

ABSTRACTS

2020 Symposium on Research in Choral Singing

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Elijah Adongo (The University of Florida)*Pedagogical strategies for developing style(s) and conceptual knowledge of contemporary African choral music*

The purpose of this ongoing multiple case study is to explore pedagogical strategies for developing style(s) and conceptual knowledge of African choral music. The researcher is focusing on folksong-based choral music and *zilizopendwa* (pop song-based choral music) from Kenya. This study will lead to an analytic generalization of the results to pedagogy for African choral music. The research questions include; What are the pedagogical approaches employed by expert choral educators for developing style in African choral music? How does artistry, compositional techniques, and pre-dominant musical cultures inform the designing of instructional materials for African choral music? How do you utilize students' prior knowledge to advance instruction of African choral music? And how do you foster the development of conceptual knowledge for African choral music to facilitate future learning and teaching of the genres? Three choral educators and three university choruses from Kenya are participating in this study. The data types include interview transcripts, field notes, videos, and music scores. Dependability and transferability of data was ensured through triangulation and peer debriefing.

The implication of this study is developing research based instructional design for African choral music outlining various teaching methods and singing instruction relevant for contemporary African choral music. These include rehearsal strategies, repertoire selection, organization of choral materials, and facilitation of artistic performance of African choral music. Further, the study will show how to positively utilize students' prior knowledge to advance instruction of African choral music especially when teaching students from diverse cultures. Finally, this study highlights how proper instructional strategies facilitates development of conceptual knowledge for African choral music necessary for pre-service music teachers' future teaching especially when programming diverse choral repertoire from Africa. This study will help in developing a workbook addressing style and pedagogy for contemporary African choral music which is not addressed in many choral methods books. Development of conceptual knowledge is a foundational concept as it enables students to learn, integrate, and apply knowledge and skills. This is central rendering artistic music performances, creating meaningful experiences, and expanding the students' understanding of diverse music repertoire.

Patrick Antinone (Texas Christian University)*Audiation assessment strategies for the choral classroom*

The primary purpose of this study was to develop a classroom-based method to examine the effect of varied conditions on participants' audiation accuracy. Current teaching trends in choral literacy suggest common employment of audiation (Jezek, 2017). This trend towards inclusion of audiation has become an accepted and even expected best practice in regional environments (Jezek, 2017). Published literature to support instruction is numerous (Gordon, 1997; 2003, 2012; Jordan & Mehaffey, 2001; Vodicka & Jordan, 2016) whereas empirical evidence to support its effectiveness is relatively fewer. Literature verifying audiation is relatively numerous in clinical studies via neuroimaging (Halpern, 1989; Herholtz et al., 2008; Zatorre, 2012) and all but absent for field investigations related to teaching pedagogy. Limitations in the validation of audiation, as investigated almost exclusively in clinical settings, have hindered opportunities to investigate the effectiveness of audiation as a teaching strategy in classroom settings.

Undergraduate music majors ($N = 100$) participated in three experimental tasks: melody preparation, error detection and sung response following one measure of audiation. Data consisted of response accuracy under varied conditions. Results of this field study were consistent with clinical studies as reliable to validate both the presence and measurability of audiation (Brodsky et al., 2008; Herholz, et al, 2008; Zatorre & Halpern, 1993). Results informed development of an efficient and reliable methodology to assess audiation that mirrors instructional practice common in choral rehearsals. This study represents one of the first to investigate audiation under purely pedagogical conditions. This non-clinical method of evaluation will allow investigations of audiation as an instructional strategy. Results will inform best practices related to audiation as an instructional strategy in the choral rehearsal.

Rebecca Atkins (University of Georgia)*Practice behaviors and gaze patterns of musicians on sight-singing tasks*

Sight-singing a musical passage requires the singer to utilize various cognitive tasks including but not limited to perceptual and memory processes, problem-solving skills, working memory processes, and the translation of visual and auditory stimuli to motor responses (Fine, Berry, & Rosner, 2006). I investigated musicians' practice behaviors when sight-singing new music utilizing procedures similar to an all-state choral audition or a university aural skills class. Participants (18 college music majors) practiced aloud an 8-measure melody (total of 5) for 30 seconds using their preferred sight-reading method (solfege, numbers, neutral syllables) followed immediately by a performance trial. Each new melody became more difficult in rhythm and pitch. In both the practice and performance trial, participants heard the tonic triad of the key for the passage (scale degrees 1, 3, 5, 3, 1) followed by one-measure of metronome at quarter note = 60. Participants were instructed to perform the entire melody without stopping. We recorded their gaze patterns using a Tobii T120 eye tracker. The research team watched the eye tracker video (no sound) and noticed specific gaze pattern behaviors. Before the metronome sounded most participants scanned the example quickly and looked at the key signature, time signature, first and last notes, tonic triad within the melody. During the practice time, we noticed that most practiced at a consistent tempo aligned with metronome and read ahead by one note overall. All participants checked the countdown timer and looked at non-musical elements during practice. When mistakes were made, most participants looked backwards (regression), looked at tonic note or triad, and/or compared reference notes around the mistake. Others looked at the practice clock or eyes darted to non-musical elements. Additionally, we listened to the audio with no visual and found that most participants started with a straight run through and only a few isolated difficult passages first (only on most difficult examples). Additionally, most participants sang the tonic triad or starting pitch prior to practicing. We will also discuss differences in strategies between skilled and less-skilled participants.

Sarah Bartolome (Northwestern University)*Examining a composer-in-residence project for elementary choristers*

Teaching artists are thought to be rich resources for school music programs and anecdotally, artist-in-residence programs provide opportunities for meaningful interaction between school-age students and professional artists. Despite of a long history of artist-in-residence programs in this country and early questioning of the effectiveness of such programs (Eisner, 1974), there have been surprisingly few empirical studies on the nature and benefits of these types of interactions. Composer-in-residence programs have been described in music education practitioner journal across the decades (Elsner & Ramsey, 2011; Hoffman, 1979; Hoffman & Carter, 2013; Mueller & Brahmstedt, 1997); however, to date, the few studies that have examined the interactions between composers-in-residence and school-age participants and the potential benefits of these programs for stakeholders were conducted in the UK (Hall, Thomson, & Russell, 2007; Griffiths & Woolf, 2009) and Australia (Donelan et al, 2009; Hultgren, 1993; Menzies, 2005). In the United States there has been some scholarly interest on artist-in-residences within dance education (Leonard, 2014; Leonard & McShane-Hellenbrand, 2012; Leonard, Hall, & Herro, 2016), however music education artist-in-residence programs remain largely unexplored.

The purpose of this intrinsic case study (Creswell, 2007) was to document one such teaching-artist project in choral music education with particular attention to the teaching strategies that contribute to its success and the value and benefits of the project according to stakeholders. For the past 17 years, a well-known choral composer has traveled biannually to the Chicagoland area to engage a local elementary school chorus in a songwriting workshop. The composer facilitates three days of brainstorming, lyric writing, and music composition, culminating in a field trip to a local studio where the choir records the new choral composition developed during the workshop. Based on research conducted during the 2017 and 2019 Songwriting Workshops, the data set comprises 36 hours of observation of workshop activities, 4 hours of interviews with the composer, 2 hours of interviews with the choral director, 60 interviews with choristers, and a parent survey. This paper explores the process of collective songwriting in the choral classroom and examines the values and benefits of such a project from the perspectives of the choristers, their teachers, their parents, and the composer. Findings contribute to the limited body of literature on the value of artist-in-residence programs and provide concrete, practical information about the techniques, pedagogies, and strategies that might assist educators in facilitating composer-in-residence programs in choral music.

Stefanie Cash (Berry College)*Middle and high school director's pedagogical techniques used to teach world music*

The purpose of this research was to look at choral directors' use of pedagogical techniques to teach world music. Middle and high school teachers, N=165, served as participants for the survey and grade levels taught, educational training and years of teaching were gathered along with questions regarding the pedagogical techniques used when teaching world music. The survey asked respondents to select all of the following pedagogical techniques they used in the classroom: rote teaching on text, teaching notes and rhythms with solfege before adding text, teaching notes and rhythms with count singing before adding text, teaching notes and rhythms with a neutral syllable before adding text, echo chanting text off pitch, echo chanting text off pitch in rhythm, singing text in rhythm on one pitch, playing recordings of native choirs, playing recordings of American choirs, working directly with the composer or arranger, working directly with an expert from the country as a culture bearer, teach repeated patterns first, pull out a pitch set and put it into warm-ups, put different sounds into warm-ups, and other. Participants were also asked open response questions on how they decide which pedagogical techniques to use for a given piece, how they approach teaching tone for music from an area of the world with a different mode of sound production, and what pedagogical concerns they have teaching world music. Over 60 percent of respondents reported using rote teaching on text, teaching notes and rhythms with solfege before adding text, teaching notes and rhythms on a neutral syllable before adding text, echo chanting text off pitch, echo chanting text off pitch in rhythm, playing recordings of native choirs, playing recordings of native choirs, and teaching repeated patterns first to teach world music. Less than 10 percent of respondents used singing text in rhythm on one pitch and working directly with the composer or arranger to teach world music. Respondents most often reported that they looked at the most difficult parts of the song or the needs of their choir to determine what pedagogical techniques to use when teaching world music. When teaching tone for world music, respondents reported using recordings of native choirs and personally modeling for their students. Participants reported pedagogical concerns over authenticity, properly representing the culture, and personal mistakes in teaching the music including language, tone, and tempo.

