and say, 'Okay, you're going to start on D and end on A. Second player, you're going to start on A and end on D, anything in between is fine.' And I just basically outline a phrase and they understand...number one, we've taught them what a phrase typically looks like, and we've also taught them, where they go is important, and where they come from is important."

Improvisation can also help students develop creative strategies for practicing and problem-solving. Peterson suggests using different rhythm patterns for practicing, asking a student to "say something and thinking of the speech rhythm...use the speech rhythm to play the notes." Peterson suggests using this strategy to work out a difficult technical passage and as a way to practice scales and modes. Problem solving and creative, independent thinking are necessary for musicians and educators. Peterson expressed that improvisation can help musicians and pre-service educators develop those skills: "I'm still using degrees of improvisation almost

on a weekly basis with people in terms of how to manage problems, how to work on particular challenges. And if I can introduce people to the concept of improvisation, then it hopefully provides them inspiration when they're trying to problem solve and work on things on their own. So, it's not simply a question of 'you must practice this in *this* fashion, in this box', you know?" He added, "If people can feel empowered to improvise a solution...then, they don't really need me."

Peterson also expressed concern that "things are more and more structured...and people are spending more and more time sitting in front of an electronic device." He worried that "there is little independent thought in terms of what is going on" and that people increasingly go for the quick answer, or quick fix. Peterson shared, "They tend to go to Wikipedia...or Google something, and whatever they see there, they accept as being the truth." He added, "It's just sort of, 'I need an answer to this, this will solve my problem, I'll just find out what it says on this box [computer] and that will be the truth', so there's no independent thought about doing anything." Peterson spoke of some music performances being in the same vein, "And everything's packaged, concerts are packaged, I mean artists don't even *sing* anymore..." His concern with this perceived lack of independent and creative thinking leads him to include improvisation as a means of helping students become more creative thinkers and "to try to get people to think outside the box, if they can. The more we can get them to think outside the box, the better."

"Bridging the Gap"

Music educators have written about the disparity between "in-school music" and "out-of-school music," which results in a lack of relevance of school music programs (Kratus, 2007; Williams, 2011; Miksza, 2014), especially the large ensembles of band, choir, and orchestra, which involve only approximately 20% of the students in today's schools. These thoughts were

echoed by the string educators that I interviewed. Campbell stated, “I think because we’ve removed our music curriculum in the schools *so far* from the daily, everyday kind of experience that a child has with music, that we’ve isolated ourselves.” Improvisation can help develop aural skills, which in turn can help students in learning to play their favorite music by ear. Giving students the tools to improvise allows them to play the music to which they are listening outside of school. Campbell explained: “By teaching them how they can create music themselves, that they have a few tools using the improvisation, and putting it within rock and roll, is one way to bring them into music education.” Cooke shared that one reason she included improvisation with her K-12 students is that she “wanted them to feel really free and comfortable playing lots of styles of music.” Her current collegiate students often perform in Christian worship ensembles and she explained, “...Christian contemporary music uses lots of pop genres for praise bands and that sort of thing, so my students do a lot of pop-style improv.”

Benefits for Pre-service Music Teachers

The music education majors benefit not only in terms of their musical skill and creativity development, but also in the development of their teaching skills. The inclusion of improvisation activities can provide a model of teaching using “sound before sight”, which may be new to the pre-service teachers. The pre-service teachers can experience improvisation first hand and observe the instructional modeling of their professors. Peterson said, “In the methods class that I teach, I use improvisation as a way of learning how to play the double bass.” Jensen shared, “I use improvisation—I don’t know if they realize it, but...we’ll be practicing on an open string and I’ll say ‘make up your own rhythm on that open string’, or we’ll be practicing changing from one string to the other, and then I’ll say ‘OK, you make up something yourself’.” Jensen explained that he will “step in” and model, and “step out” to discuss what he just did in the workshop or

class. Campbell shared that he is “being the modeler, so that I am leading them and showing them how I develop these skills myself, one step at a time, so that they can actually just *join* me, rather than me just *telling* them to do it.” He is not only teaching them how to improvise; he is making explicit for them how he is teaching them improvisation, which will help them when it comes time for them to teach it to their students.

The participants wanted their students to develop confidence with teaching improvisation. Campbell stated that his “goal, at the undergraduate level, is to create an attitude of openness to it, give them some basic tools for them to be able to start, and then when we show them the steps of how they could actually teach it in their own classrooms.” Cooke includes improvisation so that her pre-service teachers are ready to incorporate improvisation in their future teaching, saying, “They’re going to need to teach this; it needs to be so comfortable for them that they can make kids be comfortable with it.” Cooke described her area as a “pretty big alternative styles community” and that “it’s sort of an expectation for a teacher here to have some improvisation background.”

Jensen shared that, while he leads the string techniques class, his string methods class is more student-centered in order to give them a chance to practice teaching. “They need to be up there improvising, doing stuff...the student needs to be up in front of the other students in that class, to get experience with leading the class.” Roberts added the importance of modeling whether to deliver feedback to students on their improvisation. He said, “...With my pre-service students, I actually have them lead the class. When we have a class ensemble, it’s ‘Here, you’re the teacher, go do this’, before you go out in the field and try it.” He continued, “And they make all *sorts* of mistakes, not as improvisers, but as the teacher *leading* the improvisation. No, don’t stop and start talking to a kid about their improv. Just smile at them, say it’s good and go on to

the next one. [Don't] focus on a student at their most vulnerable time in their life, [laughs] they've just improvised, just give them a thumbs up and go on to the next kid, no matter whether they sound good, or not so good. And they love to stop, and have discussions with the kids after each one, and I went 'Ohhhh, don't do that.' [laughing] Just keep going!"

Using improvisation in the string methods and techniques classes allows pre-service music teachers to develop strategies for teaching music but also for teaching in general, including the need for flexibility and when to give feedback. Peterson spoke of the need to be flexible when teaching. He shared that developing "the ability to improvise answers, or improvise solutions, will help people with their individual practicing but also, hopefully, will help people when they try to teach groups of people. You have to be changing your game plan when you're teaching people. You can't be sticking to the same thing." He believes that teaching itself is an improvisatory art form, and teaching pre-service teachers to improvise on their instruments might transfer to their being able to improvise as they teach.

Pre-service music teachers also benefit from the opportunity to use improvisation in their field experiences. When asked if his National String Project (NSP) interns use improvisation in their teaching, Roberts responded, "They do! They do some of the early concepts, and I don't tell them they have to, [but] they just say 'Here's a warmup today, we're going to use some echo-play', they give the parameters and they go. Usually, it's about the time that I'm teaching it to them in class [laughing]."

Challenges of Improvisation

Time Constraints and Class Size

The participants described time constraints and class size as challenges to including improvisation in their classes. Cooke stated, "I don't have a lot of time with my string techniques

students. You know how it is in music ed programs. . . they kind of blitz through.” Cooke explained that she makes time for improvisation, but could only get through a few activities in “the one quarter that they have with me...I can’t get any farther than that [laughs].” Roberts teaches a string methods class, with string education majors who are interns with the National String Project site. Of this class, he said, “I don’t do anything [improvisation] in string methods...I only have them for a 2 hour class and I’ve got to pretty much cover all the other aspects of beginning string playing in that class. My string major classes are in conjunction with our String Project here. I just have to go fast.” Roberts does the introductory improvisation activities with his non-strings major class “because they look like beginners.” He is able to use improvisation as a means of working on technique in that class. Expressing regret at not including improvisation with the string major course due to time constraints, he shared, “I would *love* to be able to figure out a way to incorporate at least the introductory lessons, because actually my trumpet and trombone players know more about string improvisation than my *string* players do, until they get to the next class.”

One participant observed that class size could compound the challenge of time constraints, with much to cover over the course of the semester. Peterson described these concerns with his bass technique course: “It’s a little harder with the *{bass technique}* course because there is so much information to go through in a very limited period of time, and those courses tend to be larger courses. Of late, most of my *{bass technique}* courses tend to have 10 people or more, which is hard to do. The *{bass methods}* courses, tend to be 4 or 5 people, so it’s a smaller group of people and it’s possible to spend time working on variables such as shifting, technical variables, such as shifting or rhythm or duration, or things of that nature.”

Student Apprehension

The participants shared that student apprehension about improvising was a challenge. Some students may have had negative previous experiences with improvising or may have never improvised and do not know where to begin. The participants believed that past negative experiences with improvisation have left lasting impressions on many musicians. When asked if he has encountered apprehensive students in his classes, Campbell replied, “Yes, it’s simply because one, they don’t know to do it. And number two, they may have in their past--and I’m finding this more frequently--been asked to improvise in the class setting and they were more or less put on the spot, and they were not given the tools and the information *how* to actually improvise and so they failed, right off the bat, so now they are *quite* apprehensive.” Jensen emphasized the need for a positive first experience with improvising, and stated, “The experience of improvising solo in front of the group, students or teachers or whoever, it’s real essential that that very first experience is a good one, because if they have that initial experience and feel uncomfortable, then they’re never going to want to improvise again.”

Peterson acknowledged that many classically trained players are apprehensive about improvising. He suggested, “For people who are afraid of improvising, or people who come from a very classical background where [it is] black and white, I try to impress upon the idea that it can be fluid and it’s not a question of a black and white mistake being made, but shades of gray can be fine.”

Strategies for the Inclusion of Improvisation

The second and third research questions asked what strategies string music teacher educators use to incorporate improvisation in their teaching and what suggestions they have for preparing pre-service music teachers to incorporate improvisation in their teaching. The

participants described strategies for including improvisation that could work in an undergraduate music education class and the K-12 setting. The subthemes include Acknowledging the K-12 Teaching Reality, Creating a Safe Environment, Keeping it Simple, Incorporating Multiple Styles and Genres, Improving Music Teacher Education, and Resources and Opportunities for Professional Development.

