Aural Skills Pedagogy in the Wind Band: A Survey of Secondary and Collegiate Wind Band Conductors' Perceptions and Strategies

by

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Abstract

The purpose of this study was to explore (a) perceptions of collegiate and high school wind band conductors surrounding aural-based learning in the rehearsal, (b) current trends in pedagogical strategies used to strengthen listening skills via the wind band rehearsal, and (c) to determine how wind band conductors' general attitudes regarding aural skills may influence the integration of aural skills into their rehearsals. Research supports aural skills as a valuable and critical component of a musician's training. However, these skills are often not introduced until college, and typically through aural skills courses offered only to music majors (Bernhard, 2003; Paney, 2007).

I used a quantitative descriptive method for this study and selected participants using convenience and snowball sampling. Participants provided responses to an online researcher-developed survey instrument. The survey contained several sets of questions designed to collect respondents' (a) perspectives on aural skills in the wind band, (b) attitudes regarding students' aural skills abilities, (c) strategies and resources for integrating aural skills in the wind band, (d) barriers to integrating aural skills, and (e) demographic information. I recruited secondary and collegiate wind band conductors to participate in the study. Members of the Collegiate Band Directors National Association (CBDNA), National Association for Music Education (NAfME), and Texas Music Educators Association (TMEA) were recruited through email. Of those invited, 381 responded and 214 of these responses were usable.

The following overarching research questions were established to explore conductors' interactions with aural skills:

1. To what extent is integrating aural skills in the wind band rehearsal important to wind band conductors?

2. What strategies are most used in the wind band rehearsal to improve aural skills, and how much of rehearsal time is dedicated to this endeavor?
3. How do wind band conductors perceive their students' aural skills abilities?
4. Will there be any significant differences in responses to survey questions based on participants' demographic variables?

Data were analyzed using descriptive and inferential statistics. A significant bivariate regression model indicated that general attitudes regarding aural skills could predict the extent to which participants integrated aural skills in their rehearsals. Students' abilities to detect errors in their practice and performance was reported as the most important skill contributing to the success of wind bands. Participants most often incorporated singing and modeled aural concepts with their voices. There was no significant interaction between amount of rehearsal time and aural skills integration. There was a significant correlation between how often conductors integrated aural skills and their perceptions of students' aural abilities. Results of the MANOVAs and one-way ANOVAs revealed significant differences in responses to survey items based on teaching area, geographical region, degree level, and years of teaching experience.

Recommendations for future research include replicating this study with a stratified sample and exploring aural skills interaction using qualitative methodology. I also recommend researching aural skills training for students with hearing impairments. Lastly, future research should continue to narrow the gap in literature on the effectiveness of various aural-based instructional strategies on wind band achievement. The results of this study could inform wind band conductors about trends in aural skills pedagogy, provide additional resources for integrating aural skills training in the ensemble, and hopefully elevate students' understanding, appreciation, and emotional connection to the music.

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I would be remiss if I did not share my eternal gratitude for my father and mother Terry and Tami McNeil. You instilled in me from childhood a resolve to achieve the unimaginable, and I owe every one of these unimaginable achievements to your gratuitous love and support. I also want to extend my sincere thanks to the many other family, friends, and colleagues who have supported me along this journey. I cannot possibly begin to name every person who has contributed to my path to this achievement.

With this document, I conclude my formal education through coursework though there is still much to learn. This document also serves as a point of departure from which I continue my lifelong goal to advocate for equal access to music education through diligent scholarship, innovative teaching practices, and unabating determination to seek the better for all. I owe every bit of this passion and determination to every one of you.

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Chapter One:

Introduction

Listening skills are critical to an individual's musical development (Buonviri, 2017; Furby, 2016; Hiatt & Cross, 2006; Kariuki & Ross, 2017; Karpinski, 2000; Killam, 1984; McNeil, 2000; Scandrett, 2005). Robert Schumann charged young musicians with understanding the importance of acquiring proficiency in listening skills and stated that "the cultivation of the ear is of the greatest importance" (Schumann, 1850/1860, p. 6). Seminal music education pedagogue Gordon (1999) explained that musicians are best trained through listening first rather than seeing.

Music scholars also agree that aural skills belong in the music ensemble (May & Elliott, 1980; Reimer, 1970). Elliott (1996) advocated for a music curriculum centered heavily on listening. Musicians develop a stronger connection with music when they use reflective and artistic listening skills. Reimer (1970) believed that meaningful listening experiences inform our emotions. Karpinski (2000) described the musical auditory process as thinking *in* music as opposed to thinking *about* music. Several renowned music scholars support the importance of this distinction. Elliott (1996) described music as "conscious human intent" (p. 6), and Gordon (2012) coined the term *audiation,* which he defined:

> …the process of assimilating and comprehending (not simply rehearing) music momentarily heard performed or heard sometime in the past. We also audiate when we assimilate and comprehend in our minds music we may or may not have heard but are reading in notation, composing, or improvising. (p. 3)

Gordon also created his influential Music Learning Theory based on a sequential process that focuses on the enhancement of audiation skills. Dalby (1999) and Hiatt and Cross (2006) proposed and advocated for different strategies of teaching aural skills courses based on Gordon's learning theory.

Aural skills include two primary abilities: (a) the ability to convert sounds into aural understanding and give meaning to those sounds, and (b) the ability to then convert that aural image into written notation (Gordon, 2012). These all-encompassing aural abilities are often developed through common instructional methods such as sight-singing, discrimination of musical elements by ear, and aural dictation of rhythms, melodies, and harmonic progressions (Beckman, 2011). Broadly, Wolf and Kopiez (2018) justified that the purpose of analytical aural skills is to help musicians learn what they hear and to demonstrate proper naming conventions. Often aural skills are not formally taught until the first two years of collegiate music study (Paney, 2007), though some secondary programs may offer an AP Music Theory course which covers the first semester of college-level aural skills and music theory (Klonoski, 2006). Consequently, non-majoring college musicians and high school students without formal aural courses may never learn to practice these skills if they are not integrated into ensemble instruction.

Scholars have tried to define the role of aural skills over the past few decades, but Killam (1984) explained that there is still disagreement regarding the necessary skills for musical success and the level of proficiency of those skills needed by musicians. Additionally, music ensemble pedagogy impedes the students' aural skills development (May & Elliott, 1980). College aural skills instructors often see a wide variety of aural abilities in incoming first-year students based on the extent to which their high school music teachers focused on aural skills in the ensemble (Domek, 1979). Students may be proficient in the identification of basic music elements but often vary most in dictation and sight-singing abilities (Buonviri, 2015). Several studies related to aural skills focused on innovative ways of teaching aural skills (Anderson, 1981; Buonviri, 2017; Chen, 2015; Kariuki & Ross, 2017; Karpinski, 2000; Killam, 1984;

Peters, 1993; Scandrett, 2005; Song, 2015), assessing aural skills (Gordon, 1989; Hallam & Prince, 2003; Law & Zentner, 2012; Wolf & Kopiez, 2018), and identifying variables that correlate with aural skills proficiency (Furby, 2016; Harrison et al., 1994; Horton, 2018; Larson, 1977). However, much of this research takes a pragmatic approach to improving collegiate-level aural skills courses. Limited research exists on singing in the ensemble with even less attention on other aspects of aural training. There is also a lack of research on wind band conductors' perceptions of aural skills from an ensemble perspective, best practices for teaching aural skills in the ensemble, constraints on teaching aural skills in the ensemble, and the most effective methods of integrating aural skills into the ensemble rehearsal (St. Denis, 2018).

Music scholars argue that it is impossible to find success in the music profession without refined aural skills (Hiatt & Cross, 2006). Conductors must attain the ability to simultaneously listen to individuals, sections, and the whole ensemble (Goss, 2015). Research supports the notion that detecting musical errors by ear is a critical skill for conductors (Brand & Burnsed, 1981; Byo, 1993; Byo, 1997; Crowe, 1996; DeCarbo, 1982; Groulx, 2013; Nápoles, 2012; Sheldon, 1998; Waggoner, 2011). Plondke (1992) explained that a conductor's ability to audiate the musical score in their head is essential to their improvement as conductors. Snapp (1956) described conductors without the ability to convey their aural image through their voice as inadequate. Aural skills are also important for developing pitch awareness and intonation of performing musicians (Ballard, 2011; Morrison, 2000; Powell, 2010; Silvey et al., 2019). Despite the positive effects of aural skills, many band directors still report rarely including aural skills in their teaching (Bernhard, 2003).

Purpose

I devised this study to fill gaps in current literature on aural skills pedagogy, specifically in the wind band. The purpose of this study was to explore (a) perceptions of collegiate and high school wind band conductors surrounding aural-based learning in the rehearsal, (b) current trends in pedagogical strategies used to strengthen listening skills via the wind band rehearsal, and (c) to determine how wind band conductors' general attitudes regarding aural skills may influence the integration of aural skills into their rehearsals. This study answered four research questions:

1. To what extent is integrating aural skills in the wind band rehearsal important to wind band conductors?
    a. Do perceived attitudes toward aural skills predict the extent to which conductors integrate aural skills in the wind band rehearsal?
        i. Hypothesis: Conductors' perceived importance of aural skills predicts the extent to which they integrate aural skills in the wind band rehearsal.
2. What strategies are most used in the wind band rehearsal to improve aural skills, and how much of rehearsal time is dedicated to this endeavor?
    a. Is there a correlation between the amount of rehearsal time and the extent to which conductors integrate aural skills in the rehearsal?
        i. Hypothesis: There will be a correlation between the amount of rehearsal time and the extent to which conductors integrate aural skills in the wind band rehearsal.
3. How do wind band conductors perceive their students' aural skills abilities?
    a. Is there a relationship between the extent to which conductors integrate aural skills and their perceptions of students' aural skills proficiency?

i. Hypothesis: There will be a relationship between the extent to which conductors integrate aural skills and their perception of students' aural skills proficiency.

4. Will there be any significant differences in responses to survey questions based on participants' demographic variables?
    i. Hypothesis: One or more variables will influence participants' responses to the survey questions.

Need for Study

While many researchers regard aural skills as essential for maximizing a musician's potential, there are limited recent studies concentrated on pedagogical strategies in the wind band rehearsal to develop these skills. Though band directors have recognized the need for aural skills in the ensemble, they seldom incorporate them during rehearsals (Bernhard, 2003). While there may be a consensus that aural skills are essential, it is important to understand why instrumental wind band conductors infrequently integrate aural skills in their rehearsals. As a means of bridging the aural and visual domains, aural skills training should not be exclusive to college music majors in an aural skills course. The results of this study could inform wind band conductors and reveal a need for further research to dig further into the results. Implications of this study could provide music teachers with new or additional strategies to integrate aural skills into the wind band rehearsal and increase a more heightened understanding, appreciation, and emotional connection to the music.

Assumptions

I maintained the following assumptions for this study:

1. Aural skills are necessary to the development of musicians.

2. Music scholars agree that musicians should learn aural skills in the band rehearsal.
3. Multiple strategies exist to improve aural skills.
4. The instructional strategies used in the wind band differ from one institution to another and between the secondary and collegiate levels.
5. Conductors will provide honest answers and feedback on the survey.

Limitations

A general limitation of quantitative methodology is the rigidity of its design (Kelley et al., 2003). Therefore, while the data collected from the survey offered a clearer understanding of current trends in aural skills pedagogy within the band rehearsal, there was no opportunity to engage respondents in a deeper discussion of their answers. I developed an online survey to collect information from as many qualified respondents as possible. One limitation of survey research is that surveys often receive low response rates (Dillman et al., 2014). I followed the recruitment schedule proposed by Dillman et al. (2014) to increase response rates. Additionally, I utilized listservs through national music association websites to ensure the survey was sent to a larger pool of potential participants and hopefully increase the number of responses.

Another concern with survey research is the accuracy of self-reported data (Gonyea, 2005). The survey consisted of both subjective attitudinal questions and factual questions to gather characteristics about the participant. The survey was entirely anonymous and any inadvertent information respondents provided was anonymized to ensure their privacy was protected. Additionally, as recommended by Gonyea (2005), I consulted existing literature on reliability and validity in surveys when developing this survey.

Dillman et al. (2014) described four types of error to minimize when engaging in survey research. Coverage error, or misrepresentation of the target population based on the sample

chosen, was reduced by sending emails through three reputable national organizations for music educators. Sampling error is when only certain individuals in the sample frame are chosen to participate. This was reduced by sending emails to all members of the sampling frame, thus giving all in the sample frame the opportunity to participate. Measurement error, often caused by poor survey design, was minimized by using a panel of experts who provided feedback on the face and content validity of the survey, guided by the Delphi method (Eggers et al., 1998). The greatest risk of error was nonresponse error, or when differences exist between those who choose to respond and those who do not. This can yield unbalanced results and inadequate representation of the population. To minimize nonresponse error, the sample was encouraged in the invitation email to answer all questions regardless of their experience with aural skills in hopes that all members of the sampling frame would feel comfortable with responding.

One potential issue with convenience sampling, especially inviting participants through email listservs, is that the sample may not check their email often, or the email may be sorted into a spam folder. These potential issues were reduced by sending invitations through three national music organizations as this was the best method to reach the largest amount of wind band conductors in the target population. Reminder emails were also sent to help reduce the possibility of this limitation becoming an issue.

This study was completed during the COVID-19 global pandemic. It is likely that COVID-19 altered the nature and format of participants' music programs and could have influenced participants' responses. Participants were encouraged to consider their teaching habits and behavior during traditional face-to-face rehearsals when responding to the questionnaire, even if it was not their current situation.

Delimitations

I delimited the sample of participants to secondary and collegiate wind band conductors. While aural skills may be effective in other ensembles such as choir and jazz ensembles, the purpose of this study focused on wind band conductors' views. I chose to delimit the target population to collegiate and secondary wind band conductors because there is less existing research focused on aural skills in the secondary and collegiate wind band rehearsals. Therefore, this study only includes collegiate and secondary band directors, and the results cannot be generalized to other populations within the music community.

Overview of the Study

This study employed quantitative methodology and survey research to seek responses from secondary and collegiate wind band conductors regarding the importance and role of aural skills in the wind band rehearsal. I recruited participants from three national organizations for music education: Collegiate Band Directors National Association, National Association for Music Education, and Texas Music Educators Association. The survey received a total of 381 responses with a usable rate of 214 responses.

Review of Relevant Literature

I reviewed literature related broadly to aural skills development and the variables that influence aural development. I reviewed research from books, scholarly peer-reviewed articles, theses, and dissertations related to common instructional methods used to strengthen aural skills in all age levels and abilities with special emphasis on singing and dictation. These two strategies have historically been most prominent in aural skills pedagogy (Song, 2015). In total, my literature review covered five primary topics: (a) the development of aural skills, (b) variables

that influence aural skills, (c) common instructional methods, (d) comprehensive musicianship, and (e) aural skills in the ensemble.

Methodology

This chapter outlines the methods and procedures that underpinned the framework for this study including details about the original survey instrument that was used for the study. I sent invitations to participate through emails to members of CBDNA, NAfME, and TMEA who fit the sampling criteria. Recipients were encouraged to complete the survey which contained five primary question blocks in alignment with the purpose of this study (Ensemble Characteristics, General Attitudes, Integration of Aural-Based Instructional Strategies, Perceptions of Students' Abilities, and Demographics). The question blocks were composed of three types of six-point Likert scales and multiple-choice questions.

Results

This chapter details the findings of all descriptive and inferential statistical analyses I conducted to answer the four research questions. In most cases, parametric statistics were appropriate but, in some cases, the data did not meet the assumptions for the respective tests and equivalent nonparametric analyses were conducted instead. The results are organized and described by research question for clarity.

Discussion and Conclusion

The discussion of research results is organized by research question and in the order that results are presented in the preceding chapter. Following the explanation and interpretation of data, I offer broad conclusive comments, recommendations for conductors, and implications for future research.

Definitions of Terms

- ABA (Alabama Bandmasters Association): "a division of the Alabama Music Educators Association, an affiliate of the National Association for Music Education**"** **(**https://www.myamea.org/aba**).**
- Aural skills: (a) the ability to convert sounds into aural understanding and give meaning to those sounds, and (b) the ability to then convert that aural image into written notation (Gordon, 2012).
- Aural-based instructional strategies: defined by the researcher as pedagogy that is focused on training students' aural skills; the actual instruction delivered by the conductor.
- CBDNA (College Band Directors National Association): "an inclusive organization whose members are engaged in continuous dialogue encompassing myriad philosophies and professional practices. CBDNA is committed to serving as a dynamic hub connecting individuals to communities, ideas and resources" (https://www.cbdna.org/about/statement-of-purpose/).
- NAfME (National Association for Music Education): "among the world's largest arts education organizations, is the only association that addresses all aspects of music education. NAfME advocates at the local, state, and national levels; provides resources for teachers, parents, and administrators; hosts professional development events; and offers a variety of opportunities for students and teachers" (https://nafme.org/about).
- TMEA (Texas Music Educators Association): organization representing music educators at all age levels in the state of Texas and includes over 13,000 educators belonging to one of five divisions (https://www.tmea.org/about).

- Wind band: defined by the researcher as an ensemble, comprised of wind and percussion instrumentalists, which performs traditional repertoire for the wind band (symphonic band, wind ensemble, concert band, etc.).

Chapter Two:

Literature Review

Aura Skills Development

Scholars argue that childhood is a critical period for maximizing listening skills and aural potential. Even so, aural skills are not often a primary focus until the first two years of college music study (Gordon, 1999; Ilomäki, 2003; Suzuki, 1989). Gordon (1999) explained that the optimal age for attaining essential music listening vocabulary is 18-months to three years old and that, by age six, the prime time has passed. Gordon advised that music teachers are tasked with fulfilling any deficiencies in music students' aural skills as early in their life and music study as possible. Other music scholars have also advocated for childhood as a critical time for music listening skills development. Jaccard (2004) explained that intonation begins as early as kindergarten, reiterating the importance of teaching singing from an acoustical standpoint as opposed to a theoretical standpoint. Both Suzuki (1989) and Gordon (1999) compared music vocabulary acquisition to language acquisition and expressed that repetition of musical elements is critical for children during this stage of brain development.

Music education theorist Edwin Gordon (2012) coined the term *audiation*, which he defined as giving meaning to sounds through understanding. Gordon has spent his career dedicated to understanding musical aptitude and its relationship with audiation abilities. He explained that while audiation is critical to music aptitude and achievement the two function separately. Gordon (2012) described this relationship: "Audiation potential cannot be taught. It is a matter of music aptitude which comes naturally. By providing children and students with appropriate knowledge and experiences, they can be taught how to audiate" (p. 3). While

aptitude may be innate, it can still be enhanced if addressed early on with aural-based learning activities.

Audiation is essential for aural skills development because it moves past aural perception and employs aural understanding (Gordon, 2012). Gordon also compiled his thoughts and philosophies into a pragmatic learning model referred to as Music Learning Theory, a complex theoretical framework explaining the stages of skills acquisition and audiation improvement. As part of his philosophy, Gordon advocated for the significance of sequential learning for the development of any new skill. He included a comprehensive process for tonal learning, rhythm learning, pattern learning, and provided activities that synthesize all these skills. Music scholars have examined Gordon's work more closely, using his principles of audiation (Hicks, 1993; Humphreys, 1986), music aptitude (Flohr, 1981), and sequential learning (Azzara, 1991) to inform best practices in music education.