Joshua Chism (University of Oklahoma)*An examination of undergraduate vocal pedagogy courses for preservice choral music educators*

In many educational settings, choral directors are the only source of formal vocal training many students may have (Davids & LaTour, 2012). As such, chorus members rely heavily on the teaching and training they receive during ensemble rehearsals from the conductor, oftentimes adopting this instruction for the rest of their musical lives. It is imperative that preservice undergraduate choral directors have a complete understanding of body and vocal system functions in order to effectively instruct and train the singers under their future direction.

Previous researchers who investigated undergraduate music education curricula have revealed a considerable level of variety in preservice teacher preparation (Schmidt, 1989): music education (Baumgartner, 2014; Mishra, Day, Littles, & Vandewalker, 2011), conducting (Hart, 2019; Manfredo, 2008; Boardman, 2000), elementary methods (Frego & Abril, 2003; Gauthier & McCray, 1999), instrumental methods (Hewitt & Koner, 2013; Smith, 1995), and choral methods (Chandler, 2012). Interestingly, of all specializations, choral music appears to be the least studied and understood (Drafall & Grant, 1997). Although a relatively small number of empirical research studies have targeted the content of undergraduate vocal pedagogy courses, authors have addressed vocal pedagogy through practitioner journal articles for decades. For example, *The Choral Journal* boasts 207 articles on the topic of vocal technique, production, and tone (Dorsey, 2016). Given the scant number of empirical studies on vocal pedagogy education, it seems important to understand how music teacher education curricula addresses this.

The purpose of this descriptive study is to investigate vocal pedagogy courses required for preservice teachers in NSAM-accredited institutions from states in the Southwest region of ACDA. First, I will analyze course syllabi to identify salient commonalities and differences in structure, sequence, and scope in order to better understand how preservice teachers receive vocal pedagogy instruction. Next, I will explore the level and type of education of faculty members who teach these courses. Finally, I will investigate how institutions who do not require a dedicated vocal pedagogy course incorporate this content into their overall curriculum.

Data will be collected via online survey. Syllabi will be analyzed and coded by emergent themes (Creswell, 2003). While preliminary findings reveal variety in the structure of undergraduate vocal pedagogy courses, a core set of concepts and activities are present. Institutions that do not offer a dedicated vocal pedagogy course strive to creatively incorporate this content into other areas of the curriculum. Instructors in vocal music education programs should carefully consider how their programs address this vital content.

Chad Clark (John Brown University)

Jeremy Manternach (University of Iowa)

Effects of a straw phonation protocol on acoustic and perceptual measures of emerging adolescent females

Adolescent female choristers often experience new vocal challenges due to incomplete glottal closure and lack of laryngeal muscle coordination. The effects of physical changes on vocal outcomes during this developmental stage may include gravelly onsets, a distinct passagio, and a shift in vocal quality from full to breathy. Voice instructors and choral teacher-conductors frequently utilize semi-occluded vocal tract exercises (SOVTEs) (e.g., lip trills, humming, straw phonation) to evoke efficient voicing, encourage a pleasing tone, and ameliorate breathiness. Researchers argue that SOVTEs evoke increased “vocal economy” or “vocal efficiency” (i.e., vocal output with reduced effort or vocal fold contact force), and empirical research specifically indicates that straw phonation can facilitate efficient glottal closure and decrease breathiness.

The purpose of this investigation was to measure the effects of straw phonation and /a/ (“ah”) vowel warm-up protocols on acoustic and perceptual measures of adolescent female singers. Singer participants (N = 12) were 7th grade adolescent females currently participating in a school choral program. Participants sustained an /a/ vowel at a comfortable pitch, read the beginning of the “Rainbow Passage,” and sang from memory “Twinkle, Twinkle, Little Star” at a self-elected tempo. They subsequently completed a four-minute voicing protocol including vocal sirens and singing of a melody on an open, unoccluded /a/ vowel (n = 6, control group) or through a stirring straw (n = 6, treatment group). Recordings provided data for pre- and posttest analyses using a Praat software script for the Acoustic Voice Quality Index (AVQI), an objective measure of voice quality.

Acoustic analyses indicated that most students (n = 9, 75.0%) experienced improvements (i.e., reductions) in their AVQI score after both warm-ups, with slightly more straw phonation participants (n = 5, 83.3%) experiencing improvements than /a/ vowel participants (n = 4, 66.7%). The straw phonation group showed slightly higher mean AVQI differences than the /a/ group (-.48 vs. -.35). All participants reported the voicing procedure helped them to be warmed up and that their most efficient singing took place after their respective protocols. However, straw phonation participants reported a more robust effect on their warm-up (M = 7.23, SD = 1.77) than the /a/ vowel participants (M = 5.00, SD = 1.48). These results indicate the AVQI might be a viable and sensitive measurement instrument for this population. Similarly, straw phonation produced similar or more robust improvements among this sample, indicating it may be a useful protocol for adolescent female singers.

Christopher Clark (The University of Hartford's Hartt School of Music)*The effect of melodic and soundscape instruction on vocal improvisation*

Participants were 107 students enrolled in a choral program from three public high schools in the Northeastern United States. Students in School 1 (n = 42) improvised exclusively using a progressive melodic improvisation technique developed by the author; students in School 2 (n = 35) improvised exclusively using a soundscape improvisation technique and School 3 (n = 30) was the control choir. Students in the progressive melodic technique began improvising by singing harmonic tones of the tonic chord on quarter notes and rests. By the end of instruction, students were improvising on harmonic tones of the I, IV, and V chords on quarter notes, quarter rests and double eighth notes. Students in the soundscape technique improvised scenes such as beach scenes or train station scenes, both collectively and alone.

All students completed a pre-test on both melodic and soundscape improvisation, 6 weeks of instruction, and a melodic and soundscape improvisation post-test. The researcher assessed all participants on both the melodic and the soundscape improvisation levels. Results of a non-parametric Kruskal Wallis H Test indicate a significant difference in the between groups for the soundscape treatment, but not for the melodic treatment. In post hoc Mann-Whitney U tests, the only significant difference in soundscape instruction was between School 2 and 3. Subsequent teacher discussion of the value of improvisation instruction included a building of student camaraderie for the soundscape improvisations and a greater confidence in sight-reading by the progressive melodic improvisation group.

Katrina Cox (University of Nebraska Omaha)

Amy Simmons (The University of Texas at Austin)

Tell it like it is: Exploring the effects of negative feedback in vocal instruction

Music teachers who tend to avoid using negative feedback often use high rates of directives to elicit change in student performance (Benson & Fung, 2004; Derby, 2001). Some who adopt this instructional approach believe that negative feedback can be psychologically detrimental. This idea is rather prominent in vocal teaching, perhaps because the voice is commonly viewed as a representation of self; as such, negative feedback could be personally insulting to singers (Bonshor, 2017). Heretofore, there are no studies that compare directive-only instruction with feedback-driven instruction in the singing context. Our aim was to explore singers' responses to negative feedback directly. Participants (N=48) were 24 fifth-graders (E) and 24 undergraduates (U) who learned The Crowdad Song in recorded individual lessons and completed a survey about their experience. Participants were randomly assigned to one of two teacher verbalization conditions, directive only (DO) or negative feedback (NF).

Performance data from the lesson videos were compared using two-way ANOVAs. Students in the DO condition reached performance criteria faster and required fewer performance trials than did students in the NF condition, and the elementary students required more performance trials to reach criteria than undergraduates. Differences between verbalization conditions are in large part attributable to the U-DO group, who significantly outperformed the other three groups in both the number of performance trials required and mean lesson duration; the E-DO and NF groups were not different from each other. Our data do not clarify the extent to which these results are attributable to pre-existing differences in singing skill or sampling error.

Comparisons of teacher verbalization data revealed that elementary students received significantly more directives than undergraduates, and the NF groups received significantly fewer directives than the DO groups. These results are attributable to more brief teacher-student exchanges in the elementary groups and to verbalization manipulation.

Chi-square analysis revealed that significantly more students in the NF condition stopped themselves mid-trial compared to students in the DO condition. This may indicate that the teacher's inclusion of negative feedback prompted student self-assessment.

All participants were remarkably positive about their singing experience, which supports the idea that musical goal achievement becomes salient in the mind of learners and negates possible effects of receiving negative feedback. Overall, our results suggest that when negative feedback is delivered as part of an intelligent sequence of instruction that facilitates success, singers can enjoy their experience and may be more likely to engage in self-assessment.

Sheri Cunningham (Washburn University)

Melissa Grady (University of Kansas)

Do you hear what I hear?