Acknowledging the K-12 Teaching Reality

Having participated in K-12 teaching in some form in their careers, the participants acknowledged the time constraints and community expectations that many music educators experience in the “K-12 Teaching Reality.” Campbell shared, “Because often when you talk to teachers about ‘Oh, I’ve got this new concept’... they often think ‘Oh...now I’ve got to do this, but I’ve got 49 concerts to do and I don’t have enough violas and what do I do for the celli’, you know, all those kinds of things which is where teachers *really* live...” The participants voiced that, for many K-12 educators, public performances are a major community expectation, and teachers must deliver a high-quality product. As such, many music teachers concentrate primarily on developing the technical skills necessary to prepare repertoire for those performances. They may perceive a lack of time to incorporate improvisation due to the focus on concert and contest preparation. Unfortunately, many may not realize that they could include improvisation as part of a warmup, and as a way to improve the technical skills of the group. As Roberts said with a laugh, “But, you know, we also have concerts we have to prepare. *[laughs]* So, I am a big fan of doing it almost every day, but doing it in a 2-3 minute chunk, as part of warmup and move right to the next thing,” which is an avenue that would allow music educators to include improvisation without losing rehearsal time for repertoire. Peterson concurred, saying, “Because, perhaps they have limited time...they have an agenda that involves getting this music

ready for band night, so we have to get this together, and so we have to work on this...it's all very goal-oriented, the idea of taking time out to do something that's different, simply doesn't exist. So I'm concerned that people don't actually have the time in the curriculum."

Jensen's suggestion for the concert and improvisation conundrum was to program a piece that would require improvisation and prepare for that as with any other new piece. He said, "I think the biggest problem teachers face is, they say, 'Well, I really want to do it, but I have this concert next week' and then it goes on the back burner. And to *those* people, I say, program a piece on the concert that includes improvisation. And I can't stress that enough because, when you do that, then all of a sudden that becomes a part, and you do the same things as you would when you study *any* kind of piece that you don't know."

The participants recognized the concerns of the K-12 reality, especially time constraints. Campbell shared, "But, you can take five minutes, and then you begin to kind of figure out...how you can incorporate this a little bit every day, and it's going to open up all sorts of doors...it doesn't have to *replace* at all what you're doing, but it can augment and make your program even better and your students even probably more creative."

Creating a Safe Environment

Participants believed that the first and most important aspect of including improvisation in the classroom is for teachers to create a safe environment for exploring and learning. Roberts said, "I think at the beginning level, however we approach that, however it's first introduced, whether it's to young kids, middle school kids, high school kids, or college kids, it has to be very, very, comfortable, and if we push them too fast, we're not going to be successful, and we're going to turn people *off*." Roberts began incorporating improvisation when he was teaching in the public schools after experiencing improvisation as an adult: "I thought, I've got to

try and figure out some way to introduce this to kids so they're not so scared to death of it when they get to be my age." Knowing that some students are apprehensive to improvise due to previous negative experiences, music teacher educators must create an atmosphere for exploration that minimizes concern about mistakes.

Acknowledging that music students strive for perfection on their major instruments, Cooke suggested presenting initial improvisation exercises on a neutral instrument rather than a student's major or secondary instrument: "Sometimes people are very personal about their string instrument; they've been reprimanded so many times for playing out of tune that they're uncomfortable trying things. So trying on Orff instruments first, and then moving gradually to their own instrument sometimes is more comfortable." Peterson shared that he explains to his students that they already have some improvisation experience: "I start off by talking about how improvisation is essentially an everyday activity. We improvise all the time in our day-to-day life. It's not like improvising music, but we improvise so many things. And people get a sense that 'ok, improvisation exists somewhere, so I'm not predestined to do the same thing every single time. I can make decisions and then change things up'. Once I get people to understand that, I think that helps..."

The size of the improvising group can also help minimize apprehension, and many of the interviewees described how a large group could help with that. Participants suggested that having everyone in the class exploring at one time decreases anxiety, as one is allowing students to experiment at their own pace within the comfort of playing in a large group. They found that, as students gain confidence, the groups could become smaller. Cooke suggested, "I think sometimes it helps to do group improvisation first, then smaller groups, so everybody is improvising at the same time." Peterson agreed. "It's the idea of not making it one on one but

making it a group effort, so everybody is encouraged to participate at their level, and maybe the more they do it, they will do it *more*.” Jensen used small group improvisation in his classes as well.

The idea of the initial large group narrowing to smaller groups also allows time for giving feedback and celebrating each other’s successes. Campbell asks members of his methods class to record their improvisations (with his pre-recorded rhythmic backing tracks) and email the recordings to him. After he listens to the recordings, “then we play [them] in class, and we all experience the success that everybody’s had, and *then* I’ve got them on the road... to being able open to becoming real improvisers.” Cooke has her students play for each other, as “little quartets and stuff, if I have time--you know the quarter goes by quick—I like to have the groups perform their little bits for each other.” This gives her students the opportunity to support each other and to provide feedback to one another, with Cooke modeling that process. The positive feedback and gradual move to smaller groups helps to minimize anxiety.

On the other hand, Jensen cautions that music educators should not wait too long to introduce individual playing. However, he believes that this should occur first on a single open string. He said, “I feel very strongly that it’s beneficial to start doing individual improvs...you can’t do anything wrong, and that’s when you start going around the room. Because if you go too far in your sequence and *then* go around the room, then you’re going to have some students that are uncomfortable with it. But if you set that expectation really early, that usually gets them much more comfortable by the time you get further in the sequence.” Roberts also included solo playing early on, but always with a comfort zone for the soloist and being cognizant of establishing parameters: “But pitch-wise, they only know a certain number of pitches on their instrument. So, you can define the pitches or at least define the parameters. ‘D, E, F#, we’ve

learned these three notes,’ the first week of school and so then you just have the students go down the line—someone plays, the class echoes, someone plays, the class echoes.”

Another means of creating a safe environment is making the activities fun and more like a game. Peterson said he felt that it was important “to make whatever they do a game, making it fun and inclusive.” In his bass methods course, he has students create a “...sound play, where everyone has a character, and you play something based on your character” and you “create little sound portraits. It’s a game, it’s fun, and it gets people to participate and imagine sound that can be played on their instruments, that are not the norm.” Participants spoke of using familiar melodies and creatively changing them. After students in Cooke’s class have learned “Twinkle, Twinkle Little Star” she leads them in “a lot of opening exercises where they do different patterns on Twinkle...and each of us decides what they’re going to do for the pattern and they take turns leading that and coming up with ideas.”

For beginning improvisers, a major source of apprehension is the fear of making a mistake. To alleviate this concern, Peterson suggested “getting people to realize that, in a sense, there’s no wrong answer. There are some answers or some results that are better than others. There are other results that may not fit in the particular context, so I think the important thing is to try to get people to understand that it is not right or wrong, it is fluid.” Peterson added, “The notes you’re playing may sound weird in the context that’s going on right now, but in 30 seconds if someone else changes a note, maybe the note you’re playing is going to be the perfect note.” Roberts stated that he emphasizes that the soloist is never wrong in the early improvisation. “On the first day some kids would shy away and not try and do it, but when they realized that I was never going to find anything wrong with what *they* did, only with what the class echoed, then I got great response from everyone.”

Jensen talked about the cognitive side of improvising and how he explains this to apprehensive K-12 students in workshops and music education majors in methods and technique classes. He said, “You’re going to have this experience of monitoring your own playing, and you’re going to have this experience that your fingers are ahead of your thought processes, that you have this feeling of not being completely in control. And that’s the way it has to be, because you can’t make individual note decisions quick enough.” He believed that learning that the “feeling of not being completely in control” is normal may be comforting to a beginning improviser and may lessen apprehension.

Initially subscribing to just a musical definition for improvisation, Peterson now sees improvisation as “a more global thing.” He described improvisation initially as something you create “with little or no preparation,” and added that we are “informed by our past choices,” whether in conversation or in music. This concept of bringing what students already have experienced to the table, is helpful as they begin to improvise and create their own ideas musically. Peterson adds that this is why “the more one improvises, the more one *can* improvise.” Jensen echoes this when discussing strategies to alleviate apprehension with improvising, by sharing that musicians already have a “host of licks that we have played or sung in our music making experiences.” Jensen described explaining this to high school students who are afraid to make a mistake while improvising. Students can draw fragments from their musical experiences and use them to create an improvised musical moment.

Jensen shared that students need to know that mistakes happen and to remember that it is not uncommon and easily handled: “One of the problems with that is that sometimes you make a note choice that you then don’t like. But, what you can emphasize to those people is...this is what happens to artist level improvisers; the only difference is, they keep playing. I think for

them to realize that what they're feeling is this self-consciousness, this feeling of lack of control, and this feeling that you're monitoring what you are playing after it's already played, I think, once you show that that's actually what happens with even artist-level improvisers, that...I think is a comfort to some people." Roberts echoed this sentiment, saying, "One of my favorite quotes from my church choir director, about hitting the wrong note is 'Don't worry, salvation is only a half step away'. [laughs] You know if you play the wrong note, just resolve it, if it's a chord note, wherever it is, up or down one note. I can explain that to the kids and they go 'Yeah, it's not that hard, is it?'"

Keeping it Simple

The participants stressed that simplicity is important for beginning improvisers and for the pre-service teachers to understand when working with students. They believed that music teacher educators must model a sequenced approach to incorporating improvisation for the pre-service music teachers. Roberts described his curriculum as having 20 steps, starting out with simple exercises, such as same note echoes, to get students comfortable. Acknowledging time constraints and the need to create a comfortable environment for students, Roberts shared, "You know, each little baby step is probably a week, if you have a 10-minute warmup, it's 2 minutes out of a 10 minute warmup once or twice a week. And it's all acclimation, it's all familiarity. So when my student teachers go out, pre-service student teachers, and they go practice this, I have to constantly tell them, 'remember, the kid improvising is always right', it's whether the group can echo it or not." Campbell agrees with the idea of simple, sequenced learning, and modeling "a whole series of sequenced steps with the concept being that yes, you can do this, and here is a real practical, step-by-step way to learn how to do it."