Variables that Influence Aural Skills

Music scholars have examined factors that may influence aural skills acquisition including piano performance (Humphreys, 1986; Lehmann, 2014; Hime et al., 2015) and playing by ear (Karas, 2005; Musco 2006; Musco, 2009; Musco, 2010; Smith, 2006). Research also suggested males may outperform females in aural-based tasks (Rammsayer & Troche, 2012; Wolf & Kopiez, 2018; Zaltz et al., 2014). Gordon (1999) explained that an individual's environment can also heavily influence aural development.

Research has also shown a significant correlation between piano experience and aural skills proficiency (May & Elliott, 1980). Hime et al. (2015) ran multiple regression analyses on several musical variables and experiences of college music education majors to determine if any of the variables could predict upper-divisional review scores that were used to check students'

mid-degree progress. Results showed that years of piano experience and music performance were the only two variables that could significantly predict upper-divisional ratings. Lehmann (2014) also determined that students majoring in piano outperformed other students in college aural skills courses. There were no significant correlations between instrument type and aural skills proficiency for any other instrument type (Lehmann, 2014). Other studies on the effects of piano experience have elicited different results. Humphreys (1986) found that keyboard background had a weak relationship with harmonic audiation skills. Therefore, while piano experience has been shown to affect musical development, the extent to which piano experience is effective in strengthening aural skills remains unclear.

Playing by Ear

Another prominent area of aural skills in the research is the role of improvisation and playing by ear in improving aural skills (Musco, 2010). Playing by ear occurs when musicians replicate heard music on their instrument without using notation (Musco, 2010). Many students begin collegiate music study with several years of instrumental playing experience but rely on notation and have not yet achieved the ability to play by ear (Dalby, 1999). Research has substantiated a correlation between playing by ear and music literacy (Allison & Oare, 2013-2014), and other studies have examined the effects of playing by ear within the wind band. Musco (2006; 2009) found that having middle school band students play melodies by ear in different keys led to significant improvements in their ability to play by ear and sight-read, but there was no significant improvement in pitch accuracy. Conversely, other scholars have found no significant effects of ear playing on notation reading (Karas, 2005; Smith, 2006). More research is needed to determine whether playing by ear is as effective as some scholars posit.

Improvisation and Composition

Improvisation and composition are skills requiring strong facilitation of the aural domain. Covington (1997) justified the importance of improvisation as it requires musicians to simultaneously "fuse the three primary musical activities of composition, performance, and critical listening/analysis" (p. 49). Composers also need critical listening skills to develop their "aural palettes" (Kaschub & Smith, 2009, p. 7). Improvisation is often challenging to integrate into teaching, often a result of teachers' inexperience with this skill (Watson, 2010). Watson (2010) used a pretest/posttest design to examine whether incorporating aural versus visual instructional strategies led to more proficiency in improvisation in a jazz performance ensemble. Results of their study revealed that teaching improvisation aurally was significantly more effective than teaching improvisation through notation only.

Common Instructional Methods

Numerous instructional strategies, interventions, and assessments have been used to suggest best practices for aural-based learning. Despite the large body of literature about aural skills innovation and development, aural skills pedagogy has changed minimally over the past century (Song, 2015). Technology has provided new computer and mobile application-based learning strategies (Chen, 2015; Henry & Petty, 2014; Kariuki & Ross, 2017; Killam, 1984) but traditional sight-singing and dictation still prevail as the most common methods of teaching aural skills (Song, 2015).

Sight-Singing

Sight-singing music for which sound is not audibly present is a common sign of strong aural skills (Coye, 1938). Sight-singing occurs when students are expected to read and recite, with their voice, a melody they have not heard before with correct pitches and rhythms

(Beckman, 2011). Gordon (2012) referred to this concept as notational audiation. This type of training focuses on translating visual notation into aural understanding. Sight-singing often incorporates the use of tonal solmization, or ascribing a syllable to each pitch within a tonal center. The most common solmization methods are solfege, scale-degree numbers, and pitch letter names (Bernhard, 2003). Each method uses syllables to represent the hierarchical relationship of pitches within a key center and thus could be useful for developing wind band members' understanding of the relationships in music even on the most basic level.

Sight-singing is often a major component of collegiate music training (Larson, 1977). Research studies have proposed various methods of developing sight-singing. Building on the works of Edwin Gordon, Hiatt and Cross (2006) offered advice to collegiate aural skills instructors and applied teachers on improving audiation instruction and abilities of music students through singing. They proposed an "aural-oral-visual" process that relies on developing an aural idea and singing the aural idea in the mind before seeing the notation (p. 48). Research also shows a direct relationship between students' singing ability and their musical self-concept, and these self-ascribed beliefs can persist through musicians' careers and influence their teaching (Demorest et al., 2017).

Aside from college instruction, most sight-singing research has explored factors affecting sight-singing abilities in the choral ensemble (Cutietta, 1979; Demorest, 1998; Fine et al., 2006; Henry, 2004; Henry & Petty, 2014; Killian & Henry, 2005; Lucas, 1994). Though wind bands do not perform with their voices, the literature suggests a combination of instrumental and choral activities may foster students' comprehensive musicianship. Wallace (2014) employed case study research to interview collegiate instrumentalists on their experiences in an elective choir. The participants commented that singing required more active listening to tune. The students

became more aware of their body's role in music-making and felt a broader awareness of the aesthetics of music performance. Choral singing also required heightened attention to the other vocal parts in the musical texture. One student commented that singing in an ensemble resulted in their deliberate efforts to hear the music in their mind as they play their instrument (Wallace, 2014). Sight-singing is also correlated with error detection ability, a critical skill for music teachers (Sheldon, 1998). A considerable number of research studies on error detection focuses on conductors, but students also need these discriminatory listening skills to cultivate their ability to self-assess (Kaschub & Smith, 2009).

Anecdotally, researchers and pedagogues have suggested that singing, or "vocalization," is beneficial to developing instrumental proficiency (Bernhard, 2003; Silvey et al., 2019; Burton, 1988). Both empirical and practitioner research have discussed the benefits of singing in the band rehearsal, as well as the effects singing has on intonation (Dalby, 1999; Powell, 2010; Silvey et al., 2019). Though popular in the amateur and professional world, clip-on tuners may become a "crutch" for musicians who may disregard their listening abilities. Clauhs and West (2016) employed an experimental design comparing the consistent use of clip-on tuners while the control group rehearsed as normal. After fifteen weeks, the posttest revealed a slight, nonsignificant improvement in intonation for the experimental group. These results imply that, while clip-on tuners may improve tuning, the risk of inhibiting listening abilities may outweigh the temporary fix in intonation. Regarding improving intonation in the band rehearsal, Wolbers (2002) explained:

> When students are properly guided, singing can help them develop their aural perception and provide an alternative to a "button-pushing" mentality. This mistaken frame of mind suggests that playing in tune requires simply having the instrument pulled to the correct length while fingering the right note. Students must be taught to hear the music they are producing, not just to simply see it. (p. 38)

Dalby (1999) advocated for singing in the band rehearsal as a primary tenet of musicianship and cited its role in improving intonation. He explained that proficiency in audiation is needed for playing in tune, rather than only facility of the instrument. Some research studies using singing as an intervention in the instrumental ensemble have revealed significant effects on intonation abilities (Elliott, 1974; Schlacks, 1981) while others have reported no effects at all (G2P). Therefore, it is difficult to say whether singing is an effective tool for all ensembles and all ages even though singing has been advocated as the best strategy for improving intonation (Goss, 2015). Elliott (1974) utilized a quasi-experimental pretest-posttest design to determine the effects of consistent singing in beginning band rehearsals and results of the posttest revealed that students in the treatment band had a significantly stronger sense of pitch than students in the control group after a year of consistent singing in rehearsals. Conversely, South (2013) found that singing did not influence intonation in middle school band students, though this could be due to students' inexperience with singing which improved throughout the study. These results imply that teaching students to sing in tune should be a well-developed process, and that it requires instructors to use refined listening skills to detect pitch discrepancies (Jaccard, 2014). College-aged instrumentalists tend to prefer vocalization as a means of externalizing pitch (Silvey et al., 2019). Though there were no significant effects among the pre-tuning behaviors of silence, humming, and singing, Silvey et al. (2019) found that the greatest percentage of tuning accuracy was in the singing condition. This research implies that singing is helpful, even if not statistically significant.

Scholars also argue that singing not only develops students' note accuracy (Wolbers, 2002), but it also deepens connections to the music through phrasing (Dalby, 1999) and increases students' understanding of the tonal and harmonic context of music (Grutzmacher, 1987).

Grutzmacher (1987) found that vocalization using solfege with tonal patterns and harmonization exercises led to higher proficiency in instrumental sight-reading of beginning band students. Conversely, Bernhard (2004) used vocalization through solfege as the treatment for the experimental group and found no significant relationships between vocalization and sight-reading achievement. However, students were more proficient in playing by ear following the intervention (Bernhard, 2004). This may be due in part to pitch sight-reading as naturally reliant on instrument technique more than audiation (Karas, 2005). The mixed results indicate uncertainty of whether solfege is an effective tool to improve ensemble sight-reading.

Despite the positive effects of singing in the ensemble and advocacy efforts by scholars, secondary band directors often neglect singing with their bands (Bernhard, 2003; Wolbers, 2002). Robinson (1996) stated three reasons why instrumental conductors may choose to forego singing in the ensemble: conservation of time, lack of confidence in own signing ability, and concern for how students will respond. Robinson posited that singing could save time with tuning. Additionally, teachers not confident in their singing could play simple melodic patterns on their instruments and have students repeat the patterns with their voices. Robinson also suggested gradual acclimation to singing for students who may be uncomfortable with it by beginning with closed-mouth humming (Robinson, 1996). In addition to these suggestions, wind band conductors should create unique ways to encourage ensemble singing and create a routine that will not make conductors feel as though singing is using too much of their rehearsal time. With all the researched benefits of singing, perhaps the time is worth it.

Dictation

Another approach commonly included in skills pedagogy is the identification, discrimination, and dictation of structural elements in music. This represents the side of aural

training in which students must hear a concept and use their aural vocabulary of musical concepts to convert sound into notation (Klonoski, 2006). Dictation often begins with aurally discriminating smaller rhythmic, melodic, and harmonic units that combine to create more complex figures (Klonoski, 2006). Often these smaller units include intervals, chords, and scales. Much of the current pedagogy in dictation pairs repetition with instructor guidance but Klonoski (2006) explained that this pedagogical style tests students' current abilities rather than fostering improvement. Some scholars have also warned against the dangers of aural repetition as it may not always improve performance (Martínez et al., 1999).

Dictation is a valuable pedagogical strategy for improving aural skills and is often the most difficult for students as it requires a variety of complex skills (Paney, 2016)
Dictation pedagogy unfortunately has not changed much over the past century (Song, 2015), and minimal research focused on dictation over the past two decades (Paney, 2016). Moreover, traditional dictation strategies may not increase listening skills for collegiate musicians and musicians may not maintain these skills past the course (Potter, 1990). Thus, instructional methods should aim to strengthen the connection between the aural and visual domains rather than simply repeating the aural in hope that the visual will result. Karpinski (2000) described four sequential stages to successful dictation that include hearing, memory recall, understanding, and finally notating what was heard. Klonoski (2006) described the tonal memory stage as one of the most challenging to develop.

Aural skills pedagogy tends to separate components of pitch and rhythm in dictation as these two areas are thought to be processed differently in the brain (Hodges & Nolker, 2013). Rhythmic dictation is when students hear a rhythm performed and use their understanding of rhythmic and metric concepts to notate the rhythm in the appropriate meter, again transferring

the aural to the visual. Drawing on the works of music philosophers Gordon and Dalcroze, Dalby (1999) advocated for incorporating movement into rhythm learning as a means of audiating and internalizing rhythmic pulse, or tempo. Other schools of thought center rhythmic pedagogy on the use of counting syllables such as those proposed by Gordon and Kodály.

Rhythm is often a hindrance to successful sight-reading (Earney, 2008), and students struggle most often with compound meters (Paney & Buonviri, 2017). This could be due to a gap in systematic rhythmic training at the secondary level (Buonviri, 2015). Colley (1987) found that using a rhythmic counting syllable system that differentiated between duple and triple meters led to an increased rhythmic understanding of elementary-age music students. Metric perception is another area of rhythm that tends to be challenging for student musicians, likely due to less attention directed toward developing this skill aurally (Klonoski, 2006). Earney (2008) found no significant differences in rhythm reading proficiency of middle school band students between those who were taught through rhythmic dictation and those who were taught through performing rhythms. This study does not address whether the students had ever received rhythmic dictation instruction, and student work was checked periodically for accuracy thus decreasing the validity of the intervention. Howell (2016) used rhythmic dictation as a tool for teaching rhythm to high school band students and also found no significant difference when compared to traditional rhythm instruction. Aside from these studies, research examining the effects of rhythmic dictation on rhythm learning in the ensemble is deficient, though it is recognized as a valuable tool for developing rhythmic understanding (Howell, 2016).

Melodic dictation is when students hear a melody and are asked to combine rhythmic durations and melodic intervals to correctly notate the melody heard on paper (Klonoski, 2006). Students may be required to dictate a single melody or complete contrapuntal dictations of

multiple melodic lines (Beckett, 1997). Research has shown moderate correlations between sight-singing ability and melodic dictation proficiency (Norris, 2003), thus implying that these two skill sets may be best taught together. Preexisting scholarship on melodic dictation examined the best listening strategies for successful dictation. Buonviri (2014; 2015; 2017) described melodic dictation as critical for musicians, and that instructors can use this tool to measure students' abilities to transfer between the visual and aural aspects of music. Larson (1977) found a significant correlation between melodic dictation and undergraduate music majors' abilities to detect errors. Error detection is a skill set believed to require special attention exclusive from traditional aural training (Brand & Burnsed, 1981). Buonviri (2014) also interviewed six college students with high proficiency in melodic dictation to understand which strategies the students believed led to their success. The findings suggest that a heightened ability to direct attention to specific melodic concepts while ignoring other concepts may help. The implications of this research charge scholars to seek out pedagogical strategies for increasing students' abilities to direct their attention to various aspects of the melody.

Students typically incorporate different strategies to find success in melodic dictation. (Buonviri, 2014). Paney (2016) compared two delivery formats of melodic dictation instruction of college music majors. The experimental group received instruction to direct their attention using Karpinski's (2000) four stages of dictation (hearing, memory, understanding, notation). Participants in the control group were given no spoken instructions and could use their own strategy. The results of the posttest dictation showed that the control group outperformed the experimental group in all comparisons. This indicates that students approach dictation differently, should be taught multiple strategies, and should be guided in finding the best path for them (Buonviri, 2014).

Harmonic dictation is another form of dictation common to aural skills study and is regarded as one of the more difficult tasks (Dunmire, 2019). In harmonic dictation, students are required to listen to and notate correct pitches and rhythms of harmonic progressions and provide evidence they understand harmonic function. These harmonic progressions are traditionally presented on piano (Dunmire, 2019). However, Klonoski (2006) warned that harmonic pedagogy should utilize various harmonic contexts to teach students how harmony functions in actual repertoire rather than simply playing chords on the piano. Klonoski also advocated for teaching harmonic function based on phrase-structure, rather than simply identifying isolated chords. Harmonic perception and coherence are essential for conductors as it informs their ability to discriminate what they are hearing versus what they are supposed to be hearing (Davis, 2010).

Music pedagogues have recommended various strategies for improving harmonic coherence. Kahn (1965) recommended that conductors regularly practice dictating four-part Bach chorales. Humphreys (1986) developed a training program that increased harmonic audiation skills of college music students through aural-oriented instruction as opposed to first teaching the notation. Dunmire (2019) described the PASS method, a four-step process to dictating harmonies developed at Liberty University. PASS stands for "Play, Audiate, Sing, Solve," and requires students to contextualize harmonic function by playing seventh chords on the piano and audiating the resolution of each pitch of the chord through traditional voice-leading principles (p. 41). Dunmire compared the PASS method to the traditional arpeggiation method and found that students using the PASS method performed better than those using the arpeggiation method. While research focuses mostly on improving harmonic understanding in college music majors and music professionals, the quality of secondary wind bands could greatly improve if these principles were developed at a younger age.

Though a significant part of aural skills pedagogy, the limited literature suggests that conductors rarely integrate aural-based instructional strategies in their rehearsals. In college, this could be attributed to the fact that music majors are already typically enrolled in courses in which this skill is heavily practiced. However, many college music ensembles include non-music majors who may not have the same opportunities to increase their aural understanding. Only a few research studies on dictation have specifically examined the use of dictation in the secondary music ensemble. Allison and Oare (2013-2014) introduced dictation gradually to beginning band students by first having them repeat tonal and rhythmic patterns on solfege, then on their instruments in all keys they had learned up to that point. This pedagogical style of teaching aligns with other music scholars who believe aural imitation should precede visual notation (Dalby, 1999; Humphreys, 1986). Allison and Oare promoted Bruner's (1960) spiral curriculum concept, advocating for the importance of continually training aural skills while gradually introducing more complex concepts.

Comprehensive Musicianship

Other studies have included both dictation and sight-singing as part of a comprehensive curriculum model aimed at integrating structural musical elements into ensemble instruction (Garofalo & Whaley, 1979; Owen, 1973). One such curriculum guide introduced in 1977 is the Wisconsin Comprehensive Musicianship through Performance model (CMP), influenced by a series of publications and projects aimed at teaching from a more holistic approach. The model's primary goal is to teach "performance with understanding" (Wisconsin Music Educators Association, n. d., p. 3).

Before the birth of the CMP model and with a similar goal in mind, Owen (1973) integrated programmed tapes in the junior high band to teach aural and notational skills. Students

in the experimental group had the opportunity to listen to tapes programmed with sequential exercises that began simply and gradually became more complex. Owen outlined the aural objectives which included: (a) the identification of perfect and major intervals, (b) singing melodies in 3/4 and 4/4 meters, and (c) dictation of melodies in C major. Researchers divided participants into three control groups including a similar band ensemble, a general music class, and an art class. Results of the posttest following the instructional period revealed that students who were taught through the programmed tapes significantly outscored the control groups. Garofalo and Whaley (1979) found comparable results using a comprehensive music curriculum which, after implementation, elicited significantly stronger conceptual, aural, and performance skills of the students in the experimental group.

Aural Skills Inclusion in Wind Band

Multiple factors may affect the frequency of aural skills integration in the wind band rehearsal. Instructors may simply teach and conduct the way their teachers and conductors taught them (Cox, 2014; Oleson & Hora, 2014). Dolloff (1999) explained that our own educational experiences shape our idea of the teacher's role in the rehearsal hall. Students may then enter a teacher education program with implicit biases toward a specific type of teaching. Therefore, teachers who were not taught through aural-based pedagogy may not include those types of strategies in their teaching. Educators' self-identities and teaching styles may also be molded by an influential mentor (Fairbanks et al., 2000).

Attitudes Regarding Aural Skills

Another primary variable that could influence the inclusion of aural skills in the wind band rehearsal is conductors' and students' general attitudes regarding the role and importance of aural skills on musical development. Behavioral psychology research has demonstrated that a

person's beliefs or attitudes toward a specific object, subject, or behavior may be directly correlated to their own behavior (Ajzen & Fishbein, 2005). Research on attitudes specific to aural skills is lacking, though there are some studies worth discussing.