Do you hear what I hear when you are rehearsing your choir? As choral conductors, we are daily called upon to listen to choirs rehearse and identify errors in dynamics, pitch, rhythm, intonation, style, and more. Prior research suggested that the primary factor in accurate error detection was experience (Blocher, 1986; Brand & Burnsed, 1981; Byo, 1993; Shaw, 1971). Two researchers agreed that podium experience was more effective in the development of future conductors' abilities to detect errors, than programmed instruction (DeCarbo, 1982; Stuart, 1978).

As university educators preparing students to teach choral music, we wanted to know what, if any, improvement occurs in error detection, during a pre-service teacher's semester of student teaching. The purpose of this case study was to explore the development of student teachers' (N = 6) ability to accurately detect errors in choral singing during student teaching. All participants completed a pre-test that consisted of music examples (N = 20) with one to two errors (dynamics, rhythmic accuracy, note accuracy, intonation) per example. The same test was administered midway through and during the final week of the student teaching placement. Researchers re-ordered examples to keep the content of each test the same, while presenting the questions in a varied order.

Participants also completed a survey pre- and post-student teaching, querying them regarding their ability to accurately diagnose choral errors. Results are discussed in terms of actual and perceived development of students' abilities to diagnose errors throughout the semester.

Sheri Cunningham (Washburn University)

You shall have a song: The life and legacy of Eugene Butler

Eugene Butler (b. 1935), has enjoyed wide acclaim as a composer, conductor, and music educator. Throughout his over 60-year career, he has published more than 1000 works, including choral octavos, large choral works, piano duets, and instrumental works. This historical investigation explores Butler's life and career as a musician through primary sources including interviews with Butler and his former students and colleagues, his handwritten notes in his compositions, and personal correspondence with publishers. Particular attention is paid to the cultural and economic contexts that existed during his tenure as a composer and informed his work. The argument advanced is that much of Eugene Butler's success was predicated on his being a pioneer in his field as evidenced by his employment as the first music minister in Wichita, Kansas, the first music educator at Johnson County Community College, and one of the earliest composers of handbell music in the United States. These opportunities combined with his skill as a composer and his ability to successfully set text with melody have made Eugene Butler an enduring composer and musician.

Caron Daley (Duquesne University)

Heather Leavy-Rusiewicz (Duquesne University)

Spatiotemporal hand-gesturing in the teaching and learning of non-native speech sounds in singing

Embodied pedagogies have been proven to enrich learning in a multitude of disciplinary contexts, including mathematics education, foreign language acquisition, and in speech-language pathology. In choral conducting, a recent surge of interest in embodied pedagogies has resulted in innumerable publications recommending body movement to refine musicianship skills, vocal technique, and stylistic interpretation of the repertoire; practices adapted from the teachings of Émile Jaques-Dalcroze, Frederick Matthias Alexander, Moshe Feldenkrais, and Rudolf von Laban. Select of these writings have touted the benefits of physical gesturing to mimic specific actions of the vocal apparatus, a type of gesturing Nafisi calls “physiological”. Manual mimicry is a means of physiological gesturing that maps hand and arm gestures on to the configurations of the speech articulators (tongue, teeth, lips, jaw, and palate). Because the speech and hand systems share neural substrates, these types of gestures can facilitate the physical entrainment of a specific speech coordination and have been proven to be effective in speech therapy with a college-aged student with Childhood Apraxia of Speech.

This poster will present the results of a study investigating the effects of hand gestures that mimic the spatiotemporal configurations of the vocal apparatus on the learning and encoding of German speech sound targets among college-aged voice majors. Four speech sound targets were tested, the palatal and velar fricatives spelled with “ch” ([ç] and [x]) and the mixed vowel spelled “ü” ([y] and [Y]). A 3 (Condition) x 3 (Time of Assessment) factorial design was used to compare pre-, post-, and 48-hour post-assessment results. The conditions were (1) no gestures, (2) view gestures, and (3) view and produce gestures during the training. Expert listeners rated participant’s (1) articulatory accuracy, (2) vocal-technical accuracy, (3) expressive artistry, (4) immediate learning versus retention of knowledge, and (5) transfer of learning to larger sung phrase units. This investigation bridges the fields of choral pedagogy and speech-language pathology to make recommendations on the scope and functionality of embodied pedagogy for the choral classroom.

Tom FitzStephens (Georgia State University)*Amateurism in music education (1967-2019): An examination of three calls to action*

The purpose of this historical study was to analyze and compare the themes within John Kratus's 2019 article "A Return to Amateurism in Music Education," and declarative reports of the 1999 Housewright Symposium and the 1967 Tanglewood Symposium. All three documents are examples of philosophically-oriented calls to the music education profession to organize and adapt to modern times. The Kratus article was examined for themes related to the concept of the musical amateur, which he defined as "one who engages in music purely for the love of doing so," and themes related to the concept of the music professional, which he defined as one who "must meet the musical standards required by employers and audiences." Then, using directed content analysis method (Hsieh & Shannon, 2005), examinations followed for evidence of the themes in declarative summaries of the two Symposiums. Using deductive content analysis approach (Elo & Kyngäs, 2008), keywords such as "age," "lifelong," "amateur," and "adult" versus "musician," "standard," "perform," and "professional," were found and their context categorized. The primary research question for this study was "What are the relationships among themes related to lifetime musicianship in these three documents?" Findings show common themes of lifelong music learning, the curricular inclusion of all styles (including modern) music, teacher utilization of new technologies, and the need for more curricular diversity in music teacher training. Implications include the need for teachers to reflect these types of philosophical concerns on a systematic basis when developing their curricular goals and making pedagogical decisions.

Tianna Gilliam (University of Kansas)*Effects of acoustic compatibility configuration processes on acoustic and perceptual measures of a soprano section's choral sound*

Research suggests that intra-section chorister configuration according to the procedures of Weston Noble's Acoustic Compatibility Placement may have a positive effect on overall choral sound (Ekholm, 2000; Giardiniere, 1991; Killian & Basinger, 2007). Daugherty, who pioneered much of the available research on choral formation, voiced his skepticism of the method due to its contextual, idiosyncratic nature which causes difficulty in research design and replication (2001). He did, however, suggest that acoustic compatibility configuration may increase singer sensitivity to choral sound and improve singer comfort in terms of phonation and self-to-other ratio (SOR), warranting a need for further research in the area. Gilliam (2020) supported these hypotheses when chorister participants who sang in an acoustic compatibility configuration self-reported singing with more ease due to improved SOR and perceived increased ability to listen to and blend with fellow choristers. Moreover, the recording of participants in the acoustic compatibility configuration yielded significantly more spectral energy ($p < .001$) than two other configurations and listeners preferred the overall choral sound. These results led me to hypothesize that the process of configuring singers according to acoustic compatibility procedures, rather than the product of the final configuration, encourages chorister sensitivity to ensemble sound, which may yield a better overall sound. Therefore, the purpose of this study is to assess the acoustic and perceptual effects of acoustic compatibility configuration processes within a soprano choir section.

Soprano signers ($N = 30$) in three different groups were arranged by a panel of $n = 3$ expert choral conductors and audio-recorded singing Amazing Grace in a baseline condition and differing orders of the following: (a) a random configuration to represent a choir section without an assigned standing arrangement, (b) a configuration according to Noble's Voice Compatibility Placement procedures, (c) a random configuration using Noble's procedures. This arrangement deceptively used Noble's process, but singers were placed in a new random arrangement according to a random number sequence. This arrangement served to differentiate whether the process or the product of acoustic compatibility placement has a greater effect on choral sound. While the outbreak of COVID-19 prohibited the scheduled data collection for this study, a pilot investigation suggested that Noble's process was equally effective as the product in terms of both singer and listener preferences. Data will be analyzed acoustically using long-term average spectra and perceptually through singer and listener perceptions. Results will be discussed in terms of implications and applications to choral pedagogy.

Melissa Grady (University of Kansas)

Melissa Brunkan (University of Oregon)

Effects of clavicle stretches on perceptions of singing ease in choral singers of a variety of ages

Muscle tension dysphonia (MTD) is a common voice disorder characterized by excessive muscle recruitment and resulting in an alteration in voice production. A common “first step” in voice therapy often includes stretches of the musculature of the neck (Rubin, Sataloff, & Korovin, 2014; Sataloff, 2017; Tomlinson & Archer, 2015).

As choral music educators, we often see (and hear) physical muscular tension in the neck region of our singers. This type of tension can affect blend, balance, intonation, and overall freedom sound. Therefore, we aim to investigate a proactive release of neck tension through clavicle stretches commonly used in the voice therapy setting during the warm-up portion of choir rehearsals. Our hypothesis is that these stretches aimed at release of neck tension prior to singing will improve singer perceptions of tension and overall choral sound.