Part of the sequenced approach and keeping it simple, the participants found, is giving students parameters. Telling students that they can “just make something up” can be overwhelming, and some students do not know where to begin. By providing parameters, the participants believed, the teacher helps to diminish confusion and allows the students to start simply. Roberts uses echoes, with one soloist playing and the entire class echoing back, before call and response, suggesting a hierarchy of difficulty: “Call and response calls for a higher order of improvisation, but we were just doing echo, back and forth, at the introductory level. Pretty much whatever rhythm they wanted, a certain amount of prescribed pitches because the kids have never done it before.” Jensen also described these types of activities: “The sequence I use, which I also use in workshops, and I definitely would’ve used in my method class is, you start by copying. The teacher plays a rhythm, the class plays the rhythm.” Jensen uses “copying” with tonal patterns as well. Then, Jensen adds, “I say something like, ‘I just asked you a musical question, what did you do with the question’, the class typically says, ‘answer’. Until you talk about it a little bit and they realize they’re not really answering because they’re playing the same thing. Right? So then the next step is, you say, ‘ok, now I want a true answer, so let’s do exercises on the open A string’, and now the next step is they’re playing you a different rhythm back to you on the open A string.”

Campbell explains that keeping things simple at first can help to build confidence with improvisation. In his methods course, Campbell begins with basic echo exercises and builds on that, like Roberts. Campbell shared, “The most important thing I’ve tried to do is...to build some confidence, and so that when we are beginning...we’ll just start in D major...and just with B’s and E’s for example. Because I want to build their confidence that they actually are going to be able to do this. Then I’ll add additional pitches, then eventually a rhythm that they can choose

from, different octave ranges, and finally with a style. But it's a whole series of sequenced steps with the concept being that yes, you can do this, and here is a real practical, step-by-step way to learn how to do it."

Describing an assignment with the rhythmic backgrounds he has created and posted for his students online, Campbell explained, "I give this as an assignment, to improvise 5 minutes a day on top of that rhythmic background. And in that rhythmic background, there's only one key, and as long as they play any pitches within that *one* key, they're going to be fine. And we'll start out in simple duple meter, and make it very easy, we'll make the tempo accessible to them. Because one, I want them to have fun...the best thing for them is to first have fun, is for them to feel that success at actually doing it." The students experiment on their own time and differentiate their own learning, trying just an open D with the track, and then adding pitches to see how they fit with the accompaniment track. Campbell explains, "'Oh, I can actually do this, even if I just play my open D along with this track', and then 'Oh, okay, I can do that or let me play D and E and see how I can get that to sit', 'Oh, let me try D, E, F#'..." . This activity allows students to try new improvisations in a comfortable setting. Additionally, he has created a rhythmic background over which students can improvise "using software like Garage Band and Real Pro" and using different musical styles such as "like blues or jazz or bossa nova or basic rock and roll." This provides students with the opportunity to practice improvisation on their own, but with harmonic and rhythmic underpinnings, working with different keys and different styles of music.

An important component of the sequenced approach is patience, according to the participants. Music majors, having developed into strong musicians themselves, sometimes forget what it feels like to be a beginner and want to move ahead quickly. Teachers must be

careful to not move too quickly in the process, thinking that students are bored and want to move on. Roberts spoke of his instrumental methods class, which includes band majors: “In that class, we do a unit on improvisation in which I kind of go through what I call the first 20 steps of teaching beginning improvisation. And then they go out in the field and actually do the first couple of steps with whatever groups we have them working with. And it’s always a lot of fun because the ones who do steps 1 and 2 are always *highly* successful and the ones who jump to step 6 are *not* so successful because it *all* takes time.” Roberts cautions that music educators must be patient with improvisation activities because, “Once you get to a certain level, the kids will be happy doing the same thing over and over and over again. You don’t have to *push* them to get that, because you’re the first person that’s ever taught them anything improvisational, so they don’t know whether they’re going fast or slow!” He added that he has to remind himself of this when conducting a workshop with in-service teachers: “In a clinic, I love to see how far we can go, and inevitably, we go so far where they start not being successful.”

The participants described improvisation activities that they have used in class or in workshops. The activities included warmups involving echo or imitation patterns, call and response, using familiar tunes as a basis for improvising, repeating familiar exercises in new keys, and creating backgrounds over which students improvise. The participants emphasized the need for each step to be simple, the importance of scaffolding the learning, and the necessity of not to move too quickly. Students need time to become accustomed to improvising and to be able to participate in the activities at their comfort level.

Peterson uses improvisation in his bass studio teaching and in his bass technique and methods courses. He encourages his students to improvise every time they practice as way to work on technical issues and just for the sake of creating: “...improvising *something* and tape it,

for no other reason than to tape it. And then in a month's time, listen back to it, don't listen to it right after you play it. Improvise something for 2 minutes, whatever that improvisation's going to be, it could be related to a technical thing, it could be related to playing in a key. If someone is more comfortable playing arco, I'm going to say try to improvise something all pizzicato or vice versa." Peterson continued, "...when you don't feel like practicing, listen back ...you may find it's nicer than you think it is. You don't need to do anything with it, it's just an observation. So, if I get people to improvise on a daily basis, I think it tends to warm them up and loosen them up."

The participants stressed that music educators must not only teach students at their level of ability but should also appreciate what they already know and bring to the learning environment. Incorporating improvisation activities with beginners is possible whether they are college students learning a secondary instrument or young students just starting instrumental instruction. Educators draw from what students can do and what they already know. Roberts described this concept with regard to beginner instruction: "What do they know? Open D, and if you can't play it with the bow, you can pluck it. So great, let's put rhythms on open D. As a matter of fact, if they don't have instruments, let's just clap rhythms and have the class clap them back. They can start out with whatever tools they have available, and that's level one." Roberts also describes this idea involving rhythms: "And rhythm, I think is ridiculous to prescribe, because they know every rhythm imaginable, so why not let them play it?" Students listen to music, both actively and passively, in their everyday lives. Without notation to decipher, students can play any rhythm they think of, based on what they may have heard elsewhere.

Music teacher educators can model the concept of drawing from previously heard material and experience. Cooke explained, "That's kind of an important thing for people to get

over, you know? Improvisation is about making something new every time, but it doesn't mean you can't use somebody else's idea." Jensen shared that older students need to "realize all the imbedded licks that they already have, all the musical figures that are already in their fingers...with the more advanced players, it's kind of a matter of unlocking what they already know."

Incorporating Multiple Styles and Genres

Improvisation is frequently associated with jazz and often thought of as difficult. The idea that improvisation often is associated with jazz caused some participants to stress that improvisation embraces more than one musical style and level of ability. Jensen stated, "...improvisation is not stylistically limited...it's any style." Campbell stated the need for students to learn to improvise in many styles: "So, my goal is not for them necessarily to learn jazz, because I think improvisation is bigger than jazz. Jazz is *one* way that we can encourage and develop people's improvisation skills. But jazz is essentially a *style* of music, and so we need to be able to improvise within *lots* of different styles." When asked to share one of the most important concepts she has modeled for her students, Cooke replied, "That you don't have to be already a jazz musician to do it." She makes sure that her students know they can start with basic improvisation.

Roberts cautioned that while jazz improvisation might be a destination, it is not the first step to take. The higher technical demands of jazz improvisation make it a difficult starting point for many musicians. Roberts shared, "I think one of the problems is, when we introduce improvisation, we introduce it through jazz. ... jazz is like the highest form of improvisation...in some ways it is, it's one of the most difficult forms, so let's not start there, let's *end* there. At least make it *one* of our ends." Peterson agreed that jazz is a difficult starting place for

improvisation: “The biggest problem for me is the fact that there are so many rules, so many things they have to learn before they can actually improvise, that [it] actually closes people down...” Participants suggested starting with basic improvisation, allowing students to get involved, and then giving them the tools to be able to create their own music in whatever style they choose.

Jensen, though, shared the need for music teachers to be able to do more than basic improvisation: “Now, of course, there’s a difference between doing exercises where you play your own rhythm on an open string and then being able to play a jazz tune. Or a bluegrass tune for that matter, that actually changes key. So that may be the next frontier, we can’t just put out teachers that can just do the very elementary, we need to put out teachers that could actually put on a jazz performance at a 3-day workshop. We’re the ones that need to bridge that gap.”

Cooke is a proponent of using world music as part of the improvisation activities. Drawing from the book *World on a String* (Holmes and Volk, 2001), she described using an African kushaura, which provides a structure over which to improvise patterns, explaining, “That’s why I use it...it’s really the only way to make that piece work, is to improvise. And they’re comfortable doing that, because it’s simple patterns and they can all come up with something the first time.” Cooke continued, “I do a lot of improvising over a pentatonic scale with the Chinese piece that’s in that book, so that everybody plays the melody like a head, and then everybody does a pattern on the pentatonic and then takes turns improvising. And the same with the Arab piece that’s in there. It’s in Nahawand, so it can be improvised really easy on the Nahawand scale.” This is an opportunity to approach improvisation from a multicultural perspective and discuss how improvisation is used in the music of different cultures around the world.

Improving Music Teacher Education

Given the challenges of including improvisation in the string methods and techniques courses, I asked the participants if they felt that improvisation should be offered as a stand alone class or incorporated in all education coursework. The participants responded with a variety of answers and acknowledged the heavy course load of music education majors. Jensen stated, “I actually feel it should be included in the music education courses. Because, one of the of problems is, every time something new comes out, we’ve got to create another course, right? [laughs]...the problem with that is not only do we have an overloaded curriculum, but we also have all of these topics that don’t connect. So it’s really the integration of improvisation that’s the key.” Cooke suggested, “Ideally, it should be incorporated into everything, not just music education classes,” but she acknowledged, “that would depend on your faculty, and how comfortable they are doing that.” Campbell agreed, to a certain extent: “I think it should be both, with one qualification. I think every music education major needs to have a required course in improvisation. But if it should be part of *every* music ed course, I’m not sure...in fact, I’m pretty certain that’s a little overkill.” Roberts aligned with Campbell’s thoughts: “I don’t think I could incorporate it into *every* music education class, but...I mean, there’s only so much we can teach the kids in four years, anyway. I do think it is *one* of the things we need to address, and I certainly *talk* about it in *all* of my classes, but I’m probably intensively doing it only during one of them.”