Most of the research on students' attitudes in aural skills have been examied their responses to a specific aural intervention rather than their overall feelings regarding aural skills. However, Buonviri (2015) used narrative research to follow three college first-year's experiences with collegiate introductory aural courses and reported that students' preconceived notions of their aural skills abilities can weigh on their perceptions of their aural abilities throughout the aural and theory course sequence. Buonviri suggested instructors consider these preconceived ideas and focus on building students' confidence in their abilities as their self-perceived ideas may affect them long-term. Additionally, music education students should take accountability for their deficiencies in aural training and take the appropriate steps to improve those weaknesses as they could have a direct effect on their future students (Buonviri, 2015). Reitan (2009) surveyed college students at the Norwegian Academy of Music on their attitudes toward aural skills. Ninety percent of students agreed aural skills were important and 80% agreed aural skills were useful. Responses to open-ended questions on the survey revealed that students use aural skills in a variety of musical tasks including sight-reading, intonation, pitch accuracy, and learning repertoire. My research review returned no studies on secondary students' perceptions and attitudes regarding the importance or utility of aural skills.

While it is important to obtain student buy-in with aural skills, conductors' attitudes toward aural skills are worth examining as their attitudes could directly influence their behavior (Ajzen & Fishbein, 2005). However, these attitudes have not been explored in the literature and thus is a primary goal of this study.

Aural Skills Instruction

Expectations for aural abilities likely differ between collegiate and secondary wind band conductors. Though my literature review revealed no research studies related to aural skills teaching differences between collegiate and high school wind band conductors, there are related comparative studies worth mentioning. Worthy (2003) explored the differences in an expert conductor's rehearsal techniques when conducting a high school honor wind band versus a collegiate wind band. The results of their study revealed that the expert conductor focused on more simultaneous targets with the college band and individual targets with the high school band. Additionally, the conductor concentrated on technique and more fundamental performance skills with the high school group and was able to address more advanced concepts such as blend and interpretation with the college group.

Aural vs. Visual Learning in Band

Studies on various instructional strategies for increasing aural skills proficiency in the ensemble rehearsal have elicited mixed results. Scholars have generally found positive opinions on the value of comprehensive musicianship in the ensemble, but actions in the classroom do not accurately reflect these opinions (Bernhard, 2003). Few studies have directed attention to gaining a better understanding of perceptions of the value of aural skills in the ensemble and the aural-based learning activities implemented in the wind band. Teacher perceptions should be examined because teachers have the potential to influence student perceptions. St. Denis (2018) used a comparative case study to see how aural skills are integrated into beginning band. Data were collected through interviews and observations of four beginning band directors. Interviews with the participants revealed that band directors thought aural skills were invaluable to beginning band instruction and that aural learning should precede visual learning. Participants also

advocated for aural skills integration into every lesson and were observed using various methods of improving listening skills including solfege singing, improvisation, and identification of tonal patterns.

Some researchers sought to demonstrate the importance of aural skills and compared aural and visual instructional strategies in the band class. Haston (2010) used a posttest-only design to assess whether teaching beginning band with a sound-before-sight (aural) approach improved sight-reading and performance more than a traditional visual approach. While the aural approach did elicit higher posttest scores, the results were insignificant and thus the researcher concluded that aural-based learning may aid rather than hinder music learning. However, since a pretest was not administered to the participants in Haston's (2010) study, additional research is needed to further explore the effects of teaching with aural-based instructional strategies.

Summary

Most research on aural-based learning aims to enhance and improve collegiate music theory pedagogy. The few research studies that have examined the effects of aural-based learning activities in the wind band rehearsal have elicited mixed results. Therefore, it is difficult to indicate the extent aural skills learning outcomes are established or taught in the wind band, or how aural-based pedagogical materials affect music proficiency. As a first step to understanding the role of aural skills in the wind band, my goal for this research study is to collect wind band conductors' general attitudes toward aural skills, and understand how conductors incorporate aural-based learning in the wind band.

Chapter Three:

Methodology

The purpose of this study was to examine wind band conductors' attitudes toward aural skills in the wind band rehearsal, aural-based instructional strategies used in the wind band rehearsal, conductors' perceptions of students' aural skills abilities, and to compare these findings based on demographic variables. I developed the following research questions in alignment with the purpose of this study:

1. To what extent is integrating aural skills in the wind band rehearsal important to wind band conductors?
    a. Do perceived attitudes toward aural skills predict the extent to which conductors integrate aural skills in the wind band rehearsal?
2. What strategies are most used in the wind band rehearsal to improve aural skills, and how much of rehearsal time is dedicated to this endeavor?
    a. Is there a correlation between the amount of rehearsal time and the extent to which conductors integrate aural skills in the rehearsal?
3. How do wind band conductors perceive their students' aural skills abilities?
    a. Is there a relationship between the extent to which conductors integrate aural skills and their perceptions of students' aural skills proficiency?
4. Will there be any significant differences in responses to survey questions based on participants' demographic variables?

Research Design

Bernhard (2003) reported that band directors rarely integrated aural skills into their ensemble instruction. My goal was to determine whether data in the current study corroborate

this report nearly two decades later. I employed quantitative research methodology and specifically survey research to attempt to explain characteristics of the targeted population (Ross & Shannon, 2016). I also chose to use a survey as it was the best means for seeking feedback from several wind band conductors and for the possibility of generalizing the results to the broader population (Dillman et al., 2014).

Population and Sampling

The target population of this study was secondary and collegiate wind band conductors in the United States. Participants who fit the sampling criteria were invited to participate through three major music education organizations: College Band Directors National Association (CBDNA), National Association for Music Education (NAfME), and Texas Music Educators Association (TMEA). I chose these three organizations for their strong reputation as large music education organizations and the convenience of access to membership directories. Additionally, including multiple organizations carried a larger chance of increasing the response rate for the study. I used a combination of convenience and snowball sampling methods to recruit participants for this study. Both secondary and collegiate conductors were recruited to draw comparisons between groups.

College wind band conductors were recruited for participation by an email sent through listservs on the Collegiate Band Directors National Association (CBDNA) website. CBDNA is an association dedicated to providing resources exclusive to college music ensemble instruction (Collegiate Band Directors National Association, 2020). Their website features several listservs for which members can subscribe to receive emails related to their interests. Two of the listservs available through the CBDNA website are the Research listserv and the Conducting Pedagogy listserv. I sent the invitation to participate in this study through both listservs to increase the

number of potential respondents. Recipients of the email were encouraged to forward the survey to anyone who fit the criteria for participation.

Secondary-level wind band conductors were recruited to complete the survey through the National Association for Music Education (NAfME). NAfME (2020) is a professional organization that provides resources for music educators at all levels. The organization offers resources for music teachers of all age students such as links to the national standards for music education, peer-reviewed research journals, scholarships for college students, and model assessments. NAfME members select their areas of interest when registering for membership and receive periodic emails with news, resources, and invitations to participate in research related to their areas of interest. The Society for Research in Music Education accepts proposals through the NAfME website to disseminate well-developed research surveys to members of NAfME, which is estimated to comprise over 50% of music educators in the United States (National Association for Music Education, 2020). I completed a proposal and was accepted for this survey assistance to increase the response and completion rates of this study. Recipients of the email were encouraged to forward the survey to anyone who fit the criteria for participation. I also sent the survey to the Texas Music Educators Association membership list as this organization includes many music educators who are not members of NAfME.

Data Collection

Data were collected through an original survey instrument titled "Aural Skills in the Wind Band" that was hosted on the Qualtrics online platform. The survey comprised five primary sets of questions that aligned with the purpose of this study and corresponded with five measurable constructs that served as the framework for the survey. These five constructs were Ensemble Characteristics, General Attitudes, Integration of Aural-Based Instructional Strategies,

Perceptions of Students' Abilities, and Demographics. The survey consisted of nine six-point Likert scales (1 = *strongly disagree,* 6 = *strongly* agree), one six-point Likert scale (1 = *extremely uncomfortable,* 6 = *extremely comfortable*), one five-point Likert scale (1 = *never,* 5 = *daily*), and 17 multiple-choice questions. See Appendix F for a copy of the survey instrument.

The first construct *Ensemble Characteristics* was included to gather information about ensemble meeting times, the types of aural-based resources used in rehearsal, the amount and duration of time dedicated to aural-based instructional strategies, and the conductor's comfort level teaching various aural skills. Example questions in this section included, "Do you use an aural skills curriculum with your wind band?" and "On average, how often do you dedicate focused time to building aural skills in your wind band(s)?"

I included the second survey construct *General Attitudes* to seek opinions on the role and importance of aural skills as well as the importance of specific aural-based instructional strategies in the wind band. An example item in this section was "I believe [aural strategy] is important to the success of my wind band" for which respondents selected their level of agreement or disagreement with multiple aural-based instructional strategies and their impact on student learning. I also included two sections within this question block to measure attitudes specific to singing and dictation as these are two of the most historically used instructional strategies to improve aural skills in Western collegiate music education (Song, 2015).

The third construct *Integration of Aural-Based Instructional Strategies* was included in the survey instrument to better understand which aural-based instructional strategies respondents use and how often these strategies were incorporated into wind band rehearsals. This was measured by a six-point Likert-scale asking respondents to select the frequency they incorporate various aural-based instructional strategies in their rehearsals. Example strategies included:

singing in a large group, singing in a small group, and singing alone; dictation of tonal, melodic, rhythmic, and harmonic concepts; and aural identification of fundamental music elements such as intervals, chords, meters, and tonality.

I included the fourth construct *Perceptions of Students' Abilities* to understand how respondents viewed their students' proficiencies in various aural skills. I also wanted to analyze how respondents' general attitudes toward aural skills may correlate with their perceptions of students' proficiencies. This construct was measured through two six-point Likert scales. The first scale asked respondents to select their level of agreement or disagreement to statements like "My students' aural skills are satisfactory." The second scale asked respondents to select their level of agreement or disagreement with whether students were proficient in specific aural tasks. Example statements in this scale included singing melodic lines with accurate pitches and rhythms, and aural identification of fundamental music elements such as intervals, chords, meters, and tonality.

The fifth construct examined participants' demographics. These questions surveyed respondents' gender, ethnicity, primary instrument group, state/territory in which they teach, highest degree earned, and years of teaching experience.

Reliability and Validity

Face and content validity were first assessed by a panel of experts in music education guided by the Delphi method. The Delphi method engages other professionals in the field to examine the survey instrument and ensure the questions included measure the constructs they were intended to measure (Eggers et al., 1998). Once the panel of experts provided their feedback, I made the suggested changes to the survey instrument including typos, misspelled

words, and restructured sections and questions to provide an easier flow and clarity of the survey instrument.

After Institutional Review Board approval, I ran a pilot test of the survey before administering it to the target population. A pilot study is a smaller-scale study to evaluate the survey instrument with a smaller sample. The goal of a pilot study is to ensure the survey instrument questions are appropriate for the target population (Dillman et al., 2014). I piloted the survey with retired wind band conductors ($N = 31$) who were members of CBDNA or the Alabama Bandmasters Association (ABA). I retrieved the email addresses for retired CBDNA members through the treasurer of the organization. As an active member of ABA, I was able to retrieve the email addresses for retired ABA members from the online directory available only to members. I chose retired wind band conductors to avoid overlap in responses between the pilot test and the administration of the survey to the targeted population.

Data from the pilot study were downloaded and analyzed through the Statistical Package for the Social Sciences (SPSS) software to measure internal consistency estimates. Internal consistency estimates are most important for a survey instrument as internal items need to be consistent with each other (Ross & Shannon, 2016). Pilot study respondents offered feedback through an open-ended textbox at the end of the survey. I amended the survey based on the internal reliability results and suggestions made by participants in the pilot study.

I retrieved internal consistency estimates for the pilot data by calculating Cronbach's alpha coefficient for each Likert scale. Seven of the eight scales produced an acceptable alpha coefficient above .70. Five of those scales were used to measure conductors' overall attitudes toward aural skills in the wind band rehearsal and attitudes toward common strategies. The scale for comfort levels teaching aural skills included 17 items ($\alpha = .93$), the scale for general attitudes

regarding aural skills had 26 items (α = .94), the scale for the importance of specific aural-based strategies had 21 items (α = .96), the scale for attitudes regarding singing in the wind band had 10 items (α = .88), and the scale for attitudes regarding dictation in the wind band had 10 items (α = .89). I developed a Likert scale to measure the extent to which conductors integrated specific aural strategies and this scale contained 25 items (α = .94). I also developed two scales for measuring conductors' attitudes toward students' aural proficiencies. The scale for attitudes of general statements related to students' abilities contained four items (α = .72). However, I removed one statement ("My students are aurally capable of majoring in music by the time they graduate from my program") due to its inapplicability to all respondents who would be completing the survey. Removing this item decreased the reliability of the scale (α = .68). The final scale measured conductors' attitudes toward their students' proficiencies in specific aural tasks and contained 19 items (α = .93).

There are threats to the validity of this study that are worth discussing. Using an original survey instrument is one threat to internal validity. Close-ended questions could limit respondents to select only the items listed on the instrument (Dillman et al., 2014). I attempted to reduce this threat by offering respondents the opportunity to provide any additional feedback through a short text "Other" option on questions that were necessary to add this option. I sought feedback from an expert panel of music educators and ran a pilot test to help reduce threats to face and content validity (Eggers et al., 1998).

The potential lack of generalizability is a threat to the study's external validity. While quantitative research is valuable for its goal to generalize results, this is not completely possible since every person that fit the criteria for the study could not be included. Only those who are members of CBDNA, NAfME, and TMEA who fit the specific sampling criteria were sent the

link to the survey, thus many of the targeted population could not offer their feedback and perceptions on the topic. There is always a risk of nonresponse error, as those who responded likely have an increased interest in aural skills. This could result in skewed answers and a misrepresentation of the entire population of wind band conductors (Dillman et al., 2014). Additionally, those who responded to the survey may not accurately represent traditional wind band instruction as many music programs were forced into a virtual format due to the COVID-19 global pandemic.

Procedures

Following pilot study adjustments to the survey instrument, the Qualtrics survey was administered via an internet link embedded in emails sent to members of CBDNA, NAfME, and TMEA. Participants received no compensation for participating in the study. Dillman et al. (2014) recommended sending multiple reminder emails to increase the response rate for the survey. One week following the initial invitation email, a second email was sent encouraging those who had not participated to do so. I sent a third email one week after the second email. These additional reminder emails were necessary as some may not have received the initial email due to technical malfunctions, or the invitation to participate may have gotten lost in inboxes or spam folders. Also, recipients may not have had time to complete the survey upon first receiving the invitation, but follow-up emails sent during varying times of the day may have arrived at a time that was more convenient for recipients to respond.

After selecting the link to the survey, the information letter was displayed to participants and they were prompted to choose whether to continue or withdraw from the study after reading. Those who chose not to continue with the study were redirected to the end of the survey. Respondents who consented to participate continued to further questions. Respondents were

given the option to withdraw from the study at any time by closing out of the survey. Data for those who did not complete at least 50% of the survey were withdrawn and excluded from the analysis. Data were saved in Qualtrics and downloaded for analysis.

Data Analysis

All survey responses were downloaded from Qualtrics and imported into the Statistical Package for the Social Sciences (SPSS) software for data analysis. I used descriptive statistics including frequencies and percentages on all responses to obtain an overall understanding of how participants responded to the questions. Inferential statistics were used to answer all research questions requiring such. Inferential statistics are useful for making inferences about the target population based on data from the selected sample (Ross & Shannon, 2016). I ran nonparametric analyses for any data that violated the assumptions of parametric statistical tests (Corder & Foreman, 2014).

I calculated frequencies and percentages to answer RQ1 (To what extent is integrating aural skills in the wind band rehearsal important to wind band conductors?), which focused on general attitudes toward aural-based learning in the wind band rehearsal. I also ran a simple bivariate regression to determine whether these perceived attitudes could predict the extent to which conductors integrate aural skills in their wind band rehearsals. I calculated frequencies and percentages to answer RQ2 (What strategies are most used in the wind band rehearsal to improve aural skills, and how much of rehearsal time is dedicated to this endeavor?) I used the Pearson correlation coefficient to examine whether a linear relationship existed between the amount of rehearsal time allotted for rehearsal and the extent to which conductors reported integration of aural skills. I also obtained a Pearson correlation coefficient to answer RQ3 (How do wind band conductors perceive the aural skills abilities of their students?). To answer RQ4, I ran several

multivariate analyses of variance (MANOVA) and one-way analyses of variance (ANOVA) to examine the effects of demographic factors (gender, ethnicity, primary instrument type, highest degree earned, years of teaching experience, and teaching area) on survey responses. I then used appropriate post hoc analyses to examine pairwise comparisons of all groupings in the fixed factors. See Table 1 for the full data analysis plan.

Table 1

Data Analysis Plan

Research Question	Survey Items	Analysis
1.1 To what extent do wind band conductors regard the importance of the integration of aural skills into the wind band rehearsal?	questions 11-15	Descriptives
1.2 Do perceived attitudes toward aural skills predict the extent to which conductors integrate aural skills in the wind band rehearsal?	questions 11 & 17	Bivariate regression
2.1 What strategies are most used in the wind band rehearsal to improve aural skills, and how much of rehearsal time is dedicated to this endeavor?	questions 17	Descriptives
2.2 Is there a correlation between the amount of rehearsal time and the extent to which conductors integrate aural skills in the rehearsal?	questions 3 & 17	Pearson correlation
3.1 How do wind band conductors perceive the aural skills abilities of their students?	questions 18 & 19	Frequencies Percentages
3.2 Is there a relationship between the extent to which conductors integrate aural skills and their perceptions of students' aural skills proficiency?	questions 17 & 19	Pearson correlation
4. Will there be any significant differences in responses to survey questions based on participants' demographic variables?	questions 2, 11-17, 19-25	MANOVAs ANOVAs

Chapter Four:

Results

The purpose of this research was to discover trends and attitudes toward aural skills pedagogy in the wind band rehearsal and to compare the impact of demographic variables on survey responses from secondary and collegiate wind band conductors who were members of CBDNA, NAfME, and/or TMEA. I also used snowball sampling technique to reach others outside these groups. A total of 11,585 email invitations were successfully sent through email listservs, and email recipients were encouraged to forward the survey link to others they thought fit the criteria for participation. The survey collected 381 responses, and 214 of those responses were usable for the study. Due to the additional use of snowball sampling, it was impossible to calculate a valid response rate. The usable rate was 56.17% of responses.

Response Rate and Reliability

I recruited secondary and collegiate wind band conductors for participation in this study. The original survey instrument received a total of 381 total responses. However, one respondent did not consent to the study after reading the information letter. Thirty respondents selected "No" to the initial screening question (Do you currently teach wind band?) which redirected them to the end of the survey as they did not fit the criteria for the study. Of the remaining responses, I removed those that did not complete at least 50% of the survey. This left a total of 214 responses, resulting in a usable rate of 56.17% of responses. Due to the use of snowball sampling, an exact response rate could not be calculated. However, 214 responses is not representative of the entire population of wind band conductors.

I calculated Cronbach's alpha coefficients for each Likert-type scale used in the survey to measure for internal consistency among the statements. Seven of the eight scales used in the

survey produced an acceptable alpha coefficient of at least .70 and one scale was just below the acceptable rate. See Table 2 for a summary of Cronbach's alpha coefficients for each of the scales used in the survey.

