

## ABSTRACT

Title of Dissertation: THE EFFECTS OF PRACTICE-BASED AND THEORETICAL-BASED PEDAGOGICAL APPROACHES ON JAZZ IMPROVISATION AND PERFORMANCE ACHIEVEMENT BY HIGH SCHOOL MUSICIANS

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The main purpose of this study was to investigate the impact of two methods of jazz instruction—theoretical-based and practice-based—on the improvisational development and performance of high school jazz musicians. Secondary purposes were to investigate (a) what instructional activities students in a jazz ensemble setting find useful in developing their performance and creative jazz improvisation skills; (b) how instruction in a jazz ensemble setting affects students' perceptions and attitudes towards cultural diversity in music; and (c) jazz band directors' perceptions of the effectiveness of the two types of jazz instruction. The study sample consisted of 10 high school jazz bands from the southeastern region of a Mid-Atlantic state. Participants were randomly assigned to either the theoretical-based control group or the practice-based experimental group. Both groups were given the same jazz composition and were recorded when sight-reading the

piece for the pretest. Individual student soloists in the control ( $n = 13$ ) and experimental ( $n = 21$ ) groups improvised over a 32-measure section of the piece. After four weeks of instruction, both groups were again recorded for the posttest evaluation. All ensemble participants ( $N = 191$ ) completed a questionnaire pertaining to pedagogical and cultural perspectives and band directors in the experimental group were interviewed to address the secondary purposes of the study. Recordings were evaluated by three experienced adjudicators using measures developed for this study. Mean gain was computed by subtracting pretest mean scores from posttest means for both jazz ensemble performance and jazz improvisation. Scores were compared between the control and experimental groups using a between-subjects repeated measures ANOVA. Responses to questionnaire items were examined using descriptive statistics. The results showed that the practice-based group achieved significantly greater gains in improvisation than the theoretical-based group. Participants indicated that listening activities were useful in helping them to improve their performance and improvisation skills. Practice-based participants indicated a stronger inclination to express themselves through improvisation and were more likely to listen to jazz outside school than were theoretical-based participants.

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PERFORMANCE ACHIEVEMENT BY HIGH SCHOOL MUSICIANS

by

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## **Chapter 1**

### **Introduction**

Jazz has a unique place in American culture. With origins traceable to specific locations in the United States, it has been referred to as America's "classical music" (Giddens & DeVeaux, 2009). The U.S. Congress, in a 1987 resolution, recognized jazz as a "valuable national American treasure" (Giddens & DeVeaux, 2009, p. 44). In addition to being considered America's classical music, it is also viewed as a form of popular and folk music. From the 1930s through 1945 and beyond, jazz big-band music was one of the most popular genres in the country. The Swing Era, as it was known, featured bands of 7 to 30 musicians playing swing-style dance music (Schuller, 1989). Count Basie, Duke Ellington, and Benny Goodman are a few of the famous big bandleaders from that era.

Three distinct criteria distinguish jazz music from other types of music. They are improvisation (spontaneous composition), the prominence of moving time (swing style), and individuality of expression (the ability to make and establish your own personal sound) (Suber, 1976). Although improvisation is prevalent in many world cultures' indigenous music, it is an essential element of jazz. Improvisation opportunities occur frequently when one performs standard repertoire in a jazz big band. Performers are expected to spontaneously compose solos based on only the chord structure of the tune. Occasionally solos are written out in arrangements of authentic repertoire. However, in most cases only chord symbols are notated, allowing the musician to creatively construct his or her own solo over the harmonic and rhythmic accompaniment provided by the jazz

band rhythm section, possibly augmented by riffs (short rhythmic phrases) performed by the horn sections. Spontaneous interaction, or “conversations” between the soloist and accompanying rhythm section, allows for individual creativity as well as musical collaboration while permitting students to make connections through the repertoire and from their own personal experiences.

The second criterion of jazz, the prominence of moving time with an emphasis on beats two and four (swing style), is evident from the instrumentation of jazz ensembles and their function as dance bands. Jazz ensembles and smaller groups, known as combos, have rhythm sections devoted to creating and providing direction to the music. The instruments in these rhythm sections include the drums, bass, piano, and sometimes guitar. Other ensembles may have percussion sections, but no other ensemble has a specific group of instruments devoted to providing the rhythmic drive and feel. Wynton Marsalis (2016) has argued that jazz is essentially dance music, and that therefore rhythms encountered throughout jazz works should be danceable. Even if part of an act performed on stage, jazz has always been accompanied and responded to with such activities as “foot tapping, hand clapping, body rocking, and hip rolling” (Malone, 1998, p. 293). Other forms of popular music such as rock and roll owe their origins to the influence of jazz and dance music.

The final criterion, individuality of expression, is evidenced by how jazz music is identified. Typically, Western music is associated with a composer and title, such as Beethoven’s Seventh Symphony. Orchestras are judged by how well they perform the work as originally intended through proper performance practice of the time period. In contrast, audiences attend jazz ensemble performances to hear particular artists, who are

known by their specific and unique sound. For example, Charlie Parker and Cannonball Adderley both recorded and performed the same music, but their distinctive individual sounds, stylistic nuances, and improvisational approaches cause them to play identical compositions in completely different ways. Of these three defining criteria, Prouty (2012) contended that the core activity of jazz music is the use of improvisation.

The intent of this study is to examine the effect of two prominent pedagogical approaches on jazz ensemble performance and improvisation achievement among high school students. The first of these pedagogies is a theoretical-based approach centered on improvisation development through harmonic and structural components of the music, such as correct note choice appropriate for the chord's harmonic structure, use of proper scales and arpeggios, appropriate chordal changes as indicated by the harmonic progression of the piece, and rhythms appropriate for the context and tempo (Bash, 1983). A student using this method would select notes contained in the harmonic structure or its related scale. This pedagogy emphasizes analytical and theoretical aspects and their application to jazz performance and improvisation (Martin, 1996).

The second pedagogy is identified as a practice-based approach, which incorporates characteristics described by jazz professionals as significant to their informal environmental learning processes, such as aural skills acquired through listening, mentorship, and apprenticeship with other jazz musicians (Prouty, 2012). A student using this method might listen to recordings of professional jazz musicians improvising over the same chord progression and might aurally transcribe and combine musical ideas presented by these mentors along with his or her own ideas to construct a unique improvisation.

## The Problem

Each year, hundreds of high school ensembles participate in jazz festivals and adjudications (Ellis, 2007). Over and over, the jazz band director counts off, “ah one ... ah three ... ah one, two, three, four,” and the band begins a 12-bar blues tune that gets the audience members nodding their heads and tapping their toes to the beat. The band increases in intensity and volume as the music progresses. Then a young tenor saxophone player nervously stands up and performs an improvised solo, consisting of a litany of diatonic sequences and arpeggios based on the notes contained in the blues scale. The solo, however, sounds more like an excerpt from Herbert Clarke’s technical studies for cornet method than a spontaneous composition. Parents from the school loudly applaud the soloist, perhaps more out of appreciation of his or her effort and school affiliation than due to having experienced any meaningful musical expression. In this scenario, the pedagogy applied to improvisation development was theoretical in nature. This approach consists of objective technical aspects of music that can be logically implemented when constructing an improvised solo.

Many secondary instrumental music educators feel that their undergraduate programs have inadequately prepared them to teach jazz music (Balfour, 1988; Jones, 2005; Rummel, 2010). Most high school jazz educators received their jazz education training through experience as members of ensembles while in high school and college (Treinen, 2011). Often, the duties of directing a high school jazz ensemble are included as an extra responsibility added to an instrumental music position. These positions may also include directing the concert band, marching band, and orchestra. Because of the variety of expertise required to be an instrumental music director, jazz ensemble

performance and improvisation instruction might not be a highly prioritized qualification when schools select band directors (Baker, 1981).

In rehearsing with jazz ensembles, teachers apply training and pedagogical techniques acquired through participation in Eurocentric ensembles such as concert band and orchestra. Teachers of these Eurocentric ensembles do not address the three key characteristics of jazz mentioned above; as a result, they do this art form a grave disservice. Bands originated in military organizations and promoted ensemble practices that encourage conformity and strict precision of performance. When these traditional approaches are applied to jazz, school ensembles often become highly polished performance groups that give little attention to creativity (improvisation) and individual artistic freedom (Warner, 2014).

The jazz repertoire now available for high school ensembles has become more sophisticated than in earlier years, when solo sections were written out or sometimes nonexistent in tunes (Baker, 1981). Improvisation is an opportunity inherent to jazz ensembles settings and not generally available to students in the band, chorus, and orchestra models of performing groups. This creative aspect of spontaneous composition adds a different dimension to the role of the performer. Scholastic music educators increasingly look to jazz improvisation as a way of cultivating a student's artistic process of creativity. However, teaching the improvisation component is frequently the skill for which music educators feel least prepared (Kirkland, 1996). Directors with jazz band experience might not have improvised much as part of their instrumental training. These directors tend to rely on published jazz improvisation materials, such as the Aebersold play-along series (Aebersold, 2016), to supplement their deficiencies. The result of this

lack in preparation is student “improvisation performances that actually consisting of a repetition of scales and arpeggios or pre-written solos, giving the student no opportunity to express his or her own creative voice.

Music philosopher Bennett Reimer (2009) cautioned that “music educationizing” jazz could result in compromising the honesty and comprehensiveness of its cultural context (p. 403). This process could be the end result when educators in institutions of higher learning teach jazz even though almost their entire experience with the genre has been in academia (Suber, 1976). Possessing little or no real-world experience with the performance of jazz music, these educators define and organize jazz musical elements in terms of the Western European conservatory style of education, as opposed to experiencing the organic and practical aesthetic of the music as it evolved as an art form in American culture (Prouty, 2012). This approach can lead to highly technical solos devoid of the spirit or soul of jazz music. To understand how the profession reached this point, it is important to understand jazz music’s relationship with music education in institutions of higher learning.

### **Jazz Education in Educational Institutions**

Early evidence of jazz activity took place on college campuses where jazz methodologies were not readily identified in college instrumental music ensembles (Prouty, 2005). Jazz musicians with some formal conservatory style music training, such as W. C. Handy and Len Bowden, would teach concepts to their students that would later be identified as jazz methods (Suber, 1976). Other jazz musicians who graduated from established institutions of higher learning with music degrees included Fletcher and Horace Henderson (Wilberforce), Jimmie Lunceford (Fisk), Erskine Hawkins (Alabama



State), Glen Gray (Illinois Wesleyan), and Les Brown (Duke) (Suber, 1976). Many of these musicians participated in or formed their own dance bands at their respective schools during the 1920s. Not until the late 1940s were degrees awarded in what we would now consider jazz.

Jazz music in public schools and colleges during the 1930s was still relegated to extracurricular activities such as after-school dance bands or accompaniments at athletic events, such as pep bands for basketball games. Even though educational administrators and officials required music teachers to be state-certified, jazz and concert band courses were not officially part of any school curriculum (Ferriano, 1974), and many jazz bands were student-run. After World War II and the national surge in popularity of the big bands, that situation would soon change.

Some higher education institutions started to add jazz instruction for credit. In the late 1940s, these included Berklee School of Music, Westlake College of Music, Los Angeles City College, California, California State Polytechnic, and North Texas State College (Murphy, 1994). North Texas was the first to offer a four-year degree program majoring in dance band (Suber, 1976). Many historians have pointed to the establishment of the four-year degree program at North Texas State and curricular programs at Berklee as the “birth of formal jazz education” (Prouty, 2012, p. 48). One reason for the incorporation of the study of jazz was the evolution of the art form itself. George Shillinger, a Russian immigrant, devised a system in which predetermined paths were established for jazz improvisers to develop their ability. Another formulaic application to jazz improvisation gained prominence when a pamphlet published in 1953, which was later turned into a book entitled *The Lydian Chromatic Concept of Tonal*

*Organization* by George Russell, influenced players such as Miles Davis and John Coltrane in their modality of improvising (Concept Publishing, 2016). The 1959 publication of John Mehegan's series on jazz improvisation, sanctioned by Leonard Bernstein, codified aspects of jazz theory that had previously been implicit, such as the normative use of dominant seventh chords (Martin, 1996; Mehegan, 1997). This method set the stage for theoretical methods of pedagogy, which were used by jazz musicians to help them expand their improvisation vocabulary and also to add legitimacy to the art form in the eyes of established Eurocentric, conservatory-style music programs.

Music educators at colleges and universities usually did not have the professional improvisation performance experience that professional jazz musicians possessed (Baker, 1981). Conversely, experienced jazz musicians who were expert improvisers did not possess the required advanced degrees necessary to teach jazz at colleges and universities (Baker, 1981). This emergence of published theoretical improvisation methods coincided with the increase in the number of established college-level jazz programs (Martin, 1996). Jazz educators found it easy to implement theoretical and technical methodology when teaching jazz improvisation. This model closely resembled techniques employed in the Eurocentric conservatory instruction model, which resulted in eliminating the traditional aural learning method practiced by professional jazz improvisers. This, however, is not the only way in which jazz performance and improvisation are taught in high school jazz ensembles.

### **Authentic Jazz Ensemble Performance and Improvisation Environments**

Some successful high school jazz ensemble directors model their pedagogies on practices historically employed by professional jazz musicians (Goodrich, 2005). Javors

(2001) referred to these practices as an “authentic environment” (p. 81) in which students learn jazz ensemble performance and improvisation. Aspects featured in this authentic learning environment include informal learning tasks such as listening to the radio, recordings, and performances by peers (Aebersold, 2016; Berliner, 1994; Javors, 2001; O’Meally, 1998; Prouty, 2012; Suber, 1976). Mentorship and apprenticeship are other aspects of the authentic environment (Berliner, 1994; Gatien, 2012; Goodrich, 2007; Golson & Merod, 1998; Javors, 2001; O’Meally, 1998; Prouty, 2012; Sandke, 2010; Stein, 2012; Torme, 1991). In addition, Goodrich (2008) found that vocabulary inherent to the authentic environment is another important aspect of jazz instruction. This vocabulary is often included in glossaries as part of jazz musical scores (Marsalis, 2016). Charles Suber (1976, p. 366) explained, “The reasons [for this type of vocabulary] become clearer as one understands how jazz musicians have learned and developed their art—and their profession” since the 1920s.

In the early years of jazz, individual musicians were the first sources of education—and their recordings were the first textbooks, one might say—in jazz techniques and methods, because there were no jazz schools (Murphy, 1994; Prouty, 2005; Suber, 1976). Aspiring jazz musicians would buy recordings of artists whom they wanted to emulate and would listen to these recordings repeatedly among their peer groups (Berliner, 1994; Gatien, 2012). This method closely aligns with Lucy Green’s informal music learning practice of “purposive listening” (Green, 2008, p. 71). National Endowment of the Arts (NEA) jazz master Benny Golson recalled:

And it was an empirical process, trial and error, bouncing off one another—how could there be anything else? You know, we bought the records. We listened to them. I copied solos. But we used that as a basis, intuitively. We didn’t know

what we were doing, but we set up our own infrastructure upon which we could build things in the future. . . . I did a lot of listening, and that helped me to arrive at the way I played later in life. (Golson & Merod, 1998, p. 37)

Various biographies and personal recollections preserved in publications, transcriptions and interviews describe artists such as Johnny Hodges, Harry Carney, John Coltrane, and Sonny Rollins who learned their craft in part through listening to recordings (Berliner, 1994; Gatién, 2012; Golson & Merod, 1998; Nisenson, 2000). Listening to recordings offered access to jazz music for musicians unable to hear live performances.

Jazz developed its own vocabulary through improvisation. The emergence of the bebop style of improvisation popularized by Charlie Parker and Dizzy Gillespie pushed theoretical boundaries even further. Jazz artists took the harmonic progressions of standard tunes and reimagined the melodies, creating new tunes to standard chord progressions (contrafacts). Like early jazz improvisations, these new methods were “aural-written” using methodologies that were passed on aurally from one musician to another (Prouty, 2012, p. 54). The process recalls Ed Gordon’s (2003) observations that music is learned as a baby learns language and continues to develop in quantity and complexity just as language develops in children.

Young jazz artists also had role models who directly or indirectly served as mentors for them. Louis Armstrong cited King Oliver as his mentor and inspiration (Stein, 2012). Drummer Buddy Rich credited his inspiration for drumming to Nick LaRocca, drummer for Glen Grey’s Casa Loma Band (Torme, 1991). Goodrich (2007) argued that mentoring practice contributed to the evolution and development of jazz and established socialization in the art form as mentors and students built personal relationships.

These mentorships often turned into apprenticeships, which would emerge organically through informal study sessions rather than through the trade apprenticeship model (Berliner, 1994). These sessions would consist of “a mixture of socializing, shoptalk and demonstrations known as hanging out” (Berliner, 1994, p. 37). Jazz musicians looked to their elders for training in the process. The relationship was quite different from the master-apprentice relationships in Eurocentric conservatory settings that some scholars consider a detriment to learning (Allsup, 2016). The mentor could be a parent, as in Wynton Marsalis’s case, or simply an established jazz musician. NEA jazz master Sonny Rollins described the mentoring he received from Thelonius Monk:

Every day after school I would go to Thelonius Monk’s place and practice with his band. He never really told me what to play, because I guess he respected my playing. But I learned a lot from Monk just hanging out with him. (Nisenson, 2000)

Today, one highly visible organization that attempts to preserve historical jazz traditions while emphasizing authentic practice is Jazz at Lincoln Center (n.d.). In the mid-1980s, officials at Lincoln Center were searching for ways to increase the number of performances and attract new and younger listeners. They introduced a summer concert series in 1987 that would lead to the establishment of Jazz at Lincoln Center in 1991. A new facility dedicated to hosting jazz activities was built in 2004. Besides offering a prominent concert venue, Lincoln Center also initiated educational activities that reach out to jazz ensemble programs across the United States. The Essentially Ellington program was established in the mid-1990s to provide access to Duke Ellington’s music for high school ensembles and encourage the growth and development of school music programs (Jazz at Lincoln Center, n.d.). Arranger David Berger meticulously transcribed

Ellington recordings and arrangements for performance by high school groups. A judged competition takes place every year. Printed musical scores and parts are made available to school members for free, along with recordings and video rehearsals featuring the Jazz at Lincoln Center Orchestra, directed by Wynton Marsalis. Membership is open to all schools and educational institutions. More recently, music by other artists such as Count Basie, Benny Carter, Dizzy Gillespie, and Mary Lou Williams has been included in the program.

### **Jazz and Scholastic Music Education**

Jazz education has been part of curricular and extracurricular programs in the United States since the 1920s, but only beginning in the 1940s did it take root and gain widespread popularity alongside the established performance ensembles of band, chorus, and orchestra so central to music education in American schools (Mark, 1987; Mark & Gary, 2006). Recognizing a need to connect students with authentic American music, the National Music Educators Conference, now known as the National Association for Music Education (NAfME), called for increased research and programs pertaining to jazz education in the schools. NAfME also partnered with the National Association for Jazz Education, which would eventually take a prominent role in promoting jazz not only in education in the United States but also internationally.

Music educators and scholars see jazz education as providing new and challenging opportunities for students to engage in music. Music scholar Bennett Reimer stated, “One stellar example of a new program within music education in the United States, providing a model for breaking out of the box, was the growth of jazz as an alternative performance elective” (Reimer, 2009, p. 403). Similarly, Jorgenson (2003)

expressed the view that to transform music education, educators must escape the “little boxes of restrictive thought and practice” (p. 119) and embrace a more comprehensive and far-reaching range of perspectives. Exploring the effectiveness of different pedagogies in jazz ensemble performance and improvisation could provide an avenue toward achieving this ideal.

Many music educators and scholars have advocated for the inclusion of improvisation as part of a comprehensive music education curriculum (Azzara, 2002; Reimer, 2009; Elliott, 1995). Jazz scholars and educators have insisted that improvisation should be a core element of jazz pedagogy (Baker, 1981). Nevertheless, some challenges remain. Warner (2014) argued that the following paradoxes occur in jazz and jazz education and should be critically examined:

- Participation in jazz educational programs has been growing in schools while consumption of jazz music in society has decreased.
- Jazz education materials such as play-along books and recordings have gained popularity, yet some methodologies of jazz theory and practice have become obscured.
- School jazz ensembles sound more professional, yet individual expression opportunities within those ensembles are not explored.

In 2014, NAfME, in conjunction with the National Coalition for Core Arts Standards, revised its 1994 music standards and identified four artistic processes for students to engage in music (NAfME, 2014):

- Creating: conceiving and developing new artistic ideas, such as an improvisation, composition, or arrangement, into a musical work

- Performing: the process of realizing artistic ideas and work through interpretation and presentation
- Responding: understanding and evaluating how the arts convey meaning
- Connecting: perceiving relationships among artistic ideas, personal meaning, and/or the external context

By employing these four artistic processes in music education classrooms, NAfME contends, students will be able to connect through music with themselves and their societies so as to become “successful 21st Century citizens” (NAfME, 2014). With the increase in participation in jazz programs and the need for greater individual expression in these programs’ ensembles, an examination of the alignment of jazz improvisation pedagogical components and NAfME’s core standards for music education standards as defined by the four artistic processes is in order.