Peterson agreed that an improvisation course should be part of the curriculum in the beginning, but that perhaps it could be integrated over time. “It should be part of what they do. It may start off as being a stand alone course but if it can be integrated...I think that the more it can be incorporated the better, but I feel as though it is a long process. I feel as though there are a lot

of old schools of thought, and there are a lot of people who don't want to give up the old ways, because they know the old ways." Some schools do offer an improvisation class that is open to all majors. Roberts described his colleague's beginning improvisation class: "He had string players in there, he had woodwinds, and vocalists, just anybody, and he basically taught them the concepts at a much higher level, of what I do at the beginning level. And it's really not related to the jazz ensembles, he's just teaching improvisation concepts." Classes such as these can introduce improvisation, but according to the responses of most of these participants, integrating it in music education classes would be most beneficial.

Another option is to provide an alternate ensemble in which students could improvise. While Campbell encourages all his "string education majors to play at least one semester in a jazz band on their string instrument," he expressed interest in creating ensembles that could serve as alternative to jazz: "We don't have a rock and roll, bossa nova group, those kinds of things for them too. I hope to work with the jazz guys here at {school}, to get them to create ensembles of different kinds, vehicles that will help incorporate improvisation as well. But that's further down the road." Peterson spoke of the importance of creating an improvisation ensemble, and "trying to get people to make improvisation a daily thing. So, if there could be an improvisation ensemble for string players, at least beginning with that, and then maybe a completely improvised music ensemble for everybody. So, if people are aware of some degree of improvisation as a way of expressing themselves in an ensemble or individually, then I think that permeates the entire world that they work in."

Resources and Opportunities for Professional Development

I asked the participants for suggestions to aid pre-service teachers, in-service music teachers, and music teacher educators in the incorporation of improvisation in their teaching. The

participants described several resources, including materials (books, methods, play-along recordings), workshops/clinics, conference presentations, and colleagues.

The participants shared resources and materials that they use and/or recommend for others. The method books or classroom resources included *Jazz Philharmonic* (Phillips & Sabien, 2000), *Jazz Fiddle Wizard* (Norgaard, 2000), *Jazz Fiddle Wizard Junior* (Norgaard, 2002), and *World on a String* (Holmes & Volk, 2001). Cooke shared that method books were helpful, especially for those just starting out: “I think a lot of people like the Alfred jazz series for strings [*Jazz Philharmonic*]. I think a lot of people like having that as a tool, because if you don’t have a lot of experience, having something with some recordings you can play along with makes it easier.”

Peterson suggested resources for reading, including *Free Improvisation* (Nachmanovitch, 1990), *Effortless Mastery* (Werner, 1996), and *The Music Lesson* (Wooten, 2008). Surprisingly, while most of the participants said that jazz was not the only way to learn improvisation, or that it was in fact a higher form of improvisation, most of the resources named involved jazz. Perhaps this is because many of the available resources are jazz-based. One participant revealed that he was in collaboration with a well-known improviser and clinician to create an improvisation curriculum for use in the K-12 setting. Roberts emphasized the importance of sharing knowledge and ideas via the American String Teachers Association journal as well as state education journals: “I think more teachers in the field read that [state] magazine by far, 30 *times* more teachers in the field read that magazine, than JRME.”

While reading books and articles is helpful, the participants emphasized attendance at workshops, clinics, and conferences as an excellent way to learn more about improvisation. As Campbell stated, “Reading about it is one thing, but actually *doing* it is another.” Cooke

suggested hosting a guest clinician, mentioning, “Julie Lyonn Lieberman does a lot of ‘Strings without Borders’ workshops. They need to bring somebody in, so everybody gets a comfort level.” Cooke also said this was especially important in terms of world music: “I think it’s important to do not just jazz, but some world music, but you almost have to have like a clinic to do that, to know how to do it as a world music thing.”

Both Roberts and Jensen suggested attending the American String Teachers Association National Conference. Roberts said, “The ASTA of the last 10 years has grown into something really wonderful.” Jensen echoed, “Go to the ASTA conference...get started with improvisation, that kind of workshop is very often there.” Roberts also spoke of the importance of music teacher educators and improvisers “doing clinics in the grassroots and at the state conventions” as “the best way to reach the teaching force, because they’re all there. And they may *read* about it, but...the reading about it in the magazine is one way to plant the seed, but when they can see it in action, that makes a *huge* difference.”

While talking about conferences, Roberts suggested the idea of “the formation of some formal curricula...people getting together discussing improvisation curriculum.” He has a sequential curriculum that he follows and is “constantly tweaking...to make it better because I think it can be kind of dry.” The participant currently creating a curriculum with the K-12 teacher in mind described it as: “...incorporating basic improvisation, step by step, with lesson plans and so forth for the string educator in the classroom. It’s going to be both in print form and online with various tracks...within the next year, we’ll start doing workshops for string educators in the schools, taking them through the curriculum and providing the materials for them...” One would expect that both of these teacher educators model these curricula for their pre-service music teachers, who would then have a basis for incorporating improvisation in their teaching.

Sharing those curricula with other pre-service teachers, in-service music teachers, and music teacher educators through conferences and workshops, would give more teachers the opportunity to see how to include improvisation in their teaching.

Learning a new skill and adding to the material necessary for a course can be overwhelming, but music teachers and music teacher educators have many opportunities to gain insight and knowledge. Jensen pointed out, “*All* string teachers teach something they aren’t comfortable with. If your main instrument is violin, and you teach a bass player in the back of the room, you call out fingerings, well, how’d you learn that? How can you teach a bass player without being able to play the bass...you learned it. And you can do the same with improv.” The participants shared anecdotes about working with colleagues to brainstorm ideas or to learn more about a topic. Roberts collaborated with his jazz professor colleague to present at a state conference. Campbell suggested going to colleagues: “They are going to have to go to the band directors, who are teaching a jazz band...I have learned a tremendous amount from my jazz band colleagues. If the string teacher goes there and says I’d love to learn more about what you are doing, that’s going to just blow away most jazz band directors. I mean they stereotype us, as very straight, classical, white, middle-class, highly educated people and that is a true stereotype *[inaudible]* much. But, but if the string teacher went next door and went ‘Hey, could I sit in?’ or ‘Could you, over the summer, could you teach me how to do what your doing?’, wouldn’t that be so cool?” In addition to speaking with colleagues, Campbell also suggested going outside of school and into the community. He said, “So they could use their local resources, I mean I’m in a large city here, but we’ve got lots of local jazz musicians who play around town. So I’ve gotten to be friends with them...they’re not string players, you know, they’re saxophone and guitar

players and so forth, and singers. And so I've gotten together with them and had them begin to teach *me* as a violinist what they're doing."

Summary

I interviewed the participants with the purpose of examining the use of improvisation in string methods and techniques courses in more depth. In addition to providing multiple strategies for the inclusion of improvisation, the participants shared that their improvisation instruction was rooted in philosophy and felt strongly that it provides a useful tool for teaching. By incorporating improvisation, providing experiential learning, and modeling how to teach improvisation to pre-service music teachers, they are demonstrating the importance of improvisation in music education.

CHAPTER 6

QUANTITATIVE AND QUALITATIVE DISCUSSION

With the intent of improving string music teacher education, this mixed methods study sought to discover the breadth and depth of the incorporation of improvisation in string teacher education, specifically its use in string methods and technique courses. As described in Chapter 3, I merged and analyzed data from both phases of the study to determine the ways in which the qualitative results support, conflict with, or enhance the quantitative results. This answers the mixed methods research question:

1. In what ways do the quantitative and qualitative data align and differ?

This study followed a mixed methods design with an independent level of interaction, which meant collecting and analyzing the quantitative and qualitative data separately (Creswell and Plano Clark, 2011, p. 64). After analyzing both strands (or phases), the researcher mixes the data during the final interpretation and discussion. Creswell and Plano Clark state, “All mixed methods designs should reflect on what was learned by the combination of methods in the final interpretation. For mixed methods designs that keep the two strands independent, this is the only point in the research process where mixing occurs” (p. 67). This chapter will focus on the mixing of the data and answer the mixed methods research question. To illustrate how the quantitative and qualitative data align, I have organized the discussion by themes from both sets of data, based on the research questions. These themes include: Benefits and Challenges of Incorporating Improvisation, Perceived Preparation of Pre-service String Teachers, Frequency and Forms of Improvisation, and Opportunities for Developing Improvisation Skills.

Discussion

Benefits and Challenges of Incorporating Improvisation

The survey results indicated that the majority of string music teacher educators felt that it is important to include improvisation as part of string teacher preparation. When asked to describe the benefits, if any, of including improvisation, the survey participants shared that improvisation helps to develop aural skills and technique, allows for musical expression, applies directly to teaching, and that engaging students in improvisation helps to fulfill the National Standards. The participants also indicated that improvisation study helped to develop creativity in both music and problem solving.

The interview participants supported all of the benefits named by the survey participants. Since improvisation activities removed the need to focus on notation, Cooke noted that students could pay more “attention to the sound” and this improved intonation. Peterson shared that improvisation was an avenue for a musical expression, to “be an individual, one can develop one’s own personality.” Roberts explained that his pre-service teachers have utilized improvisation with their National String Project students, which allowed them to transfer collegiate learning directly to field experience. As Cooke stated, “They’re going to need to teach this,” referring to improvisation.

When asked to describe the drawbacks, if any, of including improvisation, survey participants described time constraints, conflicting curricular needs, and student and instructor apprehension. Several survey participants expressed concerns that students did not know their instruments well enough to improvise. One respondent shared that improvisation “takes focus away from main goal of class-to develop technique...” which provided contrast to the many who

felt that improvisation helped develop technique. The assertion that using improvisation as a teaching tool helps students develop technique is supported by the research of Azzara (1993).

While some survey participants agreed that improvisation was beneficial, they felt they did not have time to include it in their classes. The majority of survey participants perceived a lack of time to incorporate improvisation as the biggest impediment to incorporating improvisation into their classes, which was supported in the extant research literature (Blockland, 2014; Conley, 2009; Stringham, Thornton, and Shevock, 2016, in press). They indicated this in the survey as both an option choice and as part of the open-ended responses of the benefits and drawbacks.

Although they faced some of the same challenges as the survey participants, the interviewees all felt strongly that improvisation should be part of the curriculum. Both Roberts and Cooke acknowledged that time constraints were a concern. This lack of time in the curriculum seems to present a challenge, even for music teacher educators who value and promote improvisation. Jensen acknowledged the full curriculum and suggested that improvisation could be incorporated into coursework, rather than being a stand alone class. Campbell shared that one could include improvisation activities in just five minutes of class, and that it “doesn’t have to replace” what a teacher is doing, but can “augment and make your program even better and your students more creative.”