For this longitudinal investigation, we will utilize 5 established choirs comprised of a variety of age groups (adolescents, collegiate-aged, and senior citizens). Choirs will begin regular rehearsals with a protocol of clavicle stretches and then complete the regular warm-up process and rehearsal for six rehearsals. Singers will complete the EASE survey (Evaluation of the Ability to Sing Easily), a validated survey of perceived voice function, prior to experiencing the clavicle stretch protocol, following the third rehearsal, and following the last application of the stretches. The EASE survey will function as our main tool for singer perceptions. Singer participants will also complete a short questionnaire on perceived neck muscle tension and its impact on their voice. In order to examine possible acoustic impacts of the stretch protocol, recordings of each choir singing the same excerpt following warm-ups will be taken and long term average spectra (LTAS) will be examined.

Elizabeth Hearn (University of Mississippi)*Assessment and individual student achievement in the choral classroom: A case study*

Assessment in the large choral ensemble music classroom continues to be a widely examined topic among both practicing music educators and music education scholars. This instrumental case study (Stake, 1995) explored the lived experiences with assessment practices as reported by high school choir students and the choir teacher. The research site was a large, suburban, high school choral program in the Southeast United States. Research questions focused on participants' beliefs about assessment, factors that influenced those beliefs such as the role of choir in the school curriculum and culture, and the challenges of assessing choral music students. Data generation methods included observational field notes, semi-structured interviews, focus group discussions, and collection of artifacts. Findings revealed that both musical and nonmusical assessment practices were used to evaluate student learning including participation and attendance-based assessments, a theory curriculum, and performance assessments. Students perceived all assessment practices, musical and nonmusical, to be in support of what they viewed as the primary goal of the choral program, ensemble achievement. That choir participation was positively perceived to be more like an activity and less like an academic class appeared to be a core belief at ATHS, and one that should be further examined in assessment discussions in music education.

Lauri Hogle (Oakland University)*Inclusion of a choral learner with ASD through play-full intersubjectivity*

Through a case study of Jad (pseudonym), an adolescent choral learner with Autism Spectrum Disorder (ASD), I sought to understand his experiences as he engaged in peer scaffolding activities of a multiage community choral ensemble (Hogle, in press). To foster inclusivity, choral teachers endeavor to provide safe, welcoming environments through which all learners may interact with peers, enabling musical abilities of all to grow (Fuelberth & Todd, 2017). In a social constructivist vision of choral teaching (Vygotsky, 1978), teachers offer experiences in which peers may mediate understanding through goal-directed solving of meaningful problems as they scaffold one another, empowering learners to share ownership of collaborative learning processes. Adults and peers adapt for individual learner success through scaffolded musical interactions (Hogle, 2018a; Darrow & Adamek, 2016). Learners who have exceptionalities that affect social communication or interaction, such as Autism Spectrum Disorder (ASD), can benefit from a welcoming environment in which peer scaffolding flourishes.

Verbal, nonverbal, and musical communication is inherently essential for peer scaffolding experiences in a choir (Hogle, 2018a, 2018b), potentially creating obstacles for those with ASD. Learners with ASD may not engage in joint attention: “a shared interest in an object of activity” (Hourigan, 2016, p. 71). Without joint attention, intersubjectivity (shared understanding) could be challenged. Intersubjectivity is achieved when learners adjust to others’ perspectives while working toward a common goal (Berk & Winsler, 1995; Wertsch, 1984). Cognitive (Matusov, 2001), psychological and musical intersubjectivity (Birnbaum, 2014) also require cognitive and affective empathy (Rabinowitch, Cross, & Burnard, 2013). People with ASD can experience challenges in learning due to an overload of affective empathy in social settings, without balanced cognitive empathy (Moyes, 2001). Is it possible that choral ensembles might serve as contexts for development of intersubjectivity and related empathy? As choristers attend to one another, synchronizing embodied sound, affective states mutually adjust and align empathetically (Rabinowitch, Cross, & Burnard, 2013).

In this study, preliminary findings describe play-full, intersubjective attunement of younger children to Jad, fostering his becoming an empathetic teacher-helper (Hogle, 2018b), initially with his younger sister, then with other young children, then with the entire ensemble. The roles of play and intersubjectivity in a choral ensemble are explored.

Lauri Hogle (Oakland University)

“Singing is like I’m caught with my pants down”: What fosters singing agency?

Choral researchers have identified current topics of needed study, including experiences of singing across the entire lifespan, access and barriers to singing, and inclusion (Freer, 2018). To contribute to this conversation, I engaged in a qualitative narrative analysis (Clandinin & Connelly, 2000) of experiences of adult non-singers who self-identified as “not hav[ing] the physical capability or coordination to succeed in the simplest of [singing] tasks” (Whidden, 2008, p. 2).

In interviews, fifteen study participants identified feelings of anxiety when singing, particularly when perceiving judgment, similar to findings of earlier studies (e.g., Abril, 2007; Barefield, 2012; Knight, 1999; Numminen et al., 2015; Richards & Durrant, 2003; Turton & Durrant, 2002). Participants believed singing skill is inborn, paralleling can’t sing with tone-deaf, implying permanent disability, also echoing findings of earlier studies (e.g., Welch, 2017; Wise & Sloboda, 2008). Yet some participants had previously sung in choir or voice lessons, four of them through college. Echoing Sweet’s (2018) findings, each of these participants retained negative emotional perceptions of singing.

An individual’s negative self-concept in singing can reflect a lack of musical agency (Wiggins, 2016). Because musical agency in sharing one’s singing voice seems to be especially related to emotional complexities influenced by sociocontextual environments, I looked at participant narratives through a psychological lens of singing agency, what I describe as one’s belief in one’s own capacity to sing aloud (Hogle, in press).

Each participant described a particular wounding incident, remembering exact details: clothes they wore, the room where it took place, words spoken. Participants freely shared interestingly parallel strategies they had undertaken to enhance and protect their singing agency since the wounding incident, along with their perceived obstacles and definitions of good singing. I chose to share my preliminary findings as a composite narrative of combined voices, using only participant words to convey emergent themes (Willis, 2018), aiming to foster empathetic understanding of the study participants’ lack of singing agency.

Preliminary findings link singing agency with vocal skill development through emotionally inclusive and differentiated choral learning and teaching experiences (CAST, 2018; Hogle, 2018).

Eric Johnson (University of Mississippi)

An analysis of adjudicator feedback for treble choirs at a university choral festival

The present study examined adjudicator feedback of middle and high school treble choirs that participated in a university sponsored choral festival. Choirs, ($n = 8$) were selected from the total number of performing middle and high school treble choirs ($N = 22$) to represent the top and bottom scores of each grade designation so as to give a representative sample data size. Adjudicators, ($N = 3$) provided feedback through a seven-factor paper score sheet, and also recorded audio comments. Frequency counts were conducted of recorded adjudicator comments to establish the number of positive and constructive comments as well as to determine how often adjudicators addressed the entire choir or specific vocal sections. Results showed that there were statistically significant differences in the way adjudicators spoke either positively or constructively to the higher or lower scoring ensembles, regardless of grade classification. However, the feedback provided was not statistically significant in relation to whom the adjudicators were addressing (sectional or whole group) regardless of grade classification. The majority (90%) of adjudicator comments were made to the whole group, both positive and constructive. Coding was used to relate the audio comments to the seven-factors of the paper score sheet. Results found that judges often directed feedback in three areas: (1) technique and rhythm, (2) interpretation and musical effect, and (3) diction when providing feedback related to the score sheet.

Jamey Kelley (University of North Texas)*An examination of all-state festivals*

The purpose of this study was to examine All-State repertoire in how it reflects the choral canon and to report repertoire trends within All-State festivals. The specific research questions that guided this study were:

1. Which composers and pieces are programmed most frequently at All-State festivals?
2. To what extent do All-State festivals include historical pieces?
3. To what extent do All-State festivals include pieces that are “multicultural”?

Method

The researchers procured the titles of selected repertoire for All-State choirs in the Southern Division of ACDA from the years of 2012 to 2017. The researchers examined state professional websites, state publications, officer meeting minutes as well as corresponded with organizational leaders to identify the selected titles. Sixty-four SATB, 54 SSAA, and 35 TTBB All-State choirs were identified using this scope and their repertoire titles examined. The corpus included 361 SATB titles, 342 SSAA titles, and 221 TTBB titles.

To examine the specific research questions, each title was coded. A title was considered “historical” if it predated 1960. A title was considered “multicultural” if the source material was from a musical culture outside of the Western art music tradition. Each title was coded by two researchers to ensure fidelity to operational definitions.

Results

The composers or arrangers that were programmed the most for SATB literature were a mixture of historical masters and living composers. The composers and arrangers that were selected most were: Mozart (13), Handel (12), D. Forrest (11), Haydn (10), J. Ames (9), R. Dilworth (9), D. Elder (9), E. W. Barnum (7), C. H. Johnson (7), and Brahms (6).

For SSAA literature, the most programmed composers and arrangers were: R. Powell (12), Z. R. Stroope (11), J. Szymko (10), A. Ramsey (10), S. Paulus (10), G. Walker (8), Mendelssohn (8), D. Childs (8), O. Gjeilo (7), E. Daley (6), Caldwell & Ivory (6). Note that 5 of the 11 most programmed composers for SSAA literature are women, while women composers were not represented at all in the most programmed composers of SATB literature.