### **Jazz Improvisation and the Artistic Processes of Creating and Performing**

When one thinks about the artistic process of creating, musical works created for our entertainment, enjoyment, and inspiration may come to mind. However, the definition of creating is elusive (Webster, 1992). Hounchell (1985) asserted that no clear definition of creativity in music exists, although the concept has been used to justify including music education as a subject in schools. A definition of creativity could be based on a creative product or the process by which the product is constructed (Webster, 1992). The creative product could be a jazz improvisation, in which case the process would be the means by which the student or performer constructs the improvisation.

Webster (1992) argued that improvisation is a divergent activity, along with composition and creative listening, and should not be confused with convergent skill



development when one is defining the ability to think creatively in music. Webster (1990) defined divergent thinking as thought processes that could result in multiple results or answers, as opposed to convergent thinking that produces a single answer or result (Webster, 1990). Webster added that improvisation, a divergent behavior, incorporates a combination of divergent and convergent thinking. Healy (2014) identified convergent activities in jazz improvisation as including the use of scales, chords and repeated patterns. Divergent activities, meanwhile, include melodic ornamentation, free improvisation, and limited-note exercises.

Improvisation is placed alongside composition within the NAfME core music standards, supporting jazz scholars' claims that it should be considered a form of spontaneous composition that employs both creative and performance components (Prouty, 2012; Suber, 1976). According to Berliner (1994), professional jazz musicians employ creativity "as the act of fusion and transformation" (p. 138). The fusion involves listening to artists to whom they are attracted, taking elements of those artists' playing, and bringing them together to transform one's own sound into something new and unique. This type of creativity establishes an artist's individual expression through connecting musical improvisation elements.

### **Individual Expression and the Artistic Process of Connecting**

Discovering one's individual voice in music is an important aspect of individual musical expression and growth, as well as in the development of self-esteem. Connecting personal knowledge with personal attributes enables a student to express himself or herself through music, making a unique contribution to and investment in the art form. NAfME describes the artistic process of connecting as linking personal experience,

acquired skills and knowledge in a meaningful way to create, perform, and respond to music. In the NAfME 2014 standards, common anchor 10 states that students should be able to “demonstrate how interests, knowledge, and skills relate to personal choices and intent when creating, performing, and responding to music” (p. 7). Knowledge here encompasses both theoretical and historical knowledge of music literature and genres, and skills refer to students’ application of music performance attributes to their chosen instrument. Students develop interests and experiences through the course of their education. When developing a comprehensive program, training programs should consider fostering student interests as well as creating meaningful experiences.

Creating individuality of expression through jazz music is not always fostered by college and universities’ pedagogical approaches. Jazz improvisation curricula at these institutions generally consist of a sequential method that focuses on the mastery of technical aspects such as theoretical applications of patterns and scales to the standard repertoire. Prouty (2012, p. 60) describes this type of jazz improvisation as “university jazz,” in which students must conform to the strict methodology of the sequentially scaffolded steps of the curriculum. In most university settings, a more organic approach that takes into account unorthodox methods of creatively approaching improvisation is discouraged. In response, Prouty contended, “Creativity is more difficult to represent on a blackboard or in a handout than, say, a series of patterns or scales” (p. 61).

The bebop movement of the 1940s increased the harmonic and technical rigor of improvisation by expanding its theoretical boundaries, thereby helping to establish jazz as a legitimate form of music within academia (Prouty, 2005). This development resulted in the rise of a theoretical, formulaic improvisational pedagogy taught by professors who

often held degrees in areas of music other than jazz (Baker, 1981). Along the way, individuality, once the cornerstone of jazz itself, has faded in deference to technical knowledge and prowess in solo improvisation. Many modern jazz artists tend to sound similar to each other because they are applying techniques of improvisation learned through formulaic practices or are rushed into making recordings without having experienced mentorship from their predecessors (Sandke, 2010). Benny Golson, jazz saxophonist and composer, while doing an interview in Japan, refused to do a blindfold test of contemporary tenor saxophone players, claiming that the newer crop of players all sounded the same and that it was “hard to separate who’s who anymore” (Golson & Merod, 1998, p. 33). If jazz education programs at colleges and universities are training professional performers in this manner, then high school music educators, both jazz and classically trained, will follow the same method.

### **Improvisation Instruction in the Jazz Ensemble**

The jazz ensemble has gained popularity as an established scholastic music ensemble along with the traditional band, orchestra and choral ensembles (Rummel, 2010). Many schools participate in jazz ensemble adjudications and competitions that require members of the band to improvise. These improvisations are figured into the ensemble’s overall rating (Ellis, 2007). Directors incorporate jazz improvisation instruction into their jazz ensemble rehearsals (Goodrich, 2005, 2007, 2008). Jazz ensembles provide creative opportunities to their members, including a type of group improvisation. For example, rhythm section members may comment musically on soloists’ improvisations while horn sections spontaneously add improvised background riffs to a soloist’s performance. Martin Williams stated, “In all its styles, jazz involves

some degree of collective ensemble improvisation, and in this it differs from Western music even at those times in its history when improvisation was required” (qtd. in O’Meally, 1998, p. 120). Williams also discussed the mutual respect and cooperation found in the structure of jazz ensembles, which suggests that an informal democratic system is central to the jazz performing culture. Music education has long been associated with democratic principles (Allsup, 2012; Dewey, 1940).

Marsalis (1998) also stressed that studying jazz music written for big bands by such composers as Duke Ellington entails learning about American culture. Jazz music was written in a politically democratic and technological society, in contrast to most classical Eurocentric music, which was composed under monarchical political systems and in predominantly agrarian societies. A jazz band can be viewed as a functioning example of democracy. Berger, making this argument in his high school jazz band method book, observed, “Democracy is a synergistic societal system in which everyone has a say and contributes his/her individuality and creativity, so that the whole is greater than the sum of its parts” (2016, p. 7).

### **Cultural Diversity in Jazz**

Abril (2006) suggested that learning about cultures through music can enable students to understand themselves and their own musical cultures better. Elliott (1990) argued that this understanding is a central goal of humanistic education: “self-understanding through other-understanding” (p. 164). According to Elliott, a multicultural arts education, which permits students to develop their appreciation of music and participate in performances with persons and music of other cultures, is a worthwhile educational endeavor. Jazz is not only a combination of different cultures,

but can also provide a deeper understanding of those cultures through listening, performing and improvising (Levine, 1998; Schuller, 1986). David Berger, while transcribing “Caravan” for the Essentially Ellington program, stated:

In spite of the title, I always thought of “Caravan” as a Latin tune, and after all Tizol (co-composer with Ellington) was from Puerto Rico. That is until I heard a big band from Russia play it. Their approach was Middle Eastern. Wow, it was a revelation. What we think of as Latin music actually has its roots in the Arab world. The Moors brought their music across northern Africa to Spain and infused it into Spanish music, which was then brought to South and Central America by the Spaniards just as they were kicking the Moors out of the mother country. (Ellington, Tizol, & Mills, 2002, p. iii)

“Caravan” also has a swing section and is a great example of different cultures coming together in one form of music. Choosing repertoire by style and genre as well as historical significance were the top criteria cited by jazz educators in a recent study (Brumbach, 2014). These educators also highlighted the importance of understanding American culture and its relationship to music, as well as bonding with peers in their own and other jazz ensembles.

Since, according to scholars, jazz is “America’s classical music” (Giddens & DeVaux, 2009, p. 44) and because its composition and makeup reflect many of the cultures that emigrated to America, the present investigation seeks to incorporate historically authentic components into practice-based pedagogy, allowing students to explore and experience the culture and meaning of music as opposed to the ordered technical pedagogical model of North American conservatories.

### **Need for the Study**

After years of instructing an urban school jazz program, I was hired to improve the jazz program at a nearby suburban school. Prior to my arrival, the school’s jazz band

was nicknamed “cream of wheat,” suggesting that its performances were devoid of flavor and color. Within two years of my arrival, the band was earning consistently superior ratings at area jazz adjudications. Why the sudden turnaround? The previous director was an excellent musician with outstanding concert and marching bands but who was unable to convey the style of jazz to his high school students. Could the improvement had resulted, I wondered, because a practice-based approach was introduced as opposed to the previous traditional, theoretical style of pedagogy? I had uncovered what scholars have identified as a common theme among instrumental music educators (Baker, 1981; Prouty, 2012; Sandke, 2010): they tend to teach jazz band in the same way as they would traditional instrumental ensembles such as concert band.

The method I used to teach jazz to this small-town school jazz band consisted of listening to recordings and paying attention to the styles used, watching videos of jazz professional musicians performing the same titles we were working on, and bringing in jazz professionals to perform and work with the students. I also incorporated the Essentially Ellington as part of my instruction. If the use of listening, mentoring, and apprenticeship worked in this instance, I thought, it would be prudent to see if similar results could be achieved in other scenarios. The videos and visits by guest artists noticeably expanded students’ awareness and appreciation of jazz musicians’ creativity and artistry. These experiences also exposed them to ethnicities and cultures that they did not encounter in their daily lives.

As an adjudicator at many jazz festivals, I have observed students improvising either by using written-out solos or by implementing theoretical techniques, without much application of personal connections or expressiveness. Usually these student

improvisers receive polite applause from their schools' parents regardless of their achievement level, so they may be slow to notice what they are overlooking. Soloists who implement appropriate harmonic changes as well as incorporating stylistically original ideas along with their own personal expression are usually the exception rather than the norm. In addition, there is a disconnect in communication from the band, primarily between the rhythm section and the soloist. Musicians seem to concentrate on performing their individual parts to perfection, unaware of their interaction with the soloist or of how they could contribute to the musical moment. If music educators are to develop the artistic process of creating, responding, and connecting in addition to performing, deploying a practice-based rather than a theoretical-based approach to jazz improvisation and performance is essential.

### **Purpose of the Study**

The purpose of this study was to investigate the impact of two methods of jazz instruction—theoretical-based and practice-based—on the performance and improvisation achievement of high school jazz musicians. Secondary purposes were to investigate (a) what instructional activities students in a jazz ensemble setting find useful in developing their performance and creative jazz improvisation skills; (b) how instruction in a jazz ensemble setting affects students' perceptions and attitudes towards cultural diversity in music; and (c) jazz band directors' perceptions of the effectiveness of the two types of jazz instruction.

The theoretical-based instruction consisted of teaching students appropriate scales and arpeggios for improvisation, an approach that most high school jazz educators adapted and utilized from their undergraduate training. Directors typically provided

additional analysis of chord progressions for the purpose of improvisation. Jazz ensemble performance instruction entailed visual and theoretical techniques similar to those used in large-group ensemble performance instruction, such as repetition and rhythm reading exercises.

In contrast, the practice-based jazz improvisation methodology incorporates historically authentic elements used by jazz musicians to learn their craft in the context of the time period. Goodrich (2008) argued that certain aspects of a historic jazz culture can be adapted for a high school jazz ensemble. He identified “listening for style,” “learning the lingo,” and improvisation as the major features of such a culture (pp. 21–24). In this study, the instruction involved in a practice-based approach consisted of listening to recordings, use of authentic jazz vocabulary and terminology as part of the academic language, use of aural modeling, solo transcriptions, and observing jazz mentors. Research has shown that modeling can improve technical and stylistic aspects of an individual’s music performance (Dickey, 1992; Hewitt, 2001). A comparison of the two instructional approaches is presented in Table 1.

Table 1

*The Two Jazz Pedagogies Used in This Study*

<b>Theoretical-based Approach</b>	<b>Practice-based Approach</b>
<ul style="list-style-type: none"> <li>• Technical/theoretical application for solos such as scales, chords repeated rhythmic patterns</li> <li>• Techniques associated with rehearsing large group ensembles such as concert band such as repetition and rhythm reading</li> </ul>	<ul style="list-style-type: none"> <li>• Listening to recordings</li> <li>• Use of transcriptions</li> <li>• Listening to mentors</li> <li>• Interaction with jazz professionals</li> <li>• Use of authentic vocabulary and terminology</li> </ul>



### **Research Questions**

The following research questions were used in the study:

1. Is there a relationship between the jazz pedagogical approach selected and high school jazz musicians' jazz improvisation improvement?
2. Is there a relationship between the jazz pedagogical approach selected and a high school jazz ensemble's performance improvement?
3. Is there a relationship between the jazz pedagogical approach selected and the usefulness of jazz improvisation and performance activities among high school jazz musicians?
4. Is there a relationship between the jazz pedagogical approach selected and high school jazz musicians' attitudes towards musical and racial-ethnic attributes of jazz?
5. What are the attitudes of jazz ensemble directors toward the practice-based approach as compared to the theoretical-based approach?

### **Definition of Terms**

**Apprentice:** A person who works for another in order to learn a trade or profession ("Apprentice," n.d.).

**Head:** The melody of a piece (Schoenberg, 2002).

**Jazz ensemble:** An instrumental organization of about 15 to 20 members, with each musician having an individual part to play. The standard jazz ensemble contains three instrumental sections: woodwinds, brass, and rhythm (Ferriano, 1974).

**Jazz improvisation:** The spontaneous creation of music within boundaries defined through the established contextual parameters of the jazz tradition (Suber, 1976).

**Lick:** A melodic phrase (Schoenberg, 2002).

**Mentor:** Someone who teaches or gives help and advice to a less experienced and often younger person (“Mentor,” n.d.).

**Practice-based approach:** This method draws material from existing musical sources such as recordings and transcribed solos for jazz improvisation. Sources for improvised solos also include repeated patterns, sequences, clichés, and excerpts from other tunes, often referred to as quotes or licks (Prouty, 2012). Jazz ensemble performance methods include listening to recordings to note the styles used as well as copying other artists’ interpretations (Goodrich, 2005, 2007).

**Riff:** A repeated usually short melodic phrase (Schoenberg, 2002).

**Rhythm changes:** Chord changes based on George Gershwin’s tune “I Got Rhythm” (Levine, 1995).

**Theoretical-based approach:** This method consists of the application of chord and scale analysis as well as the progression of the chordal structure when constructing improvised solos (Prouty, 2012). Performance pedagogy is comparable to that used in other large ensembles such as concert band (Baker, 1981).

**Transcription:** an aural and notated reproduction of a jazz solo. Jazz musicians use transcriptions to learn and construct improvised solos (Baker, 1981).

**Twelve-bar blues:** An African-American musical form, the standard length of which is twelve measures. Early forms consisted of two four bar questions followed by a four bar answer (Schoenberg, 2002).

## Chapter 2

### Review of the Literature

Research on jazz improvisation has developed rather slowly, in terms of both the number and focus of the studies conducted. In a review of studies from 1973 to 1988 pertaining to the pedagogy of jazz improvisation, Bowman (1988) found a lack of clarity and focus within the studies' purpose statements and lack of rigor in the actual research process. He argued that research in jazz pedagogy lagged behind other areas of music pedagogy. Bowman also asserted that the research methodology itself was often "improvised," as many researchers experimented with how to create and explore essential questions pertaining to jazz improvisation (1988, p. 72). This analysis raised key questions as to where jazz improvisation research should focus its attention, such as on the relationship between jazz and more established areas of music, cognitive processes, or historical accounts of how jazz professionals learned to improvise.

Since Bowman's 1988 review, more definitive research streams pertaining to jazz improvisation pedagogy have emerged, many of them focusing on areas highlighted by Bowman. In a more recent review of jazz improvisation literature, Watson (2010) identified these areas as follows:

- (a) investigations of variables that predict achievement in jazz improvisation; (b) content analyses of published instructional materials; (c) investigations of the effectiveness of pedagogical methods; (d) the construction and evaluation of jazz improvisation achievement measurement instruments; and (e) investigations of a possible relationship between jazz improvisation achievement and the construct of creativity. (p. 383)

In this chapter, I will discuss research relevant to the current study in the following order:

1. Types of jazz improvisation pedagogy
2. Effectiveness of jazz pedagogies
3. Predictors of jazz improvisation achievement
4. Construction and evaluation of jazz improvisation and performance achievement measurement tools

### **Types of Jazz Improvisation Pedagogy**

One question raised by Bowman's (1988) literature review pertained to how jazz performers themselves learned how to improvise. Input from accomplished jazz improvisers on how they learned and the cognitive processes used during improvisation could inform the creation of pedagogies that would harness the complex relationship between creativity, aural aptitude, and personal expression in improvisation. Berliner's (1994) oft-cited ethnographic study of professional jazz musicians' approaches and methods when improvising offered an inside look at how these musicians learned their craft. Berliner first analyzed historical artifacts including biographies and interviews of jazz artists. To establish a framework from which to interact with jazz performers, 60 professional jazz musicians were interviewed and correlations were established between their improvisation accounts and the historical artifacts. Berliner (1994) identified aural skills, gained through such activities as listening to recordings as important steps in acquiring skills and knowledge necessary to improvise. Transcribing improvised solos and learning to perform them in the context of the music is a step toward learning improvisation. Berliner suggested a correlation between the vocabulary used in communicating in an improvised jazz solo and that used in carrying on a conversation with another person.

Another recurring theme that emerged in the research was the transfer of improvisation styles and methods from older to younger artists. This transfer has typically occurred through a form of mentorship. The influences of older trumpet players on younger ones players are portrayed by a genealogical chart that spans the time period from 1920 to 1993 (Berliner, 1994, p. 137). This mentorship sometimes goes beyond selecting and imitating an older musician. Berliner also described instances in which younger musicians spent extended periods of time with older ones. The focus of this type of pedagogy centers more on the artist's style and approach not only to improvisation but also to performing jazz, practice regimens, and music business approaches as well as other knowledge and skills unique to the jazz musician's lifestyle.

Carrying forward Berliner's study of the conversational approach to jazz improvisation, Monson's (1996) ethnographic study of jazz professional musicians in their roles as both improvisers and supporting members of the rhythm section demonstrated how various jazz performing groups incorporated the concept of interaction between the improviser and the rhythm section. Findings included the importance of musical interaction in jazz as well as the need for well-developed aural skills to anticipate and respond to musical ideas while engaged in improvisation. Monson suggested that musical quotations, parody, and irony can link the past to the present and provide social commentary through the improvised solos. The comparisons between speech and jazz improvisation suggest a running dialogue between the soloist and rhythm section and/or other members of the ensemble. This dialogue fluctuates in the spontaneity of the moment or performance as the players interact with one another. Monson observed that the rhythmic feel provided by the rhythm section contributes to the direction in which the

performance or musical conversation flows.

Culture can be an important factor in jazz pedagogy, as shown by one ethnographic study of a high school jazz program. Goodrich (2005) conducted a yearlong qualitative study of a successful high school jazz band to examine why it performed at a high level and whether jazz cultural elements were evident in the ensemble's pedagogy. Primary participants in the study included student members of the jazz ensemble, the director, assistant director, adult mentors, and alumni; school administrators and other personnel, a parent, and private music teachers also provided input. Data collection for this case study included observations of rehearsals, small group lessons, and concerts.

Goodrich (2005) found that although much of the success of the high school ensemble was attributed to a strong feeder program, student leadership in the ensemble and engagement with historically based jazz culture were also significant contributing factors. The director of the ensemble, though interested in the jazz genre, did not consider himself a performing jazz artist or an expert. While not directly applying an improvisation methodology, the director employed elements of authentic jazz culture such as mentoring by peers and adults and listening to live and recorded performances, both in rehearsals and outside school. He arranged performances and clinics by jazz artists, thereby providing a model for students much in the same way as young jazz artists learned from their elder jazz musicians. Goodrich recommended wider use of the historic jazz culture elements of mentoring and listening in high school jazz pedagogy, as well as more extensive education in historic jazz pedagogy for preservice instrumental music teachers.

Renick (2012) investigated the prospective formulation of an alternative jazz pedagogy. Using a collaborative case-study approach, Renick sought to reconnect jazz education with its traditional historical pedagogical origins while incorporating the attributes of current university instructional environments such as space and institutional support. This action-based inquiry gave two novice undergraduate jazz saxophonists and two professional jazz musicians (a drummer and a bassist) the opportunity to form, over a three-month period, a community based on democratic ideologies inherent not only in jazz music's beginnings but also in the educational philosophy of John Dewey. Ten ninety-minute sessions held at Columbia University in New York City allowed the participants to engage in pedagogical discourse as well as musical interaction. The overriding research question was "What can be understood about the learning and teaching of jazz, specifically improvisation, by collaborative means between student musicians and professional musicians?" (Renick, 2012, pp. 96–97).

As forms of data, Renick used field notes of observations, participant reflections, video and audio recordings of the inquiry sessions, and semi-structured exit interviews with each of the four participants. Renick employed "storytelling" (2012, p. 107) as a form of narrative inquiry and a method of reporting the inquiry. Renick concluded that the student musicians experienced increased motivation for jazz improvisation and performance through their participation with the professional musicians. Conversely, interacting with the students provided the professional musicians with increased insight on their own playing and their role as a mentor and teacher.

These ethnographic studies share the recurring theme of interaction with mentors through listening, modeling, and apprenticeship (Berliner, 1994; Goodrich, 2005;

Monson, 1996; Renick, 2012). Transmission of knowledge and skills as well as stylistic concepts through aural imitation between mentor and student has been documented as occurring either in person or by way of listening to recordings. With the decline of jazz as a popular form of music, there are fewer venues for students to access jazz ensemble performances. Recordings have become increasingly important in enabling students to identify with jazz artists and styles. Access to these recordings has also improved. Technological advances such as YouTube have reduced the need for younger players to seek out mentors at jazz clubs.