Table 2

Cronbach's Alpha Coefficients for Likert-Type Scales

Construct Scale	Scale Items	Cronbach's α
Comfort Levels Teaching Aural Skills	17	.92
General Attitudes Regarding Aural Skills	26	.94
Attitudes Regarding Specific Instructional Strategies	21	.94
Attitudes Regarding Singing	10	.91
Attitudes Regarding Dictation	10	.92
Integration of Aural Skills	25	.89
General Attitudes Regarding Students' Abilities	3	.63
Attitudes Regarding Students' Specific Aural Proficiencies	19	.93

Conductor Demographics

All participants in this study were current wind band conductors at the secondary or collegiate level in the United States. Of the 214 usable responses, 152 participants (74.10%) identified as male, 46 participants (22.40%) identified as female, and seven participants (3.40%) preferred not to respond. Regarding ethnicity, 176 participants (85.40%) identified as Caucasian, nine participants (4.40%) preferred not to respond, seven participants (3.40%) identified as Hispanic/Latinx, five participants (2.40%) identified as African American, four participants (1.90%) identified as Asian, three participants (1.50%) identified as multiracial, and two participants (1.00%) identified as Native Hawaiian/Pacific Islander. Participants represented states across the nation and were recategorized based on the four primary regions used by the United States Census (United States Census Bureau, n. d.). Therefore, 87 participants (42.60%) were from the South district, 64 participants (31.40%) were from the Midwest district, 28

participants (13.70%) were from the Northeast district, and 25 participants (12.30%) were from the West district.

Participants were asked to identify which instrument group they represented. One-hundred six of the participants (51.50%) played a brass instrument, 71 participants (34.50%) played a woodwind instrument, 19 participants (9.20%) played percussion, five participants (2.40%) played a keyboard instrument, three participants (1.50%) were vocalists, and two participants (1.00%) played a string instrument. Participants also held a variety of degrees in music-related fields. Eighty-nine participants (43.20%) selected master's degree as their highest degree earned in a music-related field, 81 participants (39.30%) had earned a terminal degree in music, and 36 participants (17.50%) selected bachelor's degree as their highest degree earned.

Participants represented a wide range of experience teaching music. Sixty-eight participants (33.00%) had been teaching for 26 or more years, 29 participants (14.10%) had been teaching for zero to five years, 29 participants (14.10%) had been teaching for six to ten years, 27 participants (13.10%) had been teaching for 11-15 years, 27 participants (13.10%) had been teaching for 16-20 years, and 26 participants (12.60%) had been teaching for 21-25 years. Regarding teaching level, 108 participants (60.30%) taught at the secondary level and 71 participants (39.70%) taught at the collegiate level. See Table 3 for a summary of participants' demographic information.

Table 3

Participant Demographics

Characteristic	*n*	%
Gender		
Male	152	74.10
Female	46	22.40
Prefer not to respond	7	3.40
Ethnicity		
Caucasian	176	85.40
Prefer not to respond	9	4.40
Hispanic/Latinx	7	3.40
Black/African American	5	2.40
Asian	4	1.90
Multiracial	3	1.50
Native Hawaiian/Pacific Islander	2	1.00
Region		
South	87	42.60
Midwest	64	31.40
Northeast	28	13.70
West	25	12.30
Instrument		
Brass	106	51.50
Woodwind	71	34.50
Percussion	19	9.20
Keyboard	5	2.40
Voice	3	1.50
String	2	1.00
Highest Degree Earned		
Master's	89	43.20
Doctoral	81	39.30
Bachelor's	36	17.50
Years of Teaching Experience		
26+ years	68	33.00
0-5 years	29	14.10
6-10 years	29	14.10
11-15 years	27	13.10
16-20 years	27	13.10
21-25 years	26	12.60
Teaching Area		
Secondary	108	60.30
Collegiate	71	39.70

Institution and Ensemble Characteristics

Participants were asked to answer several questions regarding wind band rehearsal times, use of aural skills resources, extracurricular aural skills courses, barriers to implementing aural skills instruction, and comfort levels teaching various aural concepts. One-hundred nine participants (51.40%) conducted two different wind bands, 64 respondents (30.20%) only conducted one wind band, and 39 participants (18.40%) conducted three different wind bands. Concerning aural skills resources, 112 participants (52.60%) reported that their institution did not offer an aural skills course. Sixty participants (28.20%) reported that their institution offered an aural skills course exclusive to music students, and 41 participants (19.20%) reported that their institution offered an aural skills course that was open to all students. Regarding specific instructional resources and strategies, 151 participants (70.60%) reported no use of an aural skills curriculum with their wind bands while 63 participants (29.40%) reported using an aural skills curriculum with their wind bands. See Table 4 for a summary of institution and ensemble characteristics. Table 5 shows a summary of responses regarding the inclusion of aural skills resources by topic and specific resources listed by participants. Specific resources were included if multiple participants listed them.

Table 4

Summary of Ensemble/Institution Characteristics

Characteristic		*n*	%
Number of Bands Conducted	Two	109	51.40
	One	64	30.20
	Three	39	18.40
Aural Skills Course Offered	No	112	52.60
	Yes; Music students only	60	28.20
	Yes; All students	41	19.20
Incorporation of Aural Curriculum	No	151	70.60
	Yes	63	29.40

Table 5

Aural Skills Resources Used in the Wind Band

Resource Usage	*f*	%	Specific Resources
Other/various	73	43.20	Singing/listening to repertoire Various instructor-created exercises Exercises based on Edwin Gordon's Learning Theory Yamaha Harmony Director Tonal Energy/other tuner apps Listening to live recorded music Chorales
Web resources	40	20.20	musictheory.net teoria.com breezinthrutheory.com Auralia by Music First Smart Music Sight Reading Factory
Singing text	7	3.60	*40 Days of Sightreading for Full Band,* Marty Nelson *Conversational Solfege,* John Feierabend *Music for Sight Singing,* Nancy Rogers and Robert Ottman *One-Minute Sight Singing,* Neil A. Kjos *Sight-Singing Practice*, Evan Copley
Dictation text	5	2.60	*Conversational Solfege*, John Feierabend *Excellence in Theory*, Neil A. Kjos *Rhythmic Training,* Robert Starer

Barriers and Comfort Levels

Participants were provided a list of possible barriers based on the literature and researcher experiences that may inhibit aural skills instruction in the wind band rehearsal. Respondents were asked to check all barriers that applied to their situation. Conductors most commonly selected time constraints ($f = 110$) and pressure to perform for assemblies, events, and assessments ($f = 76$) as the two biggest barriers restricting the implementation of aural skills training in wind band instruction. Sixty-two participants selected no barriers to implementation. One participant did not see the purpose in aural skills. See Table 6 for a report of the barriers that inhibited aural skills instruction.

Table 6

Barriers to Implementation

Barrier	*f*	%
Inadequate amount of rehearsal time	110	51.40
Pressure to perform for assemblies, events, and assessments	76	35.50
No barriers to implementation	62	29.00
Inadequate resources	43	20.10
Unsure how to integrate aural skills	42	19.60
Fear for how students will respond	35	16.40
Unsure of where to find valuable resources/materials	31	14.50
Other	23	10.70
Lack of confidence in my singing	15	7.00
Lack of confidence in my aural abilities	13	6.10
My students' aural skills are satisfactory	5	2.30
I do not see the purpose	1	0.50

Conductors were also asked to select their level of comfortability teaching diverse aural-based instructional strategies using a six-point scale (1 = *extremely uncomfortable*; 6 = *extremely comfortable*). Participants' overall comfort level was moderately high for all aural-based instructional strategies ($M = 4.82$, $SD = 0.88$) and they were most comfortable modeling with their own instruments ($M = 5.33$, $SD = 1.27$), teaching students to hear tonality ($M = 5.33$, $SD = 1.17$), and teaching students to hear meters ($M = 5.31$, $SD = 1.20$). Participants were least comfortable teaching composition ($M = 3.97$, $SD = 1.44$) and improvisation ($M = 4.08$, $SD = 1.40$). Participants also added supplemental comments to their responses that I thought were valuable to include. These quotations were coded by topic and are displayed in Table 7. Table 8 shows participants' comfort levels teaching aural-based activities.

Table 7

Other Supplemental Comments to Barriers

Topic	Quotation
Diversity of Student Abilities	"As a director of bands with about 60-65% non-majors, incorporating some aural skills require a level of 'grammar' knowledge that they lack. There is not enough rehearsal time with performance schedule to bring the students up to par." "Every September I feel like I have to start with beginner-level examples for the 9th graders, which is too easy for seniors. I need better resources that can be differentiated for mixed-experience groups." "I have one wind band on campus...while focused aural skills work in rehearsal would benefit music majors/minors, the majority of the students in the group aren't looking for those skills, and the music majors/minors are getting them from the theory sequence.
Future Hopes	"I am working on building up resources to incorporate in the near future!" "I haven't made the effort to consciously integrate them, and I would like to do more." "I tend to think of building Aural skills more with Choir than with Band, but I'm just returning to teaching Band after 15 years of teaching primarily Choir. I think it's a great thing to do, I just need to be more intentional." "I think I just should do more on that aspect in my group."
General Advice	"Establishing the culture of your program includes a definitive attitude of 'this is how we do things'—it can take a few years to develop this culture, but once it is in place it can take root and be easier to maintain—early in my tenure at my current school, students were resistant to aural skills training." It took some time. Now it's just what we do." "In my experience, the implementation of aural skills into rehearsal with wind band (or any instrumental ensemble) is critical to the development of characteristic tone, solid intonation, balance, and a myriad of other reasons. Therefore, the incorporation of aural skill training into rehearsal technique is for the end purpose of developing overall musicianship among each student, as opposed to simply raising the level of aural skills amongst ensemble members, especially music majors. While this may seem obvious to many, I believe it is important to state because when questions of 'how' and 'why' arise for utilizing aural skill training in ensembles where a conductor also claims, 'I don't have time' the response, in my mind, becomes 'I don't have time NOT to incorporate this.' Everything gets better as a result."
Teaching as Taught	"I need to expand integrating aural skills in my instruction. Not have been taught the best ways to incorporate aural skills effectively has me trying to 'catch-up' and improve."

Table 8

Comfort Levels Teaching Aural Skills

Aural Skill/Activity	*M*	*SD*
Teacher modeling with instrument	5.33	1.27
Aural identification of tonality	5.33	1.17
Aural identification of meters	5.31	1.20
Teacher modeling with voice	5.29	1.16
Aural identification of musical styles	5.29	1.15
Rhythmic dictation	5.23	1.18
Rhythmic counting syllables	5.13	1.38
Aural identification of intervals	4.94	1.34
Student singing	4.92	1.32
Melodic dictation	4.66	1.35
Aural identification of chords	4.59	1.48
Tonal dictation	4.59	1.39
Teacher modeling with piano/keyboard	4.45	1.52
Melodic solmization	4.39	1.54
Harmonic dictation	4.32	1.48
Student improvisation	4.08	1.40
Student composition	3.97	1.44
Subscale	4.82	0.88

Research Question 1

To what extent do wind band conductors regard the importance of the integration of aural skills into the wind band rehearsal?

I used descriptive statistics to answer the first research question. I measured the importance of aural skills by conductors' attitudes toward aural skills in the wind band rehearsal and how often conductors reported inclusion of aural skills training in their rehearsals. Participants selected their level of agreement or disagreement with several statements about the role and importance of aural skills in the wind band using a six-point Likert-type scale (1 = *strongly disagree*; 6 = *strongly agree*). I calculated the subscale mean for all attitude statements to serve as the overall score for conductors' perceptions of aural skills.

General Attitudes

Participants reported a moderate to high level of agreement with most of the attitude statements. Participants demonstrated the highest level of agreement with the statement, "Well-developed aural skills are critical for musicians" ($M = 5.56$, $SD = 0.73$) and the lowest level of agreement with the statement, "Without proficiency of the aural domain, students cannot be in proficient in the visual domain" ($M = 3.51$, $SD = 1.24$). The subscale mean of all statements indicated that participants generally agreed with all the statements regarding the importance of aural skills in the wind band ($M = 4.80$, $SD = 0.66$). See Table 9 for descriptive statistics for all general attitude statements regarding aural skills.

Table 9

Descriptive Statistics for General Attitudes Regarding Aural Skills

Statement	*M*	*SD*
Well-developed aural skills are critical for musicians.	5.56	0.73
Students with well-developed aural skills have better intonation.	5.50	0.76
My goal is for students to understand what they are hearing.	5.39	0.72
Students with well-developed aural skills are more musically independent.	5.32	0.88
Melodic sight-reading is easier with well-developed aural skills.	5.31	0.86
Aural skills play a critical role in sight-reading.	5.13	0.97
Aural-based instructional strategies are useful for improving instrumental technique.	5.13	0.85
Aural skills should be trained in all levels of musical learning.	5.11	0.98
Aural skills allow students to make more informed interpretive musical decisions.	5.07	0.91
Instrumental technique and aural skills are cohesive.	5.05	0.93
Aural skills should be taught from the first day of a student's music involvement.	5.00	1.07
Students need well-developed aural skills to understand the role of their own part within the overall texture of the repertoire.	4.83	1.07
Students with well-developed aural skills perform more expressively.	4.81	1.14
Rhythmic sight-reading is easier with well-developed aural skills.	4.80	1.19
Musicians cannot be successful without well-developed aural skills.	4.74	1.18
My goal is for students to be proficient in aural skills.	4.74	1.00
Aural skills should be addressed throughout the entire rehearsal.	4.68	1.10
It is important to have a daily warm-up routine that incorporates aural skills.	4.63	1.06

Statement	*M*	*SD*
Students should be taught aural skills whether or not they want to major in music as a career.	4.62	1.02
Aural-based instructional strategies should be integrated into every rehearsal.	4.59	1.06
I use various aural-based instructional strategies to improve technical issues.	4.58	1.13
Students should be highly proficient in aural skills by the time they graduate high school.	4.54	1.04
Aural-based learning should precede notation-based learning in beginning music classes.	4.32	1.33
I seek out the best strategies for increasing my students' aural skills proficiency.	4.04	1.26
Aural-based instructional strategies are more effective than traditional instructional strategies.	3.75	1.05
Without proficiency of the aural domain, students cannot be proficient in the visual domain.	3.51	1.24
Subscale	4.80	0.66

Attitudes Toward Specific Aural-Based Activities

Participants were also asked to select their level of agreement or disagreement with the importance of various aural-based instructional strategies in the success of their wind band using a six-point Likert-type scale (1 = *strongly disagree*; 6 = *strongly agree*). Participants generally agreed that all strategies were important to the success of their wind band ($M = 4.44$, $SD = 0.75$). The strategy reported as most important to the success of wind bands was students' abilities to detect errors in their performance ($M = 5.69$, $SD = 0.56$). The strategy reported as least important was harmonic progression dictation ($M = 3.53$, $SD = 1.19$). See Table 10 for descriptive statistics for all aural-based instructional strategies included in the survey question.

Table 10

Descriptive Statistics for the Importance of Aural-Based Instructional Strategies

Strategy	*M*	*SD*
Error detection	5.69	0.56
Singing to tune	5.13	0.99
Tonality identification by ear	5.04	0.87
Meter identification by ear	4.77	0.97
Singing intervals	4.75	1.07
Rhythm counting	4.74	1.32
Singing repertoire	4.74	1.14
Rhythmic dictation	4.60	1.19
Interval identification by ear	4.60	1.03
Style identification by ear	4.59	1.06
Singing chorales	4.51	1.24
Singing scales	4.45	1.17
Pitch identification by ear	4.44	1.14
Chord identification by ear	4.33	1.12
Playing by ear	4.13	1.24
Improvisation	4.04	1.12
Melodic solmization	3.84	1.33
Tonal dictation	3.82	1.18
Melodic dictation	3.81	1.18
Composition	3.73	1.18
Harmonic dictation	3.53	1.19
Subscale	4.44	0.75

Attitudes Regarding Singing

I measured participants' attitudes specific to singing in the wind band rehearsal since singing was commonly reported as beneficial to aural development in the literature. I used a screening question to first ask participants if they asked their wind bands to sing during rehearsals to best preserve the validity of participants' attitudes regarding those strategies. The participants who reported singing with their wind bands (n = 185, 86.90%) were then directed to select their level of agreement or disagreement with the impact of singing on various musical objectives using a six-point Likert-type scale (1 = *strongly disagree*; 6 = *strongly agree*). The participants who reported no singing with their wind bands (n = 28, 13.10%) were redirected

through skip logic to avoid the attitude statements on the impact of singing. One participant (0.05%) did not respond to the screening question and the skip logic did not apply their response; thus, they were unable to skip the attitude statements on the impact of singing. Table 11 displays participants' responses to the screening question for singing in the wind band.

Participants who completed the attitude statements concerning singing in the wind band (n = 185) expressed a general agreement to all statements (M = 4.98, SD = 0.76). Participants reported the highest level of agreement (M = 5.60, SD = 0.64) to the statement "Singing with my students improves their intonation" and the lowest level of agreement (M = 4.33, SD = 1.33) to the statement "Singing with my students improves their technique." See Table 12 for descriptive statistics of all statements regarding the impact of singing on various musical objectives.

Table 11

Frequencies of Singing in the Wind Band

Do you ask your wind band to sing during your rehearsals?	*n*	%
Yes	185	86.90
No	28	13.10

Table 12

Descriptives Statistics for Attitudes Toward Singing

Singing with my students improves their…	*M*	*SD*
intonation.	5.60	0.64
ability to phrase appropriately.	5.34	0.88
awareness of their musical role within the repertoire.	5.11	0.97
harmonic understanding.	5.01	0.98
error detection.	4.96	0.96
sight-reading skills.	4.94	1.01
internal pulse.	4.88	1.02
breath support.	4.85	1.16
emotional connection to music.	4.81	1.17
instrument technique.	4.33	1.33
Subscale	4.98	0.76

Attitudes Regarding Dictation

Participants were also asked if they used dictation in their wind band, another historically common method for improving aural skills (Song, 2015). The participants who reported using dictation with their wind bands (n = 45, 21.00%) were then directed to select their level of agreement or disagreement with the impact of dictation on various musical objectives using a six-point Likert-type scale (1 = *strongly disagree*; 6 = *strongly agree*). Participants reporting no dictation with their wind bands (n = 169, 79.00%) were redirected through skip logic to avoid the attitude statements on the impact of dictation. The musical objectives included with the dictation attitudes table were the same as those included with the singing attitudes table to better compare which strategies were most effective in improving each musical objective. Table 13 displays participants' responses to the screening question for dictation in the wind band.

Participants who completed the attitude statements concerning the effectiveness of dictation in their wind band rehearsals (n = 45) reported a general agreement to all statements (M = 4.64, SD = 0.88). Participants expressed their highest level of agreement (M = 5.51, SD = 0.59) with the statement "Dictation with my students improves their error detection" and the lowest level of agreement (M = 3.82, SD = 1.54) with the statement "Dictation with my students improves their breath support." See Table 14 for descriptive statistics of all statements on the impact of dictation on improving various musical objectives.

Table 13

Frequencies of Dictation in the Wind Band

Do you ask your wind band to complete dictation activities? (tonal, melodic, rhythmic, and/or harmonic)	*n*	%
No	169	79.00
Yes	45	21.00

Table 14

Descriptive Statistics for Attitudes Toward Dictation

Dictation with my students improves their…	*M*	*SD*
error detection.	5.51	0.59
sight-reading skills.	5.38	0.68
internal pulse.	5.09	1.01
harmonic understanding.	4.80	1.11
intonation.	4.78	0.95
awareness of their musical role within the repertoire.	4.51	1.22
ability to phrase appropriately.	4.51	1.12
emotional connection to music.	4.04	1.51
instrument technique.	3.96	1.54
breath support.	3.82	1.54
Subscale	4.64	0.88

Research Question 1.a

Do perceived attitudes toward aural skills predict the extent to which conductors integrate aural skills in the wind band rehearsal?