For TTBB literature, the most programmed composers and arrangers were: M. Engelhardt (8), J. Ames (4), M. Hogan (5), Arcadelt (4), R. Burchard (4), D. Davison (4), A. Quick (4), and Schubert (4).

In our presentation, we will discuss the most programmed titles, the incidence of historical and multicultural repertoire, as well as make comparisons of recent trends to similar studies in the late 1990s.

Jan Killian (Texas Tech University)

John Wayman (University of Texas-Arlington)

Patrick Antinone (Texas Christian University)

Choral directors' self report of accommodations made for boys' changing voices: A Twenty year replication

Recent researchers (Freer, 2018; Killian & Kagumba, 2018; Welch, Howard & Nix, 2019) indicated availability of information about adolescent changing voices. To what extent does availability translate into practice? Do directors know more about changing voices than twenty years ago? Are there differences in strategies? Are educators more confident teaching changing voices?

We replicated Killian (2003) in which teachers self-reported accommodations made for boys' changing voices. The 2003 data were collected from attendees at conference sessions (N = 405) between 1998-2000. The survey, developed from strategies of 47 experienced directors, consisted of a checklist of accommodations (treble singers only, rewrite parts, sing octave lower, assign non-singing responsibilities, separate choirs by gender) and voicings (2-part Treble, 3-part Mixed, SAB, SATB) as well as demographic information including numbers of boys taught in grades 4-9. Additional questions included challenges of teaching changing voices, and needs for more understanding. Results revealed some misunderstandings of boys' voices (e.g., belief that boys misbehaved by trying to sing low) and significant differences between elementary and middle school teachers' accommodations.

To examine changes over twenty years, we used the identical survey with two additions: we added "sing falsetto" to strategies (Wayman, 2018) and Unison and TB to voicing options. Participants (N = 186) included attendees at music education state conferences (n = 98 at Texas MEA, New Mexico MEA, and Southwestern ACDA), or respondents to the survey online (n = 88 music educators primarily from Dallas and Fort Worth Independent School Districts). Comparisons of 2020 and 1998-2000 revealed little changes in "sing an octave lower" (original: 39.93%; 2020: 41.94%), but increases in "separate choirs" (14.84%; 46.24%), and "rewrite parts" (35.51%; 48.39%). Comparisons of voicings revealed differences in 2-Part Treble (original: 36.47%; 2020: 31.18%), TTB (9.96%; 34.41%), 3-Part Mixed (28.94%; 13.98%), and SATB (3.96%; 17.20%). Despite changes in demographics, results indicated 2020 directors, like their earlier counterparts, desired more information about the changing voice. Current respondents seemed to recognize that information was available, but, like the participants 20 years earlier, still seemed challenged with the task of translating the information into effective teaching strategies.

Irene Leites (Black Hawk College)

Through their song: a case study in social perspective taking with a community college choir

The purpose of this case study was to investigate the process of perspective taking within an SATB-mixed choir at a community college in southern California. Community colleges in the United States are uniquely positioned in postsecondary education: they are intergenerational learning environments that offer students of varied academic and socioeconomic backgrounds the opportunity to pursue postsecondary education. This case study examined how one community college learning environment impacted the teaching and learning of choral music. Using Wenger's Communities of Practice (1998) theory and Gehlbach's (2004) Social Perspective Taking research as theoretical lenses, this study aimed to answer two research questions: (1) How do participants describe their process of taking each other's musical and non-musical perspectives in the context of their participation in choir; and (2) What consequences result from the singers' process of taking on others' perspectives? Data collection occurred over a three-month period and consisted of observations, individual interviews, and field notes. Triangulation and member checking were used as verification procedures. Findings suggested that perspective taking was a key characteristic of this Community of Practice, and that students engaged in both academic and interpersonal forms of Social Perspective Taking. Findings also indicated that (1) the text of choral compositions contributes to students' engagement in perspective taking, (2) the conductor's teaching philosophy plays an important role in engaging students in perspective taking, and (3) the social learning environment impacts the extent to which perspective taking develops in a choir. Figure 1 summarizes the development of perspective taking ability within a community of practice examined in this case study. Implications from this research highlight the importance of cultivating students' perspectives in choral rehearsals through written exercises and verbal activities, building in time for social bonding, and creating a social learning environment that is inclusive of different viewpoints.

Elizabeth McFarland (Southeast Missouri State University)*School-community partnerships in community children's choir organizations*

This descriptive study examined community children's choirs' participation in K-12 school-community partnerships to describe characteristics of these organizations and their partnerships, and to examine what the directors believed to be the benefits and challenges of such partnerships.

Directors of community-based children's choirs in the United States (N = 89) completed a survey that included questions about their organization's participation in various forms of school-community partnerships. Thirty-three percent of respondent's organizations participated in at least one partnership. Most of those were long-term, simple-transaction partnerships with K-12 public schools, initiated by the children's choir organizations. Goals of partnerships included choral music education, support for schools/community, talent identification, outreach/engagement, and lifelong skill development. These goals were achieved through activities such as performances, educational activities, rehearsals, and recruitment. Some factors more strongly affected the decision to develop a partnership than others, including needs of the school, potential for recruitment, and location.

Benefits of partnerships for singers included exposure to enhanced musical experiences, and connecting with other singers. Partnerships also provided benefits to children's choir organizations such as increased effectiveness of the organization's choral program, recruitment, exposure to diverse populations and public relations benefits. Directors perceived the challenges of school-community partnership participation to be communication, lack of money, and finding time to plan/implement programs.

Educators and community music directors need more information about partnerships to be able to contribute to building shared experiences. Conversation and education is needed to facilitate cooperation between organizations to find common ground for the good of music education in our communities.

Meg Messina (Hofstra University)*Critical Thinking in the Choral Ensemble: Teachers' attitudes about effectiveness and likelihood of classroom use*

Research indicates chorus students do very little critical thinking (CT) during rehearsal despite trends supporting higher-order thinking in school (Garrett, 2013; Watkins, 1993, 1996). In this survey study, chorus teachers ($n = 129$) reported their opinions about the efficacy of high- and low-CT teaching in the areas of concert preparation and knowledge transfer, and indicated their likelihood to employ such teaching. Nine dimensions were explored (intonation, articulation, dynamics, text, vocal technique, diction, rhythm, expression, and phrasing) using correlations and analyses of variance (ANOVAs). When the data were aggregated across dimensions, ANOVA results indicated a general preference for high-CT teaching for transfer and a likelihood to use low-CT instruction. Overall, participants found high- and low-CT instruction about equally effective for concert preparation.

Analysis inside each dimension provided further detail. In the area of concert preparation, participants found high-CT instruction most effective for teaching intonation, technique, and phrasing. Low-CT teaching was preferred for articulation and diction. For knowledge transfer, high-CT instruction was preferred across eight dimensions. Participants reported a likelihood to use low-CT instruction for articulation, dynamics, diction and expression, and high-CT instruction for technique.

Results support previous findings about the prevalence of low-CT instruction in chorus, but also suggest chorus teachers believe in the efficacy of high-CT instruction in certain contexts, such as for knowledge transfer or possibly for content-specific goals. Patterns indicated by teacher preference for instructional scenarios supported previously published research suggesting the prevalence of a teacher-centered, "top down" model of large ensemble instruction (Carpenter, 1986). Support of high-CT instruction for knowledge transfer coupled with a likelihood to use low-CT instruction may be an indication that teachers value performance preparation above knowledge transfer. Findings from this study could inform the way CT methods are taught at the pre-service level and developed with working educators, and may be used to encourage dialogue about the potential benefits of teaching for transfer.

Jessica Napoles (University of North Texas)

The influences of facial expression and conducting gesture on college musicians' perceptions of choral conductor and ensemble expressivity

The purpose of this study was to examine the separate influences of facial expression and conducting gesture on perceptions of choral conductor and ensemble expressivity. Specific research questions included: (1) Will participants rate the expressivity of a conductor with an expressive gesture and a neutral/static face differently than a conductor with a neutral/static gesture and an expressive facial expression?, (2) Will participants rate the expressivity of the ensembles differently under these same conditions?, and (3) What self-reported factors influence participants' ratings of conductor and ensemble expressivity?

College musicians ($N = 156$) viewed excerpts of two choral conductors who had been recorded conducting with either an expressive conducting gesture and a neutral/static face or an expressive facial expression and a neutral/static conducting gesture. Participants were asked to rate the expressivity of each conductor and ensemble on a 10-point Likert-type scale, then to respond to three free-response questions: (1) What factors impacted your ratings of the conductors and their ensembles? (2) What was the biggest difference among the videos? (3) What do you consider to be the most important factor when assessing the expressivity of a conductor?