Through the use of authentic audio and video recordings, rehearsal rooms can be transformed into environments where students interact with the work of jazz artists who effectively serve as mentors without being personally present. The jazz ensemble director can facilitate such relationships with jazz artists' recordings. However, these high-tech substitutes for mentors cannot fully replace personal interaction with jazz artists. Directors should facilitate contact between students and current professional artists when feasible and should arrange for clinics to foster such interaction. The direction of the ethnological studies reviewed in this section seems to gravitate toward a synthesis of personal interaction between experienced and novice jazz musicians with use of modern technology to access recordings and other resources. The studies also promote contact with current professionals when possible as a method of acquiring knowledge and skills in jazz improvisation.

### **The Effectiveness of Jazz Pedagogies**

Empirical research investigating the effectiveness of different methods of jazz improvisation instruction usually follows an experimental or quasi-experimental design



while paying attention to various aspects of jazz improvisation instruction. Participants' ages vary from study to study with most studies measuring improvisation achievement via a pretest–posttest format. Experimental treatments have focused on technical, visual and aural methods of instruction.

Bash (1983) examined the effectiveness of three instructional methods in developing improvisation skills. The first two methods were a technical-based instruction approach consisting of scalar and chordal activities and a non-technical approach focusing on call and response and vocalization methods. Bash also classified a second non-technical method as a “historical-analytical treatment” combining the aural aspects of the first non-technical method with an expressive and emotional component (p. 25). The participants were 60 high school melodic instrumentalists, all members of their high school jazz ensemble, who were randomly assigned to either the control group, which received no instruction, or one of the three treatment groups. Significant differences were found between the control group and the three experimental groups and between the technical group and the two non-technical groups. The results suggested that non-technical jazz improvisation methods are a viable supplement to traditional improvisation instruction.

Laughlin (2001) compared aural to notated exercises as methods of teaching harmonic accuracy to inexperienced jazz improvisation students. The study participants were 20 high school musicians with no jazz ensemble or solo experience. They were assigned to one of the two methods and asked to improvise on a 32-measure chord progression of the Miles Davis composition “So What.” The intervention included six units of instruction, which consisted of exercises utilizing the Dorian scale and

appropriate arpeggios, application of those exercises to “So What,” harmonic minor chord exercises, and listening examples. Differentiation of instruction between the two groups consisted of take-home written exercises for the notated group and audio-recorded exercises for the aural group. Both groups showed improvement from the pretest to the posttest, but the aural group had a significantly greater improvement.

Flack (2004) studied the effectiveness of the Jamey Aebersold play-along recordings in facilitating jazz improvisation achievement. The participants ( $N = 35$ ) consisted of undergraduate and graduate trumpet, trombone, and saxophone students enrolled in the jazz program at a midwestern U.S. university. The control group practiced without accompaniment while the experimental group used an Aebersold play-along accompaniment. Each group practiced for four hours over a 13-day period. Three qualified judges evaluated the pretest and posttest improvisation of both groups, which consisted of two choruses of the F blues along with an accompanying rhythm section recording. Results showed no significant difference between the control group and the experimental group in jazz improvisation achievement.

Similar studies have been done in vocal jazz. Heil (2005) investigated the effects of two different methodological approaches on students’ attitudes toward vocal jazz choir as well as on their vocal jazz improvisation achievement. The methodological approaches were “technical/theoretical” and “melodic/imitative” (p. 24). Pretest and posttest questionnaires were distributed to gather attitudinal data from the students. As part of the pretest and posttest jazz improvisation achievement procedure, randomly selected students from all groups improvised over three choruses of the F blues as well as three choruses of rhythm changes. Both treatment methods had a significant effect

compared to the control group, which received neither treatment, but they did not have a significant effect on students' attitudes, which were high on both the pretest and posttest questionnaires. Correlations with vocal jazz improvisation achievement were found for several background variables: (a) self-perception of jazz improvisation skill, (b) private instrument study, (c) possession of jazz recordings, (d) self-perception of solo singing skills, (e) practice frequency, and (f) desire for a professional career. Self-perception of jazz improvisation skill and private instrument study had the strongest correlations.

Some studies have been conducted with the aim of developing an historically based improvisation pedagogy with the inexperienced educator in mind. Wetzel (2007) constructed a new jazz improvisation curriculum based on aural modeling with a sequential application adaptable to students' and educators' needs. The target population was beginning improvisers—specifically, middle school instrumental students participating in a jazz ensemble program and educators with minimal jazz improvisation experience. Using a constructivist approach, the curriculum broke down elements of jazz performance and improvisation and utilized aural transmission as a learning modality. The curriculum was field-tested by four middle school band directors from eastern Pennsylvania. A formative evaluation was conducted after six to eight weeks to determine the effectiveness of the method, and two expert jazz evaluators also evaluated the curriculum. The revised curriculum was then reviewed by two of the original four band directors. Results showed an improvement in students' self-efficacy with regard to jazz improvisation. The field testers also noticed improvement in students' ability to improvise after using this curriculum.

Davison (2006) investigated middle school instrumentalists to determine whether modeling (either aural alone or aural with a written transcription) had a significant effect on improvisation achievement, along with the impact of instruction based on music learning theory in improving student self-efficacy concerning improvisation and instrumental music. Participants ( $N = 76$ ) were placed into groups of like ability by administering the Gordon harmonic improvisation and rhythmic improvisation readiness tests. Students were asked to learn to sing the modeled, improvised solos and then analyze the improvisation performances in terms of melodic and rhythmic patterns, motive development, note embellishment, dynamics, articulations, phrasing, and the use of space or rests. Participants received 10 instructional treatments of 55 minutes each over a two-week period. After receiving this instruction, the participants were asked to demonstrate their learning by improvising over the accompaniment of the chord changes to the song "Mary Ann." The results indicated no significant differences in improvisation achievement between the two treatment conditions.

Watson (2008) investigated the effect of aural versus notated instructional materials on both achievement and student self-efficacy in jazz improvisation. This study included 62 collegiate musicians who had limited or no experience with jazz improvisation. Both groups were provided with the same instructional content, but in aural and notated formats, respectively. The treatment content was designed to focus on four aspects of jazz improvisation: rhythm, harmony, style, and expression. The students received three 70-minute instruction sessions over a four-day period. Pre- and post-instruction improvisation assessments were performed to measure the effectiveness of both treatments. Students in both groups significantly improved their improvisation

abilities, but the aural treatment showed significantly greater gains than the notation-based treatment. Subjects cited manipulating melodic motives and the presence of a model improvised solo as the most helpful learning tools. Participants' self-efficacy with regard to their improvisation ability increased significantly after the treatment was administered, although neither mode of transmission was significantly better than the other in contributing to higher self-efficacy.

The tasks used as improvisations in these experimental and quasi-experimental studies varied in both length and content. Improvising on a 12-bar blues was the most common task; all studies incorporated some sort of standard jazz tune (Bash, 1983; Flack, 2004; Heil, 2005; Laughlin, 2001). The second most common improvisational task involved a version of rhythm changes (Heil, 2005; Watson, 2008), with participants asked to improvise through the form of the song. All tasks used a recording of a rhythm section as accompaniment for the improvisation, often Aebersold method recordings.

Treatments applied during the intervention period also varied in quantity and length. The length of the treatment period was as long as seven weeks or as short as four days. Individual instruction sessions ranged from 15 to 70 minutes. Participants had the opportunity to practice outside the instruction period in some studies but not in others. The average total time of instruction was between two and three hours, with three to seven treatment sessions. The findings indicated that both visual and aural methods have a positive effect on jazz improvisation achievement, with aural instruction having a significantly greater effect. Student self-efficacy improved as a result of instruction in both types of treatments (Davison, 2006; Watson, 2008; Wetzel, 2008). Some of these studies (Bash, 1983; Heil, 2005) also addressed variables that could serve as predictors of

jazz improvisation achievement, the next topic to be examined in this chapter.

### **Predictors of Jazz Improvisation Achievement**

Predictors of jazz improvisation achievement have been the subject of numerous studies. Both instrumental tasks (Bash, 1983; Ciorba, 2006; May, 2003; Palmer, 2016) and vocal tasks (Greenagel, 1994; Heil, 2005; Madura, 1996) have been used to conduct quantitative analyses in an effort to identify such predictors. The goal was to ascertain what aspects of improvisation achievement that could be incorporated into methodologies. Two of these investigations found that aural imitation ability, jazz theory knowledge, and self-evaluation were significant predictors of jazz improvisation achievement.

Greenagel (1994) examined several selected variables as potential predictors of vocal jazz improvisation. Thirty undergraduate participants recorded a jazz improvisation over two choruses of a 12-bar blues. Three university faculty members, two of whom taught improvisation, served as judges, applying four criteria: musicality, technical appropriateness, articulation, and relationship to the blues. Independent variables included scores on Gordon's music audiation measure, a creativity score based on criteria determined by the researcher, grade-point average, experience with or lessons on an instrument, experience performing in a jazz ensemble (either vocal or instrumental), frequency of jazz improvisation each week, number of hours of listening to jazz each week, and self-reported rating as an improviser. Results showed a significant correlation between jazz vocal improvisation achievement and self-reported ratings, hours spent listening to jazz, and prior ensemble experience, with creativity and instrumental lessons as weaker predictors.

Madura (1996) investigated relationships between aspects of vocal jazz improvisation achievement and several predictor variables. The study participants were undergraduate and graduate students ( $N = 101$ ) enrolled in vocal jazz courses. Vocal jazz improvisation achievement was measured using an instrument based on Pfenniger (1990). Participants were asked to improvise to two types of chord progressions: a blues progression and a ii-V7-I progression, common in many jazz tunes. Rather than having to follow a set musical form such as 12 or 24 bars, participants were given a time limit of one minute for each task. A recorded rhythm section from the Aebersold jazz improvisation method provided accompaniments. Predictor variables consisted of imitative ability, jazz theory knowledge, jazz experience, gender, instrumental lessons, voice lessons, and general creativity. Of these, jazz theory knowledge, imitative ability, and jazz experience emerged as significant predictors of vocal jazz improvisation achievement.

May (2003) investigated factors underlying instrumental jazz improvisation achievement. She also examined to what extent knowledge of jazz theory, aural skills, aural imitation, and selected background variables were predictors of achievement in instrumental jazz improvisation. The participants were 73 undergraduate wind players, all members of college jazz ensembles at universities in the midwestern United States. Three measures were used: one on jazz theory achievement, one on aural skills, and one on aural imitation ability. The assessment entailed two tasks: a pair of choruses of the F blues and one chorus of "Satin Doll," both accompanied by Aebersold play-along recordings. The Instrumental Jazz Improvisation Evaluation Measure was used to evaluate performance, and a survey was administered to collect background information

about the students. The study demonstrated that objective measurement of instrumental jazz improvisation is possible using expressive as well as technical criteria. Self-evaluation and aural imitation were the two strongest predictors of instrumental improvisation achievement. The findings also indicated that instrumental jazz improvisation should be treated as a single construct, suggesting that the many sub-skills required for instrumental jazz improvisation should be acquired simultaneously rather than by means of a sequential approach.

Ciorba (2006) investigated predictor variables for the purpose of forming a model by which to predict jazz improvisation achievement. He compared jazz improvisation achievement against the independent variables of self-assessment, self-efficacy, motivation, jazz theory knowledge, time spent practicing music aptitude, academic achievement, sight-reading ability, and listening experience. The participants were 102 high school students, all members of a jazz ensemble. The music performed included two choruses of B-flat blues and "Satin Doll." The results were consistent with May's previous finding that self-evaluation of performance was a significant predictor of jazz improvisation achievement. Jazz theory knowledge was also strongly correlated with jazz improvisation achievement, in contrast to May's findings. Sight reading ability and listening experience had weaker but still meaningful effects.

Palmer (2016) investigated the characteristics of three levels of improvisers (novice, intermediate, and advanced) with regard to aural imitation ability, jazz theory knowledge, and personal background variables and considered the relationship between these variables and the development of jazz improvisation achievement. The sample consisted of 26 high school and 44 college instrumentalists with differing degrees of jazz



improvisation experience. Three judges initially evaluated their improvisation work using a scale based on May's (2003) Improvisation Performance Achievement Measure (IAPM). After the evaluation, participants were divided into three groups based on improvisational ability. They were also tested on their aural imitation ability and jazz theory knowledge and were asked to report their jazz improvisation experience. The analysis found that aural imitation and technical facility were important skills that encouraged jazz improvisation development. The aural imitation finding concurs with May (2003) and Madura (1996). Jazz theory, jazz experience, and improvisation experience were also predictors. Palmer used these results to create the Development Continuum of Jazz Improvisation Achievement, a table that serves as a type of rubric describing the various stages of development by experience level in relation to the eight criteria used to rate students' improvisation achievement.

Identifying variables important to jazz improvisation achievement can help to determine what aspects of individual background or ability should be examined when incorporating methods into instruction. Since prior studies (Madura, 1996; May, 2003) have shown that aural imitation ability can be an indicator of achievement, might this ability be linked to the ethnographic accounts of professional jazz musicians who learned by listening to recordings and modeling the solo work of mentors (Berliner, 1994; Monson, 1996)? Palmer (2016) seemed to suggest that aural imitation ability could depend on a student's technical fluency on the instrument. Without the ability to express oneself on an instrument, aural imitation ability may not be as effective an indicator. Given the limited number of studies and the variation among them in the independent

variables found to be predictors, further consensus is needed in order to draw firm conclusions.

## **Construction and Evaluation of Jazz Improvisation and Performance Achievement**

### **Measurement Tools**

Whether we want to measure growth in jazz improvisation achievement by means of a pretest and posttest or establishing a current level of achievement objectively to determine correlations with independent variables, a tool capable of an authentic assessment of improvisation ability is needed. Research on tools for assessing jazz improvisation has been conducted in connection with many experimental studies as well as those seeking to identify predictor variables. Researchers have interviewed professionals and examined jazz artifacts in search of suitable ways to assess jazz improvisation abilities. All studies seem to wrestle with the issue in terms of two constructs: performance skill and creative development.

Burnsed and Price (1984) investigated criteria for evaluating jazz improvisation performance. They analyzed jazz improvisation literature and gathered data from a survey of three university jazz studies programs to establish constructs for jazz improvisation evaluation criteria. Five categories emerged from their research: technical facility, melodic and rhythmic development, style, tonal materials, and emotional effect. To these, Burnsed and Price added overall jazz improvisation effect as a sixth category. They then chose 8 judges, four of whom had extensive jazz background and experience while the other four had non-jazz performing experience. The judges were asked to evaluate recorded improvisations by various performers to determine the reliability of the improvisation criteria. The recordings consisted of improvisations of standard jazz

works—some performed by professional jazz artists, others by students with either live accompaniment or a Jamey Aebersold rhythm section accompaniment recording. Results indicated a high correlation between the individual category ratings of the jazz background judges and those of the non-jazz background judges. This suggests a high reliability of the improvisation achievement criteria.

Pfenninger (1990) sought to construct a reliable rating scale that would measure three aspects of jazz improvisation achievement: tonal, rhythm, and expression. Ten jazz musicians and educators from four prominent universities were surveyed to identify descriptors of measurable components of jazz improvisation. Results of the survey produced elements related to the tonal dimension of music, rhythm, and expression. After these results were used to develop a provisional scale, 30 jazz majors were asked to improvise one chorus of “All the Things You Are” on their instrument, accompanied by a prerecorded rhythm track. The recordings were evaluated by six judges (including Pfenninger himself) using the criteria developed from the survey. The results suggested that construction of a reliable rating scale to assess jazz improvisation achievement was an achievable task.

May (2001) used Burns and Price’s (1984) five criteria (discussed above) in developing a seven-criterion instrument she entitled the Instrumental Jazz Improvisation Evaluation Measure (IJIEM). The two added criteria were rhythm/time feel and creativity, which were featured in other studies. To test the reliability of this measure, 73 undergraduate wind jazz ensemble members recorded two choruses of the F blues and one chorus of “Satin Doll,” and three experienced judges rated the recordings. Results indicated a high correlation on all seven criteria, implying that despite the attention to

unique attributes of improvisation provided by the seven criteria, one overall criterion for improvisation could possibly achieve the same usefulness as the more complex and time-consuming application of multiple criteria.

Smith (2009) also undertook an effort to develop a valid and reliable rating system for jazz improvisation performance by collegiate wind students. Smith's process of constructing the rating scale included analyzing pedagogical materials, jazz educators' accounts, published interviews with jazz musicians, and research studies on jazz education. Final rating criteria were informed by contributions from a panel of experienced jazz musicians as well as Smith's own knowledge and expertise. The result was the Wind Jazz Improvisation Evaluation Scale (WJIES), which consisted of 14 evaluation criteria.

To test the WJIES, five collegiate jazz students and one jazz professional were chosen to record two choruses and the B<sup>b</sup> blues and a chorus of "Killer Joe." Sixty-three adjudicators of varied jazz background and experience rated the twelve solos using the WJIES and the Instrumental Jazz Improvisation Evaluation Measure (May, 2003). The results indicated that Smith's two-faceted approach of rating both performance skills and creative development was an adequate means of evaluating jazz improvisation performance. It was also determined that development of performance skill is a prerequisite for creative development, consistent with the conclusions of previous studies (Antonelli, 1997; Bash, 1983; Burnsed, 1978; Meadows, 1991). The study also demonstrated that advanced jazz improvisation has a close relationship to components of creativity and expression.

Wesolowski (2013) investigated the cognitive processes involved in the interaction episodes that occur in jazz improvisation. Using ethnographic and philosophical accounts of jazz professionals' interactive jazz improvisations, Wesolowski constructed a rubric to measure the ensemble's ability to converse musically with each other through improvisation. The criteria consisted of eight measurements grouped into three sections: melodic, harmonic, and rhythmic. The level of achievement was indicated on a four-level scale, correlated with ratings of beginning, developing, proficient, and accomplished. To test the scale, ensembles were recruited from three universities with accredited jazz programs to make recordings that were adjudicated by 55 expert judges.

The results showed that this rubric could differentiate between undergraduate, graduate and professional improvisers' achievement levels on each criterion. The greatest differences between the three levels of performers were on three melodic criteria and one rhythmic item, implying a cognitive prioritization of tasks as melodic, then rhythmic, then harmonic. Wesolowski argued that a strong aural ability is needed along with a background in jazz vocabulary, repertoire familiarity, and stylistic knowledge to facilitate an advanced level of interaction and communication.

Moore (2016) developed a rubric for the evaluation of jazz improvisation by collegiate jazz musicians. He sought to determine whether certain attributes of aural improvisation skills and components of jazz improvisation could be effectively measured. To do so, Moore analyzed jazz improvisation pedagogical books and published studies on jazz improvisation and general music performance. Through this analysis, he identified rhythm, technical facility, tone, articulation, and melodic and rhythmic development as frequently cited terms. Moore's final rubric contained nine criteria of improvisation

assessment with four levels of achievement. The criteria are technique, expression, rhythm, melody, harmony, rhythmic interaction, melodic interaction, harmonic interaction, and overall improvisation. Descriptors are included to help the assessor choose the correct level of achievement. The rubric was not tested as part of the study, although Moore recommended its use by university jazz improvisation performance juries.

Wesolowski (2015) also sought to develop a rating scale for jazz big band performance. Twenty-two initial scale candidates were assembled from big band literature and methodology research. A 4-point Likert scale was used to collect responses from 102 volunteer raters. The result was an 18-factor scale with four categories: blend/balance, time-feel, idiomatic nuance, and expression. Raters using this four-factor structured instrument were able to classify ensembles into categories of low, medium, or high achievement with 88.5% accuracy.

Building on this study, Wesolowski (2017) went on to investigate development of another scale focusing on the rhythm sections of the jazz big band. Wesolowski used the same methodology as in the previous study, asking volunteers to rate performances by middle school, high school, and college group. The results produced a rating scale with a two-factor structured instrument in which one factor, rhythmic support/drive, contained nine rating scales and the other factor, style/clarity, had seven. The 16-scale measurement demonstrated high reliability, and rhythmic support/drive scores served as a predictor of rhythm section achievement.

In sum, the studies examined in this review display an evolution of the criteria used to assess jazz improvisation achievement. Rating scales progressed from the

original five criteria established by Burnsed and Price (1984) to seven used by May (2001). Distinctions between performance criteria and creative criteria have become more thoroughly defined through descriptors include in the rating systems. A high correlation has been found between the individual criteria, suggesting that a single overall improvisation category could suffice to provide reliable ratings. The descriptors and the individual criteria help to define what adjudicators need to listen for and what attributes are important in jazz improvisation achievement. Most instruments developed for rating jazz improvisation achievement have used Likert-type scales. Only recently have the criteria of interaction and communication been introduced (Wesolowski, 2013), becoming listed among the descriptors under improvisation categories on high school jazz ensemble rating sheets (Cavalcade of Bands, 2009).