I obtained the Pearson product-moment correlation coefficient to determine if there was a relationship between general attitudes regarding aural skills and how often conductors integrated aural skills training in the wind band rehearsal. The independent variable was obtained by calculating the subscale mean of the general attitudes and the dependent variable was the subscale mean for reported frequency of diverse aural skills strategies in the wind band rehearsal. There was a significant positive correlation between general attitudes and how often conductors integrated aural skills training in the wind band rehearsal ($r = .52$, $p < .001$). Thus, I rejected the

null hypothesis. About 26.60% of the variance in how often conductors spent time using various aural skills strategies was explained by attitude toward aural skills. Since there was a significant correlation, a simple linear regression was calculated to predict the frequency of conductors' aural skills instruction based on their general attitudes toward aural skills. A significant regression equation was found ($F_{1, 208} = 75.41$, $p < .001$), with an R^2 of .27. Participants' predicted frequency of aural skills integration is equal to .50 (ATTITUDE) + .02 when attitude is measured using a six-point Likert-type scale. See Table 15 for a summary of the bivariate regression analysis of general attitudes and integration of aural skills.

Table 15

Bivariate Regression of General Attitudes and Aural Skills Integration

Variable	*B*	*SE*	β	*t*	*p*
Intercept	.02	.28			
General Attitudes	.50	.06	.52	8.69	<.001

Research Question 2

What strategies are most used in the wind band rehearsal to improve aural skills, and how much of rehearsal time is dedicated to this endeavor?

I used descriptive statistics to answer the second research question. Participants reported which portions of their rehearsals included aural skills integration. The two most selected answers were integration of aural skills into the warm-up ($f = 154$) and integration of aural skills throughout the rehearsal ($f = 128$). Seventeen participants (7.90%) reported no integration of aural skills in their rehearsals. See Table 16 for frequencies and percentages for when conductors integrate aural skills.

Table 16

Frequencies for Aural Skills Portion of Rehearsal

Rehearsal Portion	*f*	%
Integration of aural skills into warm-up	154	72.00
Integration of aural skills throughout rehearsal	128	59.80
Aural skills only for troubleshooting issues	43	20.10
Dedicated rehearsal time for aural skills	37	17.30
No integration of aural skills	17	7.90
Aural skills only for homework	5	2.30

Conductors were asked to report how often they integrated aural skills into their wind band rehearsals using a five-point Likert-type scale (1 = *never*; 5 = *daily*). Participants reported an overall consistent inclusion of aural skills training in their rehearsals around one to two times per month on average ($M = 4.32$, $SD = 1.67$). Sixty-four participants (30.00%) integrated aural skills daily, 61 participants (28.60%) integrated aural skills one to two times per week, 37 participants (17.40%) integrated aural skills one to two times per month, 33 participants integrated aural skills one to two times per semester (15.50%), and 18 participants never integrated aural skills (8.50%). See Table 17 for the frequency of aural skills integration reported by participants.

Table 17

General Frequency of Aural Skills Integration

Frequency of Integration	*n*	%
Daily	64	30.00%
1-2 times per week	61	28.60%
1-2 times per month	37	17.40%
1-2 times per semester	33	15.50%
Never	18	8.50%

I also asked conductors to report how often they used specific, diverse aural skills instructional strategies in their rehearsals using a five-point Likert-type scale (1 = *never*; 5 = *daily*). Participants most commonly modeled musical ideas with their voices ($M = 4.42$, $SD =$

0.98), sang as a large group (M = 3.79, SD = 1.23), and sang tuning pitches (M = 3.72, SD = 1.44). Participants least commonly included two-part melodic dictation (M = 1.22, SD = 0.63), aural skills textbook resources (M = 1.24, SD = 0.74), and harmonic progression dictation (M = 1.25, SD = 0.65). The collective subscale mean for all aural-based instructional strategies indicated a rare inclusion of diverse aural training methods (M = *2.41,* SD = 0.64). See Table 18 for descriptive information regarding the frequencies of various aural-based instructional strategies.

Table 18

Descriptive Statistics for Aural-Based Instructional Strategy Usage

Aural-Based Instructional Strategy	*M*	*SD*
Modeling ideas with voice	4.42	0.98
Singing as a large group	3.79	1.23
Singing tuning pitches	3.72	1.44
Singing repertoire	3.35	1.26
Rhythm counting syllables	3.17	1.46
Modeling ideas on instrument	3.11	1.47
Error detection training	3.04	1.48
Aural ID of tonality	2.97	1.28
Modeling ideas on piano	2.65	1.40
Singing in small groups	2.56	1.41
Aural ID of meters	2.52	1.33
Aural ID of intervals	2.50	1.32
Aural ID of individual pitches	2.41	1.42
Aural ID of chords	2.43	1.34
Singing tonal patterns	2.29	1.39
Singing with solmization syllables	2.09	1.41
Dictation of rhythms	2.05	1.28
Online aural skills training exercises	1.64	1.03
Dictation of single melodic lines	1.55	0.99
Singing alone	1.48	0.99
Dictation of tonal patterns	1.44	0.88
Summative assessment of aural skills	1.37	0.78
Dictation of harmonic progressions	1.25	0.65
Aural skills textbook resources	1.24	0.74
Dictation of two-part melodies	1.22	0.63
Subscale	2.41	0.64

Research Question 2.a

Is there a correlation between the amount of rehearsal time and the extent to which conductors integrate aural skills in the rehearsal?

A Pearson product-moment correlation coefficient was calculated to answer the second part of the second research question. I computed the daily average rehearsal times for each participant. Results of the Pearson correlation revealed extremely weak, nonsignificant relationships between rehearsal time and aural skills integration ($r = .02$, $p = .82$). Therefore, I failed to reject the null hypothesis. See Table 19 for a summary of the statistics for the relationship between rehearsal time and the extent to which conductors integrate aural skills.

Table 19

Pearson Correlation for Rehearsal Time and Aural Skills Integration

Correlation	*r*	*p*
Rehearsal Time/Integration	.02	.82

Research Question 3

How do wind band conductors perceive the aural skills abilities of their students?

Participants were asked to select their level of agreement or disagreement with three statements related to their perceptions of their students' aural skills abilities using a six-point Likert-type scale (1 = *strongly disagree;* 6 = *strongly agree*). I used descriptive statistics to analyze the responses. Participants reported the highest level of agreement ($M = 4.96$, $SD = 1.05$) with the statement "My students with more developed aural skills are overall better performers" and the lowest level of agreement ($M = 3.44$, $SD = 1.11$) with the statement "My students' aural skills are satisfactory." See Table 20 for a descriptive summary of the three general statements regarding conductors' perceptions of their students' aural skills abilities.

Table 20

Descriptive Statistics for General Attitudes Toward Students' Aural Skills Abilities

Statement	*M*	*SD*
My students with more developed aural skills are overall better performers.	4.96	1.05
My students' aural skills are stronger than other students their age.	3.49	1.10
My students' aural skills are satisfactory.	3.44	1.11
Subscale	3.97	0.82

I also asked participants to provide their level of agreement or disagreement with several statements regarding their perceptions of their students' proficiencies in various aural tasks using the same six-point Likert-type scale (1 = *strongly disagree;* 6 = *strongly agree*). I ran descriptive statistics to analyze which skills participants believed their students were most and least proficient. On average, participants agreed their students were generally proficient in aural skills tasks ($M = 4.09$, $SD = 0.71$). The results revealed that students were most proficient in sight-reading rhythms on their instruments ($M = 4.83$, $SD = 0.88$) and were least proficient in aurally identifying melodic intervals ($M = 3.18$, $SD = 1.22$). See Table 21 for a descriptive summary of participants' perceptions of their students' proficiencies in various aural-based tasks.

Table 21

Descriptive Statistics for Conductors' Perceptions of Students Aural Proficiencies

The majority of my students can…	*M*	*SD*
sight-read rhythms on their instrument.	4.83	0.88
detect errors in others' performances.	4.76	0.84
sight-read repertoire on their instrument.	4.66	0.89
detect errors in their own performances.	4.62	0.91
play in tune on their instrument.	4.56	0.87
sight-read tonal patterns on their instrument.	4.55	0.99
play with a solid internal pulse.	4.45	0.90
aurally identify meters.	4.35	0.98
make appropriate phrasing decisions based on aural understanding of the piece.	4.20	0.94
aurally identify musical parts in repertoire other than their own.	4.09	1.15
understand the relationships between pitches in major tonality.	3.97	1.14
sing melodic lines with accurate pitches and rhythms.	3.81	1.23
play their instrument by ear.	3.76	1.02

The majority of my students can…	*M*	*SD*
understand the relationships between pitches in minor tonality.	3.75	1.18
aurally identify chord qualities.	3.74	1.25
sing melodic intervals.	3.58	1.26
aurally identify melodic intervals.	3.46	1.20
sing triads melodically.	3.41	1.26
aurally identify harmonic intervals.	3.18	1.22
Subscale	4.09	0.71

Research Question 3.a

Is there a relationship between the extent to which conductors integrate aural skills and their perceptions of students' aural skills proficiency?

A Pearson product-moment correlation coefficient was obtained to determine if there was a significant relationship between how often conductors integrated aural skills into their wind band rehearsals and their perceptions of their students' aural skills abilities. The independent variable was the subscale mean for integration of aural skills activities and the dependent variable was the subscale mean for participants' perceptions of their students' proficiencies in various aural skills tasks. Results of the Pearson correlation revealed a significant positive relationship between the variables ($r = .37$, $p < .001$). Therefore, I rejected the null hypothesis. About 13.62% of the variance in perceptions of students' aural proficiencies was explained by how often diverse aural strategies were integrated into the rehearsal. See Table 22 for a summary of the correlation statistics.

Table 22

Pearson Correlation for Aural Skills Integration and Students' Abilities

Correlation	*r*	*p*
Integration/Student Proficiencies	.37	<.001

Research Question 4

Will there be any significant differences in responses to survey questions based on participants' demographics variables?

A series of one-way Multivariate Analysis of Variance tests (MANOVAs) were calculated, one for each independent variable, to determine if any of the demographic factors influenced participants' answers to the primary constructs that were measured. A separate MANOVA was run to determine if gender, ethnicity, instrument group, geographic region, degree level, years of teaching experience, or teaching area influenced the subscale means for comfort levels teaching aural skills, general attitudes regarding aural skills, attitudes regarding specific aural skills strategies, frequency of diverse aural skills integration, or attitudes regarding students' proficiencies in various aural-based tasks. The three-item scale for general attitudes toward students' abilities was excluded from analysis due to low scale reliability. See Table 23 for a summary of the multivariate test results.

Table 23

Summary of Multivariate Tests for Survey Subscales

Effect	Wilks' Λ	*F*	*df*	*p*	η^2
Gender	.99	0.34	5, 191	.89	.01
Ethnicity	.95	1.94	5, 190	.09	.05
	Pillai's Trace	*F*	*df*	*p*	η^2
Instrument	.03	0.58	10, 398	.83	.01
Region	.12	1.59	15, 591	.07	.04
Degree	.15	3.20	10, 398	.001**	.08
Years of Experience	.21	1.76	25, 995	.01*	.04
Teaching Area	.20	8.17	5, 165	<.001***	.20

*$p < .05$. **$p < .01$. ***$p < .001$

Teaching Area

I used a Box's M Test to determine if the assumption of equal covariance matrices between teaching area (secondary vs. collegiate) and survey constructs was met. The test was

significant, indicating the assumption was violated ($p = .007$). Therefore, I used Pillai's Trace to interpret the results instead of Wilks' Lambda. The results of the MANOVA demonstrated a significant effect on subscale means based on teaching level (Pillai's $V_{5,165} = .20$, $F_{5,165} = 8.17$, $p < .001$, $\eta^2 = .20$). Thus, I rejected the null hypothesis. The effect size for teaching area was large (> .13). About 19.80% of the variance in subscale means was explained by teaching area ($\eta^2 = .20$). The follow-up univariate ANOVAs revealed a significant difference between secondary and collegiate conductors in comfort levels teaching aural skills ($F_{1,169} = 8.96$, $p = .003$, $\eta^2 = .05$), general attitudes regarding aural skills ($F_{1,169} = 8.65$, $p = .004$, $\eta^2 = .05$), and attitudes regarding students' proficiencies in various aural-based tasks ($F_{1,169} = 13.14$, $p < .001$, $\eta^2 = .07$). The effect sizes for teaching area on comfort levels and general attitudes were small (.01~.05). The effect size for teaching area on students' proficiencies was moderate (.06~.13). Collegiate conductors ($M = 5.06$, $SD = 0.77$) were significantly more comfortable ($p = .003$) teaching aural skills than secondary conductors ($M = 4.67$, $SD = 0.90$) and held a significantly more positive attitude ($p = .004$) regarding aural skills ($M = 4.96$, $SD = 0.56$) than secondary conductors ($M = 4.66$, $SD = 0.74$). Collegiate conductors ($M = 4.27$, $SD = 0.56$) also perceived their students as significantly more aurally proficient ($p < .001$) than secondary conductors ($M = 3.89$, $SD = 0.74$). There were no significant differences between secondary and collegiate conductors in attitudes regarding specific aural-based instructional strategies or how often aural skills were integrated into the wind band rehearsal. See Table 24 for a summary of the between-subjects effects analysis for teaching area.

Table 24

Test of Between-Subjects Effects for Teaching Area and Subscale Means

Subscale	Secondary		Collegiate		$F_{1,169}$	η^2
	M	*SD*	*M*	*SD*		
Comfort	4.67	0.90	5.06	0.77	8.96**	.05
Gen. Attitudes	4.66	0.74	4.96	0.57	8.65**	.05
Spec. Attitudes	4.32	0.77	4.52	0.76	2.68	.02
Integration	2.39	0.65	2.30	0.58	0.80	.01
Students' Abilities	3.89	0.74	4.27	0.56	13.14***	.07

**$p < .01$. ***$p < .001$

Degree Level

I used a Box's M Test to determine if the assumption of equal covariance matrices between degree level and survey constructs was met. The assumption of equal covariance was violated ($p = .001$), and therefore, Pillai's Trace was used to interpret the results of the MANOVA. Results of the MANOVA indicated that degree level had a significant effect on survey responses (Pillai's $V_{10,398} = .15$, $F_{10,398} = 3.20$, $p = .001$, $\eta^2 = .08$). Thus, I rejected the null hypothesis. The effect size for degree level was moderate (.06~.13). About 7.50% of the variance in subscale means was explained by degree level. The follow-up univariate ANOVA revealed that degree level significantly influenced participants' general attitudes regarding aural skills ($F_{2,202} = 3.42$, $p = .04$, $\eta^2 = .03$) and their attitudes regarding students' proficiencies in various aural-based tasks ($F_{2,202} = 8.85$, $p < .001$, $\eta^2 = .08$). The effect size for degree level on general attitudes was small (.01~.05) and the effect size for general attitudes on students' proficiencies was moderate (.06~.13). Participants with a doctorate degree ($M = 4.94$, $SD = 0.48$) found aural skills significantly more important ($p = .02$) than participants holding only a bachelor's degree ($M = 4.64$, $SD = 0.75$). Those with a doctorate degree also found aural skills significantly more important ($p = .04$) than those with master's degree ($M = 4.74$, $SD = 0.75$). There was no

significant difference (p = .47) in general attitudes regarding aural skills between those holding only a bachelor's degree and those holding a master's degree. Additionally, participants with a master's degree were significantly more positive (p = .03) toward their students' proficiencies in various aural-based tasks (M = 4.04, SD = 0.67) than those with only a bachelor's degree (M = 3.74, SD = 0.89). Those with a doctorate degree (M = 4.30, SD = 0.58) were significantly more positive toward their students' proficiencies in various aural-based tasks than those with only master's (p = .02) or bachelor's degrees (p < .001). There were no significant differences in comfort levels, attitudes regarding specific aural-based instructional strategies, or how often aural skills were integrated based on degree level. See Table 25 for a summary of the between-subjects effects analysis for degree level.

Table 25

Test of Between-Subjects Effects for Degree Level and Subscale Means

Subscale	Bachelor's		Master's		Doctorate		$F_{2,202}$	η^2
	M	*SD*	*M*	*SD*	*M*	*SD*		
Comfort	4.66	0.96	4.76	0.97	4.99	0.74	2.15	.02
Gen. Attitudes	4.64	0.75	4.74	0.75	4.94	0.48	3.42*	.03
Spec. Attitudes	4.38	0.90	4.33	0.75	4.58	0.70	2.36	.02
Integration	2.39	0.76	2.43	0.63	2.40	0.60	0.06	.001
Students' Abilities	3.74	0.89	4.04	0.67	4.30	0.58	8.85***	.08

*p < .05. ***p < .001

Years of Teaching Experience

I used a Box's M Test to determine if the assumption of equal covariance matrices between degree level and survey constructs was met. The test was significant indicating the assumption of equal covariance was violated (p = .007), and therefore, Pillai's Trace was used to interpret the results of the MANOVA. The MANOVA revealed a significant difference in subscale means based on years of teaching experience (Pillai's $V_{25,995}$ = .21, $F_{25,995}$ = 1.76, p = .01, η^2 = .04), and the null hypothesis was rejected. The effect size was small for years of

teaching experience (.01~.05). About 4.20% of the variance in subscale means was explained by years of teaching experience ($\eta^2 = .04$). The follow-up univariate ANOVA revealed that years of teaching experience had a significant effect on participants' attitudes regarding their students' proficiencies in various aural-based tasks ($F_{5,199} = 7.31$, $p < .001$, $\eta^2 = .16$). The effect size for teaching experience on students' proficiencies was large (> .13). Participants who had taught for 0-5 years ($M = 3.46$, $SD = 0.67$) rated student aural proficiencies significantly lower than those who had taught 6-10 years ($M = 4.13$, $SD = 0.72$, $p < .001$), 11-15 years ($M = 4.09$, $SD = 0.66$, $p < .001$), 16-20 years ($M = 4.00$, $SD = 0.56$, $p = .002$), 21-25 years ($M = 4.30$, $SD = 0.57$, $p < .001$), and more than 25 years ($M = 4.09$, $SD = 0.71$, $p < .001$). There were no significant differences in comfort levels, general attitudes regarding aural skills, attitudes regarding specific aural-based instructional strategies, or how often aural skills were integrated based on years of teaching experience. See Table 26 for a summary of the between-subjects effects analysis for years of teaching experience.

Table 26

Between-Subjects Effects for Years of Teaching Experience and Subscale Means

Subscale	0-5 Years		6-10 Years		11-15 Years		16-20 Years	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Comfort	4.57	0.74	4.99	0.86	4.80	0.91	4.88	0.85
Gen. Attitudes	4.58	0.93	5.00	0.56	4.91	0.66	4.74	0.57
Spec. Attitudes	4.27	1.02	4.50	0.63	4.56	0.75	4.43	0.60
Integration	2.21	0.76	2.54	0.61	2.47	0.62	2.30	0.46
Students' Abilities	3.46	0.67	4.13	0.72	4.09	0.66	4.01	0.56
	21-25 Years		26+ Years		$F_{5,199}$	η^2		
	M	*SD*	*M*	*SD*				
Comfort	4.95	0.97	4.95	0.97	0.79	.02		
Gen. Attitudes	4.86	0.56	4.86	0.56	1.45	.04		
Spec. Attitudes	4.57	0.79	4.57	0.79	0.69	.02		
Integration	2.58	0.69	2.58	0.69	1.41	.03		
Students' Abilities	4.30	0.57	4.30	0.57	7.31*	.16		

*$p < .001$

Gender, Ethnicity, Instrument Group, and Region

The Box's M tests were non-significant for gender ($p = .32$) and ethnicity ($p = .20$). The MANOVAs revealed no significant differences for gender (Wilks' $\Lambda = .89$, $F_{5,191} = .34$, $p = .89$) or ethnicity (Wilks' $\Lambda = .95$, $F_{5,190} = 1.94$, $p = .09$). The Box's M tests were significant for instrument group ($p = .006$) and geographical region ($p = .007$). Therefore, Pillai's trace was used to interpret the results. There were no significant differences based on instrument group (Pillai's $V_{10,398} = .03$, $F_{10,398} = .58$, $p = .83$), or geographical region (Pillai's $V_{15,591} = .12$, $F_{15,591} = 1.59$, $p = .07$). These factors did not significantly influence subscale means.