Using a paired-samples t test, we found no significant difference between participants' ratings of conductor expressivity for excerpts that were conducted with an expressive face/static gesture ($M = 4.99$, $SD = 1.67$) versus those with a static face/expressive gesture ($M = 5.08$, $SD = 1.84$); $t(155) = 0.479$, $p = 0.63$. Similar results were found for participants' ratings of ensemble expressivity, with excerpts that were conducted with an expressive face/static gesture ($M = 5.91$, $SD = 1.58$) being rated almost identically to those featuring a static face/expressive gesture ($M = 5.87$, $SD = 1.69$); $t(155) = 0.275$, $p = 0.78$.

Five categories emerged in participants' responses to the open-ended questions: conducting gesture, facial expression, musical elements, conductor investment, and other.

Responses to open-ended questions suggested that conducting gestures and facial expressions were the two factors that most impacted perceptions of ensemble and conductor expressivity.

The spectrum of a conductor's expressivity is vast. Within that range, the choice and successful execution of the most appropriate and effective expressive nonverbal communication elements bear on broader questions of not just conductor expressivity, but of conductor effectiveness writ large. The capacity and procedure to learn these skills remain as areas for continued inquiry.

Bryan Nichols (Penn State University)*Interval identification predicts success in melodic dictation*

The purpose of this study was to investigate the ability of student musicians to correctly identify short pitch spans after a brief tonicization. College musicians ($N = 35$) completed an interval identification test and a series of melodic dictation tasks. Results indicated that interval identification and melodic dictation tests reflected a battery of items ranging from “very easy” to “very difficult” with acceptable Cronbach’s alpha levels. The analysis indicated a dictation task by interval ability interaction based on grouping by lower-, mid-, and upper-performing groups on the interval identification test. We conducted a two-stage hierarchical regression analysis to examine the extent to which interval identification served as a predictor of melodic dictation accuracy while controlling for selected demographic variables. Results indicated that interval identification served as a significant predictor of melodic dictation scores, contributing 28.9% of the variance in melodic dictation scores while controlling for musical experience variables. Issues in measurement of melodic dictation accuracy and strategies that affect the development of melodic dictation skills in the choral classroom are discussed.

Stephen Paparo (University of Massachusetts Amherst)*Real voices, virtual ensemble 2.0: Perceptions of participation in Eric Whitacre's virtual choirs*

In an earlier investigation (Author, under review), the researcher examined the nature and meaning of participation in virtual choirs by analyzing self-reported survey data from singers who participated in one or more of Eric Whitacre's virtual choirs. A virtual choir is a music video presentation of a compilation of individually-recorded audio-video performances that functions like a traditional, in-person choir. This follow-up study examined perceptions of participation in Whitacre's virtual choirs among mostly amateur singers (N=304) from 35 countries on six continents and sought to answer four research questions: (1) What did participants gain from their participation? (2) What did they learn about their voices and themselves as performers? (3) What were their perceptions of the similarities and differences between in-person choirs and virtual choirs? (4) How did virtual choir participation influence their current and future choral music participation? Data were collected via a researcher-designed online survey that gathered demographic information and responses to open-ended questions. Responses were first analyzed using open coding with etic codes from the research questions and prior research as well as emic codes that emerged from the data (Creswell, 2007). The codes were then refined, categorized, and where appropriate, counted. Results indicated that the survey respondents gained a sense of personal satisfaction and global connection. The virtual choir afforded opportunities for those who were unable to participate in in-person choirs for a variety of reasons, including geographical isolation, schedule conflicts, personal disability, and audition barriers. For many, viewing their performance on video was a new experience and resulted in mostly negative critiques of their own voice. Respondents noted the solitary nature of virtual choir participation. Many commented about the lack of musical and social interaction between themselves and the conductor and fellow singers as well as an absence of the embodied experience of being a part of the ensemble. In general, participation in virtual choirs seemed to either encourage future choral singing participation or have little effect. This study extends prior research on choral music participation and contributes to a growing body of research on online musical engagement. The virtual choir, while not a replacement for in-person choral music-making, may provide additional opportunities for access, inclusion, and enrichment that can enhance music learning in the 21st century and beyond.

Aimee Pearsall (Temple University and University of Delaware)*Large and small group songwriting in the choral rehearsal*

Traditional western choral experiences limit democracy and student autonomy within the ensemble classroom (O'Toole, 2005; De Quadros, 2015; Philpott & Kubilius, 2015). In recent years, several scholars have advocated for songwriting and informal music learning as possible approaches to democratize music classrooms and offer students a more autonomous musical experience (Abrahams et al., 2017; Allsup, 2003; Green, 2008; Kratus, 2016; Riley, 2012; Tobias, 2013, 2015). Though several researchers have explored songwriting curricula in the collegiate and PreK-12 context (Draves, 2008; Riley, 2012; Tobias, 2012; Tobias, 2013), songwriting within the choral classroom remains under-investigated. The purpose of this study was to explore how teacher-facilitated whole-group and autonomous small-group songwriting affected adolescent students' experiences and perceptions of choir.

Using a qualitative ethnographic case study design, the teacher-researcher examined the perspectives of adolescents enrolled in a fourth through ninth grade community choir (N=18) in the Northeastern United States over the course of one semester (15 rehearsals at 90 minutes each). The students participated in a choral rehearsal model that incorporated: (a) choral warm-ups and rote singing; (b) traditional, formal choral rehearsal; (c) whole-group, teacher-facilitated songwriting; (d) small-group, autonomous songwriting, and (e) reflection activities. Data sources included weekly teacher-researcher and student-participant journals, video data from each of the rehearsals and performances, asynchronous field notes, and focus groups.

The teacher-researcher inductively analyzed the data using Dedoose, a cloud-based data analysis software. After completing initial coding using descriptive and in vivo analysis (Saldaña, 2013), the teacher-researcher focused codes into final themes. Trustworthiness included member checking and peer coding by expert music educators (Lincoln & Guba, 1985). Preliminary findings indicated that student preference for amount of teacher facilitation and type of musical engagement (songwriting vs. singing precomposed songs) within the context of the choral rehearsal differed. The following emerged as common values across all portions of the choral rehearsal: (a) efficiency and on-task behavior, and (b) creating/performing musical products of a perceived high caliber. Each student associated feelings of pride, autonomy, and frustration with different portions of the choral rehearsal. Choral educators should consider incorporating songwriting into their rehearsals in order to increase opportunities for student-centered learning, creativity, pride, and engagement. Findings of this study could inform future practices and potential models of student autonomy, ownership, and musical creativity in the choral classroom.

Megan Rudolph (Vestavia Hills High School)

Pacing in the secondary choral classroom: Analysis of instructional time and off-task behavior in same-sex choirs with the same director

Research suggests that there are differences between males and females that should affect the delivery of instruction and learning within the general education secondary classroom. The research regarding differences in teaching practices of secondary single-sex choirs is limited. Secondary choral directors believe that there are differences in males and females in the choral classroom, but very few had ever learned any difference other than voice change (Rudolph, 2013). The current research was designed to investigate whether or not directors' pacing in single-sex secondary choral classrooms is different or the same.

Secondary directors from a southern state, that teach a male choir and female choir were contacted to assess interest in participating in the research. They were not told anything about the focus of the research. Several secondary choral directors volunteered to participate (N=10). The research for this study included a survey (completed); video analysis of directors teaching two classes of each choir (in progress); and interviews (in progress). Directors filled out a survey which investigated perceived strengths, weaknesses, and perceptions regarding their teaching of single sex choirs. Videos will be analyzed in regards to pacing. Interviews will be conducted after the video analyzation. Validity will be achieved through triangulating the data.

The secondary choral directors indicated that there were challenges when directing single-sex choirs. Including, that boys were much harder to keep focused, and that girls just wanted to please. This information is in line with research done in secondary regular education classrooms. The video analysis and interviews are not complete at this time, but will be finished by the end of February. The data will then be triangulated with the survey results and reported.

This research is extremely important to the retention rate of secondary choral directors. Regular education research shows that successful single-sex classroom teaching is due to teacher training. If this is the case, why are we not educating our secondary choral directors for success when directing same-sex choirs? Could training aid in the retention rate of secondary choral directors? Additionally, the hope is this research will spark interest for researchers to investigate similar topics regarding the preparation of secondary choral directors and successful teaching practices of same-sex choirs.

Helmut Schaumberger (University Mozarteum Salzburg)

Training programs for children's and youth choir directors in Austria and Germany as a basis for the professionalization of ensemble leaders

Singing with children and adolescents has experienced a strong revitalization in qualitative and quantitative terms since the beginning of the 21st century in Austria and Germany. Parallel to a series of nationwide singing initiatives, evaluation reports on these initiatives (Buschmann / Jank 2013, Forge / Gembris 2012, Gütay 2012) and scientific papers on the quality of school (choral) singing (Henning 2014, Antwerpen 2013) many publications on the practice of quality in singing with children and adolescents (Stubenvoll 2013, Bojack-Weber 2012, Bolender / Müller 2012, Trüün 2012, Arnold-Joppich et al. 2011, Ernst 2008, Schnitzer 2008, Wieblitz 2007, Pachner 2001) followed. Key figures in this development are the directors of school-based or extra-curricular children's and youth choirs, whose professional competencies and background have become more and more the focus of research in German-speaking countries.