In general, the four factors identified for jazz big band performance evaluation correlate well with categories on jazz ensemble rating sheets (Cavalcade of Bands, 2009). Although the categories of blend/balance and expression are often found in other large ensemble adjudication methods, the inclusion of time-feel and idiomatic nuance addresses unique and inherent stylistic attributes of jazz. Approaches used to evaluate the rhythm section support jazz scholars' identification of rhythm and sense of time as important components of jazz. The aspect of improvisation, a core activity within the context of jazz ensemble performance, is missing from the jazz ensemble performance evaluations.

### **Conclusions**

This literature review has examined four areas of research relative to jazz improvisation pedagogy:

1. Jazz improvisation pedagogy
2. Effectiveness of jazz pedagogies
3. Predictors of jazz improvisation achievement
4. Construction and evaluation of jazz improvisation and performance achievement measurement tools

The studies indicate that listening for style, mentorship, apprenticeship and jazz vocabulary are among the key contributors for jazz improvisation achievement in professional and educational settings.

Many of the empirical studies of jazz improvisation pedagogies have compared aural versus notational instruction methods. These studies built on Bash's (1983) comparison of traditional technical pedagogy with aural (call and response) pedagogy. Subsequent studies (Ciorba, 2006; Flack, 2004; Heil, 2005; Laughlin, 2001; Madura, 1996; May, 2003; Watson, 2008) did not draw on the third model that Bash tested, the historical analytical model, which incorporated components of the aural methodology combined with listening and modeling examples of historical jazz performers' improvisation methods. The findings of these studies tend to support increasing use of aural methods in instruction. This consensus is correlated with the studies of predictors of jazz improvisation achievement.

Developments in constructing measurement instruments to evaluate jazz improvisation achievement show distinctions between two categories of criteria (performance and creative), thereby emphasizing aural as well as technical facility. The findings of these studies establish the importance of aural learning in the improvisation process, but there is little connection in practice with the aural traditions historically



practiced by jazz professionals and described in ethnographic pedagogical studies. In an effort to establish internal validity by controlling the tasks for participant improvisers, the studies compromise ecological validity by establishing instructional environments that do not reflect authentic student learning situations. Jazz improvisation mostly occurs in ensemble settings, where the improviser performs and creates with his or her peers. Although some studies gave participants the opportunity to engage with recorded accompaniment tracks such as the Aebersold recordings, these recorded accompaniments do not offer an environment permitting spontaneous dialogue between the improviser and accompanying musicians. Further research should be undertaken to investigate the effectiveness of an authentic practice-based pedagogy in a more practical educational setting such as the jazz ensemble.

### **Theoretical Framework**

The theoretical framework for the practice-based pedagogy used in this study's treatment method incorporates the historically authentic aspects highlighted in the ethnographic studies that were summarized at the beginning of this chapter. The four aspects of instruction are (a) listening for style, (b) mentorship, (c) apprenticeship, and (d) learning the lingo. A logic model incorporating aural methods employed in these four aspects of instruction with a historically authentic approach is displayed in Figure 1.

In listening for style, students use original recordings as a style resource. These recordings include not only the initial recorded version but also alternative versions of the same tune with different improvisers. This approach enables students to become aurally engaged with authentic musical style as well as the creative interpretations offered by the professional jazz musicians. Students can then apply what they hear to their own

performance and improvisations. These applications include aurally and visually constructing transcriptions of the solos, lifting small motives sometimes referred to as licks or patterns.

Mentoring and apprenticeship were simulated through video and audio recordings of professional jazz artists. These technological applications enable students to interact with the performances and personalities of jazz professionals and approximate the aural and personal connections acquired through face-to-face mentoring and apprenticeship.

Finally, to create an authentic jazz culture conducive to jazz ensemble performance and improvisation (“learning the lingo”), each director involved in the study used historical information, vocabulary, and anecdotes throughout the learning process. This information is available in the scores of selected works as well as in the videos of jazz artists.

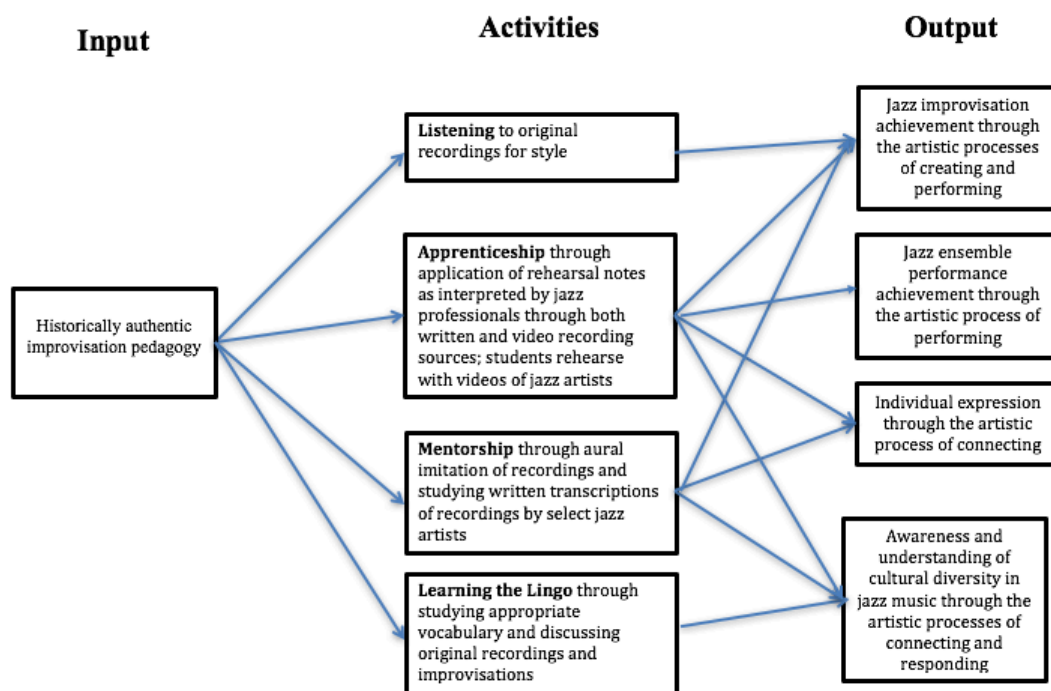


Figure 1 Logic Model

## **Chapter 3**

### **Method**

### **Purpose**

The main purpose of this study was to investigate the impact of two methods of jazz instruction—theoretical-based and practice-based—on the improvisational development and performance of high school jazz musicians. Secondary purposes were to investigate (a) what instructional activities students in a jazz ensemble setting find useful in developing their performance and creative jazz improvisation skills; (b) how instruction in a jazz ensemble setting affects students' perceptions and attitudes towards cultural diversity in music; and (c) jazz band directors' perceptions of the effectiveness of the two types of jazz instruction.

The practice-based jazz improvisation methodology incorporates historically authentic elements used by jazz musicians to learn their craft in the context of the time period. Goodrich (2008) argued that certain aspects of a historic jazz culture can be adapted for a high school jazz ensemble. He identified “listening for style,” “learning the lingo,” and improvisation as the major features of such a culture (pp. 21–24). In the present study, listening to recordings, learning authentic jazz vocabulary and terminology, using modeling, solo transcriptions, and observing mentors were the significant factors contributing toward the creation of a contextually appropriate pedagogy. The theoretical-based instruction, on the other hand, consisted of scales and arpeggios that most high school jazz educators adapt and apply from their undergraduate training, along with analysis of the chord changes listed in the solo.

### **Research Questions**

The following research questions were used in the study:

1. Is there a relationship between the jazz pedagogical approach selected and high school jazz musicians' jazz improvisation improvement?
2. Is there a relationship between the jazz pedagogical approach selected and a high school jazz ensemble's performance improvement?
3. Is there a relationship between the jazz pedagogical approach selected and the usefulness of jazz improvisation and performance activities among high school jazz musicians?
4. Is there a relationship between the jazz pedagogical approach selected and high school jazz musicians' attitudes towards musical and racial-ethnic attributes of jazz?
5. What are the attitudes of jazz ensemble directors toward the practice-based approach as compared to the theoretical-based approach?

### **Participants**

To solicit participants for the study, I contacted two music educational organizations of which I had been a member during my public school tenure. The first group was a marching and jazz band adjudication organization run by high school band directors in the southeast region of a Mid-Atlantic state. The second group was a district music education organization consisting of seven counties from the same geographical region and affiliated with the National Association for Music Education. Letters were distributed via email to both organizations to recruit participants for the study. When a director responded and expressed interest in participating, I followed up by email or

phone to set up a time where we could discuss the study. Representatives of 13 schools responded. All but one of these schools' jazz ensembles met as an extracurricular activity, rehearsing either before or after school. Most of these ensembles start rehearsing in December or January after the completion of the marching band season. Four schools had two ensembles willing to participate. The school ensembles ranged in size from 15 musicians to 30 and in rehearsal time from 2 to 6 hours per week. In addition to their school performances, the bands participate in area jazz adjudications and are accustomed to the process of being judged and receiving a rating of either good, excellent, outstanding, or superior from three vetted adjudicators. All students in the ensembles were enrolled in grades 9–12. The process of receiving permission from each school's administration for participation in the study was approved by the University of Maryland Institutional Review Board (Appendix A).

Of the 13 initial participating music programs, two were unable to receive permission from their school administrations to participate, and two others could not comply with the parameters of the experiment. The remaining participants were 10 bands from 9 schools. Only one of the schools with two bands remained in the study. Random assignment to treatment was done by computer, ensuring that the school with two bands received the same conditions for both bands. In this way, five bands were assigned to the control group (theoretical-based approach) and five to the experimental group.

Directors' teaching experience ranged from 3 to 30 years. Teaching responsibilities of the directors included concert band, jazz band, and instrumental music lessons. All but one of the directors were responsible for directing the marching band. The directors had received their education at institutions providing certification to teach

music in this state. Seven of the directors had attended the same institution. None of the directors perform jazz in a professional or semiprofessional setting. It is unknown whether any of them received jazz training beyond their undergraduate experience. Demographic statistics for the participating students are displayed in Table 2.

Table 2

*Student Participants' Demographics*

Variable	Theoretical-based group	Practice-based group	Total
Sex			
Female	30	19	49
Male	72	70	142
Class standing			
9th	13	11	24
10th	22	23	45
11th	36	20	56
12th	31	35	66
Instrument			
Saxophone	31	27	58
Trumpet	29	24	53
Trombone	22	20	42
Rhythm Section	19	18	37
Other	1	0	1

Directors were given the option to have as many soloists as they would like participate in the improvisation portion of the study. Each band designated a minimum of three soloists; four bands selected more than three. For the pretest, a total of 39 soloists improvised in either the control treatment group ( $n = 16$ ) or the experimental treatment group ( $n = 23$ ). On the posttest, five of the improvising students were absent, reducing the group of soloists to 34 (13 control, 21 experimental) for the analysis.

### **Research Design**

Research question 1 sought to ascertain whether there was a statistically significant difference between a practice-based and a theoretical-based jazz pedagogy in their impact on jazz improvisation improvement among high school instrumentalists. Question 2 asked whether there would be a significant difference between the two pedagogies with regard to a jazz ensemble's improvement in performance. To answer these questions, the study employed a cluster randomized experimental design (Murnane & Willet, 2011), with a pretest and posttest and with control and treatment groups. The control group received the theoretical pedagogy treatment, which is more common in school settings; the experimental group received the practice-based pedagogy. Pretest and posttest evaluations of the ensembles' performance achievement and of individual students' improvisation achievement were conducted to obtain data on the dependent variables. The pretest and posttest entailed evaluations of recorded jazz ensemble performances for both treatment groups.

Research questions 3 and 4 sought to explore students' perceptions and attitudes in relation to their jazz pedagogy experience. To answer these questions, a descriptive

survey (Phelps, Sadoff, Warbutron, & Ferrara, 2005) was administered to all participants following the posttest, and these data were then compiled and analyzed.

### **Music**

The materials used in this study were selected with permission from the 2017 Essentially Ellington program (Appendix B), which is a “free program for high school jazz ensembles which aims to elevate musicianship, broaden perspectives and inspire performance” (Jazz at Lincoln Center, n.d.). All ensembles were provided with the same jazz big band arrangement of “Stay on It,” composed by Todd Dameron and Dizzy Gillespie (1945). The version distributed was arranged by Dameron and performed by Count Basie and his orchestra; it has been transcribed and edited by Mark Lopeman in conjunction with Jazz at Lincoln Center. While Count Basie first recorded this version in 1946, it was never released (Loren Schoenberg, personal interview, February 26, 2016); Gillespie’s 1947 version became known as the classic recording of this song.

“Stay on It” is a medium-fast tune in swing style with a metronome marking suggesting 183 to 187 beats per minute, in the key of B-flat modulating to E-flat right. After an eight-bar introduction, the form of the tune is AABA with each A and B section consisting of eight bars. In the first AABA section, the band states the theme or “head” of the song. The subsequent sections are a 64-bar solo improvisation section for the tenor sax solo followed by a two-measure solo break, then a 32-bar trumpet solo in the new key. The selection ends with an eight-bar tag ending of the A section. The head and solo sections use the chord progression known commonly as rhythm changes, which originated in Gershwin’s “I’ve Got Rhythm.”



## Procedure

I distributed “Stay on It” to each ensemble at the initial rehearsal of the study and recorded the ensemble sight-reading the chart for the pretest evaluation. Soloists who chose to participate were instructed to improvise for 32 bars during the improvisation section of the tune. After the initial recording, ensembles and their directors rehearsed the tune for approximately 30 minutes per week over a four-week period, incorporating the assigned treatment for their group. At the end of the four weeks, the ensemble recorded the tune again with the same soloists playing in the same order as in the pretest evaluation.

I used a Zoom recorder to record all performances. The recorded files were transferred to a computer and saved as mp3 files, after which they were coded and labeled for anonymity. These initial recorded files of each band’s pretest and posttest performances were combined and intermixed into one file for evaluation of jazz ensemble performance achievement by the adjudicators. The recordings were placed in random order using Microsoft Excel’s random order generator. A Latin square design was used to ensure that each adjudicator would listen to the ensemble in a different order. The improvised solo section from each performance recording was extracted, coded, and labeled using the GarageBand software program (Apple Computer, 2016). The start of each improvising soloist’s performance was indicated with a timestamp. The extracted solo sections were kept intact within each band’s performance for evaluation purposes to allow adjudicators to hear relevant strategies used in the construction of improvised solos, such as ideas that spontaneously occurred in previous musical events (Norgaard,

2011). Loren Schoenberg, founding director of the National Jazz Museum in Harlem and a Jazz at Lincoln Center adjudicator, has stated:

In a jazz performance, soloists react to everything around them—the first soloist may well take a spur from what the rhythm section did during their solo, and every subsequent soloist reacts to what preceded them. Even if one falters trying to echo or develop what was played before, they deserve more credit than someone who plays what we call ‘if a bomb went off solo’—someone who plays what they’ve worked out regardless of context. (Schoenberg, personal interview, February 26, 2016)

Adjudication files were shared with the adjudicators electronically via a thumb drive. Scoring was done on separate sections only; the judges did not calculate total scores. The three judges were instructed to first evaluate each band’s jazz ensemble performance achievement and send me those evaluations by email. They were then to evaluate the improvised solos on the following day, so as to listen with “a fresh set of ears.” The three adjudicators rated each jazz ensemble performance and individual student improvisation.

At the conclusion of the last section of instruction and immediately after the posttest performance, all participants completed the Student Jazz Attitudes and Background Survey. I labeled and coded these responses to identify the improvisers in order, so that their descriptive and performance data could be correlated. I also interviewed the directors concerning their perceptions of their assigned approach. Participant anonymity was protected by labeling completed questionnaires by ensemble only, not by name. Improvisers participating in each ensemble were identified by using labels assigned to their performance during the recordings.

## **Measurement Instruments**

### **Jazz Improvisation Achievement**

I developed the Jazz Improvisation Performance Measurement instrument (JIPM; Appendix C) based on previous jazz improvisation achievement evaluation models (May, 2003; Palmer, 2016; Watson, 2008) that have been demonstrated to be reliable measures of jazz improvisation achievement. Common elements retained from these earlier instruments included seven dimensions of jazz improvisation achievement and the seven-point scale used to score the degree of achievement on each dimension. The seven criteria were technique, rhythm, time and feel, harmony, melodic and rhythmic development, style, expressivity, and creativity. The accompanying dimension descriptors from the aforementioned studies were also examined, compared, and adapted for this study. An eighth criterion pertaining to interaction between the soloist and the ensemble was adapted from Wesolowski's study on jazz improvisation interaction (2013) and from the Essentially Ellington improvisation category on its jazz ensemble performance score sheet (Jazz at Lincoln Center, n.d.) and the Cavalcade of Bands revised improvisation adjudication descriptors. Wesolowski's instrument has been shown to be a reliable measure of improvisation achievement. Adjudicators were provided with a rubric for each of the dimensions measured.

### **Jazz Ensemble Performance Achievement**

I developed the Jazz Ensemble Performance Achievement sheet (JEPA; Appendix D) to measure ensemble performance achievement. The form is based largely on the Cavalcade of Bands Jazz Band Score Sheet (CBBJ; see Appendix E), created by the Cavalcade of Bands Association (CBA). The evaluation criteria used on the CBBJ form

are tone/blend/balance, interpretation, rhythm, precision, dynamic intonation, and improvisation. The form was developed by a committee of association members in 1996 and has been reviewed annually, with the most recent change occurring in 2014 when the improvisation category was clarified to include soloists' interaction with the rhythm section. The purpose of the CBJB form is to enable adjudicators to evaluate three consecutively performed tunes by scholastic jazz ensembles. The CBA granted me permission to use the form, rubrics, and other information that might be useful for the study such as recent adjudication results (see Appendix F).

Cronbach's alpha was used to test the consistency of the results of items from a recent championship jazz band adjudication. The scale reliability coefficient was greater than .88, indicating that the CBJB was a reliable instrument for measuring jazz ensemble performance achievement. Interclass correlation was used to test the adjudicators' interrater reliability. Overall reliability between the three judges was greater than .98, reflecting very strong agreement. Since the ensembles in the study were initially evaluated while sight-reading the piece, the rubric scale was increased from four to seven achievement levels to more effectively document growth. Another minor adjustment from the CBJB to the JEPA was that this study required rating only one tune rather than three. The three adjudicators were asked to use the rubrics provided, to record their answers on an Excel file (Appendix D), and then to send me their results electronically. Each Excel scoresheet listed the order of bands differently, to match the order in which each adjudicator heard the bands.

### **Students' Jazz Attitudes and Background**

To determine to what extent the treatments influenced students' attitudes and perceptions of jazz improvisation and ensemble performance as well as their attitudes and perceptions towards cultural diversity, I also constructed the Student Jazz Attitudes and Background Survey (SJABS; Appendix G). Questions in the SJABS pertaining to student jazz experience background, student demographics, and attitudes related to jazz pedagogy and improvisation were drawn from previous studies (Bash, 1983; Watson, 2008). Survey questions pertaining to research question number 3, on how useful students considered the activities, were answered on a 5-point Likert-type scale (1 = *strongly disagree*; 5 = *strongly agree*). Questions pertaining to awareness of, sensitivity to, and appreciation of music and musicians of other cultures and ethnicities were drawn from the Monroe Multicultural Attitude Scale Questionnaire (Monroe & Pearson, 2006) and Weidknecht's (2009) multicultural music education study; in addition, I constructed some questions based on my past contextual experiences with high school jazz students. The questionnaire was piloted with a high school jazz band of 25 students to verify its clarity and comprehensibility. The pilot study took place after the respondents participated in a jazz workshop. As a result, the pilot student participants could correlate this experience with the questionnaire exactly as the experimental participants would do. Based on feedback from the pilot study, the questionnaire was revised for clarity by organizing the useful activity questions at the beginning of the questionnaire, followed by questions on attitudes about racial-ethnic and musical attributes. The wording of some questions was also revised. The racial-ethnic and musical attribute questions were intermixed to encourage accurate, honest answers and reduce the risk of respondent bias.

A follow-up session was conducted with the pilot group to clarify the questions and identify needed clarifications.

To answer research question 3, the SJABS asked the participants how strongly they felt they had improved through their assigned approach in the areas of jazz improvisation and ensemble performance. They were then asked to list the activities they considered most useful in improving their skills in improvisation and ensemble performance. Due to the contrast between the activities contained in the two approaches, open-ended questions were included. One open-ended question inquired about activities that they consider useful but that were missing in their pedagogical approach.

To answer research question 4, the SJABS asked participants how strongly they felt that the approach had affected their attitude toward musical attributes of jazz, such as their ability to express themselves individually through improvisation and ensemble performance. It also asked how the approach affected their attitude toward racial and ethnic contributions to jazz, whether cultural attributes are important when one is engaging in jazz improvisation and performance, and whether they were likely to seek out information on the historical and cultural origins of jazz ensemble music. Other questions asked about respondents' propensity to listen to jazz outside school and their likelihood of engaging in improvising as a result of the treatment.