Perceived Preparation of Pre-service String Teachers

The survey results indicated low participant confidence in their own pre-service string teachers’ preparation to include improvisation in future teaching, with the majority (66.88%) indicating students were “1-Not prepared” to “2-Minimally prepared.” The participants reported

even less confidence with all pre-service string teachers' preparation to include improvisation, with 74.69 % indicating "1-Not prepared" to "2-Minimally prepared."

The interview participants held mixed views on the perception of pre-service music teachers' preparation to include improvisation in their future teaching. Campbell stated, "They're not. They're not prepared, at all, and it's not their fault." Peterson stated, "I fear...to be honest, I haven't checked into it too much, but I have a fear that they are not prepared." Cooke described the opposite: "I think that in the {city} area, I think they're *crazy* well prepared." Cooke has described the area in which she teaches as a "big alternative styles community," and the expectation of the community is that teachers will incorporate improvisation. As a result, there is an emphasis on improvisation at both her institution and a large neighboring university.

When Campbell stated that it was not the fault of the pre-service music teachers, he explained, "I don't think those people who are actually *training* students, people like myself, training teachers, we're not doing it, enough. And so it would be logical that therefore the teachers graduating, those who are going into teaching, they're not going to have the skills, either. It's like the chicken and the egg." Roberts agreed with the idea that pre-service string teachers are not prepared to deliver improvisation instruction. Expressing the belief that he may be the only music teacher educator in his state including improvisation as part of the string education curriculum, he was hopeful about other areas of the country, speaking of "isolated pockets" of teacher trainers incorporating improvisation in the classroom. However, he concluded, "I would say we are not doing a particularly good job of it, across the country." Roberts also spoke of the current teachers in the field wanting more education with improvisation: "I've done several clinics on this topic, and I think 90 percent of the people I'm

talking to, these are music teachers already in the field, don't have a clue what I'm talking about, and they're soaking it up."

Jensen shared that "it's a little bit of a myth that nobody knows how to do it, because I think actually more and more people are..." and then he described a music teacher education scene that is evolving: "I think it's a mixed picture. I think if you have asked 10 years ago, I think yes, that most people would have said they were unprepared, but I think, I *hope*, it is changing. And I do feel that, I do think that it *is* changing." Jensen also referred to the differing levels of improvisation, as discussed earlier, and that music teacher educators need to "bridge that gap" between beginning level improvisation and more complex improvisation like bluegrass and jazz.

The survey participants indicated low confidence in the pre-service teachers' ability to deliver improvisation instruction. However, if string music teacher educators are not including or modeling this type of instruction for the students, it is difficult for the pre-service teachers to begin to understand how to teach it (Reveire, 1997; Blockland, 2014). This view was supported in the interviews, and was referred to by Campbell as the "chicken and the egg" situation. This also supports the findings of Stringham, Thornton, and Shevock (2016, in press) that instrumental music teacher educators are not including much improvisation instruction in methods classes.

Obviously, faculty members play an important role in their students' preparation to improvise and teach improvisation. Campbell expressed concerns regarding the faculty teaching string education classes, "...there are people who are wonderful applied teachers, but do not have any kind of experience in the public schools, [and] should they be the ones teaching the string techniques and methods classes?" According to the survey results, colleges and universities have

a variety of faculty members (music education, performance, teaching assistants, full-time, adjunct) teaching the methods and techniques courses. Some of these faculty members may be what Campbell describes. Jensen said, "...it's great to take an improvisation course but if it's taught by a professor that doesn't know how to incorporate improvisation exercises in the classroom, that doesn't guarantee that the students that come out of that program will know how to do it in the classroom."

Frequency and Forms of Improvisation

The frequency of improvisation activities varied between the survey and interview participants. Although the majority of survey respondents described the benefits of including improvisation in methods and techniques classes, the results indicated that the majority included it only "Sometimes" to "Never" as part of instruction, which is similar to the findings of Laughlin (2004). The interview participants included improvisation in their teaching of string methods and technique courses regularly, but this is not surprising as that was one of the criteria for interview participant selection.

The survey and interview participants shared ideas for incorporating improvisation in the techniques and methods class, with some overlapping and others conflicting. The most frequently used improvisation activities described by the survey participants were call and response using rhythm patterns and call and response using tonal patterns. The interview participants shared using these activities as well. Roberts and Jensen used terms like "echo" and "copy" for student to play back what they have heard, and "call and response" to indicate playing back something different. I did not specify a difference between these two activities in the survey, so it is unclear if the survey participants are using "echo" or a "same-different" call and response. The survey participants indicated that "Instructor modeling improvisation for the class"

was used minimally to occasionally. The interviewees all indicated they made heavy use of modeling in class. Campbell spoke of modeling in the class, showing rather than telling the students how improvisation could be used in class, “so they can actually *join* me”.

In the open-ended responses, survey participants described using Baroque bass lines, Gregorian chant, an instructor-created “blues comp line”, and the D pentatonic scale as a basis for improvisation. Others suggested the use of ethnic folk music. Survey respondents also suggested using exploratory improvisation to create different moods or “soundtracks.” The interview participants echoed these ideas, as well as suggested using world music, multiple styles, and pre-recorded back up tracks. Cooke in particular emphasized world music, while Campbell created accompaniment tracks over which his students could improvise, Peterson used chant, Roberts used Johan Pachelbel’s *Canon in D* as well as rock-oriented bass lines, and Jensen used jazz-oriented method books and original orchestra pieces that included improvisation.

Opportunities for Developing Improvisation Skills

The majority of survey participants reported that their institutions did not offer an improvisation course available to all music majors. Similarly, the majority of survey participants reported that an improvisation class was not required for music education majors. While improvisation is part of the NASM requirements, there is no directive on how to include it in the curriculum. Campbell expressed that schools need to “get it in their requirements...so that every student has to be able to demonstrate some basic improvisation skills at the undergraduate level.”

Opportunities for the pre-service string teachers to develop their improvisation skills could come in the form of a stand-alone improvisation class or as part of their music education classes. Hickey & Rees (2001) suggested “...if music teacher educators were to deliver such instruction as an organic part of their methods courses, preservice music teachers would feel

more confident in the delivery of such instruction.” Other researchers found that schools felt they could include more improvisation instruction (Jones, 2005; Madura Ward-Steinman, 2007; Wollenzien, 1999). The concern is how to provide these opportunities, when both the survey and interview participants indicated that class time is limited and the music education curriculum is already full. As Jensen shared, “Because, one of the of problems is...every time something new comes out, we’ve got to create another course, right? [laughs] Now we’ve got to do a technology course, we’ve got to do an improv course, you know? And, the problem with that is not only do we have an overloaded curriculum, but we also have all of these topics that don’t connect.” Another option is to provide an alternate ensemble in which students could improvise. Peterson echoes this same idea of creating an alternate ensemble. However, this is another class or rehearsal, and the problems of an overloaded curriculum could be an impediment.

Peterson shared, “If *we* at this stage, can encourage those music education students to be involving improvisation more, and if we could be providing opportunities for people to be improvising and getting more comfortable with it, I think that could help. If you have music education students who are comfortable with the idea of improvisation, or less *uncomfortable*, they can spread that out to other people. It’s just [that] the person who’s never done it is scared of doing it, [and] then they’ll never do it.”

CHAPTER 7

SUMMARY, CONCLUSION, AND IMPLICATIONS

Review of Purpose and Problems

Current research with the use of improvisation in string music education courses is scarce. While studies have investigated the use of improvisation among undergraduate music education courses (Bell 2003; Bernhard, 2012; Byo, 1999; Brophy, 2002; Della Pietra and Campbell, 1995; Madura Ward-Steinman, 2007; Stringham, Thornton, and Shevock, 2016), K-12 music students (Azzara, 1993; Beegle, 2010; Bitz, 1998; Brophy, 2009; Douglas, 2005; Guilbault, 2004, 2009; Kanellopoulos, 1999; Kiehn, 2003; McPherson, 1997; Priest, 1997), and with K-12 string music educators (Blockland, 2014; Reviere, 1997), it appears that no research has looked specifically at the use of improvisation in undergraduate string education courses.

With the intent of improving instruction, this mixed methods study sought to examine the use of improvisation in undergraduate string music education courses. The specific problems of this study included separate research questions for the quantitative and qualitative strands, and one research question for the mixing of the data. The specific research problems of this study are as follows:

Survey Research Questions

1. Do string teacher educators feel that it is important to include improvisation as part of string teacher preparation? Why or why not?
2. Do string teacher educators feel that current preservice string teachers are prepared to include improvisation as part of their teaching? To what degree?
3. Are string teacher educators including improvisation as an organic part of their string methods and techniques classes? If so, what form does this take?

4. What types of opportunities are available for preservice string teachers to develop their improvisation skills through curricular offerings?

Interview Research Questions

1. Why do these string music teacher educators incorporate improvisation in their classes?
2. What strategies do these string music teacher educators use to incorporate improvisation in their teaching?
3. What strategies do these string music teacher educators suggest for preparing preservice music teachers to incorporate improvisation in their teaching?

Mixed Methods Research Question

1. In what ways do the quantitative and qualitative data align and differ?

Review of Methodology

Because of the lack of research in this area, I chose a mixed methods design, as "...the combination of quantitative and qualitative data provide a more complete understanding of the research problem than either approach by itself" (Creswell and Plano Clark, 2011). Specifically, I chose elements of the Explanatory Sequential and Convergent Parallel designs. I limited the study to NASM-accredited schools that offered a four-year undergraduate degree in music education leading to K-12 teaching certification and completed an exhaustive search in order to send the survey to every possible known string education instructor in the United States. I thoroughly searched each NASM-accredited school website, and, if unable to find the string education faculty member, I emailed the chairperson or department head to request contact information. If I did not receive a response, I sent the survey to those individuals with the hope that they would forward the survey to the correct faculty member. Additionally, I emailed and/or called administrative assistants to gather the correct names and email addresses.

Once all of the information was gathered, I sent a researcher-created survey to all known string music educators teaching at NASM-accredited 4-year undergraduate music education programs in the United States. As part of that survey, I sought volunteers for interviews to achieve a deeper understanding of the phenomenon.