Singing and Dictation Attitudes

Participants did not complete the attitude statements related to singing and dictation in the wind band if they did not report the inclusion of those activities in their rehearsals. Because of the variance in responses on these two scales, a series of one-way analysis of variance (ANOVA) tests were used to compare participants' responses to these two subscales. I recoded the categories for years of teaching experience into ten-year periods to better accommodate group totals for the analysis. See Tables 27 and 28 for summaries of the ANOVA test results for singing attitudes and dictation attitudes.

Table 27

Summary of One-Way ANOVAs for Singing Attitudes

Effect	*F*	*p*
Gender	1.41	.24
Ethnicity	0.51	.48
Instrument	0.42	.66
Degree	1.17	.31
Years of Experience	0.93	.40
Teaching Area	0.96	.33
	Kruskal-Wallis *H*	*p*
Region	9.28	.03*

*$p < .05$

Table 28

Summary of One-Way ANOVAs for Dictation Attitudes

Effect	*F*	*p*
Gender	0.05	.83
Ethnicity	2.95	.09
Instrument	1.72	.20
Region	0.60	.62
Degree	0.75	.48
Years of Experience	1.63	.21
Teaching Area	6.70	.01*

*$p < .05$

Singing. The ANOVA for geographical region and singing attitudes violated the assumption of homogeneity of variance ($p = .03$) and thus a Kruskal-Wallis *H* test was used to measure the effects. There was a significant difference in singing attitudes based on geographical region ($H_3 = 9.28$, $p = .03$, $\eta^2 = .04$), and the null hypothesis was rejected. The effect size for region was small (.01~.05). About 3.60% of the variance in singing attitudes was explained by geographical region ($\eta^2 = .04$). Post hoc pairwise comparisons using the Bonferroni adjustment revealed that the South region ($M = 5.16$, $SD = 0.75$) was significantly more positive ($p = .02$) toward singing than the Midwest region ($M = 4.81$, $SD = 0.69$). There were no significant differences among any of the other regional pairings. See Table 29 for descriptive statistics for singing attitudes based on geographical region.

Table 29

Descriptive Statistics for Singing Attitudes Based on Geographical Region

Region	*M*	*SD*
South	5.16	0.75
Northeast	4.99	0.92
West	4.82	0.76
Midwest	4.81	0.69

No significant differences in singing attitudes were found for gender ($F_{1,170} = 1.41$, $p = .24$), ethnicity ($F_{1,169} = 0.51$, $p = .48$), instrument group ($F_{2,177} = 0.42$, $p = .66$), degree level ($F_{2,177} = 1.17$, $p = .31$), years of teaching experience ($F_{2,177} = 0.11$, $p = .90$), or teaching area ($F_{1,151} = 0.96$, $p = .33$). These factors did not significantly influence subscale means.

Dictation. There was a significant difference in attitudes regarding dictation in the wind band rehearsal based on teaching area ($F_{1,39} = 6.70$, $p = .01$, $\eta^2 = .13$). Therefore, I rejected the null hypothesis. The effect size for teaching area was large (> .13). About 12.78% of the variance in dictation attitudes was explained by teaching area. Post hoc pairwise comparisons demonstrated that collegiate conductors ($M = 5.33$, $SD = 0.71$) viewed dictation as significantly more important ($p = .01$) than secondary conductors ($M = 4.41$, $SD = 0.82$). See Table 30 for descriptive statistics for dictation attitudes based on teaching area.

Table 30

Descriptive Statistics for Dictation Attitudes Based on Teaching Area

Teaching Area	*M*	*SD*
Collegiate	5.33	0.71
Secondary	4.41	0.82

No significant differences in dictation attitudes were found for any of the other demographic variables including gender ($F_1 = 0.05$, $p = .83$), ethnicity ($F_1 = 2.95$, $p = .09$), instrument ($F_2 = 1.72$, $p = .20$), region ($F_3 = 0.60$, $p = .62$), degree level ($F_2 = 0.75$, $p = .48$), or years of teaching experience ($F_2 = 0.93$, $p = .40$). These factors did not significantly influence subscale means.

Summary

Participants were mostly comfortable teaching aural skills and had generally positive attitudes toward aural skills and specific aural-based instructional strategies. The frequency of

aural skills integration in the wind band rehearsal could be predicted by participants' general attitudes regarding aural skills. Participants mostly integrated aural skills into their warm-up and throughout the duration of the rehearsal period. Though most participants reported integrating aural skills daily, there was limited variation in aural-based instructional activities in the rehearsal. Students' abilities to detect errors in their practice and performance was reported as the aural task most important to the success of participants' wind bands. Singing and teacher voice-modeling were reported as the most used aural strategies. The amount of rehearsal time allotted to wind band conductors had no significant effect on how often they integrated aural skills into their rehearsals. Additionally, conductors reported positive attitudes regarding their students' aural proficiencies, which were significantly influenced by how often conductors integrated aural-based tasks into the rehearsal. There was a significant difference in comfort levels teaching aural skills, general attitudes regarding aural skills, and attitudes toward students' proficiencies of various aural-based activities between secondary and collegiate conductors. There was also a significant difference in conductors' attitudes regarding students' aural proficiencies based on both degree level and years of teaching experience. General attitudes regarding aural skills were also significantly influenced by degree level. Lastly, there was a significant difference in singing attitudes based on geographical region, and a significant difference in dictation attitudes based on teaching area.

Chapter Five:

Discussion

Numerous musicians, scholars, and pedagogues have promoted the essential role of listening skills in developing musical abilities (Buonviri, 2017; Furby, 2016; Hiatt & Cross, 2006; Kariuki & Ross, 2017; Karpinski, 2000; Killam, 1984; McNeil, 2000; Scandrett, 2005). Moreover, scholars have suggested that band directors seldom include pedagogical strategies that reinforce these skills in their instrumental ensemble rehearsals (Bernhard, 2003). Historically, singing and dictation have been the two most prominently integrated strategies for strengthening aural ability (Song, 2015), but research has demonstrated mixed results on the effectiveness of such exercises for improving various musical skills (Bennett, 1994; Clauhs & West, 2016; Elliott, 1974; Schlacks, 1981; Silvey et al., 2019; Smith, 1984; South, 2013). Other variables shown to influence aural skills ability included piano study (Hime et al., 2015; Lehman, 2014), biological differences (Rammsayer & Troche, 2012; Wolf & Kopiez, 2018; Zaltz et al., 2014), playing by ear (Musco, 2006; 2009), and improvisation (Watson, 2010). A more in-depth study on effective aural skills instruction in the wind band is critical for understanding how these skills may influence students' comprehensive musical growth.

Despite the growing body of literature on postsecondary aural skills pedagogy in a classroom setting, research is limited on how aural skills are addressed in instrumental music ensembles. The goal of this study was to understand more about how aural skills are taught in wind band rehearsals at both the secondary and collegiate level by surveying conductors in these teaching levels. Specifically, I wanted to determine (a) conductors' attitudes regarding aural skills, (b) conductors' perceptions of students' aural skills proficiencies, (c) which aural-based instructional strategies are reported as most effective, (d) what barriers exist to implementation

of aural-based instructional strategies, (e) how comfortable band directors are teaching aural skills, and (f) if differences exist in these factors based on demographic variables.

In this chapter, I discuss the results presented in the previous chapter with more detail. First, I discuss the results of preliminary questions regarding ensemble characteristics, comfort levels, and barriers, followed by a discussion of the four research questions. I then make overarching conclusions, offer suggestions for wind band conductors for integrating aural skills, provide implications for aural skills pedagogy, and close with a charge for further exploration of relevant research.

Institution/Ensemble Characteristics, Barriers, and Comfort Levels

Most participants in this study taught at schools that did not offer an aural skills course to students. Some participants taught at institutions that offered an aural skills course specifically to students studying music. Only a small number of participants expressed that their school offered an aural skills course open to all students. This is likely because most survey respondents primarily taught at the secondary level. However, collegiate institutions not offering elective aural courses to all students limits access to those who choose not to major in music but want to participate in music ensembles. Paney (2007) stated that music students commonly do not interact with formal aural skills training until their first two years of study as music majors. Therefore, students not majoring in music may not have a place to develop aural skills if not trained in their performing ensembles. Regardless of major, students are provided a disservice if they must wait until college to formally focus their listening skills.

Despite many music students without access to an aural skills course, most participants reported no inclusion of an aural skills curriculum in their wind bands. This may be in direct conjunction with the barriers that participants reported to teaching aural skills in their wind band

classes. Conductors reported an inadequate amount of rehearsal time as the most common barrier limiting time on aural skills training. The second most reported barrier was pressure to perform for assemblies, events, and assessments. The large quantities of unique-to-performance repertoire needed to fulfill these expectations decrease the amount of time conductors allot to aural skills and supports Robinson's (1996) argument that conservation of time is one of wind band conductors' top priorities. While these participants may agree aural skills are essential, repertoire rehearsal time may outweigh any potential positive effects of aural skills training for them. It should be noted that one person selected they did not see the purpose in aural skills training, which I have interpreted as an outlier based on the number of responses in support of aural skills training. Since participants selected barriers to aural skills by a checklist, the participant could have mistakenly selected one of the adjacent options. Even so, there is a need for more research focused on both negative and positive attitudes toward aural skills implementation.

The common idea that rehearsal time is too limited for aural skills training may be highly detrimental to students' music education. This idea also enhances the issue that collegiate non-majors may not have the opportunity to engage in aural skills training at the collegiate level. The implications of this data place equal weight on secondary conductors to prepare students for aural success and on collegiate conductors to continue developing these skills once students arrive in their ensembles. It is vital to remember that, although many students choose not to continue formal music participation beyond high school, they may ultimately play a future role in a job that supports and advocates for music education (Enz, 2013). Our job as music educators is to fight for and provide equal access to music education for all students, not just those who want to be professional musicians.

The supplemental comments related to barriers were valuable in developing a more in-depth understanding of participants' responses. The common themes in open-ended responses included (a) difficulty differentiating aural skills instruction for the diverse abilities of students, (b) future hopes for better conductor-devised resources, (c) general advice to other conductors struggling with balancing aural skills with repertoire in the rehearsal, and (d) teaching as they were taught. These comments are included in Table 7 of the Results. While these comments only represent specific individuals in this study, they enrich the data and offer a deeper look into aural skills attitudes. Research on aural skills pedagogy should be sought out through qualitative methods that allow for richer description and exploration of the *why* and the *how* that accompany the *what.*

I was interested in exploring how comfortable wind band conductors were teaching various aural-based concepts to their band students. Overall, participants reported relatively high comfort levels teaching all the aural-based instructional strategies listed in the questionnaire. Robinson (1996) suggested that conductors may not be comfortable with their singing and thus may not teach singing as a means of facilitating ear training. However, this study contradicts this idea and instead suggests that participants are moderately comfortable teaching singing with their ensembles. Thus, it cannot be implied from these results that comfort levels inhibit conductors' integration of singing.

Conductors in this study were more comfortable teaching fundamental aural concepts than advanced concepts. Responses indicated that participants were most comfortable modeling aural ideas on their instruments and with their voices, and with teaching basic aural concepts including the aural discrimination of tonality (i.e., major vs. minor, etc.), meters, and musical styles. It may be useful in a future study to complete a review of collegiate aural skills curricula

to determine where these concepts fit in the scope and sequence. In my own experience examining aural textbooks as a collegiate-level aural skills instructor, these fundamental discriminatory concepts are often taught early, usually in the first semester of a music major's aural course sequence.

Participants rated themselves as least comfortable with advanced aural strategies like student composition, improvisation, and harmonic dictation, all of which require strong facilitation with the aural domain (Covington, 1997; Dunmire, 2019; Menard, 2015; Watson, 2010). Conductors often lack training in composition and improvisation during their music education (Menard, 2015; Watson, 2010). Composition and improvisation are great tools for meeting the National Standards of Music Education as they require a synthesis of aural, theoretical, and technical skills (Covington, 1997), but conductors' inexperience with these activities may inhibit their interest or ability to integrate them into student learning (Watson, 2010). Conductors with limited education in advanced concepts in aural skills should seek resources for filling any gaps that may eliminate these activities from their pedagogical toolbox through continuing education and self-development.

My goal was to establish a list of commonly used aural resources in the wind band rehearsal. I asked participants about their experience with singing texts, dictation texts, web resources, and offered participants the option to describe any other aural training resources they incorporated. Only a few participants referenced singing or dictation texts; instead, a larger portion of responses indicated that most conductors incorporate technology resources. These included the use of a digital tuner, the Yamaha Harmony Director, audio excerpts of professional recordings, and instructor-devised materials based on students' needs. Many named specific web resources including *musictheory.net*, *Teoria*, *Breezin Thru Theory*, *Auralia*, *Smart Music*, and

Sight-Reading Factory. Considering that instructors use self-created and web materials and resources, this implies that, while there are resources that may be suitable in all cases, a one-size-fits-all model is not necessarily best. Further, conductors must attain the ability to diagnose their students' aural deficiencies and prescribe instructional activities that fulfill deficits in aural understanding.

Attitudes Regarding Aural Skills

The subscale mean for the general attitude statements reflected mostly positive attitudes about aural skills. This subscale was used to determine how important aural skills were to conductors. The statement with the highest level of agreement was "Well-developed aural skills are critical for musicians," which shows that most wind band conductors agreed these skills are vital to musical development. However, value and importance did not necessarily represent practice in this study as the reported integration of various aural-based tasks was moderately low. Researchers should explore the gap between attitudes and behavior more closely.

The two attitude statements with the lowest level of agreement were "Without proficiency of the aural domain, students cannot be proficient in the visual domain" and "Aural-based instructional strategies are more effective than traditional strategies." The low agreement to these two statements indicates that these respondents believed the aural approach should not be taught alone but instead serves as a synergistic partner with the visual aspect of music. These attitudes corroborate the importance of the "aural-oral-visual" approach suggested by Hiatt and Cross (2006) to improve audiation and focus on both the listening and notational part of the music.

I also examined how participants viewed various aural-based instructional strategies related to the success of their wind bands. Participants scored error detection as the most

important skill set for students to possess for success in the wind band. Sheldon (1998) reported a significant correlation between sight-singing ability and error detection, denoting sight-singing practice as a sound method for developing proficient error detection skills. In this study, participants rated dictation-related exercises as the best tools for improving error detection. According to participants, error detection plays a critical role in students' musical awareness and development. This skill may be developed through both sight-singing and dictation-based instructional strategies, which justifies the role of singing and dictation as two of the most historically common strategies for developing aural skills (Song, 2015). Results from the current study suggest that dictation was viewed as less important and was integrated less than singing. However, dictation is an effective judgment of students' aural abilities and allows conductors to prescribe appropriate intervention or remediation of those skills (Klonoski, 2006).

Attitudes Regarding Singing

Singing is one of the most common instructional strategies for improving aural skills (Beckman, 2011; Song, 2015). Participants who sang with their bands were positive about its effects on their students' musical development. Despite mixed results in the literature on the relationship between singing and intonation (Elliott, 1974; South, 2015), participants in this study reported intonation as the musical factor most improved by consistent singing. Participants reported singing as least effective in improving students' technique on their instruments.

The common presence of sight-singing as a major pillar of collegiate music study implies its position as a critical component of aural development (Larson, 1977), yet several participants indicated no singing in their wind bands. Demorest et al. (2017) explained that singing ability was related to musical self-concept. Those who choose not to sing with their band or model using their voices may have had a negative experience with aural skills or may have labeled

themselves early on in their career as "bad" at singing (Buonviri, 2015). Additionally, participants who choose not to sing with their bands may not have yet witnessed any positive results from singing with their wind bands. The mixed results on the effects of singing yet the positive attitudes regarding its impact on musical improvement indicate that more experimental research is needed to determine the extent of any relationships between singing and other musical factors. It may be useful to compare instrumental and choral program students in an experimental study to investigate musical development connected to singing.

Attitudes Regarding Dictation

Only a small minority of participants used dictation in their wind band, but those who did, viewed it as important. The participants reported that dictation was most effective in improving students' abilities to detect errors. Research has shown that error detection is a critical skill for conductors (Brand & Burnsed, 1981; Byo, 1993; Byo, 1997; Crowe, 1996; DeCarbo, 1982; Groulx, 2013; Nápoles, 2012; Sheldon, 1998; Waggoner, 2011). However, more research is needed to examine the relationship between students' abilities to detect errors and their musical development. Without the ability to detect errors in their own performances, students may continue to perform music incorrectly. This charges conductors with ensuring their own ability to detect errors is adequate so they may make appropriate corrections in rehearsal (Sheldon, 1998). Dictation was reported as least effective in improving breath support, which is logical as dictation does not typically incorporate any respiratory functions. The musical skills included on the dictation question were the same as the skills included on the singing question for consistency, hence why breath support was included on the dictation question.

It should be noted that the musical skills reported as most improved by singing were different than the musical skills improved by dictation. This corroborates Buonviri's (2015)

research that described singing and dictation as inherently different strategies that are useful for targeting different skill sets. Singing, musical element identification, and dictation should be integrated together to develop more comprehensive musicians.

Relationship Between Attitudes and Integration

I measured aural skills integration with two different questions. One was a multiple-choice question asking participants how often they integrated aural skills. Self-reported data for this question indicated that most participants train aural skills weekly. I also measured this construct using a Likert-type table with several different aural-based instructional strategies and asked participants to indicate how often they used each of these more specific activities. I viewed the subscale mean for the inclusion of various aural-based instructional strategies as a more accurate representation of the extent to which conductors integrate aural skills in their wind band rehearsals and used this mean for inferential analyses.

The Pearson correlation elicited a significant positive relationship between conductors' general attitudes toward aural skills and how often they integrated aural skills. This corroborates the common idea in behavior science that attitude influences behavior (Ajzen & Fishbein, 2005). In this case, the more positive conductors were about aural skills, the more they integrated these skills into their rehearsals. This correlation also suggests that if individuals have negative attitudes or experiences with aural skills, they are less likely to include them in their rehearsals. Further, this most likely leads conductors to avoid teaching these areas in their classroom which could have long-term effects on students' musical growth.

Any negative attitudes toward aural skills could be a result of a few factors. Teachers often teach the way they were taught and thus may reflect the attitudes of their mentors (Cox, 2014; Oleson & Hora, 2014). Negative attitudes could also be a result of college self-ascribed

reputations in aural skills courses during which students label themselves as good or bad at aural skills and these preconceived notions often last through their career (Buonviri, 2015). Conductors should consider their own biases and experiences with aural skills and determine whether these are inhibiting their students' musical growth. Confronting and improving teacher attitudes surrounding aural skills may be the first step to removing the barrier between students and their aural development.