Addressing research question required interviews with participating directors about the approach that they used during the study. Directors were asked about positive and negative aspects of the procedure, using the same interview protocol for all directors (Appendix H). They were also asked to discuss whether they could follow the rehearsal procedures, students' reactions to the approach, and whether they would use the approach

in the future. The interviews were recorded on the same Zoom recorder used for the pretest and posttest performances.

### **Adjudicators**

The three adjudicators recruited to evaluate the performance recordings had extensive experience as jazz performers, educators, and judges. One was a brass expert who had served for many years as a high school jazz band director, jazz education coordinator and adjudicator, and local jazz performer. The second was a professional saxophone player who had been a professor of jazz studies at the university level for 13 years. This person also had extensive experience in judging the performances of high school jazz musicians. The third adjudicator was a professional jazz guitarist as well as a jazz guitar and jazz improvisation instructor at several higher education institutions; this person also had extensive experience as an adjudicator of high school jazz bands and soloists.

The adjudicators received training on the use of the JIPM and JEPA using sample recordings from two ensembles (one low-performing and one higher-performing) and eight student improvisers, in alignment with the adjudicator education methodology implemented by Smith (2009). The judges first scored the two bands using the JEPA. An intraclass correlation coefficient (ICC) was calculated using the Stata software package. The two-way mixed average ICC resulted in strong agreement among all three judges on the JEPA, with a coefficient of .99. When the three adjudicators rated the eight improvisation soloists using the JIPM, all alpha coefficients were greater than .98 for both the individual criteria areas and the composite score.

## Treatment Groups

### Control Group

Ensembles using the theoretical-based pedagogy were the control group. They were provided with the full score and individual parts, as were the experimental group ensembles. The improvising soloists were given the chord changes but not the transcription of the original improvised solos, as is common with most big band charts. Directors were instructed to rehearse the chart as they would rehearse their other instrumental ensemble pieces. Improvising soloists were given scales and arpeggios relating to the chord changes in the solo. The scales included major and minor pentatonic scales as well as Phrygian, Dorian, and Mixolydian modes along with the blues scale where appropriate.

Control group procedures for each week were prescribed as follows.

**Week 1:** 50 minutes, including 20 minutes to record and give instruction on how to use the scales and chords

- Recorded the pretest performance with soloists improvising (5 minutes).
- Director passed out chord sheets for improvisers and explained how they relate to the chord progression.
- Director began rehearsing the tune during the remaining time, concentrating on technical aspects of the piece.
- Soloists were instructed to compose solos, using the scales and chords provided.
- Students were assigned to practice their parts, concentrating on correct notes and rhythms.

**Weeks 2–4:** 30 minutes each



- Director continued rehearsing the piece, concentrating on technical aspects.
- Soloists worked on their solos, using the scales and chords provided.
- Students were reminded to practice their parts, concentrating on correct notes and rhythms.

**Week 5:** 50 minutes (30 minutes rehearsal, 5 minutes posttest, 15 minutes questionnaire)

- After 30 minutes of rehearsal, the students recorded the posttest performance, with the same students improvising in the same order.
- All students then completed the questionnaire.

### **Experimental Group**

To implement the practice-based pedagogy, directors were instructed to register for online access to and use the Essentially Ellington program as their source of materials, which include a transcribed score and parts for each musician. Transcriptions of the original tenor saxophone and trumpet solo are notated on separate parts, allowing the director to copy and distribute those transcriptions to other instrument players who may be improvising. Two recordings of the tune are provided for the director and students to listen to: the original recording and a version performed by the Jazz at Lincoln Center Orchestra. Directors were encouraged to provide students with access to the recordings so that they could listen to the styles used, much as jazz musicians have historically done. The score contains a vocabulary list as well as historical notes that allow the director to put the tune in an historical context and enable students to “learn the lingo” by using the vocabulary. Also, as part of the program, students can access the tune through a web application called Tutti Music Player (Louisiana Entertainment, 2013).

This application permits students to listen to the whole tune or isolate the part they are playing, such as third trumpet, while muting all the other parts.

The video of the performer playing the part gives the students a mentor of sorts, reconstructing to some extent the traditional experience of apprenticing with the artist. The application allows the student to isolate just the selected performer on whom he or she wishes to focus, much as Louis Armstrong would focus on King Oliver's trumpet playing while observing him in live performances. The videos are shot so as to provide maximum exposure of technique and style. Three cameras are on the set drummer so that the student can observe the foot action as well as the right swing hand. The third drum camera shot offers a top view of all the drums so students can see the production of what they hear. The application is available for use on computer, electronic tablet, or iPhone, optimizing student access outside rehearsals. Another feature of the program, which supports the apprenticeship model, is the inclusion of notes by professionals who discuss how to rehearse the piece.

The written solo transcriptions provided are from the original 1946 Count Basie recording; the solos performed by the Jazz at Lincoln Center Orchestra are quite different. These two sources and the use of suggested alternate tunes such as Duke Ellington's "Cottontail," also based on rhythm changes, provide students with divergent thinking opportunities as they construct their improvised solos.

The experimental group procedures by week were prescribed as follows:

**Week 1:** 50 minutes (20 minutes to record and give instruction on how to use the application, 30 minutes of rehearsal)

- Record the pretest performance with soloists improvising (5 minutes)

- Director passed out Tutti Music Player instructions and access sheets (Appendix I) and guided students through the process of installing the application on their phone as well as accessing both recordings of the tune (10 minutes).
- Director demonstrated how to use this application to listen to the full band or to isolate their individual part and/or solo for practice outside rehearsals. Students were required to self-report that they had used the application outside rehearsal time.
- Director played a recording of the tune for students.
- Director began rehearsing the tune with the time remaining.
- Soloists were assigned the transcriptions to study with their mentor video example.
- Students were assigned to practice their parts while referring to the mentor's recording of the same part.

**Week 2:** 30 minutes

- Students self-reported on their use of the application for the assignment by informing the director before rehearsal.
- Director played a recording of the tune, listening for style.
- Director played video of the Jazz at Lincoln Center Orchestra performing the tune.
- Improvising soloists read and rehearsed with the transcription.
- Soloists were assigned the transcriptions to play along with the video recording.
- Students were assigned to practice their parts while referring to the mentor's recording of the same part.

**Week 3:** 30 minutes

- Before rehearsal, students self-reported to the director that they had used the application to practice.
- Director played a recording of the tune, listening for style.
- Director incorporated historical rehearsal notes provided.
- Director played a recording of Duke Ellington's "Cottontail," listening for similarities of harmonic structure, melody, composition, and style.
- Improvising soloists read and rehearsed with the transcription and incorporated new ideas of their own.
- Soloists incorporated improvisational techniques such as licks, quotes, patterns, scales, and chords based on their experience with the transcription and other pertinent listening examples to play along with the video recording.
- Students were assigned to practice their parts with the mentor recording.

**Week 4:** 30 minutes

- Students self-report the degree to which they used the application to practice.
- Director played a recording of the tune, listening for style.
- Director incorporated historical rehearsal notes provided.
- Director played a recording of Duke Ellington's "Cottontail," listening for similarities of harmonic structure, melody, composition, and style.
- Improvising soloists continued to develop and construct solos.
- Students continued to rehearse with the video, this time playing with instrument parts other than their own.

**Week 5:** 50 minutes (30 minutes rehearsal, 5 minutes recording, 15 minutes questionnaire)

- Students self-reported that they had used the application for the assignment by informing the director before rehearsal.
- Director played a recording of the tune listening for style.
- Director incorporated historical rehearsal notes provided.
- Director played a recording of Duke Ellington’s “Cottontail,” listening for similarities of harmonic structure, melody, composition, and style.
- Improvising soloists read and rehearsed with the transcription as well as incorporating new ideas of their own.
- At the conclusion of the 30-minute rehearsal, the students recorded the posttest performance, with the same soloists improvising in the same order as in the pretest.
- Students completed the questionnaire while directors were interviewed.

Upon completion of each control group’s questionnaire, I provided the director and students in the group with access to practice-based pedagogical methods. Directors were guided through the signup process with Essentially Ellington, giving them access to recordings and the video app. Students were provided with information on how to access the video app as well as recordings and transcriptions for the tune.

### **Study Timeline**

The initial pretest recording and introduction of the two different approaches occurred during the second and third weeks of January during the ensembles’ regular rehearsals, most of which occurred after regular school hours on Tuesdays, Wednesdays,

or Thursdays. Weather-related school closures throughout the experimental treatment period necessitated moving the posttest back one week so that students and directors could have a full four weeks of instruction. A member check was conducted halfway through the study period to confirm that directors were complying with the instructional procedures. Control group directors reported no problems in implementing the treatment. Two of the experimental group directors requested clarification about how much time per week they should be rehearsing “Stay on It” as well as the level of director control needed for some aspects of the treatment. Only one experimental director was unable to get Tutti Music Player functioning for students to have direct interaction with the video; in that instance, all listening and transcription tasks were followed.

Posttest recordings were conducted during the second and third weeks of February along with administration of both student questionnaires and director interviews. After the posttest recording and student questionnaires were completed, the recordings were coded and labeled for anonymity. Explicit instructions were given to the judges along with the pretest and posttest recordings, which were placed on a flash drive for each adjudicator. The adjudicators were given one week to listen to and rate the recordings; they were asked to separate the ensemble adjudicating task from the improvisation adjudicating task by one day.

## **Data Analysis**

### **Reliability**

Interjudge reliability was calculated using an intraclass correlation coefficient (ICC). The ICC was determined from the ratings given to participants in the pretest and posttest JIPM and JEPa performance evaluations. This two-way fixed-effects model was

used because the same three judges scored the participants on both the JIPM and JEPA. The ICC calculation showed strong agreement among all three judges, with a composite score coefficient of .93 on the JEPA and .87 on the JIPM (see Tables 3 and 4).

Table 3

*Interjudge Reliability Coefficients for Ensemble Performance Achievement (n = 20 recordings; 10 pretest and 10 posttest)*

Item	$\alpha$
Tone/blend/balance	.94
Interpretation	.93
Rhythm	.88
Precision	.89
Dynamics	.89
Intonation	.89
Improvisation	.88
Composite	.93

Table 4

*Interjudge Reliability Coefficients for Jazz Improvisation Achievement (n = 73 solos; 39 pretest and 34 posttest)*

Item	$\alpha$
Technique	.84
Rhythm, time and feel	.83
Harmony	.83
Melodic and rhythmic development	.84
Style	.84
Expressivity	.78
Interaction	.82
Creativity	.84
Composite	.87

### **Jazz Improvisation Achievement**

To answer the first research question, the mean adjudicator pretest and posttest JIPM scores on each criterion served as the dependent variables. A between-subjects, repeated-measures analysis of variance (ANOVA) test was conducted with the two

treatments being the categorical independent variables and the composite score of the individual criteria on the JIPM (as shown in Table 4) being the continuous dependent variable. This analysis enabled a comparison of the effect of each treatment method on the students' jazz improvisation score. Since the JIPM was shown to be a highly reliable instrument with strong interjudge reliability, I calculated the mean score given by judges on each criterion and totaled it into a composite score on both the pretest and the posttest for each soloist. Normality tests revealed a normal distribution, and skewness and kurtosis calculations for the individual criteria ranged from .13 to .91, well within normal distribution levels. A Pearson product-moment correlation coefficient was computed for each criterion mean for both the pretest and posttest, indicating a significance of  $p < .01$ . Given the high correlation among the individual criteria on the JIPM, an overall mean score for each ensemble was calculated for the pretest performances ( $n = 39$ ) and the posttest performances ( $n = 34$ ). Five students were sick for the posttest performance so their pretest performances were not used to calculate the mean pretest scores.

Descriptive statistics were compiled to meet the assumptions of an analysis of variance test as exhibited in Table 5. To compare the gains between the pretest and posttest means of the control and experimental groups, a boxplot was computed to display the distribution of scores. Both sets of scores were found to be normally distributed, meeting the assumptions of an analysis of variance test (Figures 2 and 3).

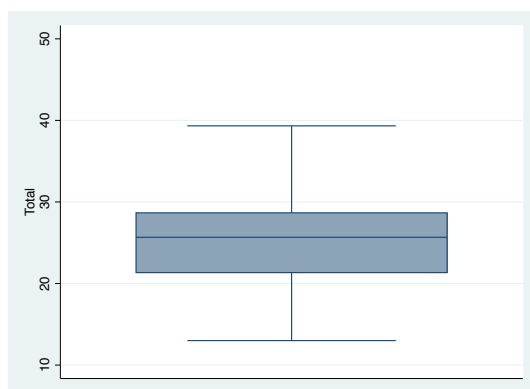
### **Jazz Ensemble Performance Achievement**

To answer the second research question, the mean adjudicator pretest and posttest JEPA scores for each criterion were the dependent variables. A between-subjects, repeated-measures ANOVA test was conducted with the two treatments being the

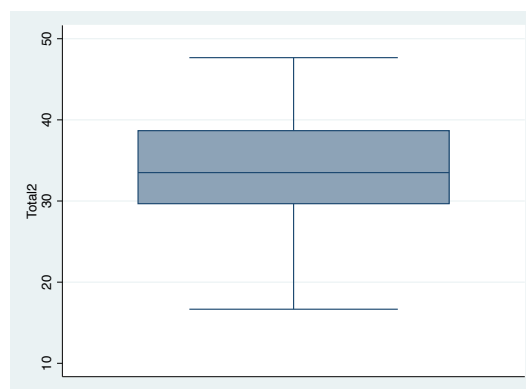


Table 5

<i>Descriptive Statistics of Pretest and Posttest Improvisation Scores by Approach</i>						
Approach	Time	<i>n</i>	Mean	Standard Deviation	Minimum	Maximum
Theoretical-based	Pre	13	23.00	4.80	13.00	29.33
	Post	13	28.36	6.28	16.67	41.33
Practice-based	Pre	21	26.70	6.36	15.67	39.33
	Post	21	36.57	5.60	28.33	47.67



*Figure 2.* Boxplot of pretest improvisation scores.



*Figure 3.* Boxplot of posttest improvisation scores.

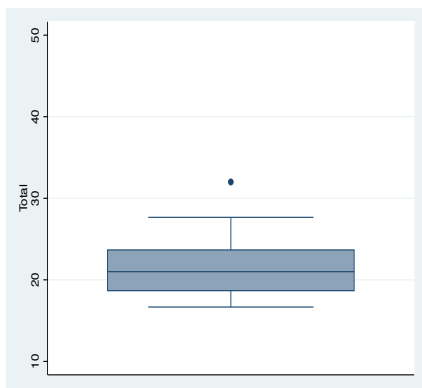
categorical independent variables and the composite score of the individual criteria of the CBJB (as shown in Table 3) being the continuous dependent variable. The analysis thus examined the effect of each treatment method on students' improvement on these jazz ensemble performance criteria.

I collected the three adjudicators' scores on each criterion. As with the JIPM, since the JEPA proved to be a highly reliable instrument with strong interjudge reliability, I calculated the mean for each criterion and created a composite score on both the pretest and the posttest for each ensemble. Normality tests revealed a normal distribution, and skewness and kurtosis calculations for the individual criteria ranged from .09 to .99, well within normal distribution levels. A Pearson product-moment correlation coefficient was computed for each criterion mean for both the pretest and posttest, indicating a significance of  $p < .01$ .

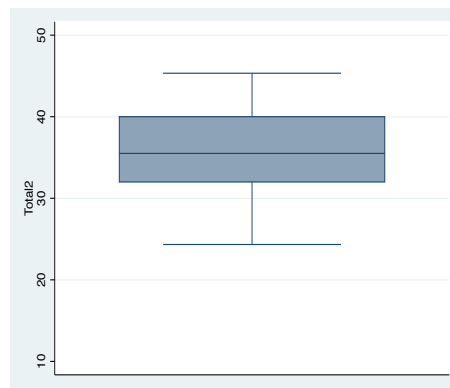
In view of the high correlation factor between the criteria, an overall mean score for each ensemble was calculated for the pretest performances ( $n = 10$ ) and the posttest performances ( $n = 10$ ). Descriptive statistics were compiled to meet the assumptions of an analysis of variance test as exhibited in Table 5 and Figures 4 and 5. Both sets of scores were found to be normally distributed and met the assumptions of an analysis of variance test.

Table 6

<i>Descriptive Statistics of Pretest and Posttest Ensemble Scores by Approach</i>						
Approach	Time	<i>N</i>	Mean	Standard Deviation	Minimum	Maximum
Theoretical-based	Pre	5	19.13	2.80	16.67	23.33
	Post	5	31.27	4.25	24.33	36.00
Practice-based	Pre	5	24.73	5.21	18.67	32.00
	Post	5	40.27	3.88	35.00	45.33



*Figure 4.* Boxplot of ensembles' pretest scores.



*Figure 5.* Boxplot of ensembles' posttest scores.

### **Student Jazz Attitudes and Background Survey**

Answering research questions 3 and 4 involved data collected from the SJABS. The categories are self-reported effective improvisation activities, self-reported effective performance activities, and appreciation of and sensitivity toward cultural diversity in music and awareness of the unique attributes of jazz music. In each category, the mean score for each question served as the dependent variable. The SJABS was administered immediately following the recording of the posttest performance. It included descriptive questions to obtain background information on the participants, Likert-type scale questions on aspects of participants' experiences with their respective approach and perceptions of jazz music and culture, and open-ended questions asking what students considered the most useful activities associated with the assigned approaches as well as activities that they deemed to have been missing from that approach.

The SJABS Likert-type scale and open-ended questions covered students' perception of the usefulness of their respective approach with regard to their individual achievement in both jazz ensemble performance and improvisation. All student

responses ( $N = 191$ ) were used for analysis of impact on jazz ensemble performance; only the responses from the soloists involved in the improvisation pretest and posttest performances ( $n = 34$ ) were used in analysis of the questions on the usefulness of each approach for improvisation, but all responses were analyzed on questions pertaining to overall attitudes toward improvisation and general participation.

Provisional coding was used in the first cycle of analysis of the open-ended questions (Saldaña, 2013). The provisional coding targeted the specific activities associated with the respective treatment approach. The initial list of codes included *listening, mentor, theoretical, scales, arpeggios, and practice*. The analysis examined students' perceptions regarding the usefulness of each jazz pedagogy.

The analysis of students' attitudes toward musical attributes of jazz as well as ethnic and racial contributions to jazz used Likert-type questions in conjunction with descriptive statistics. The analysis used paired sample *t*-tests to evaluate whether significant differences existed between students in the control and experimental groups.

### **Director Perceptions**

To answer research question 5, directors' interview recordings were transcribed and coded using the same initial list of provisional codes as with the students. The transcripts were analyzed by question to classify directors' views on the positive and negative aspects of each approach, students' attitudes, and directors' propensity for using each approach in the future.

## Chapter 4

### Results

This chapter presents and analyzes the study results. The data collected include evaluator scores from the Jazz Improvisation Performance Measure (JIPM) and the Jazz Ensemble Performance Achievement (JEPA), results of the Student Jazz Attitudes and Background Survey (SJABS), and interviews of band directors involved in the study. Initial analysis, as described in chapter 3, was performed to determine internal reliability of the instruments and interjudge reliability for the ensemble and improvisation tasks. All quantitative data collected from the JIPM, JEPA, and SJABS were analyzed using the Stata software package. Open-ended question data from the SJABS were compiled and provisionally coded. Experimental group director interviews were transcribed and coded using *in vivo* coding. Inferential statistics were compiled for the performance and improvisation tasks, and descriptive statistics were compiled for the student questionnaire.

#### Jazz Improvisation Achievement

To answer the first research question, I conducted a between-subjects, repeated-measures analysis of variance test comparing the pretest and posttest scores among the control and experimental group soloists. Results indicated a statistically significant impact of pedagogical approach [ $F(1,32) = 5.22, p = .029, \eta^2 = .144$ ] on improvisation achievement. A paired-sample *t*-test compared mean gain scores (posttest score means minus pretest score means) by pedagogical approach, finding a statistically significant difference between the theoretical-based approach ( $M = 5.36, SD = 1.18$ ) and the practice-based approach ( $M = 9.86, SD = .99$ ) conditions ( $t(32) = -2.88, p = .007$ ). Effect

size was calculated at .14, indicating that 14% of the improvement in improvisation achievement could be attributed to the practice-based approach. Gain scores between pretest and posttest in the control and experimental groups are displayed in Figure 6.