Summary of Results

The survey results paint a picture of what is currently happening in string methods and techniques courses across the country in terms of improvisation. The results of the survey indicate that the majority of string teacher educators are interested in improvisation and feel that it is important to include in music teacher education. Many respondents described the benefits of improvisation for undergraduate music students' musical growth, both technically and expressively, and for the development of teaching skills for pre-service music teachers. However, participants reported concerns such as time constraints, an overloaded music education curriculum, and student and faculty discomfort with improvisation as impediments to including improvisation in their classes.

Although many participants stated they valued improvisation, the results indicated that the majority of participants were not using improvisation as part of their teaching in string techniques and methods courses, for a variety of reasons. The majority of respondents included improvisation activities in their classes only sometimes to never. The participants indicated that they used call and response (both rhythmic and tonal) activities the most often, followed by the instructor modeling of improvisation for the class and exploratory improvisation with parameters.

The minority of participants (44.42%) stated that improvisation classes were available to all students, with a small number (11.45%) reporting that it was a required class. The majority of

participants feel that pre-service string teachers were minimally prepared to include improvisation in their future teaching, both from the participants' institution and the profession in general.

The interview participants came from a variety of backgrounds and taught in dissimilar situations, yet they shared many commonalities and beliefs. The semi-structured interviews included questions about pre-collegiate teaching, experience with improvisation, perceived preparation of pre-service string teachers, the importance of improvisation, and classroom strategies and suggestions for the inclusion of improvisation in music education classes. After multiple rounds of coding and categorizing, the following themes emerged: Benefits of Improvisation, Challenges of Improvisation, and Strategies for Incorporating Improvisation.

While the return rate was 30% and the margin of error for the survey was 7%, the survey produced data that represent a significant number of string music educators across the United States. The interviews provided more depth on the topic. Self-reported data may not always be reliable and qualitative results are not generalize-able. However, because of this study, we now have a snapshot of what is currently happening in string music education with regard to improvisation.

Conclusions

Following are the most important conclusions of the study.

1. String music teacher educators, as a majority, believe that improvisation is important to include as part of a music education degree.
2. Most string music teacher educators feel that improvisation is helpful to all music students and their technical and musical development.

3. Many string music teacher educators feel that lack of instruction time is a significant impediment to including improvisation in their teaching.
4. Most string music teacher educators feel that pre-service string teachers are not well prepared to include improvisation in their future teaching.
5. Many string music teacher educators are interested in incorporating improvisation in their teaching.

Implications for Practice

When asked why he chooses to include improvisation in his teaching, Jensen laughed and responded, “In addition to being part of the National Standards?” Research has indicated that improvisation has often been the least implemented standard of the 1994 National Standards (Reveire, 1997; Louk, 2002; Orman, 2002). Yet, music teacher educators have the opportunity to include improvisation instruction. Now that creating is one of the main three strands of the 2014 Standards, it is even more imperative that music teacher educators demonstrate how to include improvisation in their classes for pre-service music teachers.

There appears to be interest and value in the incorporation of improvisation into the music education curriculum across the country, and yet, it is not happening consistently. If music teacher educators think that improvisation is important, they must model the inclusion of improvisation for their students. Peterson shared, “If you want to be a music education teacher, you need to be doing things that include improvisation...I feel as though there are a lot of old schools of thought, and there are a lot of people who don’t want to give up the old ways, because they know the old ways.” What music teacher educators leave *out* of their curricula sends a message about what is valued just as much as what is included.

Music teacher educators can prepare future music educators better by including improvisation as part of the music education curriculum. The survey results indicated that most schools do not require an improvisation course and that not all music students have access to improvisation classes. The interview participants had differing opinions on this topic, acknowledging an already crowded curriculum, but emphasizing that improvisation must be part of the music education program. A stand-alone class would provide an opportunity to fully immerse the students in improvisation, but may not fit into the congested music education curriculum. Further, the professor of that course may not have any experience working with younger students or in the K-12 setting. As shared in Chapter 6, Jensen said, "...it's great to take an improvisation course but if it's taught by a professor that doesn't know how to incorporate improvisation exercises in the classroom, that doesn't guarantee that the students that come out of that program will know how to do it in the classroom." The best strategy at this time may be the integration of improvisation in music education methods courses.

Researchers have suggested that including improvisation as part of methods courses may be an effective way to include improvisation in the music education curriculum (Della Pietra and Campbell, 1995; Hickey and Rees, 2001). Ideally, improvisation would crossover into many courses for pre-service music teachers: methods, technique, studio, aural skills, and theory (Abrahams, 2000; Campbell, et al. 2016; Shuler, 1995). Stringham, Thornton, and Shevock (2016) found that instrumental music teacher educators felt that improvisation was important for pre-service teachers, but also felt that it could be learned in classes other than instrumental methods courses. With so many of the survey respondents for this current study reporting that improvisation is important for music education, we as teacher educators must find ways to include it in our teaching and modeling for future teachers.

Music teacher educators should demonstrate how to improvise and how to deliver improvisation instruction in each methods class. Many teaching methodologies for elementary music emphasize improvisation, and the elementary music methods class is an ideal place for pre-service music teachers to experience this instruction. Music teacher educators need to model and discuss improvisation in choral and instrumental methods classes as well, because those courses focus on the settings in which many of the pre-service teachers will actually apply improvisation in their classrooms.

Modeling the incorporation of improvisation in the traditional large ensemble settings of band, choir, and orchestra is essential. The focus of most large ensemble rehearsals is learning composed music with appropriate performance practices. This is the ensemble model that music students often experienced in their K-12 settings, and they continue to experience in college. Improvisation could be included as part of warmups, or a mid-rehearsal activity. If the collegiate ensemble conductors also included improvisation in rehearsal, that would send a strong message about the importance of improvisation, and all music students would benefit. By participating in improvisation activities as part of rehearsal, students would not only develop their technique, but also develop their listening skills and musical sensitivity.

In order for pre-service music teachers to learn how to deliver improvisation instruction, they need to experience it firsthand. As Campbell stated, “Reading about it is one thing, but actually *doing* it is another.” By actively participating in the instruction, the pre-service string teachers can develop new skills and absorb how to teach those skills. As with other concepts taught in methods classes, the music teacher educator should demonstrate the sequence of teaching and creating a safe environment for learning. As Jensen explained, part of the modeling in the course is explaining *why* the students are participating in a certain activity, explaining how

to do this same activity with younger students, and why it is effective instruction. In the case of a string methods course, students may be taking that course concurrently with teaching in a practicum and have the opportunity to apply what they are learning in the class directly to their teaching, like Roberts' National String Project interns.

In string methods and techniques classes, music teacher educators can use improvisation as a teaching tool to help students develop proper set-up and technique. Students can focus on bow holds, bowing technique, tone production, and articulations while playing open string rhythm echoes and call and response activities in class. These same open string rhythm patterns allow the students to concentrate on proper instrument set-up and appropriate left hand frame. Similarly, tonal echoes and call and response activities allow the students to focus on intonation. The music teacher educator models how to begin with what the students know (at the very beginning, open strings), and continue to build technique from there. Improvisation can be used to help students study new keys and tonalities without the "burden" of notation. Music education students can create bass lines and develop ostinati for the songs typically learned in beginning strings classes, which they can use in future teaching.

Both the survey and interview participants described student apprehension as a concern. The music teacher educator must create a safe classroom environment for improvisation. Teacher educators should model and provide a safe environment for any class, but it is of added importance in this setting. Improvisation can be very personal and students may feel vulnerable while improvising. If music teacher educators create an environment that encourages musical exploration and learning from "mistakes," students may feel more comfortable with improvising. Modeling appropriate feedback for the class can also foster supportive peer interaction.

The music teacher educator should demonstrate appropriate pacing with improvisation activities. The interview participants shared the importance of beginning with simple improvisation activities and not moving along too quickly. Roberts emphasized the importance of pacing with his string methods classes; “The ones [students] who do steps 1 and 2 are always *highly* successful and the ones who jump to step 6 are *not* so successful because it *all* takes time.” Exploratory improvisation activities, with or without parameters, are useful to allow students to move at their own pace. Music teacher educators can model how to differentiate instruction in this setting; some students may need to stay with more simple improvisations until ready to move on, while other students may feel ready to create more complex improvisations.

In addition to making a conscious effort to add improvisation to the methods and techniques classes in the music education curriculum, schools of music might consider a change in the application and audition process. Currently, the typical music education student performs classical music for an audition. Perhaps schools of music and music education programs also should consider admitting students who are performers of non-classical music, who could be strong future music educators. These students often have experience and are comfortable with improvisation, so they might be more likely to implement it in their own teaching. Music students learn from each other in classes, rehearsals, and practice sessions. Classically trained students could learn from the vernacular players and vice versa. This musical diversity could prove beneficial for students and faculty alike.

Researchers (Abrahams, 2000; Shuler, 1995) have advocated for professional development for music education faculty with regard to improvisation. The successful inclusion of improvisation depends on the music teacher educator, and if the educator is not comfortable with including improvisation or has not had experience incorporating it in a K-12 setting, then

the students may not be receiving a helpful model. In order for the incorporation of improvisation to be successful for pre-service teachers, music teacher educators need to gain more knowledge and comfort with it.

Professional groups such as ASTA and NAFME provide opportunities for professional development through conferences and webinars, as well as articles in refereed journals. Perhaps these organizations could create professional development workshops specifically designed for music teacher educators with regard to improvisation. Music departments could invite clinicians to work with the whole faculty, or the music education faculty alone. However, since applied or adjunct faculty also teach string techniques and methods classes, colleges and universities should consider all faculty when thinking of professional development for music education courses.

String music educators have many options for further study with improvisation. Professional development opportunities are available at state conferences and at the American String Teachers Association National Conference, where there are several improvisation and sessions. In addition, many clinicians offer summer programs for improvisation study. Music teacher educators could seek individual lessons from a colleague or a community member with improvisation experience. Just like the pre-service music teachers, music teacher educators must take advantage of the opportunity to explore, learn, and grow.