The subscale mean integrating aural skills was much lower than the reported mean of the general question. This could be a result of the occasional inaccuracy of self-reported data as it may not correctly reflect participants' behaviors (Gonyea, 2005). Participants most often modeled with their voice and sang with their wind bands. Participants least frequently included dictation of harmonies or two-part melodies or the use of any aural textbook resources. It was evident that participants used certain aural-based instructional strategies more often than others, and this is likely the reason the subscale mean was lower than the reported integration of aural skills. For example, conductors may sing with their students every day during their warm-up time but may never use any sort of discriminatory listening skills such as music element identification or dictation. While conductors may report that they include aural skills daily, I felt that understanding the breadth and diversity of their aural instruction was more important and is why I used the subscale mean for all strategies instead of the general question when making inferences.

One of the aural strategies used less frequently was the summative assessment of students' aural skills. Summative assessment is a way for students to demonstrate their abilities and to measure progress and growth with any specific objective (Boyle & Radocy, 1987). It is critical for student growth that conductors develop valid and reliable assessments to measure

whether students are meeting the goals and outcomes of the curriculum. Conductors may need to evaluate their own goals for students and determine if aural skills are prioritized in the curriculum and instruction. Without summative assessment, there is no data to make evidence-based decisions for how to move forward, provide remediation, or ultimately push students to a more comprehensive music education. Before a valid assessment can be made, there should be clear objectives for the group. Otherwise, evaluation of the program or skill set may not elicit meaningful data.

Aural Skills Integration and Rehearsal Time

The Pearson correlation between participants' daily average rehearsal time and the extent to which they integrated aural skills was nonsignificant. Therefore, I was unable to draw any relationships between the two variables. This is particularly interesting considering participants explained that rehearsal time was one of the most prominent inhibitors to their aural skills instruction. Despite the belief that time constraints may affect the amount of time spent on building listening skills (Robinson, 1996), the results of this study suggest that participants with less rehearsal time may not integrate aural skills into their instruction any more or less than conductors with more rehearsal time. Regardless of the amount of rehearsal time conductors are allotted for ensembles rehearsals, it is important to plan effective rehearsals.

One reason for a nonsignificant relationship between time and aural skills integration may be conductors' current teaching formats due to the COVID-19 global pandemic. Participants were encouraged to complete the survey considering a normal, face-to-face year. Even so, they may have responded based on current circumstances. Amid the global pandemic, many wind bands moved to virtual learning, and this may be why rehearsal time plays a less critical role in students' aural skills abilities. Arguably, it may be easier to integrate aural skills into virtual

learning as students may not be performing live. Despite circumstances, conductors should make efforts to continue to prioritize aural skills in their students' music education.

Attitudes Regarding Students' Aural Abilities

Incoming college freshmen's aural abilities do not always meet the expectations of college professors (Domek, 1979). These deficiencies in aural training led me to investigate where any gaps may exist between teacher expectations and students' fulfillment of those expectations. For these reasons, I was interested to know how secondary and collegiate wind band conductors felt about their students' aural abilities and where they may need additional training. Participants in this study agreed that their students with stronger aural skills performed better than students with deficient aural skills. However, participants only somewhat agreed that their students' aural skills were satisfactory ($M = 3.44$, $SD = 1.11$).

Students are not born proficient in aural skills. Gordon (1999) theorized that children reach their potential for developing audiation skills by the time they are six years old. He also argued that even past this age, aural deficiencies must be fulfilled as soon as possible. Conductors should be aware and honest about students' abilities to understand where there is a need for improvement. As previously discussed, participants should incorporate frequent and consistent formative and summative assessment of students' aural skills. This data, coupled with research on valid aural-based instructional strategies, will allow conductors to adopt the best course of action for addressing aural deficiencies.

Participants rated their students' proficiencies in several specific aural tasks. The students were most proficient in sight-reading rhythms on their instruments. The second highest rated skill was detecting errors in others' performances, followed closely by sight-reading repertoire on their instrument, and detecting errors in their performances. Interestingly, error detection was

rated at the top of the list of aural skills for which students are most proficient. This is consistent with participants' rating of error detection as the most important skill to the success of their wind bands. However, participants reported integrating error detection less often than other aural activities. This suggests that while error detection is important, students' error detection skills must already be satisfactory, and conductors therefore incorporate error detection training less frequently than other aural-based instructional strategies.

Participants rated all aural activities involving students' instruments toward the top of the list of skills in which they were most proficient. These skills included sight-reading rhythms on instruments, sight-reading repertoire on instruments, playing in tune, and sight-reading tonal patterns on instruments. Many of the aural skills that relied heavily on students' inner instrument (ear) or singing were ranked at the bottom of the list. These included the aural identification and singing of intervals and arpeggiated chords. All these skills were reported as important to the students' success but were integrated on average only a few times per semester. Based on this data, conductors seem to be capable of diagnosing the areas in most need of improvement but may not be integrating training that targets these areas consistently enough to make a difference.

There was a significant positive correlation between how often participants integrated various aural-based instructional strategies and their attitudes toward their students' abilities. The more conductors integrated aural skills, the more positively they viewed their students' proficiencies in those skills. It is also interesting to examine this from a negative perspective. The less frequently conductors integrated aural skills the more negatively they viewed their students' aural skills abilities. The most logical prescription for deficiencies in aural skills should be to incorporate aural-based instructional strategies into the rehearsal more often. The barriers to implementation likely play a larger role than this study explored. Scholars should continue to

explore the extent to which the barriers reported by participants negatively impact conductors' perceptions and integration of aural skills.

Differences in Responses Based on Demographics

I recoded some of the demographic variables to allow for more evenly distributed ad comparable groups. For gender, I excluded the seven people who chose not to respond from inferential analysis as I felt it would diminish their choice to not respond if I distributed them into other categories. Research shows that the field of music education is predominantly Caucasian males (Sheldon & Hartley, 2012), and the current study reflected this demographic as well. Thus, the groups were uneven and recategorization was necessary. In this study, 74.10% of the respondents were male, and 85.40% were Caucasian. I combined all other ethnicities into an "Other" category to run analyses. Brass and woodwind instrumentalists were represented well, but I grouped other areas together to create a third category for analyses. There were no significant differences found within gender, ethnicity, or instrument, which could be attributed to a lack of diversity and representation in this study. Researchers should employ a stratified sampling procedure to explore differences among these demographics more closely.

The greatest number of significant differences in subscale means existed between secondary and collegiate conductors. Collegiate conductors felt more comfortable teaching aural skills than secondary conductors. This is likely because tenure-track faculty positions often require a terminal degree. The National Center for Education Statistics (NCES, n.d.) reported that, in the 2017-2018 academic year, only 2% of secondary teachers held a doctorate degree. This additional education has likely increased collegiate conductors' comfortability teaching aural skills in their wind bands. Since postbaccalaureate degrees are not feasible or necessarily desirable for everyone, those who feel uncomfortable teaching aural skills should seek advice

and resources through colleagues or professional development training such as state, regional, or national music education conferences.

Collegiate conductors also viewed aural skills as more important than secondary conductors. Collegiate-level ensembles often perform more advanced music than secondary ensembles which may require students to have more advanced aural skills. Additionally, time constraints and pressure to perform at school events may cause secondary conductors to place a lower priority on aural skills (Robinson, 1996). Many music educators have advocated for childhood as the most critical period for aural skills development (Gordon, 1999; Jaccard, 2004; Suzuki, 1989). This means that by the time students without formal music training begin band, they are already behind in their aural potential and it is important to begin developing their aural skills from the first day of beginning band (Gordon, 1999). The current study showed that attitudes toward aural skills significantly influenced how often conductors integrated aural-based learning during rehearsals. Music educators must focus on the skills students need for success in a lifelong musical career. All students may not continue music beyond high school, but conductors should prepare them for lifelong music study should they choose to pursue that path.

Collegiate conductors rated their students as more proficient in aural skills than secondary conductors. College wind bands should theoretically have stronger aural skills as they have usually studied their instruments longer and many students are likely enrolled in private lessons and/or aural music theory courses. Wind bands at the secondary level may be focused more on fundamental concepts such as technique and tone development while college-level performers obtain training in those areas through supplemental courses and lessons. Collegiate conductors are likely less pressured by time constraints and can thus focus more energy on repertoire preparation. Even so, non-music majors may not be offered enrollment in

supplemental courses for music majors, potentially expanding the gap in performance ability and musicianship between music majors and non-music majors (Enz, 2013).

Participants with terminal degrees viewed aural skills as more important than those with only bachelor's or master's degrees, and those with terminal degrees rated their students as more aurally proficient. Participants with a terminal degree are more likely conductors at the collegiate level and these two demographic variables could be correlated. More research is needed with a larger sample to explore the difference in how often secondary and collegiate conductors integrate aural skills more closely.

Differences in Singing and Dictation Attitudes

One of the more surprising results was the significant difference in singing attitudes based on geographical region. However, only a small amount of variance was explained by region. Though it is difficult to interpret exactly why these differences may have occurred, there are a few points worth discussing. The mean for singing attitudes was highest for the South region. The South comprises the greatest number of states compared to other regions and most respondents in this study were from the South. Southern conductors may have more experience with choral participation or teaching. Singing could also be rooted in religious affiliations as the Bible Belt spans eleven of the sixteen states in the South region. The Association of Religious Data Archives (ARDA, 2010) reported more adherents to a religious congregation in states representing the South region than any other region in the country. Lastly, several southern states (Texas and Virginia, among others) are informally known for having strong music education programs. While there are strong music programs in all states across the southern region, and the country, further research is needed to determine what variables may influence singing attitudes in different regions.

Teaching area had a significant effect on attitudes toward dictation. College conductors viewed dictation as more important than secondary conductors. As discussed earlier, this could relate to comfort levels teaching aural skills or continued education in those areas by collegiate conductors. Additionally, those teaching at the college level are in an environment where dictation is actively taught and addressed in other academic classes, thus bringing conductors' awareness of those strategies more into the light. Since this study corroborated research that explains behavior based on attitudes, secondary conductors' negative attitudes toward dictation likely result in less integration of those strategies for several possible reasons that have already been addressed.

Conclusions and Recommendations for Conductors

Aural skills are not inherent by nature. Even students who have higher natural music aptitudes must learn to coalesce the aural and visual domains in music. Teachers often enter the music education profession to craft better musicians, to make a difference in musicians' lives, and to improve our world through education (Ayers, 2010). Teachers diagnose gaps in education and develop objectives, goals, and outcomes that will improve students' understanding of concepts (Boyle & Radocy, 1987). Conductors must be aware, honest, and transparent with themselves about their students' progress. Only in doing this can they appropriately develop educational plans for less proficient skills.

This study's results contribute to the notion that conductors perceive aural skills as essential to musicians. However, there is still a discrepancy between attitudes and behavior with aural skills. Theory acknowledgment is not indicative of practice behaviors. Though many conductors use singing to facilitate listening, this strategy alone is not sufficient for addressing both (a) the ability to convert sounds into aural understanding and give meaning to those sounds,

and (b) the ability to then convert that aural image into written notation (Gordon, 2012). This study's results showed that conductors acknowledge the importance of incorporating diverse aural-based instructional strategies but confine themselves to teaching only the basic aural principles.

Conductors frequently use time constraints and copious amounts of repertoire as excuses for not prioritizing fundamental concepts. Instead, conductors should focus on evaluating the band curriculum, warm-up routines, rehearsal plans, and the national standards in music education to determine if their teaching choices are appropriately challenging and helping students develop their musical abilities. Also, conductors should evaluate procedures currently in place to assess student learning and growth.

Although the number of respondents to this survey was adequate for performing inferential statistics, these results are not generalizable to the broad population of music educators and conductor. The limited number of responses represents only a small sample of the target population. The shifting ground of music education in the global pandemic may have resulted in responses to the survey that are not indicative of traditional face-to-face instruction. Lastly, these results do not suggest how aural skills may are integrated in other instrumental settings such as orchestra, jazz band, or marching band, nor are they representative of choral music ensembles. These avenues must be explored, compared, and contrasted to the results of this study to devise more generalizable claims.

Though generalizability was not possible with this study, the results imply suggestions to conductors for increasing aural skills proficiency of wind bands:

- Seek resources that fill in gaps in aural instruction and comprehension from colleagues and professional development.

- Seek resources that address providing aural skills training with limited rehearsal time.
- Find effective warm-ups and repertoire that will appropriately challenge aural awareness.
- Utilize instructional strategies that combine aural and visual approaches to music learning to offer holistic understanding.
- Incorporate diverse aural-based instructional strategies. Integrate dictation, singing, and music element identification in conjunction with each other as these strategies target different musical skills.
- Evaluate current assessments in place for aural skills and develop appropriate feedback/follow-up instruction that focuses on improvement.

Future Research Implications

This study was intended to provide a broad overview of trends in aural skills pedagogy and contribute to the sparse literature regarding these skills within the wind band context. There are numerous avenues of research that should be explored to develop a more comprehensive understanding of the effects of aural skills on musical development. First, the biggest limitation of this study was the absence of diversity represented. The field of music is largely dominated by Caucasian males, and it is important to reach other diverse perspectives as well. Researchers interested in pursuing quantitative studies should consider a stratified sampling procedure to ensure all genders, races, and ethnicities are represented in aural skills research.

Scholars should seek more in-depth exploration of aural skills attitudes and behavior through qualitative methodologies. Researchers could utilize their unique sets of philosophical assumptions, paradigmatic commitments, and/or methods to study, observe, and engage with wind band conductors/students on their experiences with aural skills training/instruction. Perhaps

case study research could be employed to focus on a few high-achieving wind bands and explore how those bands interact with aural skills training.

Although aural skills are critical, we must consider the exclusivity of these listening skills as an able-bodied component of musicianship. Research should explore how to widen access to aural training for students who are hearing impaired. This study as well as many others have demonstrated the importance of such skills, but how are those skills trained for people with hearing impairments? What alternative methods for learning and teaching exist that replicate or replace aural training for these students? Are there tools and resources that can be explored to fill in those gaps in aural skills for students without the same abilities as able-bodied musicians? All these questions and more should be studied both with multiple methodologies so we may provide equitable access to comprehensive musicianship for all students. There may be fantastic opportunities for cross-curricular research collaboration with audiologists who find interest in such research as well.

Research on aural skills should continue when face-to-face instruction has resumed, but it is also useful to understand how conductors effectively teach aural skills through virtual formats. Several research studies have examined the use of technology with different aural-based instructional strategies for a face-to-face academic classroom setting, but special attention should be given to virtual learning processes. Though participants were encouraged to respond to this questionnaire with consideration of a traditional face-to-face format, their answers may have been affected by their current circumstances.

In summary, my hope is that future research will:

- Narrow the gaps in wind band aural skills pedagogy research.
- Increase student and conductor attitudes toward aural skills in the wind band.

- Provide equitable access to aural skills training for all students.
- Provide professional development and education for practical integration of aural skills in the wind band.

Closing

The purposes of this study were to explore general attitudes of secondary and collegiate wind band conductors toward aural-based learning in the wind band rehearsal and to determine how attitudes and demographic variables may influence the integration of aural skills into rehearsals. Summarized results of this study included:

- conductors' attitudes regarding aural skills, aural-based learning strategies, and students' proficiencies in aural skills
- the most frequently integrated aural-based instructional strategies
- the relationship between general attitudes and aural skills integration
- differences in aural skills interaction based on demographic variables

Aural skills are necessary. I hope that conductors will evaluate their own biases surrounding aural skills and examine whether their musical self-concept is affecting student outcomes. I also implore conductors to research effective aural-based instructional strategies. While a conductor must diagnose issues in the wind band, they must also evaluate if the instruction used to fulfill deficiencies is effective. Often, we decide our students' proficiencies are not satisfactory but may not spend sufficient time and research cultivating these skills. Teachers need to make evidence-based decisions about the pedagogical tools and resources in use. Conductors must assess students' skills for improvement.

There is no single aural-based instructional strategy that will fix all our students' aural deficiencies. There is also no single resource that will tell us how to incorporate aural skills most

appropriately. We must use our education, resources, training, research, and support from colleagues to understand how to develop instruction that is appropriate for our circumstances. Perhaps you struggle with time constraints at the secondary level, or maybe you have many non-majors in your collegiate ensemble. Pursue resources that will help you develop instruction specific to those constraints. There is a level of vulnerability that comes with being honest about our struggles in teaching, but it is always valuable to seek advice from other professionals in our field. Have someone else listen to and give feedback on your ensembles. Ask another director to warm up the ensemble. They may use different techniques that will expose you to new ways of addressing a particular concept. We should never consider it taboo to seek advice from those with different experiences or training than ourselves. Every educator's path is different, and every educator may have different tips and tricks. There is a wealth of knowledge within our community of educators and scholars.

The field of music education must evolve along with the upcoming generations. We, as teachers, must also evolve to remain relevant with the most effective pedagogical tools and resources we can offer our students. It is not sufficient to focus solely on technique. It is not sufficient to focus solely on repertoire. It is not sufficient to focus solely on right here and right now. We must continue to push our students further, foster their desire to expand their potential, and ultimately help them build a future in which they can find success in all aspects of musicianship.

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Appendix A: Institutional Review Board Approval

Auburn University Human Research Protection Program

EXEMPTION REVIEW APPLICATION

For information or help completing this form, contact: **THE OFFICE OF RESEARCH COMPLIANCE,**
Location: 115 Ramsay Hall **Phone:** 334-844-5966 **Email:** IRBAdmin@auburn.edu

Submit completed application and supporting material as one attachment to IRBsubmit@auburn.edu.

1. PROJECT IDENTIFICATION **Today's Date** 8-22-2020

a. Project Title Aural Skills Pedagogy in the Wind Band: A Survey of Secondary and Collegiate Wind Band Conductors' Perceptions and Strategies

b. Principal Investigator Brady Glenn McNeil Degree(s) PhD Candidate - Music Education
Rank/Title Graduate Student Department/School Curriculum and Teaching / College of Education
Phone Number 334-726-5807 AU Email bgm0005@auburn.edu

Faculty Principal Investigator (required if PI is a student) Jane Kuehne
Title Associate Professor of Music Education Department/School Curriculum and Teaching / College of Education
Phone Number 334-844-6852 AU Email kuehnjm@auburn.edu

Dept Head Marilyn Strutchens Department/School Curriculum and Teaching / College of Education
Phone Number 334-844-4434 AU Email strutme@auburn.edu (Asst: russelml@auburn.edu)

c. Project Personnel (other PI) – Identify all individuals who will be involved with the conduct of the research and include their role on the project. Role may include design, recruitment, consent process, data collection, data analysis, and reporting. Attach a table if needed for additional personnel.