In his dissertation (Schaumberger, 2018), the author examined three questions:

- a) What are the professional competencies and personal characteristics of children's and youth choir directors?
- b) How are children's and youth choir directors currently trained in Austria and Germany?
- c) How should children's and youth choir directors be trained in the best possible case?

To answer these questions, the author chose a qualitative research design with expert interviews and a comparative content analysis in which different training programs/master programs in Germany and Austria were examined. The study has shown that there are highly different training programs in terms of content, duration and modalities in both countries. Another output of the study is a competence model for children's and youth choir directors (Schaumberger 2019), which can be used as a basis for the professionalization of ensemble leaders.

The aim of the talk is to present the newly developed training programs/master programs for children's and youth choir conductors, which were tailored to the specific requirements in the two German-speaking countries, their focusses and objectives. In addition to a description of the work field, the author presents his competence model for children's and youth choir directors. The presentation culminates in the formulation of central measures for the sustainable professionalization of children's and youth choir directors.

Philip Silvey (Eastman School of Music, University of Rochester)*How members perceive and classify individual vocal colors in one women's chorus*

As choral music scholars continue to investigate issues surrounding choral blend, most acknowledge inherent difficulties in terminology (Bolster, 1983; Jordan, 1984; Olson, 2004; Sharp, 2005). Choral music educators may tell singers in a choral ensemble to collectively “blend.” Such a broad directive implies all members perceive what they hear in similar ways and know what they need to change.

Researchers have used controlled settings to test variables that impact choral blend. These variables include vocal acoustics, singing mode (solo/choral), seating arrangements, and timbre (Goodwin, 1980; Ekholm, 2000; Erickson, 2003). Typically, these studies employ sound recordings reviewed by outsiders. According to Daugherty, “...choral singing and conglomerate sound are complex, multidimensional phenomena that appear to be contextual and interactive. Research findings offer isolated snapshots rather than a completed understanding. Clearly, more research is needed” (2001, p.73). Researchers have not yet explored the “contextual and interactive” aspects of choral blend. This includes a singer's capacity to hear vocal tone color variances between self and ensemble peers.

This empirical study served as a means to investigate how female singers in one collegiate women's chorus perceived and classified each other's vocal tone colors. Using three primary categories for vocal tone color (Silvey, 2016), singers ($n = 41$) listened to a digital recording of each of 46 members singing 20-seconds of the refrain of the traditional African-American spiritual *By 'An By*. After initially hearing a brief orientation to three color categories, each participant listened to the recording of each member's sung excerpt played once and then classified the vocal tone color of that singer according to three color options: light, bright, or dark. I adjusted the recordings so that they all played at the same volume.

Statistical analysis revealed the “light” voice was most commonly identified among listeners at 31.1%, the “dark” voice was least common at 12.1%, but not greatly lower than “bright” with 19.0%. Regarding whether members classified their own voice similarly to what their peers heard, of 41 listener responses, 22 (54%) listeners agreed with the dominant voice color selected by the group and 19 (46%) disagreed with the dominant voice color selected by the group. This nearly even split indicates the complex task singers face in understanding their own vocal color. Further analysis could yield information about the potential usefulness of a three-color classification model and whether singers could benefit from more instruction and practice classifying vocal colors.

Jon Snyder (Baylor University)*Challenges and philosophies in the loft: An ethnography of Texas Church Choir Directors*

Church choirs have changed shape, purpose, ability, and repertoire during the past two millennia. In twenty-first century America, many mainline Protestant church choirs have become primarily amateur, treble-heavy, aging ensembles including the three Central Texas church choirs of various denominations explored in this ethnographic research. This paper explores the techniques and skills used by the conductors of these ensembles to counteract possible issues. Through participant-observation, along with interviews of directors and singers, I found common challenges that directors confront and how they overcome difficulties through gesture, spoken word, and modeling. Aging singers, untrained singers, and limited rehearsal time are among the most prevalent challenges, along with the bi-vocational nature of church choral directing. As fewer churches employ full-time music directors, many conductors must balance their work in the church with other employment. My work focuses not on theoretical problems from previous eras, but instead collects a sample of current American choirs and directors.

Additional challenges remained unattended to due to various goals and foci of directors and ensembles. In discussions with directors and clergy, varying philosophies of church music and worship became apparent. These views were exemplified through spoken word and actions in rehearsal and worship. The three directors understood the choir to act as small-group faith formation, open ministry to the congregation to join, or as proclaimer of text and message in the worship service, along with various other roles including leading congregational song. Differences in the understood importance of these roles defined the atmosphere, repertoire, gesture, and language of directors in both interviews and rehearsal.

By this paper sharing information between different ensembles and directors, amateur choir conductors can hopefully become better leaders through active recruiting, vocal modeling, voice science, and informed repertoire. When pedagogues, and those who teach and train choir directors, better understand current problems and philosophies of amateur church choirs, they are able to provide a more proficient training of church musicians, music educators, and life-long musicians.

Christina Svec (Iowa State University)*Singing instruments, skills, and tasks in childhood: A meta-analysis*

Research reviews of singing in childhood have highlighted the vast variety of available methods and instruments for measuring various components of singing ability (e.g., Goetze, Cooper & Brown, 1990; Hedden, 2012; Nichols, 2016; Salvador, 2010). Using meta-analytic procedures, Svec (2018) also addressed measurement instruments and tasks. The current paper will report previously unpublished data from an expanded meta-analysis of 57 studies regarding singing achievement as it related to grade level, measurement instrument, measured skill, and task. Studies were limited to those that included participants between 5-11 years, or Kindergarten through fifth grade.

There was an overall small effect size ($ES = 0.37$) found for instruction and singing achievement as it pertained to components of accuracy and development. There was a medium effect ($ES = 0.53$), however, found for differences measured across time whereas only a small effect ($ES = 0.27$) was found for between-group differences within cross-sectional research. Results combined suggested that effects of instruction on singing accuracy and development may be observed by the music educator, although observations may be most obvious when comparing children to themselves longitudinally.

For the current discussion, moderator variable analyses were limited to the following: measurement instrument, measured skill, task, and the intersection of each with grade level. Regarding instrument, acoustic measures yielded the highest effect size ($d = 0.55$), and batteries yielded the smallest effects ($d = 0.26$). Tonality and pitch accuracy yielded the highest effects for skill ($d = 0.51, 0.45$) whereas batteries again yielded the smallest effects ($d = 0.26$). Regarding task, patterns with solfege yielded the highest effects ($d = 0.93$), and intervals yielded the lowest ($d = 0.19$). Preliminary results have suggested that objective acoustic measures, which also accounted for much of the pitch accuracy data, may provide educators and researchers with the clearest picture of singing-related growth; batteries that measure numerous components of achievement may convolute information, especially for research use. More research is needed regarding task. Results regarding the intersection of grade level with instrument, skill, and task will be completed in January, 2020.

An important component of the study included the creation of lists (including citations) of prominently used singing achievement measures, skills, and tasks. Additional implications have been made for researchers regarding the importance of reporting data necessary for study replication and meta-analyses.

Allison Thorp (Western Carolina University)

Margaret J. Stringfield (1879-1958): A historical composer of early twentieth century Appalachia

The Smoky Mountains of western North Carolina oversaw great change from 1879-1958. In the aftermath of the Trail of Tears, the Civil War, and Reconstruction, its citizens experienced a mixture of progress and sorrow: women's suffrage, the roaring twenties, and the introduction of radios, movies, and automobiles; but also two world wars, the Great Depression, Jim Crow laws, and the second rising of the Ku Klux Klan. During this time of social and technological transformation, a woman named Margaret J. Stringfield established a career as a musical performer, teacher, conductor, and composer in the growing town of Waynesville, North Carolina. Following collegiate training at Brenau College in Georgia as well as graduate work at the University of Pennsylvania, her early compositions were copyrighted and published by the Hatch Publishing Company in Philadelphia. She later became a self-publisher and distributed her own compositions.

Stringfield's music conveys the rich history of the western North Carolina region—its physical beauty, its unique folklore, and most notably, the deeply personal and somewhat hidden stories of its oppressed communities such as the Eastern Band of Cherokee as well as the African American students of the segregated Stevens-Lee High School in Asheville. In addition to writing local works of significance such as the Waynesville Township High School's alma mater and Haywood County's official song, she composed a number of nationally relevant works ranging from a hymn celebrating the Smoky Mountain National Park to a spiritual longing for racial equality. Her masterwork, a full-scale opera set during the Trail of Tears, features the libretto of a local poet.

In this historical research presentation, I will describe the context of Margaret Stringfield's career supported by artifacts such as local newspaper articles, family letters, and published program notes. I will also share excerpts from her choral compositions, including those that were professionally published in Philadelphia as well as those self-published in Waynesville. Describing herself as a "pioneer woman," Stringfield used her compositional career as a form of choral activism—telling stories that advocated both for the mountains she loved as well as the people, the great variety of people, who lived within them. In addition to giving voice to a transformative era of American history through the somewhat rare lens of a historical woman composer, her story serves as a reminder of the potential opportunities for locating new and meaningful repertoire within our own local and regional vaults.