Suggestions for Further Research

There continues to be a need for research about the incorporation of improvisation into string music education. The next steps could be to examine string teacher educators who employ improvisation successfully in their teaching. If one were to observe their teaching or to video-record their work and follow a “think aloud” protocol with them, more information and ideas for teaching could be discovered. Further, a survey and/or interviews with the former students of

these music teacher educators, to see how they are using the instruction they received, could shed light on how their undergraduate classes prepared them to deliver this instruction. Other studies could use this model to investigate the use of improvisation in other methods courses, such as band instrumental, elementary and/or secondary general, and choral.

Azzara (1993) found that the ability to improvise appears to lead to a better understanding of tonal, rhythmic, and expressive elements of music with elementary band students. An area for further research is to see if the inclusion of improvisation in string instruction helps to develop the technique of collegiate students playing on secondary instruments. Additionally, a descriptive study could look at the use of improvisation as a means to work on technique by studio teachers and to prepare the students for 21st century employment.

Several survey participants expressed discomfort with improvisation or felt it was not an important use of time in class. A potential study could follow music teacher educators with similar attitudes to those in the survey, provide them with a brief, intensive training, similar to Madura Ward-Steinman (2007) and see if any of the attitudes and comfort level change after the course is complete.

Research could investigate the most effective means for teaching improvisation to pre-service music teachers. A comparison between a semester long intensive improvisation course and the use of improvisation in music education courses to see which is more effective in teaching improvisation could prove useful to the profession.

Closing Thoughts

Music teacher educators are interested in including improvisation as part of their teaching, but they feel limited by time and curricular demands. Teacher educators are familiar with the adage, “we teach as we have been taught,” and consequently music teacher educators

must model improvisation for pre-service music teachers regularly in string methods and techniques classes.

String music teacher educators who are successfully incorporating improvisation into their teaching need to provide professional development for other string music teacher educators to help them become more comfortable incorporating improvisation into their teaching. Perhaps they could invite other string music teacher educators to observe them incorporating improvisation in their methods and techniques courses. Also, string music teacher educators who are not comfortable incorporating improvisation into their teaching should seek professional development actively to help them to do so. This could come in the form of conference presentations, workshops, clinics, and mentoring by colleagues. Seeking improvisation instruction from members of the community, as Campbell does, seems to be not only an excellent method for learning, but also to make connections that could lead to community engagement and perhaps opportunities for students and faculty to learn together. Learning a new skill, and adding to the material necessary for a course can be overwhelming, but string music teacher educators have many opportunities to gain insight and knowledge. Whether from colleagues or community members, conferences or clinicians, music teacher educators must model for their students that teachers never stop learning.

APPENDICES

Appendix A

Survey Email and Consent

Dear String Music Educator,

My name is Nancy Conley, and I am a doctoral candidate in music education at Michigan State University. My doctoral dissertation investigates the use of improvisation in undergraduate string methods and techniques classes, and I am requesting your help.

You have been identified as a teacher of a string methods and/or techniques classes (i.e. Strings Class, String Methods, etc.) at your institution. If you do not teach any of these classes, please redirect this survey to the person(s) in your department who best fit(s) that description. If you are the teacher of these classes, I would deeply appreciate your participation. Whether or not you include improvisation in your teaching, your input is extremely valuable to this project. If you have received and responded to this survey for another institution, please disregard this message; do not fill out this survey twice.

The survey should take approximately 10 minutes to complete. Your responses will be strictly confidential. Participation in this study is voluntary; you may choose not to participate at all, and you may opt out at any time. You also may skip or choose not to answer any question without consequence. The results of this study may be published or presented. By participating in this survey, you are giving your consent for me to include your survey answers as part of the data for my dissertation. You can access the survey by clicking the link below. The survey is password-protected, and the password is “improv”. Please complete your survey by Friday, November 7, 2014.

If you have any questions about this study, please contact me, Nancy Conley, by email (conleyn1@msu.edu) or by phone (607.259.2265). You may also contact my advisor Dr. Cynthia Crump Taggart by email (taggartc@msu.edu), by phone (517.432.9678), or by mail at 209 Music Practice Building, College of Music, Michigan State University, East Lansing, MI 48824.

Thank you very much for your time and assistance.

Sincerely,
Nancy Conley
Doctoral Candidate in Music Education
Michigan State University

Appendix B

Survey

SURVEY INSTRUMENT

The Use of Improvisation in Undergraduate String Methods and Technique Classes

DEFINITIONS FOR THIS SURVEY

Pedagogy/Methods Classes:

Classes in which music education majors primarily study the art of teaching string instruments.

Techniques Classes:

Classes in which music education students learn to play orchestral string instruments: violin, viola, cello, and double bass.

Improvisation:

For the purposes of this study, I am defining improvisation as a spontaneous musical creation developed rhythmically, melodically, and/or harmonically.

Section 1: Institutional Demographic Information

1. Indicate the NAFME region in which your school resides:

<input type="checkbox"/> Eastern	<input type="checkbox"/> Southern
<input type="checkbox"/> North Central	<input type="checkbox"/> Southwestern
<input type="checkbox"/> Northwest	<input type="checkbox"/> Western

2. Provide information regarding enrollment at your institution:

number of undergraduate music education majors at your institution
 number of undergraduate string music education majors at your institution

3. Does your institution offer secondary string technique classes for music majors? (Classes in which music education students learn to play orchestral string instruments: violin, viola, cello, and double bass)

yes
 no

4. How are secondary string instrument technique classes organized at your institution?

_____ Homogenous (individual classes for violin, viola, cello, and bass)

_____ Divided by upper and lower string (violin/viola and cello/bass)

_____ Heterogenous (mixed instruments, ensemble style)

_____ Other (please describe):

5. Describe the students taking the secondary string technique classes:

_____ Strings majors only

_____ Wind/percussion/vocal/piano music education majors

_____ All music education majors (wind/percussion/string/vocal/piano)

_____ Other (please describe):

6. How often do these classes meet? (please fill in all three sections)

_____ class sessions per week

_____ minutes per class session

_____ total number of weeks/semester

7. Who teaches secondary string techniques classes? (choose any or all that apply)

_____ Music Education Faculty

_____ Performance Faculty

_____ Adjunct Faculty

_____ Music Education Teaching Assistants

_____ Performance Teaching Assistants

_____ Other (please describe):

8. Does your institution offer string pedagogy/methods classes for music majors? (Classes in which music education majors primarily study the art of teaching string instruments.)

_____ yes

_____ no

9. How are string methods classes organized at your institution?

- ☐ Homogenous (individual classes for violin, viola, cello, and bass)
- ☐ Divided by upper and lower string (violin/viola and cello/bass)
- ☐ Heterogenous (mixed string instruments)
- ☐ Heterogenous (mixed string/wind/percussion instruments)
- ☐ Other (please describe):

10. Describe the students taking the string methods classes:

- ☐ Strings majors only
- ☐ Wind/percussion/vocal/piano music education majors
- ☐ All music education majors (wind/percussion/string/vocal/piano)
- ☐ Other (please describe):

11. How often do these classes meet? (please fill in all three sections)

- ☐ class sessions per week
- ☐ minutes per class session
- ☐ total number of weeks/semester

12. Who teaches the string methods classes? (please choose any or all that apply)

- ☐ Music Education Faculty
- ☐ Performance Faculty
- ☐ Adjunct Faculty
- ☐ Music Education Teaching Assistants
- ☐ Performance Teaching Assistants
- ☐ Other (please describe):

13. Does your institution offer improvisation classes available to all music majors?

- ☐ yes
- ☐ no

14. If yes, who teaches the improvisation class(es) ?

- ☐ jazz faculty

- _____ string education faculty
- _____ string performance faculty
- _____ wind/brass/percussion performance faculty
- _____ wind/brass/percussion education faculty
- _____ other (please describe):

15. Is an improvisation course required for music education majors?

- _____ yes
- _____ no

Section 2: Participant Information and Experience with Improvisation

16. Describe your position at your institution:

- _____ Music Education Faculty
- _____ Performance Faculty
- _____ Music Education and Performance Faculty
- _____ Adjunct Faculty
- _____ Other (please describe):

17. How many years have you been teaching at the collegiate level?

- _____ 0-5
- _____ 6-10
- _____ 11-15
- _____ 16+

18. What is your primary performance medium?

- _____ String
- _____ Wind/Brass/Percussion
- _____ Piano
- _____ Voice
- _____ Other

19. Did you experience improvisation in your undergraduate education?

_____ yes

_____ no

20. If yes, how did you experience improvisation? (choose all that apply)

As part of curricular study

Through school-related extracurricular activities

Outside of school

____ Other (please describe):

21. Did your undergraduate institution offer a separate improvisation course?

_____ yes

_____ no

_____ not sure

22. If yes to the previous question, describe whether or not you participated in this class, and why.

23. Describe your level of comfort with improvisation:

1-Not comfortable

2-Minimally comfortable

3-Somewhat comfortable

4-Sufficiently comfortable

5-Extremely comfortable

Section 3: Improvisation in Undergraduate String Classes

24. Based on what you have seen in the profession, do you feel that current preservice string teachers for your institution are prepared to include improvisation as part of their teaching?

1-Not prepared

2-Minimally prepared

3-Somewhat prepared

4-Sufficiently prepared

5-Extremely prepared

25. Based on what you have seen in the profession, do you feel that current preservice string teachers in general are prepared to include improvisation as part of their teaching?