Personnel Name Brady McNeil Degree (s) PhD Candidate - Auburn University
Rank/Title Graduate Student Department/School Curriculum and Teaching / College of Education
Role Principal investigator; research design, recruitment, data collection, data analysis, reporting
AU affiliated? ■ YES ☐ NO If no, name of home institution _____
Plan for IRB approval for non-AU affiliated personnel? _____

Personnel Name _____ Degree (s) _____
Rank/Title _____ Department/School _____
Role _____
AU affiliated? ☐ YES ☐ NO If no, name of home institution _____
Plan for IRB approval for non-AU affiliated personnel? _____

Personnel Name _____ Degree (s) _____
Rank/Title _____ Department/School _____
Role _____
AU affiliated? ☐ YES ☐ NO If no, name of home institution _____
Plan for IRB approval for non-AU affiliated personnel? _____

d. Training – Have all Key Personnel completed CITI human subjects training (including elective modules related to this research) within the last 3 years? YES ☑ NO ☐

The Auburn University Institutional Review Board has approved this Document for use from 08/18/2020 to ----------
Protocol # 20-388 EX 2008

Appendix B: Information Letter

AUBURN UNIVERSITY

COLLEGE OF EDUCATION

CURRICULUM & TEACHING

INFORMATION LETTER
for a Research Study entitled
"Aural Skills Pedagogy in the Wind Band: A Survey of Secondary and Collegiate Wind Band Conductors' Perceptions and Strategies"

You are invited to participate in a research study to examine current trends of aural skills pedagogy in the wind band rehearsal including strategies for improving aural skills, perceptions of students' aural skills, and barriers to implementation of aural-based learning strategies. This survey is designed and intended to understand these concepts in a secondary or collegiate face-to-face wind band setting, regardless of the format respondents may teach in currently. The study is being conducted by Brady McNeil, Ph.D. Candidate at Auburn University, under the direction of Dr. Jane Kuehne, Associate Professor of Curriculum and Teaching. You are invited due to your position as a wind band conductor at the secondary or collegiate level.

What will be involved if you participate? If you decide to participate in this research study, you will complete a short survey regarding your perspective and experience with aural skills and abilities in your wind band rehearsal. The survey will be completely anonymous and no identifiable information will be collected. Your total time commitment will be approximately fifteen minutes.

Are there any risks or discomforts? There are no risks associated with participating in this survey. All responses are anonymous and no personal identifiable information will be associated with your responses to any reports of this data.

Are there any benefits to yourself or others? Results of the study will provide current wind band conductors, educators, and students with valuable insight on aural skills pedagogy within the ensemble rehearsal. There are no direct benefits to participants of the study.

Will you receive compensation for participating? You will not receive any compensation for participating in this research.

Are there any costs? There are no costs to you for participating in this study.

If you change your mind about participating, you can withdraw at any time during the study by simply closing the browser. Your participation is completely voluntary and no identifiable information will be collected. Your decision to participate or to stop participating will not jeopardize your future relations with your institution, Auburn University, the College of Education, or the Department of Curriculum and Teaching.

Any data obtained in connection with this study will remain anonymous. Your privacy and the data you provide will be protected by reporting all results without any personal identifiers. Information collected through your participation may be used to fulfill educational requirements, be published in a professional journal, and/or be presented at a professional meeting or conference.

If you have questions about this study, please contact Mr. Brady McNeil at bradymcneil@auburn.edu or Dr. Jane Kuehne at kuehnjm@auburn.edu. Thank you in advance for your time in supporting this important endeavor.

If you have questions about your rights as a research participant, you may contact the Auburn University Office of Research Compliance or the Institutional Review Board by phone (334) 844- 5966 or e-mail at IRBadmin@auburn.edu or IRBChair@auburn.edu.

HAVING READ THE INFORMATION ABOVE, YOU MUST DECIDE IF YOU WANT TO PARTICIPATE IN THIS RESEARCH PROJECT. IF YOU DECIDE TO PARTICIPATE, PLEASE PROCEED TO THE SURVEY BY CLICKING THE ORANGE ARROW BELOW IN THE LOWER RIGHT CORNER. YOU MAY PRINT THIS PAGE FOR YOUR RECORDS OR DOWNLOAD IT HERE.

Appendix C: Invitation Email

Subject: Research Survey: Aural Skills Pedagogy in the Wind Band Rehearsal

Dear Colleagues,

I hope you all are getting back on your feet during this crazy time of online instruction. My name is Brady McNeil, Ph.D. Music Education candidate and Graduate Teaching Assistant at Auburn University. I am writing to ask for your assistance with my research study titled "Aural Skills Pedagogy in the Wind Band: A Survey of Secondary and Collegiate Wind Band Conductors' Perceptions and Strategies." Please consider participating in my online survey, linked below. My goal for this survey is to examine current perceptions and trends in aural skills pedagogy in the wind band rehearsal including strategies incorporated and barriers to implementation. This survey is designed and intended to understand these concepts in a secondary or collegiate face-to-face wind band setting, regardless of the format respondents may teach in currently. I will compare and contrast perceptions of aural skills by age group of students taught. I am recruiting current wind band conductors at the high school and college level.

Research shows that aural skills are perceived as essential to the development and long-term success of musicians. Most of this research focuses on aural skills pedagogy within the collegiate music theory curriculum despite music education scholars advocating for earlier development of these skills. Additionally, wind band conductors have been shown to rarely integrate aural skills into their rehearsals. My goal is to determine if this has changed over the past two decades, establish a list of strategies used in the ensemble, and obtain perceptions of the importance of aural skills to the training of student musicians.

The survey should take no more than 20 minutes. There are no risks or discomforts associated with participating in this survey. There is no compensation for participating. Your participation is completely voluntary, and all responses are anonymous.

PLEASE FEEL FREE to forward this email and link to any colleague currently conducting wind bands at the secondary or collegiate level who you think may have relevant experiences to share.

To begin the survey, click on this link:

https://auburn.qualtrics.com/jfe/form/SV_2rGDbEo8zxwOCy1

Thank you for your consideration and time!

Brady McNeil
bradymcneil@auburn.edu
Ph.D. Candidate, Music Education
Auburn University

Appendix D: Reminder Email #1

Subject: Your Voice Matters: Survey for Current Wind Band Conductors

Dear Colleagues,

Earlier last week I sent an email message asking for your participation in my research study titled "Aural Skills Pedagogy in the Wind Band: A Survey of Secondary and Collegiate Wind Band Conductors' Perceptions and Strategies." I am recruiting current secondary and collegiate wind band conductors to share their experiences with and feelings toward aural skills pedagogy within the wind band ensemble rehearsal.

There are no risks or discomforts associated with participating in this survey. There is no compensation for participating. Your participation is completely voluntary, and all responses are anonymous.

If you have completed the survey, thank you. Because the survey is anonymous, there are no identifiers for me to know who has completed it. If you have not had an opportunity to take the survey, I would appreciate your time and support. This survey should take no more than 20 minutes to complete.

PLEASE FEEL FREE to forward this email and link to any colleague currently conducting wind bands at the secondary or collegiate level who you think may have relevant experiences to share.

https://auburn.qualtrics.com/jfe/form/SV_2rGDbEo8zxwOCy1

Best,

Brady McNeil
bradymcneil@auburn.edu
Ph.D. Candidate, Music Education
Auburn University

Appendix E: Reminder Email #2

Subject: Final Survey Call: What Aural Skills Instructional Methods Do You Use In Your Ensemble?

Dear Colleagues,

Recently I sent an e-mail message asking for your participation in my research study titled "Aural Skills Pedagogy in the Wind Band: A Survey of Secondary and Collegiate Wind Band Conductors' Perceptions and Strategies I am recruiting current secondary and collegiate wind band conductors to share their experiences with and feelings toward aural skills pedagogy within the wind band ensemble rehearsal.

There are no risks or discomforts associated with participating in this survey. There is no compensation for participating. Your participation is completely voluntary, and all responses are anonymous.

If you have completed the survey, thank you. Because the survey is anonymous, there are no identifiers for me to know who has completed it. If you have not had an opportunity to take the survey, I would appreciate your time and support. This survey should take no more than 15 minutes to complete.

PLEASE FEEL FREE to forward this email and link to any colleague currently conducting wind bands at the secondary or collegiate level who you think may have relevant experiences to share.

https://auburn.qualtrics.com/jfe/form/SV_2rGDbEo8zxwOCy1

Best,

Brady McNeil
bradymcneil@auburn.edu
Ph.D. Candidate, Music Education
Auburn University

Appendix F: Survey Instrument

Q1 Do you currently teach a wind band either virtually or face-to-face?

- o Yes
- o No

Section 1: Ensemble/Rehearsal Characteristics

Q2 Which age group do you primarily conduct?

- o Secondary
- o College

Q3 Please indicate how many traditional wind bands you serve as the primary conductor for. Then, indicate how many minutes per day you spend in rehearsal with each wind band.

	Wind Bands		Minutes Per Wind Band (Answer numerically)				
	Yes	No	M	T	W	R	F
Do you conduct at least one wind band? (Indicate amount of rehearsal time for first band)							
Do you conduct a second wind band? (Indicate amount of rehearsal time for second band)							
Do you conduct a third wind band? (Indicate amount of rehearsal time for third band)							

Q4 Does your school/institution offer an aural skills course? Is it open to all students?

- o Yes; open to music students only
- o Yes; open to all students
- o No

Q5 Do you use an aural skills curriculum with your wind band?

- o Yes
- o No

Q6 What types of aural skills instructional resources do you use in the wind band rehearsal?

	Do you use the following aural skills resources in wind band rehearsal?	
	Yes	No
Dictation textbook (please specify):		
Sight-singing textbook (please specify):		
Online resources (please specify):		
Other (please specify):		

Q7 On average, how often do you dedicate focused time to building aural skills in your wind band(s)?

- o Never
- o 1-2 times per semester
- o 1-2 times per month
- o 1-2 times per week
- o Daily

Q8 Which portion(s) of your rehearsal do you dedicate to aural skills? (Check all that apply)

- □ I integrate aural skills into warm-ups
- □ I have dedicated rehearsal time for aural skills training
- □ I integrate aural skills throughout rehearsal of repertoire
- □ I only use aural skills for troubleshooting issues
- □ I only assign aural skills assignments outside of rehearsal
- □ I do not incorporate aural skills in my rehearsal
- □ Other (please specify):

Q9 What barriers do you feel inhibit you from integrating aural skills into your rehearsal? (Check all that apply)

- □ Inadequate amount of rehearsal time
- □ Inadequate resources
- □ Unsure how to integrate
- □ Pressure to perform for assemblies, events, assessment, etc.
- □ Fear for how students will respond
- □ Unsure of where to find good resources/materials
- □ Lack of confidence in my aural abilities
- □ Lack of confidence in my singing
- □ I do not see the purpose
- □ My students' aural skills are satisfactory
- □ No barriers to implementation
- □ Other (please specify):

Q10 Please select your comfort level with using the following aural-based learning strategies.

(Scale: 1 – extremely uncomfortable, 2 – moderately uncomfortable, 3 – slightly uncomfortable, 4 – slightly comfortable, 5 – moderately comfortable, 6 – extremely comfortable)

- Student singing
- Modeling with your voice
- Modeling with your instrument
- Modeling with piano/keyboard
- Melodic solmization (solfege, numbers, etc.)
- Rhythmic counting syllables (Gordon, Kodaly, etc.)
- Tonal dictation
- Melodic dictation
- Harmonic dictation
- Rhythmic dictation
- Aural identification of intervals
- Aural identification of chords
- Aural identification of meters
- Aural identification of tonality (major/minor)
- Aural identification of musical styles
- Student improvisation
- Student composition

Section 2: General Attitudes

Q11 Please select the answer that best aligns with your level of agreement or disagreement with the following statements.

(Scale: 1 – strongly disagree, 2 – disagree, 3 – somewhat disagree, 4 – somewhat agree, 5 – agree, 6 – strongly agree)

- Well-developed aural skills are critical for musicians.
- My goal is for students to be proficient in aural skills.
- Musicians cannot be successful without well-developed aural skills.
- Students should be taught aural skills whether or not they want to major in music as a career.
- Aural-based instructional strategies are more effective than traditional instructional strategies.
- Without proficiency of the aural domain, students cannot be proficient in the visual domain.
- I seek out the best strategies for increasing my students' aural skills proficiency.
- Aural-based instructional strategies are useful for improving instrumental technique.
- Instrumental technique and aural skills are cohesive.
- I use various aural-based instructional strategies to improve technical issues.

- Students with well-developed aural skills have better intonation.
- Aural skills play a critical role in sight-reading.
- Rhythmic sight-reading is easier with well-developed aural skills.
- Melodic sight-reading is easier with well-developed aural skills.
- Students with well-developed aural skills are more musically independent.
- Students need well-developed aural skills to understand the role of their own part within the overall texture of the repertoire.
- My goal is for students to understand what they are hearing.
- Aural skills allow students to make more informed interpretive musical decisions.
- Students with well-developed aural skills perform more expressively.
- Aural-based instructional strategies should be integrated into every rehearsal.
- It is important to have a daily warm-up routine that incorporates aural skills.
- Aural skills should be addressed throughout the entire rehearsal.
- Aural-based learning should precede notation-based learning in beginning music classes.
- Aural skills should be taught from the first day of a student's music involvement.
- Students should be highly proficient in aural skills by the time they graduate high school.
- Aural skills should be trained in all levels of musical learning (Elementary, Middle, High, etc.).

Q12 Please select the answer that best aligns with your level of agreement or disagreement with the following statements.

(Scale: 1 – strongly disagree, 2 – disagree, 3 – somewhat disagree, 4 – somewhat agree, 5 – agree, 6 – strongly agree)

Statement: *I believe _____ is important to the success of my wind bands(s).*

- Singing to tune
- Singing intervals
- Singing scales
- Singing chorales in parts
- Singing the repertoire
- Rhythmic dictation
- Tonal dictation
- Harmonic progression dictation
- Melodic dictation
- Melodic solmization (solfege, numbers, etc.)
- Rhythmic counting syllables (Gordon, Kodaly, etc.)
- Students playing instruments by ear
- Student improvisation on instruments
- Student composition
- Aural identification of musical styles
- Aural identification of pitches
- Aural identification of meters

- Aural identification of intervals
- Aural identification of tonality (major/minor)
- Students' abilities to detect errors in performance

Section 2A: Singing Attitudes

The following questions are to understand the specific aural-based instructional strategies you use in your wind band rehearsals. If you are teaching virtually, please consider past experiences with face-to-face instruction when responding to the following questions.

Q13 Do you ask your wind band to sing during your rehearsals

- o Yes
- o No

Q14 Please select the answer that best aligns with your level of agreement or disagreement with the following statements.

(Scale: 1 – strongly disagree, 2 – disagree, 3 – somewhat disagree, 4 – somewhat agree, 5 – agree, 6 – strongly agree)

Statement: *Singing with my students improves their* _____.

- Intonation
- Harmonic understanding
- Ability to phrase appropriately
- Emotional connection to music
- Awareness of their musical role within the repertoire
- Sight-reading skills
- Internal pulse
- Breath support
- Instrument technique
- Error detection

Section 2B: Dictation Attitudes

Q15 Do you ask your wind band to complete dictation activities (tonal, melodic, rhythmic, and/or harmonic)?

- o Yes
- o No

Q16 Please select the answer that best aligns with your level of agreement or disagreement with the following statements. (Dictation encompasses tonal, melodic, rhythmic, and harmonic dictation.)

(Scale: 1 – strongly disagree, 2 – disagree, 3 – somewhat disagree, 4 – somewhat agree, 5 – agree, 6 – strongly agree)

Statement: *Dictation with my students improves their* _____.

- Intonation
- Harmonic understanding
- Ability to phrase appropriately
- Emotional connection to music
- Awareness of their musical role within the repertoire
- Sight-reading skills
- Internal pulse
- Breath support
- Instrument technique
- Error detection

Section 3: Integration of Aural-Based Instructional Strategies

Q17 Please select the frequency for which the following activities were incorporated into your rehearsal.

(Scale: 1 – never, 2 – 1-2 times per semester, 3 – 1-2 times per month, 4 – 1-2 times per week, 5 – daily)

- Singing as a large group
- Singing in small groups
- Singing alone
- Singing tonal patterns
- Singing tuning pitches
- Singing repertoire
- Singing with solmization syllables
- Aural identification of individual pitches
- Aural identification of intervals
- Aural identification of chords
- Aural identification of meters
- Aural identification of tonality
- Error detection
- Rhythmic dictation
- Dictation of tonal patterns

- Dictation of single melodic lines
- Dictation of two-part melodies
- Dictation of harmonic progressions
- Rhythm counting on syllables
- Use of resources from an aural skills textbook
- Use of online aural skills training exercises
- Summative assessment of students' aural skills
- Modeling musical ideas on your instrument
- Modeling musical ideas on the piano

Section 4: Perceptions of Students' Abilities

The following questions are designed to understand your perceptions of your students' aural abilities. Please consider the collective abilities of all of your students when responding.

Q18 Please select the answer that best aligns with your level of agreement or disagreement with the following statements.

(Scale: 1 – strongly disagree, 2 – disagree, 3 – somewhat disagree, 4 – somewhat agree, 5 – agree, 6 – strongly agree)

- My students' aural skills are satisfactory.
- My students' aural skills are stronger than other students their age.
- My students with more developed aural skills are overall better performers.

Q19 Please select the answer that best aligns with your level of agreement or disagreement with the following statements.

(Scale: 1 – strongly disagree, 2 – disagree, 3 – somewhat disagree, 4 – somewhat agree, 5 – agree, 6 – strongly agree)

Statement: *The majority of my students can...*

- sing melodic lines with accurate pitches and rhythms.
- sing melodic intervals.
- sing triads melodically.
- play their instrument by ear.
- play in tune on their instrument.
- play with a solid internal pulse.
- detect errors in their own performances.
- detect errors in others' performances.
- make appropriate phrasing decisions based on their aural understanding of the piece.
- aurally identify melodic intervals.
- aurally identify harmonic intervals.

- aurally identify chord qualities.
- aurally identify musical parts in repertoire other than their own.
- aurally identify meters.
- understand the relationships between pitches in major tonality.
- understand the relationships between pitches in minor tonality.
- sight-read rhythms on their instrument.
- sight-read tonal patterns on their instrument.
- sight-read repertoire on their instrument.

Section 5: Demographics

Q20 What is your gender?

- Male
- Female
- Transgender female
- Transgender male
- Non-binary
- Genderqueer
- I identify differently
- Prefer not to respond

Q21 What is your ethnicity?

- Asian
- Black / African American
- Caucasian
- Hispanic / Latinx
- Native American / American Indian
- Native Hawaiian / Pacific Islander
- Multiracial
- Prefer not to respond

Q22 What is your primary instrument group?

- Brass
- Woodwind
- Percussion
- String
- Piano
- Voice

Q23 Which state/territory do you teach in?

- American Samoa
- Guam

- U.S. Virgin Islands
- Northern Mariana Islands
- Puerto Rico
- Alabama
- Alaska
- Arizona
- Arkansas
- California
- Colorado
- Connecticut
- Delaware
- Florida
- Georgia
- Hawaii
- Idaho
- Illinois
- Indiana
- Iowa
- Kansas
- Kentucky
- Louisiana
- Maine
- Maryland
- Massachusetts
- Michigan
- Minnesota
- Mississippi
- Missouri
- Montana
- Nebraska
- Nevada
- New Hampshire’
- New Jersey
- New Mexico
- New York
- North Carolina
- North Dakota
- Ohio
- Oklahoma
- Oregon
- Pennsylvania
- Rhode Island
- South Carolina
- South Dakota
- Tennessee
- Texas

- Utah
- Vermont
- Virginia
- Washington
- West Virginia
- Wisconsin
- Wyoming

Q24 What is your highest degree earned in a music-related field?

- Associate's
- Bachelor's
- Artist Diploma
- Master's
- Education Specialist
- Doctor of Arts
- Doctor of Education
- Doctor of Musical Arts
- Doctor of Music Education
- Doctor of Philosophy
- Other (please specify):

Q25 How many years of full-time wind band teaching experience do you have?

- 0-5 years
- 6-10 years
- 11-15 years
- 16-20 years
- 21-25 years
- 26+ years