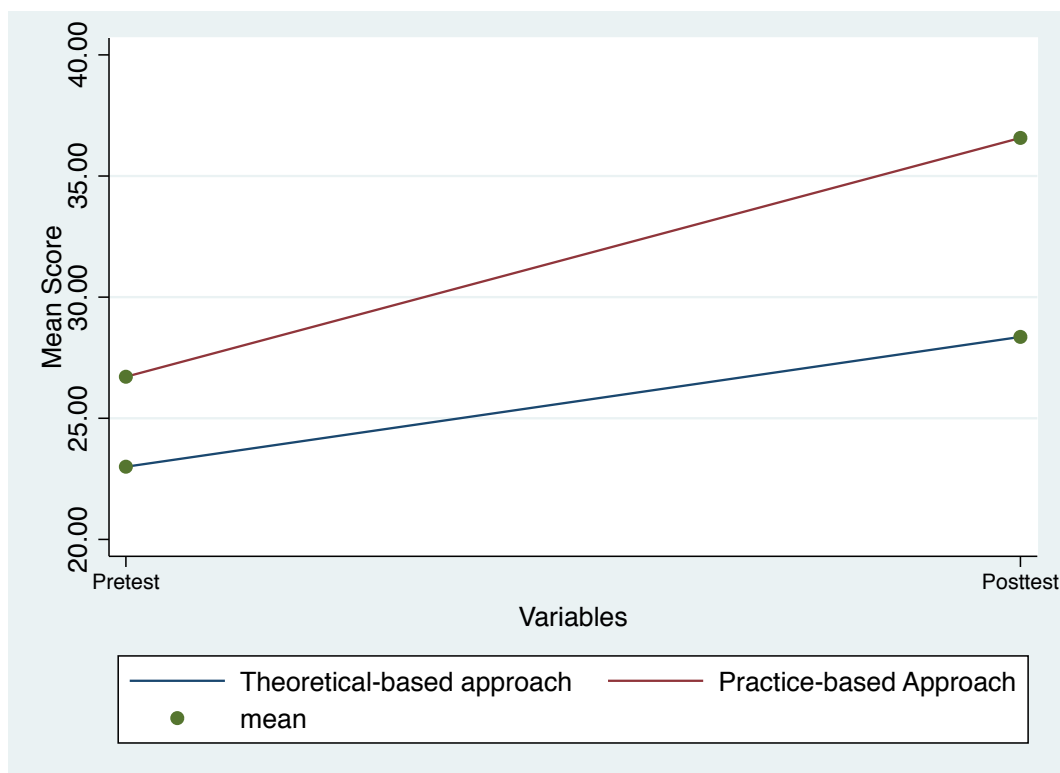
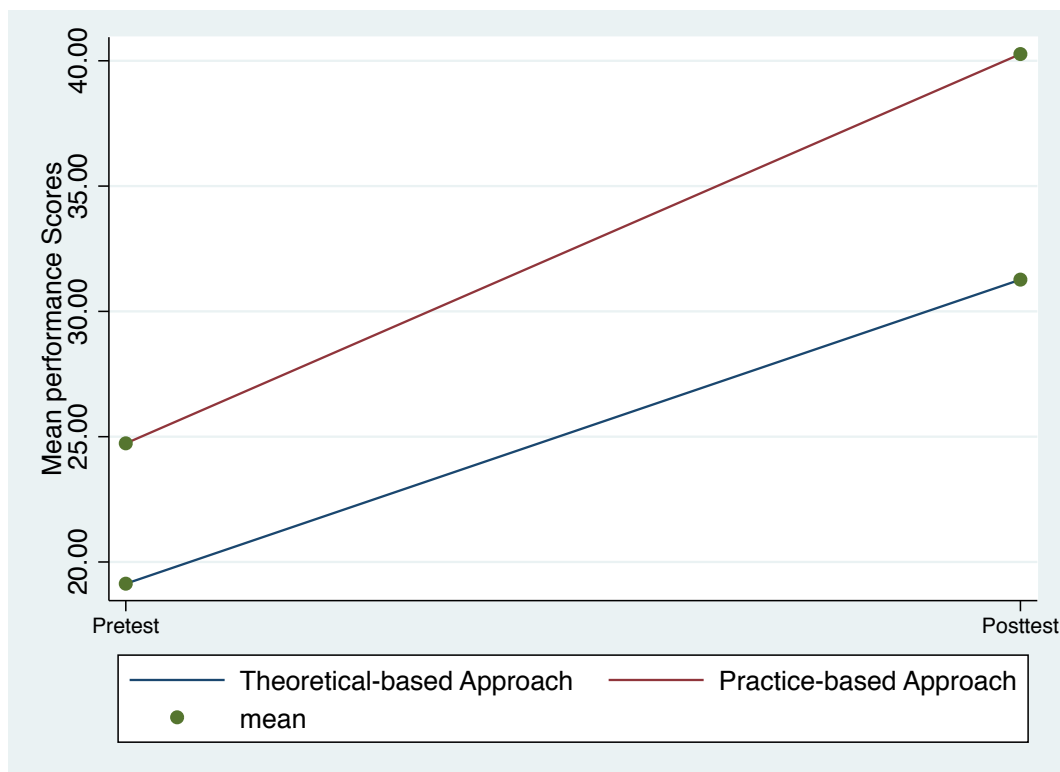


Figure 6. Improvisation achievement: mean gain from pretest to posttest.

### Jazz Ensemble Performance Achievement

I conducted a between-subjects, repeated-measures analysis of variance test on the ensembles' performances scores, finding the difference in gains between the control and experimental groups to be statistically nonsignificant [ $F(1,8) = 2.82, p = .132$ ]. The results indicate that ensemble scores in both groups improved similarly over the course of the study (see Figure 7).



*Figure 7.* Ensemble achievement: mean gain from pretest to posttest.

### **Student Attitudes and Perceptions Regarding the Approaches**

Research questions 3 and 4 required student input as to their attitudes and perceptions regarding the effect of the pedagogical approach used on their performance and achievement skills. The students were also asked to indicate if their experiences influenced their knowledge related to three distinct criteria of jazz and their attitudes towards cultural diversity.

Research question 3 sought to assess students' sense of the usefulness of the activities used to improve their jazz improvisation and performance skills. Question 1 on the SJABS asked the participants how strongly they felt that their improvisation skills had improved. Although the question was asked of all participants, means were

compared only for those who performed an improvised solo in the study ( $n = 34$ ). A paired-samples  $t$ -test was conducted to compare improvisation improvement efficacy between the 13 theoretical-based approach (TBA) soloists and the 21 practice-based approach (PBA) soloists. There was no statistically significant difference between the scores for the TBA soloists ( $M = 3.31$ ,  $SD = .75$ ) and the PBA soloists ( $M = 3.71$ ,  $SD = .64$ ) ( $t(32) = -1.67$ ,  $p = .10$ ). Improvisers in both groups felt that they improved during the experimental period.

Question 2 on the SJABS asked participants how strongly they felt that their performance skill in jazz had improved during the course of the study. Since all students who completed the questionnaire were involved in the pretest and posttest performance, all 191 responses were used for this comparison. A paired-samples  $t$ -test was conducted to compare performance improvement efficacy between the TBA group ( $n = 102$ ) and the PBA group ( $n = 89$ ). There was a significant difference between the PBA performers ( $M = 4.12$ ,  $SD = .77$ ) and the TBA performers ( $M = 3.79$ ,  $SD = .87$ ) ( $t(189) = -3.59$ ,  $p < .001$ ,  $d = .51$ ). Performers in the practice-based group felt that they improved more than participants in the theoretical-based group.

Questions 5 through 10 on the SJABS asked participants to list useful activities that they had encountered in their respective approaches for both improvisation and performance. These questions were open-ended and required coding of the answers. I used provisional coding for the initial analysis, identifying pedagogical themes from the two different approaches (Saldaña, 2013), as explained in chapter 3.

Theoretical-based activities included references to chord and scale studies as well as rhythmic analysis such as counting. Examples of student open-ended responses



indicating useful theoretical-based activities include “writing out chords” and “chord chart with scales.” Practice-based activities included listening, which could have involved listening to recordings, videos or to other members of the ensemble. Examples of open-ended responses under the code of listening included “using tutti app and hearing style,” listening to licks,” and “listening to other solos.” Mentoring and apprenticeship activities included watching and or listening to specific jazz musicians as well as working with specific musicians’ transcriptions. An example of a mentorship response would be “mimicking the tone of the artist on the app.” Because of the short duration of the experimental period, I considered mentorship and apprenticeship under the same category for coding. Establishing an apprenticeship would require a longer duration of time. Use of transcriptions, for example, could be considered both listening and mentorship/apprenticeship if students listened to and copied a specific player’s solo when constructing their own solo. The second round of *in vivo* coding revealed a theme related to practice and repetition of the music as an activity that participants found useful for both improvisation and performance.

Many of the students in both the TBA and PBA referred to time spent rehearsing as a useful activity. Practice was mentioned in either general or more specific terms, such as breaking down a section of the tune and repeating it until the section flowed better. A compilation of the participants’ statements on useful activities and their other open-ended question responses is presented in Tables 6 and 7.

Table 7

*Reported Useful Activities by Participants for Jazz Ensemble Performance Achievement*

Approach	Activity	Most Useful Activity	%	Other Useful Activity	%	Activity Missing from Approach	%
TBA	Theoretical	14	14	7	7	2	2
	Repetition/rehearsal	35	34	7	7	2	2
	Listening	5	5	10	10	18	18
	Mentor/apprentice	1	1	2	2	3	2
PBA	Theoretical	1	1	0	0	0	0
	Repetition/rehearsal	8	9	17	19	1	1
	Listening	49	55	16	18	4	4
	Mentor/apprentice	24	26	11	12	4	4

*Note.* % = Percentage of participants reporting this answer.

Table 8

*Reported Useful and Missing Activities by Participants for Jazz Improvisation Achievement*

Approach	Activity	Most Useful Activity	%	Other Useful Activity	%	Activity Missing from Approach	%
TBA	Theoretical	5	38.	3	23	0	0
	Repetition/rehearsal	2	15.	1	8	0	0
	Listening	0	0	0	0	3	23
	Mentor/apprentice	0	0	0	0	0	0
PBA	Theoretical	1	5	4	19	6	29
	Repetition/rehearsal	0	0	0	0	0	0
	Listening	18	85	3	14	0	0
	Mentor/apprentice	4	19	7	33	1	5

*Note.* % = Percentage of participants reporting this answer.

Listening was cited as the most useful activity for both performance and improvisation achievement among PBA participants. For ensemble improvement activities, listening was mentioned as the most useful or as another useful activity in 73% of the PBA participants' responses. TBA participants who listed listening indicated that they were referring to the experience of listening to other members of the band. Mentoring and apprenticeship activities were the second most frequently mentioned activity in both jazz improvisation and ensemble performance achievement among the PBA group. Two students suggested that two-way interaction with the mentor, a limitation presented by using the app instead of a live person, was missing from the activity and could enhance the experience. The 18% of TBA participants who listed listening as a missing activity, on the other hand, referred to their desire to listen to recordings of the tune. TBA participants listed repetition and practice as their most useful activity, whereas theoretical activities such as utilization of scales and chords were most frequently mentioned as missing from the PBA approach.

Research question 4 asked whether a difference would be observed in high school jazz musicians' appreciation of the unique musical attributes of jazz as well as racial and ethnic contributions to jazz between a practice-based and a theoretical-based jazz approach. This question was answered using 15 questions on the SJABS pertaining to the unique criteria of jazz (improvisation, sense of moving time, and individuality of expression) and students' appreciation of the cultural and ethnic diversity and other contributions offered by jazz music (Appendix G). I grouped the results from the Likert-type scale questions into four subcategories for analysis: voice, element, culture, and propensity for listening and improvisation (Table 9). Four questions focused on the

criterion of individuality of expression, five questions focused on improvisation and sense of moving time, five questions focused on students' appreciation and awareness of cultural and ethnic diversity in jazz music, and one question inquired if the pedagogical approach increased students' likelihood of increased listening to jazz music.

Table 9

*Mean Score Statistics for Student Questionnaire Likert-type Questions*

Question	Theoretical-based approach ( $n = 102$ )		Practice-based approach ( $n = 89$ )		Sig	Effect
	$M$	$SD$	$M$	$SD$	$p$	$d$
Unique personal sound	2.96	0.89	3.27	0.94	.020*	.34
Increased ability express	3.17	1.09	3.54	0.93	.012*	.36
Personality in the music	4.07	0.80	4.35	0.81	.018*	.35
Scales/arpeggios vs. personal expression	2.36	0.99	2.37	1.04	.957	
Improvisation/composition	3.61	1.79	3.42	1.25	.260	
Rhythm not as important	1.79	0.90	1.67	0.85	.336	
Swing feel is important	4.24	0.79	4.30	0.99	.579	
Respect for contributions	2.82	1.10	3.15	1.13	.048*	.30
Decreased appreciation	1.72	1.08	1.57	1.20	.388	
Understanding cultures	2.67	1.16	2.83	0.99	.414	
Jazz separate from culture	2.52	1.22	2.38	1.20	.415	
Explore historical cultural context of music	3.23	1.12	3.48	1.22	.131	
More likely listen to jazz	3.25	1.19	3.78	1.00	.001**	.48
More likely to improvise	1.79	0.49	1.70	0.49	.172	

*Note.* Questions (Appendix G) used a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*), except for “More likely to improvise”: 1 = *more likely*, 3 = *less likely*. \* $p < .05$ ; \*\* $p < .01$ .

The first two questions under the subcategory of voice asked students how they felt about the effect of their instructional method in enabling them to create a unique sound and whether their ability to express themselves through jazz music had increased.

A *t*-test found a statistically significant difference on the question about creating a unique sound between the TBA performers ( $M = 2.96$ ,  $SD = .89$ ) and the PBA performers ( $M = 3.27$ ,  $SD = .94$ ) ( $t(189) = -3.59$ ,  $p < .020$ ), with the PBA students more likely to believe that their approach helped them to do so. On the second question, both groups agreed that their individual expressive ability had increased, but the PBA group ( $M = 3.54$ ,  $SD = .93$ ) was significantly stronger in its agreement than the TBA group ( $M = 3.17$ ,  $SD = 1.09$ ) ( $t(189) = -2.52$ ,  $p < .012$ ). The third voice question asked if a jazz soloist's personality should be present in his or her solo. Both groups agreed with this statement, with the PBA group ( $M = 4.35$ ,  $SD = .81$ ) again agreeing significantly more strongly than the TBA group ( $M = 4.07$ ,  $SD = .80$ ) ( $t(189) = -2.39$ ,  $p < .018$ ). On the last question of this set, both groups disagreed with placing priority on correct scales and arpeggios over personal expression when improvising. There was no significant difference between the two groups.

The second subcategory of questions encompassed recognition of the three unique criteria of jazz: improvisation, sense of movement, and individuality of expression. The first question explored students' definition of jazz, asking whether its essence involved individual creative expression, crafting correct notes from scales or chords, both, or neither of those two definitions. The results, shown in Table 10, indicated no differences between groups. The other three questions in this group also showed roughly the same level of agreement between both approaches, with no significant differences.

The next subcategory, culture, encompassed questions on the participants' awareness and appreciation of the diverse racial and ethnic contributions found in jazz music. The first question, asked if studying the specific music chart, "Stay on It," had

Table 10

*Frequency of Responses on Definition of Jazz Improvisation*

Jazz improvisation is:	Theoretical-based approach ( <i>n</i> = 102)	%	Practice-based approach ( <i>n</i> = 89)	%	Total ( <i>N</i> = 191)	%
Individual creative expression	26	25	23	26	49	26
Right notes from scales and chords	7	7	3	3	10	5
Both of the above	69	68	62	70	131	69
Neither of the above	0	0	1	1	1	1

increased the participant's respect for the contributions of different racial and ethnic groups to music. The TBA group ( $M = 2.82$ ,  $SD = 1.10$ ) showed a tendency to disagree whereas the PBA group ( $M = 3.15$ ,  $SD = 1.13$ ) tended to agree. This difference was statistically significant ( $t(189) = -1.99$ ,  $p < .048$ ,  $d = .30$ ). The remaining four questions in the culture subcategory revealed no statistically significance differences between groups.

The final subcategory, propensity for listening and improvising, included two questions, inquiring if students would listen to jazz outside school and about their likelihood of engaging in jazz improvisation. The PBA group members ( $M = 3.78$ ,  $SD = 1.00$ ) were significantly more likely to listen to jazz outside school than the TBA group ( $M = 3.25$ ,  $SD = 1.19$ ) ( $t(189) = -3.24$ ,  $p = .001$ ,  $d = .48$ ). The improvisation question

asked how likely the student would be to improvise following this four-week educational experience. The difference between groups was not significant.

### Director Perceptions

To answer research question 5, I interviewed the five directors who participated in delivering the experimental treatment. They were asked four questions, with follow-up questions as appropriate: (1) What were the positive aspects of the approach? (2) How did the students react to the approach? (3) Were there any negatives to the approach? (4) Would you consider using this approach in the future? Table 11 presents the directors' responses to the first three questions. Provision and *in vivo* coding were used to identify the criteria shown in the first column of the table.

Table 11

<i>Directors' Responses to Interview Questions on Using the Practice-based Approach</i>			
	Positive aspects	Negative aspects	Students' response
Listening activities	5	0	0
Mentoring/apprenticeship	5	0	4
App	3	3	3
Time	0	2	1
"Stay on It"	3	1	1
Use of Transcriptions	2	0	1

The five directors all cited listening to the authentic recordings as well as students' ability to interact with the application as positive experiences with the application. They were especially emphatic about the value of the mentoring or

apprenticeship in influencing the students' learning processes as well as their own teaching processes. Three directors cited their own deficiencies in teaching jazz as a reason why having the students use the video recordings as a model offered a valuable advantage. One director elaborated on the difference between watching a video of a band playing and the mentoring/apprenticeship model of the app:

You know, I've played recordings for them but anything where you can get the live band playing is much more arresting for the viewer. ... It allows them to focus on what they're doing rather than showing a video of the whole band where they say, "I wonder what kind of club that is" or "there's a waitress going by." ... Where there's something that's so focused, it greater enhances their ability to learn from it.

Another director cited the mentoring/apprenticeship model as enhancing students' individual learning opportunities:

I can tell them all kinds of stuff but it's not like getting it [from] watching these guys playing. ... There were a number of times throughout the course of the exercise when they would say "Well, I noticed on the app they would do this but it's not necessarily written on the part, should I?" and I would say "Whatever you hear those guys do, do it!" They're certainly not going to get it from me. They're picking up the nuance of what these guys actually do; it's great.

Students' positive reactions, as reported by the directors, centered on the interaction with the application and use of the solo transcriptions. Directors stated that students enjoyed using the application and would apply what they learned in either improvised solo imitation or stylistic ensemble performance. One director commented, "The lead trumpet player ... carries over to all of the other charts because that's the first time he watched the lead trumpet play, a master of what he was doing. I really believed that [observation] influences his playing." Directors expressed their students' excitement with using the application but also noted the need for more time for the students to explore and properly use Tutti Music Player.



Another negative aspect of the approach described by the directors pertained to technological challenges of the Tutti Music Player application used for the mentoring interaction. Two directors cited their own deficiencies with technology as part of the problem. One director admitted that he never got the video interaction feature of Tutti Music Player to work. Further investigation revealed that he was unaware of the access code needed to enter and operate the application. Also, the application required a long time to download the music tracks. Tutti Music Player functions on iPhones, iPads, and Macintosh and PC computers. Students with other types of smartphones and tablets expressed some frustration about not being able to access the program as conveniently as those with iPhones and iPads. Another frequent technology issue was the school's inconsistent and/or undependable Internet access and speed.

The jazz chart used in the study, "Stay on It," was viewed positively except at one school, where the director said that the students did not like the chart at first, although it grew on them over time. Other directors appreciated the historical context of the chart and indicated that they would like to see this kind of method offered for more contemporary jazz charts as well.

Finally, when asked whether they would consider using the PBA approach in the future, all five directors agreed that they would. Three stated that it took what they already were doing (i.e., listening to charts) and pushed their methodology one step further. The directors all agreed that the mentoring or apprenticeship feature through interaction with the video application enhanced student's music education with regard to both improvisation and jazz ensemble performance.

## Summary

This chapter has provided statistical and descriptive analyses of the data collected pursuant to the research questions. It began with an analysis of the reliability of the measures and the consistency between adjudicators. The first two research questions—on the relationship between the jazz pedagogical approach used and improvement in improvisation and ensemble performance—were answered by calculating the mean performance scores of the judges on both the pretest and posttest performances and looking for statistically significant difference in the gains achieved between the two groups.

A between-subjects, repeated-measures analysis of variance was conducted on the pretest and posttest scores of 34 jazz improvisers and 10 jazz ensembles. Both approaches resulted in improved scores, with the practice-based approach producing greater gains than the theoretical-based approach. However, statistically significant differences were found only in jazz improvisation achievement.

Descriptive statistics and *t*-tests were used to answer research question 3, on the relationship between the pedagogical approach used and its perceived usefulness for improvisation and ensemble performance among high school jazz musicians. The comparison found that the PBA group had a more favorable perception of the instruction's usefulness for ensemble performance than the TBA group. The PBA group also gave higher ratings of their improvement in jazz improvisation, but the difference between groups was not significant. Descriptive statistics identified listening as the most frequently mentioned useful activity in the PBA group and as the most frequently mentioned missing activity in the TBA group.

Descriptive statistics and *t*-tests were again used to answer research question number 4, which asked if there would be a difference between the two approaches in musicians' appreciation of the unique musical attributes of jazz as well as racial and ethnic contributions to jazz. Four questions relating to the unique musical attributes of jazz were grouped together for analysis under the category of individuality of expression, or students' ability to attain their own voice. Three of the four Likert-type scale questions in this category yielded statistically significant results in favor of the PBA. On the other two criteria of jazz (improvisation and the prominence of moving time with an emphasis on beats two and four (swing style), the questions revealed no statistically significant difference between groups.