- 1-Not prepared
- 2-Minimally prepared
- 3-Somewhat prepared
- 4-Well prepared
- 5-Extremely prepared

26. What are the benefits, if any, to including improvisation in methods and/or technique classes?

27. What are the drawbacks, if any, to including improvisation in methods and/or technique classes?

28. Describe the frequency of the use of improvisation in your string methods classes (please select NA if you do not teach these classes):

- NA
- 1-Never
- 2-Seldom
- 3-Sometimes
- 4-Often
- 5-Always

29. Describe the frequency of the use of improvisation in your string techniques classes (please select NA if you do not teach these classes):

- NA
- 1-Never
- 2-Minimally
- 3-Occasionally
- 4-Regularly
- 5-Every class

30. Describe the frequency of the following in your classes:

- 1-Never
- 2-Minimally
- 3-Occasionally
- 4-Regularly
- 5-Every class

_____ Instructor modeling improvisation for the class

- _____ Use of call and response using rhythm patterns
- _____ Use of call and response using tonal patterns
- _____ Exploratory improvisation-no rhythmic and/or tonal parameters
- _____ Exploratory improvisation-with tonal and/or rhythmic parameters
- _____ Creation of melodic lines over drones
- _____ Creation of melodic lines chord changes
- _____ Creation of bass lines/root melodies
- _____ Use of jazz standards as a basis for improvisation
- _____ Use of fiddle tunes as a basis for improvisation
- _____ Other (please specify):

31. What are the primary impediments to incorporating improvisation in your classroom? Please rate the following

- 1-not an impediment
- 2-somewhat an impediment
- 3-strong impediment
- 4-very strong impediment

- _____ Lack of teacher confidence with personal improvisation skills
- _____ Lack of knowledge in how to teach/incorporate improvisation
- _____ Lack of experience with teaching/incorporating improvisation
- _____ Lack of time to teach/incorporate improvisation
- _____ Lack of materials for teaching/incorporating improvisation
- _____ Student discomfort with improvisation
- _____ Other (please specify)

Request for interview participants/suggestions for interview participants

32. Request for interview participants/suggestions:

A second portion of this study will include qualitative data to provide a deeper understanding of the use of improvisation in undergraduate string education.

If you would be willing to participate in an interview regarding your use of improvisation in your teaching, please provide contact information below.

If you would prefer not to be interviewed, but know of a string teacher educator who would be a strong interview candidate, I would appreciate any suggestions.

Your name:

Institution:

Email:

Appendix C

Example of Survey in *SurveyMonkey*™ Layout

Thank you for participating in this survey. Please read the definitions bel...

DEFINITIONS FOR THIS SURVEY:

String Pedagogy/Methods Classes:
Classes in which music education majors primarily study the art of teaching string instruments.

String Techniques Classes:
Classes in which music education students learn to play orchestral string instruments: violin, viola, cello, and double bass.

Improvisation:
For the purposes of this study, I am defining improvisation as a spontaneous musical creation developed rhythmically, melodically, and/or harmonically.

Section 1: Institutional Demographic Information

1. Indicate the NAfME region in which your school resides:

☐ Eastern
☐ North Central
☐ Northwest
☐ Southern
☐ Southwestern
☐ Western

2. Provide information regarding enrollment at your institution:

Number of undergraduate music education majors at your institution

Number of undergraduate string music education majors at your institution

String Technique Classes

3. Does your institution offer secondary string techniques classes for music majors? (Classes in which music education students learn to play orchestral string instruments: violin, viola, cello, and double bass.)

☐ Yes
☐ No

Appendix D

Interview Consent Form

Research Participant Information and Consent Form

You are being asked to participate in a research project. Researchers are required to provide a consent form to inform you about the study, to convey that participation is voluntary, to explain risks and benefits of participation, and to empower you to make an informed decision. You should feel free to ask the researchers any questions you may have.

Study Title: An Examination of the Use of Improvisation in Undergraduate String Methods and Techniques Classes

Researcher and Title: Nancy Conley, Doctoral Candidate in Music Education

Department and Institution: College of Music, Michigan State University

Address and Contact Information:

Cynthia Taggart (primary investigator)
209 Music Practice Building
East Lansing, MI 48824
taggartc@msu.edu
517.432.9678

Nancy Conley (secondary investigator)
115 Terramont Court
Roswell, GA 30076
conleyn1@msu.edu
607.259.2265

1. PURPOSE OF RESEARCH:

You are being asked to participate in a research study regarding the use of improvisation in collegiate string methods and techniques classes. This study is being conducted in fulfillment of the requirements for MUS 999 Doctoral Dissertation Research at Michigan State University. You have been selected as a possible participant in this study because you have been identified as an appropriate candidate for participation in this study as a collegiate string music education instructor who utilizes improvisation in preservice string teacher instruction. From this study, the researchers hope to discover the breadth and depth of improvisation's incorporation in string teacher education, specifically its use in string methods and technique courses. This study follows an Explanatory Sequential Mixed Methods design. The quantitative portion of the study includes an online survey sent to all known NASM-accredited collegiate string music education instructors in the United States. The qualitative portion of the study includes semi-structured interviews with volunteers obtained through the survey. This consent form applies to the interview portion of the study. The semi-structured interview questions will address additional demographic information regarding improvisation experience and teaching background, philosophies regarding improvisation, thoughts on our current preservice teachers improvisation preparation, and practical suggestions for other music teacher educators in the field. For the qualitative portion of the study, four to five people are being asked to participate in semi-structured interviews. Your participation in this study will take about one hour.

2. WHAT YOU WILL DO:

Your responsibility to the study is to participate in an open dialogue interview with the researcher. You will be presented with all findings at the conclusion of the study.

3. POTENTIAL BENEFITS:

The potential benefits to you for taking part in this study are as follows:

- 1) You may enjoy the opportunity to share your experiences.
- 2) You may be able to offer insight to others in your field about improvisation as an important part of learning and teaching.

4. POTENTIAL RISKS:

The potential risks of participating in this study are as follows: 1) You may be uncomfortable relating some of your personal experiences to others.

5. PRIVACY AND CONFIDENTIALITY:

The data for this project will be kept confidential. A pseudonym will be provided for all participants, and interviews will be coded by number. Information about you will be kept confidential to the maximum extent allowable by law. The data will be kept on the student researcher's personal laptop, and all interviews will be audio taped for accuracy in reporting results. At the conclusion of the study all audiotapes and data will be locked in a safe at the secondary researcher's residence, and destroyed after a period of three years. The results of this study may be published or presented.

I agree to allow audio taping of the interview.

Yes No Initials _____

6. YOUR RIGHTS TO PARTICIPATE, SAY NO, OR WITHDRAW

Participation in this research project is completely voluntary. You have the right to say no.

You may change your mind at any time and withdraw. You may choose not to answer specific questions or to stop participating at any time. Choosing not to participate or withdrawing from this study will not make any difference in the quality of any services you may receive. Whether you choose to participate or not will have no affect on your grade or evaluation. You will be told of any significant findings that develop during the course of the study that may influence your willingness to continue to participate in the research.

7. COSTS AND COMPENSATION FOR BEING IN THE STUDY:

You will not receive money or any other form of compensation for participating in this study.

8. CONTACT INFORMATION FOR QUESTIONS AND CONCERNS

If you have concerns or questions about this study, such as scientific issues, how to do any part of it, or to report an injury, please contact the researcher:

Cynthia Taggart (primary investigator)
209 Music Practice Building
East Lansing, MI 48824
taggartc@msu.edu
517.432.9678

Nancy Conley (secondary investigator)
115 Terramont Court
Roswell, GA 30076
conleyn1@msu.edu
607.259.2265

If you have questions or concerns about your role and rights as a research participant, would like to obtain information or offer input, or would like to register a complaint about this study, you may contact, anonymously if you wish, the Michigan State University's Human Research Protection Program at 517-355-2180, Fax 517-432-4503, e-mail irb@msu.edu or regular mail at 207 Olds Hall, MSU, East Lansing, MI 48824.

12. DOCUMENTATION OF INFORMED CONSENT

Your signature below means that you voluntarily agree to participate in this research study.

Signature

You will be given a copy of this form to keep.

Date

Appendix E

Interview Questions

The Use of Improvisation in Undergraduate String Methods and Techniques Classes— Semi-Structured Interview Questions

1. Did you experience improvisation in your methods courses? In what capacity?
2. What was your pre-collegiate teaching experience (public/private school teaching, private studio teaching, Suzuki teaching, or other)? Did you use improvisation as part of your teaching then?
3. What is your definition of improvisation? Has it changed over time?
4. Why do you incorporate improvisation in your classes now? Why do you feel it is important?
5. How well do you feel that preservice teachers are prepared to deliver this type of instruction? How can music teacher educators help students prepare to teach improvisation to their students?
6. Should improvisation be a stand-alone course? Should improvisation be a part of each music education course?
7. What activities do you use in class? What have you found to be the most successful? What do you feel is the most important concept for you to model for the undergraduates?
8. What suggestions do you have for the pre-service music teachers who will want to incorporate improvisation in their teaching?
9. How do you help students who are fearful of improvisation? What suggestions do you have to help the classically trained musician to develop his or her own improvisation skills? For music educators?

Appendix F

IRB Approval

MICHIGAN STATE UNIVERSITY

July 29, 2014

To: Cynthia Taggart
209 Music Practice Bldg.

Re: **IRB# 14-737e** Category: Exempt 2
Approval Date: July 29, 2014

Title: An Examination of the Use of Improvisation in Collegiate String Methods and Technique Classes

The Institutional Review Board has completed their review of your project. I am pleased to advise you that **your project has been deemed as exempt** in accordance with federal regulations.

The IRB has found that your research project meets the criteria for exempt status and the criteria for the protection of human subjects in exempt research. **Under our exempt policy the Principal Investigator assumes the responsibilities for the protection of human subjects** in this project as outlined in the assurance letter and exempt educational material. The IRB office has received your signed assurance for exempt research. A copy of this signed agreement is appended for your information and records.

Renewals: Exempt protocols do not need to be renewed. If the project is completed, please submit an *Application for Permanent Closure*.

Revisions: Exempt protocols do not require revisions. However, if changes are made to a protocol that may no longer meet the exempt criteria, a new initial application will be required.

Problems: If issues should arise during the conduct of the research, such as unanticipated problems, adverse events, or any problem that may increase the risk to the human subjects and change the category of review, notify the IRB office promptly. Any complaints from participants regarding the risk and benefits of the project must be reported to the IRB.

Follow-up: If your exempt project is not completed and closed after three years, the IRB office will contact you regarding the status of the project and to verify that no changes have occurred that may affect exempt status.

Please use the IRB number listed above on any forms submitted which relate to this project, or on any correspondence with the IRB office.

Good luck in your research. If we can be of further assistance, please contact us at 517-355-2180 or via email at IRB@msu.edu. Thank you for your cooperation.

Sincerely,



Harry McGee, MPH
SIRB Chair

cc: Nancy Conley



Office of Regulatory Affairs
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**Initial IRB
Application
Determination
*Exempt***

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REFERENCES

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