Sarah Toca (Eastman School of Music)*Secondary choral sight-singing instruction: the methods, procedures and rationale of three teachers*

The purpose of this phenomenological, qualitative study was to explore and understand the rationale for sight-singing instructional choices among three secondary school choir teachers. Three research questions guided the study: (1) what sight-singing instructional choices and procedures are employed within secondary high school choral classrooms, (2) what are the factors/influences that led to these teachers teaching sight-singing the way they chose; and (3) what is the rationale teachers have for teaching sight-singing in the way that they do. In order for us as researchers, clinicians and teachers to improve sight-singing instruction in the choral classroom, as stated by Hamann, “it is important to first understand what current factors are influencing curricular choices the most” (8).

This information may assist pre-service teacher instruction to inform the profession on what actual instruction is being given, and from where it came. This can help assist educators of future music-teachers to understand what information they are teaching is being used in the field, and can be beneficial to informing pre-service teachers on what they may include, based on real-teacher feedback.

Though there is a large body of research on sight-singing, little research has been done focusing specifically on the reasons why choral teachers chose the sight-singing methods and procedures they use in their classroom, and what influenced them in their decision to use them. Three studies were found that addressed this question of influence, all within the middle school level: a recent study by Nichols (2012) studied the rationale of teacher’s sight-singing instruction choices and attitudes of choral teachers; Kuehne (2007), studying sight-singing instructional methods in Florida Middle School programs; and Hamann (2007) on influences of curricular choices of middle school choir teachers. Kuehne’s findings included little to no influence of past teachers, including middle, high school, and graduate instructors on the participants’ choice of teaching methods (124).

Having collected interview and sight-singing observations from each teacher, the in-progress coding of categorizing and theme-clustering the data has revealed initial findings of teacher philosophy, teacher findings after trial and error, state adjudication systems, past experiences, trying new approaches, and problem-solving were all influential factors that impacted the sight-singing practices used among the teachers in this study. The data is currently being triangulated with sight-singing observations taken from each teacher. Findings, as well as recommendations for further research, will be established in this study by the time of the symposium.

John Wayman (University of Texas at Arlington)*The adolescent voice: A content analysis of the past 40 years of NAFME journals*

The purpose of this study was to analyze articles related to the adolescent changing voice in the National Association for Music Educators (NAfME) journals from 1979-2019, modeling procedures by Orman (2007), Tirovals and Levitin (2011), and Yarbrough (2002). Limitations were made based on those journals accessed through the official NAfME website. Each article (N = 5388 articles) was examined for material related directly to the adolescent voice of all areas including but not limited to the male, female, and transgender voice (N = 93 articles). The research questions are as follows:

Research Question 1: What were the overall frequencies and percentages of practitioners and research articles dedicated to the changing adolescent voice?

Research Question 2: What were the major topics, participant tasks, special topics, methodology, and population explored in those articles?

The assessed journals and resulting articles were: *Journal of Research in Music Education* (JRME; n = 25), the *Music Educators Journal* (MEJ; n = 31), the *Journal of Music Teacher Education* (JMTE; n = 1), *Update: Application of Research in Music Education* (n = 18), and *General Music Today* (n = 18). The articles were initially categorized into practitioner (n = 49) and research-focused articles (n = 44). Publication trends had an initial increase in research on changing male voice in the 1980s and 1990s, followed by a decrease after a MEJ special edition focused on the changing male voice in 2000. Practitioner-based articles on the changing male voice have remained somewhat consistent, with a spike in publications related to the female voice in the early 1990s, and an increase research-based articles in the 2010s, and an introduction to articles related to transgender voices in the late 2010s. Little has been published from the perspective of teacher pedagogy and preparing future teachers on the topics related to the changing voice.

Some of the emerging pedagogical-focused article themes were: Teaching strategies, assessment strategies, identity, pitch accuracy, physical development, gender, vocal technique, recruitment, and vocal pedagogy. Some of the emerging research-focused article themes were: Measuring and labeling vocal range, experience, and perception of the vocal change process by teacher and student, physical attributes, identity, vocal modeling, and effective pedagogy.

Justin West (Louisiana State University)

Jason Bowers (Louisiana State University)

(Re)building the secondary school choral music program: A multiple-case study

Researchers studying how and why choral programs thrive, and why students participate in them, often highlight, among myriad other factors, the social and emotional benefits of making music in ensemble settings (Adderley, Kennedy, & Berz, 2003; Bartolome, 2013; Kennedy, 2002; Parker, 2016). These inquiries typically focus on choral programs with enduring traditions of excellence. Less is known about the experiences of teachers who reinvigorate previously successful programs or who establish programs anew—even as many music educators, particularly those early in their careers, find themselves in circumstances where this type of work is required. Thus, the purpose of this multiple-case study is to understand choral program (re)building within and across three diverse middle and high school teaching contexts.

Participants include active secondary choral teachers who have established or reestablished a choral program in a public school within the last 10 years. Caroline and Kyana teach middle school; Brian teaches high school. Each participant has agreed to three in-depth interviews, the first of which having already taken place (see preliminary findings below). To build a holistic account and to facilitate data triangulation (Yin, 2018), we will supplement teacher interviews with (a) interviews of up to three students from each school who have been with their respective program for at least one year, (b) collection of documents/artifacts relevant to the (re)building process (e.g., email correspondence, budget requests, program handbooks), and (c) field observations to understand the current state of each program and contextualize the accounts provided by teachers and students.

Preliminary findings cast (re)building as complex, incremental, and contingent. All three participants spoke of intermittent setbacks and acknowledged the need for ongoing administrator and peer support. For Brian and Caroline, the turning point did not come until their third year. Kyana taught mathematics, not music, for three years before petitioning successfully for a new choral program. At the beginning of the (re)building process, participants struggled to align their expectations with student capacity. Kyana challenged herself, “Is it more about the music or more about the kids you’re teaching?” Administrators were key actors, sometimes facilitating and sometimes hindering (re)building. Caroline overcame early administrator intransigence by presenting “evidence” from articles on what was needed to build a choral program. Kyana highlighted how a thriving and visible choral program might boost students’ morale and thus their academic performance. Meanwhile, Brian capitalized on his principal’s background as a band student.

We will finish data collection and analysis between December 2019 and February 2020.

At the Symposium we will present particularized profiles of each teacher and program (within-case analysis) as well as salient common themes that speak to larger issues of effective (re)building (cross-case synthesis).

Adam White (Northwestern University)

Singers' gaze while performing with a conductor

Background

Choral conducting has been found to affect chorister movement and muscle tension by manipulating the conductor's left hand (Fuelberth, 2004), preparatory gestures (Manternach, 2012), or facial lip-rounding (Daugherty & Brunkan, 2013). Yet conducting textbooks tend to focus on hand gestures alone as the primary vehicle for musical communication (Durrant, 2003; Neuen, 2003). It is unclear where singers look to get information from a conductor.

Purpose

The purpose of this study was to track where singers look to receive information from a conductor during a performance. The following research questions were addressed: (a) Where do choristers look when singing from memory with a conductor? (b) Does their visual focus change depending on musical instructions given? The findings have implications for our understanding of the role of visual information in music performance, the nature of non-verbal communication in a musical setting, and conducting pedagogy.

Method

Participants (n=11) stood nine feet in front of a life-sized projected video stimulus. Following fitting with the eye tracking apparatus (Pupil-Labs, rev 021, 120Hz monocular IR camera with dark pupil tracking) and calibration using screen marker calibration, participants were asked to sing from memory short excerpts (30 seconds) from three songs: America the Beautiful, Danny Boy, and Shenandoah while following the video conductor stimulus. Participants were given (a) no instruction (control), (b) asked to sing expressively (expressive), and (c) asked to sing with rhythmic accuracy (rhythmically accurate). Song selection and expressive and rhythmically accurate conditions were randomized for order. The eye-tracking apparatus was re-calibrated following each sung excerpt. Conductor surfaces of face, left hand, and right hand, were defined using surface trackers. Data were collected with MacBook Air using open-source Pupil-Capture software.

Results and Implications

A 3X3 repeated-measures ANOVA was conducted to compare proportion of frames on three conductor surfaces each condition. Significant differences were found by conductor surface, $F(2, 14) = 5.730$, $p = .045$, with face ($M=.570$, $SD= .294$) and right ($M=.316$, $SD=$

.231) receiving a greater proportion of frames than left ($M=.114$, $SD= .078$). No significant differences were found by condition or song. Pilot results suggest choristers received the majority of their information by gazing at the conductor's face regardless of condition. Preliminary results ($n=8$) from this study have been shared in poster form at the ACDA National Convention and at the Society for Music Perception and Cognition National Conference. We plan to present findings from the completed study with 22-24 participants.