Five questions pertaining to racial and ethnic contributions to music were also included in the survey; only one found a statistically significant difference, with the PBA group scoring higher than the TBA group. Finally, the responses indicated that students in the PBA group would be more likely to listen to jazz music outside school than those in the TBA group.

The final chapter discusses the results of this study in comparison to previous research. Implications for the music education profession will be explored and recommendations for further research will be provided.

## **Chapter 5**

### **Conclusions**

This study consisted of a randomized experiment utilizing a theoretical-based approach as the control method of instruction (treatment) and a practice-based approach as the experimental method of instruction (treatment) with high school jazz musicians in a jazz ensemble setting. The 10 participating jazz ensembles and their directors were a convenience sample from the southeastern region of a Mid-Atlantic state. Each participating ensemble was given the same jazz band chart, which included a solo section comprised of rhythm changes, for the pretest and posttest performances. Ensembles were randomly assigned to either the control or experimental group. Thirty-four students (13 from the control group and 21 from the experimental group) from the 10 ensembles served as volunteer solo improvisers in the pretest and posttest.

Each ensemble was recorded while sight-reading the jazz chart at the beginning of the instruction period. Ensembles then underwent four weeks of instruction in their assigned pedagogical approach, after which they were recorded again. All students in both conditions completed a questionnaire on their attitudes and perceptions regarding useful activities for performance and improvisation achievement, as well as on the importance of the unique musical attributes and racial and ethnic contributions to jazz. The recordings were anonymously coded and randomly ordered for evaluation by three expert adjudicators. The adjudicators rated the ensembles' performances first and then, on a separate day, the improvisers so as to minimize any impact of the bands' performance level in affecting their evaluation of the solo performances.

Achievement in jazz improvisation was measured using the Jazz Improvisation Performance Measure (JIPM), constructed for this study. Achievement in jazz ensemble performance was measured using the Jazz Ensemble Performance Achievement (JEPA), adapted by permission from the Cavalcade of Bands Jazz Band Score Sheet. Both instruments demonstrated high internal reliability coefficients (greater than  $\alpha = .97$ ). Interjudge reliability coefficients for both achievement measures were moderate to high ( $> .78$ ). Interview questions were posed to directors participating in the experimental approach as to their perceptions of positive and negative attributes of the approach as well as students' reactions.

A between-subjects, repeated-measures analysis of variance was conducted on the mean scores from the JIPM as well as the JEPA. *T*-tests were performed to confirm the results of the ANOVA. Descriptive statistics were used to analyze the participants' questionnaire results.

This chapter will discuss the following topics: conclusions from the experiment; a discussion of the conclusions; limitations of the study; recommendations for further research; and implications for music education.

### **Primary Findings Regarding Research Questions 1 and 2**

1. Jazz improvisation achievement improved under both the theoretical-based approach (TBA) and the practice-based approach (PBA).
2. The PBA had a significantly stronger effect on jazz improvisation achievement than the TBA.
3. Jazz ensemble performance achievement improved under both approaches.

### **Secondary Findings Regarding Research Questions 3, 4, and 5**

1. Students using the PBA indicated a stronger sense of improvement in jazz ensemble performance than those using the TBA.
2. Students in the PBA group listed listening more frequently than other practice activities as beneficial for both improvisation and performance achievement.
3. Students reported listening as the most mentioned activity missing from instruction in the TBA.
4. Students using both approaches indicated appreciation of the importance of two of the unique criteria of jazz, improvisation and a sense of moving time, with no significant differences between the groups.
5. Practice-based participants indicated stronger ability to express their individuality through jazz improvisation.
6. Participants using the PBA indicated a stronger respect for racial and ethnic contributions to jazz music than those using the TBA.
7. Participants using the PBA indicated a stronger desire to listen to jazz outside school following the treatment.
8. There was no difference between groups with regard to their inclination to engage in improvisation.

### **Jazz Improvisation Achievement**

The increase in improvisation scores among students in both groups is consistent with the indications of previous studies that jazz improvisation is a skill that can be taught (Humphreys, May, & Nelson, 1992; Madura, 1996). The greater increase in improvisation scores achieved by the PBA participants suggests that practice-based

teaching techniques may be more effective in this regard. Directors were requested to follow a prescribed method of instruction, using the indicated resources, in both approaches the extent to which students availed themselves of the resources or were engaged in the instructions is not fully known. Member checks with the directors indicated that proper instruction was taking place, with the exception of the one director who did not get the access code for the app. Students were engaged with the recordings and videos in the PBA. TBA students were provided with convergent activities such as scales, chords, and repeated patterns for constructing their solos. Divergent activities such as listening and then experimenting or imitating modeled solos as well as altering melodic transcriptions of previous soloists' interpretations were provided to PBA soloists. Directors and students described, in their interviews and questionnaire responses, an inclination to listen to other soloists in addition to the recordings as a resource to provide melodic, harmonic, and rhythmic components to assist in the construction of original improvised solos.

The PBA's jazz improvisation pedagogy included listening to original recordings as well as enjoying a mentoring-type relationship (through video) with a more experienced jazz musician. The results of the two approaches are similar to the findings of previous studies that instruction in jazz improvisation is effective in improving this skill (Bash, 1983; Heil, 2005; Laughlin, 2001; Watson, 2008). The significantly greater improvement shown by the PBA soloists is consistent with Bash's finding that nontechnical methods significantly improved students' improvisation achievement when compared to specifically technical methods. Bash's definition of nontechnical methods included the aural activity of listening to authentic recordings, as in the present study.

The nontechnical methods enhanced the already established technical attributes in Bash's study and did not supplant them. In the present study, participants using the PBA indicated in their open-ended answers on useful activities that they applied some theoretical techniques as a baseline of knowledge on improvisation and musical performance ability.

The results of this study also concur with a growing body of literature (Bash, 1983; Ciorba, 2006; Davison, 2006; Flack, 2004; Heil, 2005; Laughlin, 2001; Madura, 1996; May, 2003; Watson, 2008) indicating the importance of aural skills when one is engaged in jazz improvisation activities. Students in the PBA group indicated that listening was a useful activity for improvisation. This aural activity was described by participants as listening to recordings and fellow musicians as well as watching and listening to videos of professional players. Although it contained inquiries about useful activities in improvisation, the questionnaire did not ask what amount of combination of activities the PBA improvisers applied when constructing their solos. Given the multitude and variety of resources provided in the Essentially Ellington materials, it could be inferred that divergent thought processes were responsible for the improvement in constructing improvised solos. Improvisation gain scores indicated that the PBA participants exhibited more growth in complexity and creativity than their TBA counterparts. Contextual references to modeled solos and transcriptions and an inclination to incorporate aural imitation into their solos gave participants a larger palette of colors to choose from when improvising. This result is similar to the findings of Davison (2006), who recommended modeling as an activity for successful jazz improvisation.



### **Jazz Ensemble Performance Achievement**

The decision to include a jazz ensemble performance achievement component within this study was derived from the practical conditions in which most secondary school instrumental music educators teach improvisation (Baker, 1981). Since music education in the United States has historically been rooted in participation in large ensembles such as band, choir and orchestra (Mark & Gary, 2006), increased time demands on teacher schedules often dictate that smaller ensembles such as jazz band must incorporate activities such as jazz improvisation within their rehearsal time, due to the unavailability of courses specifically devoted to jazz improvisation (Ferriano, 1974; Treinen, 2011). Directors interviewed about the PBA described attributes of the method useful in both jazz ensemble performance and improvisation scenarios without specifying that they considered the approach better suited to one scenario or the other. They acknowledged a difference in performance improvement as the four weeks progressed. Students using the PBA cited stronger improvement over the four weeks in their performance of “Stay on It” than the control group, through use of listening and modeling or mentoring activities encountered through the Tutti Music Player video application (Louisiana Entertainment, 2013). Performance style and technique improvement through modeling was also encouraged by previous studies, which suggested that listening to an “ideal” performance example can enhance individual attributes of performance tempo and articulation style (Davison, 2006; Dickey, 1992; Hewitt, 2001).

#### **Students’ Perceptions of Improvement in Jazz Improvisation and Performance**

Whereas jazz improvisation achievement improved significantly more among PBA soloists than among TBA soloists, according to the ANOVA results from the pretest

and posttest improvisations, question 1 of the SJABS indicated no difference between approaches on how strongly participants felt that they had improved as improvisers. There could be several possible explanations for this result. Improvisation achievement is not always measured as frequently or as concretely as performance-based evaluations on written-out solos or ensemble music. When a high school student performs a solo in an instrumental ensemble setting other than jazz, the solo is usually evaluated on how technically and musically accurate the solo performance is in reflecting the composer's intent. Students are also judged on their memorization of scales and arpeggios and their ability to perform different tunes in numerous keys. In contrast, improvisation is evaluated relatively less often (Watson, 2008). When students are encouraged to improvise, they are instructed to compose, sometimes spontaneously, their own solos. Even in the PBA group, soloists were given transcriptions both aurally and visually for study but were encouraged to use these transcriptions as a source of inspiration, not to recreate them verbatim. Given these features of the situations, high school students may not be sure whether they are improving as improvisers. Students in both approaches indicated that they had improved as improvisers over the four weeks, so the impact on their own beliefs may derive more from a sense of self-efficacy than from the approach used. This study did not seek to examine self-efficacy, but other recent studies have shown that instruction in improvisation results in increased self-efficacy among students (Davison, 2006; Watson, 2008; Wetzel, 2007).

In jazz ensemble performance, although adjudicators did not find a significant difference between the approaches, students using the PBA reported significantly greater improvement during the four-week period. This difference could be attributed to the fact

that students had a performance standard to compare themselves to in the PBA, whereas the TBA students did not. It could also be attributed to students' previous experiences with ensemble performance achievement. The adjudication scores in the PBA group over the short four-week period indicated improvement in both improvisation and performance. The resulting improvement could indicate evidence of a successful jazz program in those schools, concurring with Goodrich's (2005) observations of a high school jazz band immersed in historically authentic practice.

### **Individuality of Expression**

Although awareness of the importance of the three unique attributes of jazz music was evident in both the TBA and PBA groups, individuality of expression was significantly more evident in the PBA participants. The results suggest that PBA improvisers were given a more robust opportunity to express themselves through music with a variety of musical ideas to apply from their toolbox of divergent skills. Adjudicators' ratings also indicated that the PBA soloists had prioritized self-expression through improvisation, suggesting that efficacy of individualized expression is connected to jazz improvisation achievement. Personal expression could be considered a divergent skill, as each individual soloist's personal interpretation varies and can be combined with the convergent tools of scales and arpeggios when improvising. Combination of divergent and convergent skills is important in improvising (Healy, 2014; Webster, 1990). Personal expression must be carefully nurtured in coordination with convergent skills as the young jazz improviser develops skills of risk-taking and exploration (Healy, 2014). Directors must be careful not to be too harsh or restrictive in their critique of developing improvisers.

Encouraging interaction and self-expression within the scope of the jazz ensemble rehearsal may help to establish a democratic atmosphere as opposed to the conductor-centered interpretations that typify most Eurocentric-based large ensembles. Although the acquisition of technical aspects of performance such as scales, arpeggios, and repeated rhythmic patterns provides a basic vocabulary, the activities of listening, transcribing, and modeling by mentors can provide examples of using the jazz vocabulary in a communication context, first between the ensemble members and then eventually to an audience or (as in the case of this study) to an adjudicator.

### **Students' Attitudes toward Racial and Ethnic Contributions to Jazz**

Although PBA participants noted increased respect for racial and ethnic contributions to jazz music after the four weeks of instruction relative to TBA participants, the four other questions pertaining racial and ethnic contributions showed no significant differences. Both approaches elicited comparable results on the four questions that addressed the importance of cultural and ethnic factors in jazz music. This result could be explained by the fact that students' music education may have included many multicultural experiences. Interaction with the videos makes the multiethnic and multiracial experiences more meaningful. The geographic location of the ensembles and the demographic attributes of the schools could be another explanation. Since the participating ensembles were located primarily in suburban and semi-urban areas in the mid-Atlantic, the school demographics may not have been representative of other areas such as rural and strictly urban school districts.

### **Jazz Improvisation Evaluation**

The instrument used to measure jazz improvisation achievement, the JIPM, was newly designed but based on previous improvisation achievement measures (May, 2003; Palmer, 2016; Watson, 2008). The addition of the interaction category sought to expand the evaluation of an improvised solo to include opportunities for expression and communication, comparable to what professional jazz musicians aspire to as described by jazz ethnographers like Berliner (1994) and Monson (1996). The high correlations between the individual criteria as well as high interjudge reliability suggest that this is a reliable instrument for measuring jazz improvisation achievement, with regard to both the individual criteria and the overall scores. This result concurs with the findings of previous investigations into jazz improvisation assessment that improvisation can be reliably measured and evaluated to promote growth and improved achievement (Burnsed, 1978; May, 2001; Moore, 2016; Pfenninger, 1990; Smith, 2009). The high correlation between the individual criteria of the JIPM suggest that improvisation could be considered as a single category for evaluation, as May (2003) had proposed. Although this may be true, use of the individual criteria (such as technique, rhythm time and feel, harmony, melodic and rhythmic development, style, expressivity, creativity, and interaction) not only provides evaluators with different dimensions to consider when listening but also informs the performer concerning aspects to consider when improvising. Treating improvisation as a single adjudicated criterion, however, could be useful on ensemble evaluation sheets.

Although more investigation is needed into this concept of improvisation as a single construct, it could support jazz ensemble performance evaluation measures such as the JEPA and the Cavalcade of Bands Jazz Band Score Sheet by having improvisation listed as a single criterion on evaluation sheets. Since improvisation is the core activity of jazz (Prouty, 2012), evaluating improvisations by the ensemble members should be considered as part of the evaluation of their jazz ensemble performance. Judging it as a single category does limit the amount of feedback given to the improviser, especially if there was more than one improviser in a performance. The students would need to rely on taped commentary accompanying the adjudication sheet to receive more detailed feedback (Ellis, 2007). The eight criteria included in the JIPM should be considered in the rubric for improvisation achievement if it is used as a subscale of jazz ensemble performance evaluation and could be incorporated into the audio adjudication commentary.

### **Limitations**

It is important to consider the limitations of this study. Although the number of individual participants was substantial, the control and experimental groups had only five ensembles each. Likewise, the improvisation sample size within the participating ensembles, while comparable in size to previous investigations of improvisation achievement, was still relatively modest. The geographic range covered was limited; moreover, the nature of the schools' programs limits generalizability to settings with similar procedures, rehearsal times, and schedules. These ensembles all had fall marching band programs that demand considerably more time and resources and often prohibit extensive focus on jazz ensemble rehearsals until after the marching season ends

in late November. Due to demands for holiday and winter concerts, jazz ensemble rehearsals typically don't begin until January. Moreover, the vast majority of jazz ensemble rehearsals took place after the school day. These conditions are common in the geographic area studied but may not prevail in other parts of the United States. Taking these conditions in mind, the length of the study was determined to maximize the practicality of the directors' incorporation of the experiment into their curriculum. However, the approximately four-week length of the study could also be cited as a limitation.

Despite these limitations, the study's findings offer valuable insight. The method chosen for use in the PBA, the Essentially Ellington program, provided not only authentic listening and historical information but also an opportunity for students to engage with a type of musical mentor through video interaction. Repertoire selection was limited to one style of jazz (swing style) and to the improvisation solo form of rhythm changes, traditionally a 32-bar musical form in an AABA format with harmonic changes based on George Gershwin's 1930 composition "I Got Rhythm." The Essentially Ellington program has expanded beyond works composed and/or performed by Duke Ellington and his orchestra and now offers works by many other historically significant composers and artists, such as Count Basie, Benny Carter, Dizzy Gillespie, and Mary Lou Williams, nearly all of which was composed and performed before 1960.

For the purposes of this study, participants were instructed to improvise through the harmonic form only once. Often, solo sections are "opened up" (repeated), which expands the length of an improvisation. Having the participant improvise through the form more than once may yield different results, such as producing more developed ideas

and concepts as well as increased interaction with the accompanying band members. Other forms commonly used for improvisation, such as the 12-bar blues, or other tempi and melodic material could also produce different results. Despite these limitations, the length of the selected improvisation is longer than going through a blues pattern twice and uses the ii–V progression, which is common in jazz.

One methodological limitation of the study is that practice time spent engaging in the activities, as well as in improvisation and ensemble performance may have been unequal between approaches. Students participating in the PBA approach and engaged in using the video app as part of this approach may have invested more hours in practicing improvised solos and ensemble parts. PBA participants documented using the app on the SJABS, an activity that would have occurred outside designated rehearsal times. TBA participants did not indicate engaging in improvisation and ensemble performance activities outside structured rehearsals. This increased practice time by PBA participants could have contributed to the higher gains in improvisation, but this should be viewed as a positive motivational component of the PBA.

### **Recommendations for Future Research**

Given the small number of ensembles included in the study, further research with a larger sample size would help to improve the validity of the results. Since jazz band directors face many other competing responsibilities, future research will have to consider the likelihood of attrition and start with a larger pool of bands than the ultimately desired sample size. As an experienced instrumental music teacher in public school settings, I recognize the difficulty involved in participating in research studies when other requirements such as rehearsal schedules, impending performances, awarding



grades, recording attendance, and testing take priority. Most if not all of the directors were unaware of procedures and clearances required by their school district to participate in a research project to be done. Of the initial 18 bands that agreed to participate in the study, only 10 completed it.

The duration of the experimental period was chosen to show respect to directors' demanding schedules and maximize the feasibility of program completion. Increasing the instruction period from 4 to 6, 8, or 12 weeks would give students longer interaction time with the PBA, enabling them to become more comfortable with the technology and to establish a practice routine incorporating listening and mentorship observation. Two directors expressed the view that more interaction time with the application would deepen the connection between the student and the video mentor. One said that dedicated students might find access to the application during the summer months more useful.

The Essentially Ellington program seemed to function well in this study as a basis for the PBA. Further studies could explore the effect of actual communication between jazz mentors and students to add the dimension of personal interaction to the effect on jazz improvisation and performance achievement. As previously mentioned in Chapter 4, some students in the PBA listed this aspect of mentorship as a useful activity missing from the procedures used. Students wanted to deepen their learning experience by asking follow-up questions related to what they had seen and heard on the video app. Directors in the study indicated that they did not feel entirely prepared to instruct the students in jazz, especially at the level exhibited by the professional musicians on the video application. Investigations of the effect of the interaction between actual jazz musician mentors and high school students and the establishment of jazz apprenticeships between

master musicians and students could not only contribute to the effectiveness of a PBA but could also provide a form of community outreach. These mentors could be members of the community as well as school alumni, and their participation could build partnerships and relationships beneficial to the school and the community.

Conducting a similar study in racially and ethnically heterogeneous areas could provide further insight with regard to the possible effect of the mentorship and apprenticeship applications on high school students' perceptions and attitudes about racial and ethnic contributions to jazz. Administering the questionnaire twice, as both pretest and posttest questionnaire, would also better measure the effects of the treatment method.

### **Implications for Music Education**

#### **K-12 Music Education**

First, the results of this study call for a reexamination of the logic model used as a theoretical framework in constructing the PBA. The four activities in the original model, Listening, Mentorship, Apprenticeship, and Learning the Lingo, could be streamlined into three aspects of the Essentially Ellington program. Purposeful listening to recordings, along with listening to and observing the performance of improvised solos and jazz ensembles, proved successful in contributing to improvisation achievement. Students also strongly felt that they improved their jazz ensemble performance through listening. Mentorship was provided through the video app. Both directors and students cited the activity of studying with a professional mentor musician as an effective way to learn improvisation and ensemble performance. Apprenticeship requires a longer and more intimate relationship between an experienced jazz musician and the student. In this

study, “learning the lingo” was combined with mentorship as most of the relevant jazz vocabulary was gained through contact with Wynton Marsalis’s explanations of jazz performance on the video, with the directors themselves supporting this effort by incorporating terminology related to jazz culture and performance. One director in the PBA group noted that interaction with the video mentor facilitated student-empowered learning and encouraged a democratic learning environment within the jazz ensemble rehearsal. A revised logic model is presented in Figure 8.

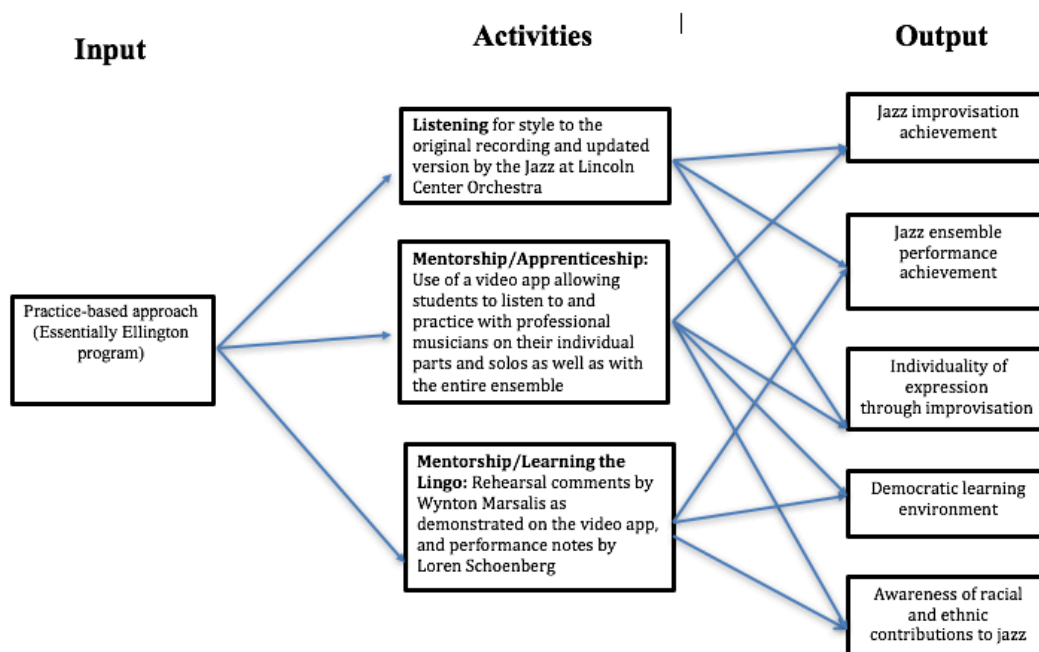


Figure 8 Revised Logic Model

One implication of this study could involve how music educators fulfill the national music standards as stated by NAFME. Currently, the four artistic processes of Performing, Creating, Responding and Connecting comprise standards meant to equip students to engage in methods utilized by accomplished musicians. Incorporating the

PBA into high school jazz ensemble curricula would encourage students to respond to other improvisations and connect improvisational elements such as convergent and divergent activities as they create and perform their own improvisations. Model Cornerstone Assessments provided by NAFME include an Imagine Worksheet on which student improvisers can list the processes and tasks used in constructing their improvisations (NAFME, 2015). The Essentially Ellington program provides teachers and students with resources for these processes and tasks. They can use these worksheets to analyze and document how they arrived at their improvised solo and what cognitive processes they used, much as a math teacher requiring students to show all work when solving a mathematical equation so as to display the thinking process that led to the answer. Unlike the math problem, however, in jazz a divergent rather than a convergent outcome is desired, as both divergent and convergent musical components are incorporated to produce the student's own unique voice.

All directors employing the PBA indicated that the approach could easily be incorporated into their teaching. Participating directors stated that the Essentially Ellington video app could be a useful extension and enhancement of their teaching in both improvisation and ensemble performance. Several directors discussed potentially offering the app during the summer months as a way of engaging students beyond the school year. Participating instrumental music directors described being responsible for three or more genres of ensembles as well as teaching a full course load that may include music theory and appreciation courses. Essentially Ellington is not the only source of resources to enhance improvisation achievement; other helpful videos can be found on

YouTube or at [www.jazzonhetube.com](http://www.jazzonhetube.com). Directors can use these resources to enhance their instruction of specific jazz tunes and styles.

Although the Essentially Ellington program allows students to engage with professionals through the video app, directors should also reach out to area jazz musicians and teachers for support. Bringing a professional jazz artist to hold a clinic can inspire and motivate students. Engagement with local musicians such as a semiprofessional or community jazz band is another opportunity for students to establish mentor and apprenticeship relationships.

Recommendations for incorporating a PBA in a K-12 setting include:

- Purposeful listening to historically authentic recordings of repertoire.
- Incorporating aural activities such as call and response into rehearsal routines.
- Rehearsing separately with the rhythm section to establish an authentic rhythmic feel for the tune.
- Use of technology such as the video app to enhance modeling of both improvisation and ensemble performance.
- Creating a jazz culture in rehearsals through the use of authentic jazz terminology.
- Establishing mentoring relationships and perhaps even apprenticeships with area jazz artists and teachers.
- Promoting interaction and communication within the ensemble during improvisation.
- Promoting a democratic rehearsal environment that encourages individual expression through creative improvisation as well as student-initiated contributions to the ensemble.

Vocal jazz students could also benefit from a PBA. Mentoring and apprenticeship relationships with jazz a cappella groups and singers can promote improvisation and stylistic creativity. These connections could also encourage students to listen to and learn from vocal jazz groups and singers more regularly.

These recommendations are relevant to middle school and elementary musicians. Younger students are not as entrenched in the stigma sometimes associated with performing music that is not written on a page, which requires free expression and taking risks.

### **Higher Education**

Educators of preservice music teachers should provide them with the skills and knowledge required to teach jazz improvisation and ensemble performance. Attention should be given to the three distinctive criteria of jazz—improvisation, sense of moving time, and individual expression—in both instrumental and vocal methods classes. Preservice teachers should be equipped to provide democratic rehearsal environments in scholastic settings. Recommendations regarding knowledge and skills that preservice teachers should possess include:

- Developing the knowledge and skills required for teaching convergent activities relevant to improvisation, such as note and rhythm choices, through appropriate scales, chords and repeated rhythmic patterns.
- Developing knowledge and skills for teaching divergent activities relevant to improvisation, such as transcribing improvised solos, listening and connecting aural improvisations, ornamentation, and use of quotes and licks.

- Practice in combining convergent and divergent activities spontaneously to create improvised solos.
- Incorporating purposeful listening for style into ensemble rehearsals.
- Incorporating the use of mentors and modeling into both improvisation and ensemble performance activities.
- Democratic, student-empowered rehearsal learning, such as performing a blues chart and having each section create backup riffs to solos.
- Applying a comprehensive musicianship approach to teaching in a jazz ensemble, including theoretical and historical aspects as well as traditional jazz terminology.

Finally, jazz music was formed through unique musical contributions by various racial and ethnic groups who comprise the population of America. The PBA engages musicians in learning from one another about the stylistic nuances and individuality expressed through jazz music and the contributions of multiple cultures. In this way, students become invested in their own musical education through engagement with music and artists, which encourages respect for the art form and its contributors. Cooperation and collaboration are encouraged, along with divergent thinking and important risk-taking skills. The jazz ensemble could possibly become a microcosm of our democratic society, which functions better when its individual components contribute harmoniously as opposed to polarized segregation.

In summary, the results of the present study contribute to the body of knowledge on pedagogical methods for jazz improvisation and performance in scholastic settings. The findings strongly imply the value of a democratic style of learning that empowers students to express themselves through improvisation by utilizing historically authentic

methods of listening, mentoring, and apprenticeship, as well as of establishing a jazz culture through incorporation of terminology and awareness of the unique features of jazz. The PBA further complements existing, comprehensive musicianship approaches that incorporate theoretical and historic components into music ensemble rehearsals. Connecting with professional jazz musicians, in this case by video, adds a personal connection and understanding of the people who perform and create the music. This approach helps students to develop their own voice through improvisation while discovering and appreciating voices of the past and present, thereby cultivating a deeper understanding and appreciation of America's original art form: jazz.



**Appendix A**  
**University of Maryland IRB Approval**

11/7/2016

AOL Mail

Please note that University of Maryland College Park (UMCP) IRB has taken the following action on IRBNet:

Project Title: [969802-1] A contextually significant jazz pedagogy's effect on Jazz improvisation achievement  
Principal Investigator: Glen Brumbach

Submission Type: New Project  
Date Submitted: October 14, 2016

Action: APPROVED  
Effective Date: November 7, 2016  
Review Type: Expedited Review


Should you have any questions you may contact Linette Berry at [lberry2@umd.edu](mailto:lberry2@umd.edu).


Thank you,  
The IRBNet Support Team

[www.irbnet.org](http://www.irbnet.org)

## Appendix B

### Jazz at Lincoln Center Permission to Use Materials

**RE: Great talking to you in Texas** 

**Todd Stoll** to you [show details](#) 



Nov 18

Hi Glen,

You have our OK to go ahead with this, and we will forward the chart "Stay on It". I have copied Maegan and Antoinette here, please keep them in the loop with any updates. As far as recommending some adjudicators, please let me know the details and I will put you in touch. Thanks and good luck.

In the spirit of swing,

Todd Stoll  
Vice President Education  
Jazz at Lincoln Center  
[tstoll@jazz.org](mailto:tstoll@jazz.org)  
212-258-9811

## Appendix C

### Jazz Improvisation Achievement Rubric

Criterion	Rarely 1    2	Occasionally 3    4    5	Frequently 6    7    8	Consistently 9    10
<b>Technical Facility</b>	Fluency of line, command of range Characteristic tone, accurate intonation			
<b>Rhythmic Feel, Sense of Time</b>	Appropriate eighth-note feel Accurate sense of time and beat Ability to play outside or on top of the beat			
<b>Melodic and Rhythmic Development</b>	Logical musical phrase development Use of licks, quotes, sequences, motives			
<b>Style</b>	Articulation choices appropriate for style Stylistic phrasing expressions such as bends, growls, and other devices and effects			
<b>Harmonic Awareness</b>	Sensitivity and awareness of chord progressions Utilization of tension and release through harmonic devices			
<b>Expressiveness</b>	Manipulation of tone color, phrase shaping, and articulation, to emote ideas and concepts			
<b>Creativity</b>	Freshness and originality of ideas Integration and connection of ideas			
<b>Interaction and Communication</b>	Reaction and response to rhythm section and accompanying figures Opportunities for dialogue with ensemble and audience			

## Appendix D

### Jazz Ensemble Performance Achievement Score Sheet

#### Evaluation Scale

1	2	3	4	5	6	7
Very Limited			Adequate		Exemplary	

#### **Tone/Blend/Balance**

- Do the sections play together?
- Do the sections blend the tones within the section?
- How to get good (or different) tone quality? (appropriate for the chart)
- Do the sections balance volume within the section (top to bottom)?
- Are the sections appropriately balanced within the ensemble?
- Do the sections phrase correctly and musically?
- Does the lead player lead well? Does the section follow the lead player?
- Appropriate use of amplifiers?
- Appropriate use of mikes?
- Does the director seem to make adjustments within his or her control?

#### **Interpretation**

- Is the overall style correct and appropriate for the chart?
- Articulations: style and method (on each instrument)
- Inflections
- Does the band seem to accomplish the intentions of the composer/arranger?
- Were suggestions made about listening to bands/artists of this style?

#### **Rhythmic issues**

- Do the drums and bass keep time together?
- Is the “time” appropriate for the style?
- Is the tempo acceptable?
- Does the rhythm section play phrases/kick/set up the figures?
- Are the dynamic appropriate?
- Piano and/or guitar fills: are they played in style and without conflict?
- Does the band listen to the rhythm section?

#### **Precision**

- Does the ensemble play together?

## **Dynamics**

Overall band

Consistency within sections

Individuals

Are dynamic changes used appropriately to create expression?

## **Intonation**

Are the individuals playing in tune?

Do they play in tune as a section?

Are the soloists playing in tune?

Does the director seem to make adjustments within his or her control?

Are the doubles or muted instruments also in tune?

## **Improvisation**

“Improvisation,” so that judges would consider not only the performance of the various soloists, but also how the rhythm section supports the soloists as a “conversational” combo if you will and creates variety within/across solos. It gives the judge a little more freedom to reward a band that plays well underneath developing soloists and involves more of the band members in forming their evaluation in that caption.

Broaden this caption to not only include a soloist’s performance and/or demonstration of improvisational skills during a solo passage, but also consider the way the solo sections are handled by the band—rhythm section interplay, rhythm section communication with soloist, piano/guitar improvisational comping/style, bass/drummer improvisational comping/style, varying the style and/or feel across different soloists as appropriate.


This would not change the recognition of top soloists for awards at the end of the night. Those would continue to be selected solely on the merits of the individual soloist. This is only for the score sheet as it pertains to scoring the entire band’s performance.

Rationale: While improvised soloing is of course an essential element of most jazz styles, we should consider the other contributions of the band during solo passages when arriving at a score for this aspect of a band’s performance. To solely base caption on a few soloists, many of whom may simply be developing their craft, seems very limiting and gives no credit to the band’s contributions to the solo passages. If a rhythm section does a fantastic job of supporting and shaping the solo passages, but a soloist does not achieve at a particularly high individual level, this gives the judge an opportunity to reward the band for those other elements when arriving at a score.

## Score Sheet for Jazz Ensemble Performance

	A	B	C	D	E	F	G	H
1	<b>Band</b>	<b>Tone/Blend /Balance</b>	<b>Interpre- tation</b>	<b>Rhythm</b>	<b>Precision</b>	<b>Dynamics</b>	<b>Intonation</b>	<b>Improv- is-ation</b>
2	WIA1							
3	FEA1							
4	SVA2							
5	HEA1							
6	HEA2							
7	FEA2							
8	PAA1							
9	BASH2							
10	WIA2							
11	EAA1							
12	PAA2							
13	CBA1							
14	EAA2							
15	PKB2							
16	CBA2							
17	NPA2							
18	BASH1							
19	PKB1							
20	SVA1							
21	NPA1							

Appendix E



**CAVALCADE OF BANDS**  
**JAZZ BAND SCORE SHEET**

Rating

School \_\_\_\_\_ Director \_\_\_\_\_

Date \_\_\_\_\_ Festival \_\_\_\_\_ (Tabulator Only)

Do Not Use Decimals!

	First Chart	Second Chart	Third Chart	TOTAL
<b>TONE/BLEND/BALANCE</b>				
<b>INTERPRETATION</b> (Stylistically Correct)				
<b>RHYTHM</b> (Time and Feel)				
<b>PRECISION</b> Does Ensemble Play Together				
<b>DYNAMICS</b>				
<b>INTONATION</b> (Individual and Ensemble)				
<b>IMPROVISATION</b>				
<b>TOTAL</b>				

**Judge's Final Score Ratings/Explanation**

1 = Superior-----(21 - 31)

2 = Outstanding----- (32 - 43)

3 = Excellent----- (44 - 63)

4 = Very Good ----- (64 - 84)

**FINAL SCORE**

I BELIEVE THE BEST SECTION IN THIS BAND IS:

SAX    TRUMPET    TROMBONE    RHYTHM

**Judge**

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## Appendix F

### Cavalcade of Bands Permission to Use Materials

11/27/2016

Re: Jazz sheet

**From:** Glen Brumbach <[oleyboy75@aol.com](mailto:oleyboy75@aol.com)>  
**To:** edstimson <[edstimson@comcast.net](mailto:edstimson@comcast.net)>  
**Subject:** Re: Jazz sheet  
**Date:** Fri, Oct 14, 2016 6:42 am

---

Ed,

Thanks so much. I do have the score sheet. I believe we were given a rubrics sheet to aid in selecting the number for each of the categories. I would like one of those if you have a copy. Looking forward to jazz season.

Glen A Brumbach  
Teaching Assistant  
PhD Candidate  
Music Education  
University of Maryland  
[gbrumbac@umd.edu](mailto:gbrumbac@umd.edu)

-----Original Message-----

From: Ed Stimson <[edstimson@comcast.net](mailto:edstimson@comcast.net)>  
To: Glen Brumbach <[oleyboy75@aol.com](mailto:oleyboy75@aol.com)>  
Sent: Thu, Oct 13, 2016 10:35 pm  
Subject: Jazz sheet

Hi Glen - good to hear from you - permission granted - feel free to use what ever you need.

Let me know if you need anything else - you probably have one of our score sheets.

Hope to see you at one of our jazz shows.

Later -

Ed



## Appendix G

### Student Jazz Attitudes and Background Survey

**1. My jazz improvisation ability has improved over the past four weeks.**

- Strongly disagree (1)
- Disagree (2)
- Neither agree nor disagree (3)
- Agree (4)
- Strongly agree (5)

**2. My jazz performance ability has improved over the past four weeks.**

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

**3. The method of instruction over the past 4 weeks has enabled me to create a unique sound of my own.**

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

**4. The method of instruction over the past 4 weeks has increased my ability to express myself through jazz music.**

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

**5. The most useful activity used for improvisation in the method of instruction over the past four weeks was**

\_\_\_\_\_.

**6. List other activities you found useful for jazz improvisation.**

**7. The most useful activity used for jazz performance in the method of instruction over the past four weeks was**

\_\_\_\_\_.

**8. List other activities you found useful for jazz performance.**

**9. An activity for improvisation that was missing from this method was**

\_\_\_\_\_.

**10. An activity for jazz performance that was missing from this method was**

\_\_\_\_\_.

**11. Jazz improvisation is:**

- A. individual creative expression
- B. crafting the right notes from scales and chords to sound good
- C. both A and B
- D. neither A nor B

**12. Studying the jazz chart *Stay on It* over the past four weeks has increased my respect for contributions of different racial and ethnic groups to music.**

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

**13. Jazz improvisation is spontaneous composition.**

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

**14. Studying this music over the past four weeks has decreased my appreciation of jazz performers.**

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

**15. Rhythm is not as important as harmony in jazz.**

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

**16. Learning jazz music in this approach over the last four weeks has enhanced my understanding of and perspective on different cultures and ethnicities.**

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

**17. Performing jazz with the proper swing feel is very important.**

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

**18. A jazz soloist's personality should be present in his or her solo.**

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

**19. Learning jazz is totally separate from any cultural influence or perspective.**

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

**20. Playing correct scales and arpeggios is more important than personal expression when improvising.**

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

**21. After studying this music over the past four weeks, I am more likely to listen to jazz outside school.**

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

**22. After studying this music over the past four weeks, I am less likely to explore the historical and cultural origins of a piece of music I am performing and/or listening to.**

- Strongly agree (1)
- Somewhat agree (2)
- Neither agree nor disagree (3)
- Somewhat disagree (4)
- Strongly disagree (5)

**23. What year are you in school?**

- Freshman (9th) (1)
- Sophomore (10th) (2)
- Junior (11th) (3)
- Senior (12th) (4)

**24. For how many years have you played in a jazz ensemble or jazz combo?**

- 1 year or less (1)
- 2 years (2)
- 3 years (3)
- 4 years or more (4)

**25. Have you ever played an improvised solo in a jazz ensemble or jazz combo?**

- Yes (1)
- No (2)

**26. Describe your previous experience in jazz improvisation instruction.**

- None (no instruction) (1)
- Limited (e.g., tried a solo and worked with some improvisation books) (2)
- Some (e.g., learned some solos in jazz band from my band instructor) (3)

**27. Describe how likely you are to improvise a solo after experiencing this approach during the last four weeks.**

- More likely to improvise (1)
- Same as before (2)
- Less likely to improvise (3)

**28. Describe your previous jazz listening experience.**

- None (1)
- Limited (e.g., just music we play in jazz ensemble) (2)
- Some (e.g., I listen to music related to composers and artists whom we perform in jazz ensemble) (3)
- Extensive (e.g., I listen to various styles of jazz and jazz artists such as swing, bebop, Latin, funk, fusion, smooth) (4)

## Appendix H

### Director Interview Protocol

Good afternoon. My name is Glen Brumbach. The purpose of this experimental study is to investigate the effect of a practice-based approach versus a theoretical-based approach on jazz improvisation and performance achievement in high school musicians. I will be interviewing each director who has participated in either the theoretical-based or practice-based approach in this experiment. I will be recording this interview and only I will be listening to this recording. When I report the data, your name and the name of your organization will be changed. The audio recording will be stored on my password-protected computer. This interview should take roughly 15 minutes in length.

1. How did you feel about the approach used over the last four weeks?
2. What activities were most helpful? Not helpful?
3. What were your students' responses to the approach?
4. Would you consider using this approach in the future?
5. Were you able to follow the procedures as outlined?
6. Is there anything else that you could add about the approach and how it affected you and your students?

Thank you for this interview. Your identity will be kept confidential. I may contact you again with your permission for a follow-up interview. You should answer only those questions with which you feel comfortable.

## Appendix I

### Tutti Music Player Instructions



## ESSENTIALLY ELLINGTON INTERACTIVE VIDEO SOFTWARE



Interact with members of the Jazz at Lincoln Center Orchestra as they rehearse and perform each of this year's charts. Jazz at Lincoln Center's collection of interactive videos enable you to zoom in on every member of the orchestra, mute and solo parts, access sheet music, slow tempo, and more!

**Tutti Music Player**, runs on Mac, PC, iPhone and iPad. *EE* directors can display the videos when teaching in the classroom and students can download the software for free and use it at home on their mobile devices or computers. The Player creates engaging and immersive experiences. Come join the fun!

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- 1) Visit [jazz.org/ee](http://jazz.org/ee) sign into your account
- 2) Click on the 'Rehearsal Videos' tab
- 3) Follow the links to visit [tuttiplayer.com](http://tuttiplayer.com)
- 4) Click 'Sign Up'
- 5) Enter your email and create a password
- 6) Enter your activation code
- 7) Download the Player and enjoy!

#### ACTIVATION CODES

You and your students can access the content for free with your activation code which is the same as your school's official SAT code. Not sure what your school's code is? Visit [sat.collegeboard.org/register/sat-code-search](http://sat.collegeboard.org/register/sat-code-search) and search by High Schools, International, community, and college ensembles, please email [ee@jazz.org](mailto:ee@jazz.org) to obtain your individual activation code. Already created a Tutti account last year? Sign into your account with your activation code and this year's content will be available.

*Tech support is available through Spectrum Interactive. Please email any questions, problems, or concerns to [support@viewspectrum.com](mailto:support@viewspectrum.com).*

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