

Arizona High School Choral Educators' Attitudes toward the
Teaching of Group Sight Singing and Preferences for Instructional Practices

by

Justine Farenga

A Dissertation Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Musical Arts

Approved November 2013 by the
Graduate Supervisory Committee:

Jill M. Sullivan, Chair
David Schildkret
Margaret Schmidt
Sandra L. Stauffer
Evan Tobias

ARIZONA STATE UNIVERSITY

December 2013

ABSTRACT

The purpose of this study was to investigate the attitudes, preferences, and practices of Arizona high school choral directors towards sight-singing skills, and student success in group sight-singing evaluations, the teaching of sight singing including preference for a specific sight-singing system, and the instructional practices employed in daily rehearsals. High school choral directors from the state of Arizona ($N = 86$) completed an online researcher-designed questionnaire that gathered demographic information as well as information regarding directors' attitudes towards sight-singing instruction, which exercises are used for sight-singing instruction, and directors' self-perceived ability not only to sight sing but also to teach sight singing. Independent variables such as teaching experience, level of education, the system they were trained to use as a student, the system they currently use in the classroom, their self-perceived ability to sight sing, their self-perceived ability to teach sight singing, their choir's sight-singing rating at festival, and their daily instructional practices (as measured by minutes per week of sight-singing instruction) were used to investigate potential differences in attitudinal responses.

Multivariate analyses of variance were conducted to investigate potential differences in responses according to various independent variables. Significant differences were found in responses to statements of the importance of sight-singing instruction according to level of teaching experience and time spent on sight-singing instruction in the classroom. No significant differences were found for statements of directors' attitudes toward sight-singing instruction according to level of education or prior training. Results indicate that Arizona high school directors are a seasoned and

highly education group of professionals who understand and believe strongly that sight-singing instruction should be a part of their choral music rehearsals. These directors use a variety of systems and resources to teach sight-singing and all dedicate time to sight-singing each week in their rehearsals. Despite the overwhelming support for teaching sight-singing in daily choral rehearsals, there is a lack of participation in choral adjudication festivals where group sight singing is assessed. Further research is suggested to investigate the lack of participation of Arizona high school choral teachers in the group sight-singing component of the state choral adjudication festivals.

DEDICATION

This work is dedicated to my parents, Angelo Farenga and Louise Porter-Hahn. When I was a small child my parents kindled within me the passion for learning. Throughout this process you have both provided me with the unconditional love and continuous support which was paramount in completing this work.

“Love is more than the electricity which lightens our darkness, more than the etheric waves that transmit our voices across space, more than any of the energies that man has discovered and learned to use. Of all things love is the most potent. All that men can do with their discoveries depends on the conscience of him who uses them. But this energy of love is given us so that each shall have it in himself.” ~ Maria Montessori

ACKNOWLEDGMENTS

Thank you to Dr. Jill Sullivan, my advisor and dissertation chair, for countless hours of support and leadership throughout the dissertation process. I also wish to thank the other members of the committee for their immeasurable contributions. Thank you to Dr. Sandra Stauffer for her guidance as a mentor throughout my time at ASU, to Dr. Margaret Schmidt for her kindness and encouragement, to Dr. Evan Tobias for always challenging me to think in new ways, and to Dr. David Schildkret for his strength and willingness to help me keep working hard. Thank you also to Dr. May Boggess for her statistical expertise and advice.

A very special thank you to my musical mentors who have helped to shape the musician and person I am today. Specifically to Christopher Shepard, Amy Bernon and Dr. Pamela Getnick for providing me with a children's choir experience that would spark a lifelong love for singing, to Dr. William Kempster for showing me what it means to have fire and passion in what one does, and to Robert Westerberg for being a mentor and a friend who inspired me and helped me to never give up.

I wish to thank my friends and colleagues who participated in my study. Your willingness to assist in this way has helped me to better understand our profession. Thank you to my colleagues, both teaching and doctoral, for providing insight throughout this study.

A very special thank you to my parents, Angelo Farenga & Cindy Eastman, and Louise Porter-Hahn & Fred Hahn. Thank you to all my friends who have allowed me to lean on them for personal support throughout this process. Also I wish to thank Adam Pilar, the love of my life, for being a constant source of strength and support. Without my friends and family the completion of this degree would not have been possible.

TABLE OF CONTENTS

	Page
LIST OF TABLES.....	ix
CHAPTER	
1 INTRODUCTION.....	1
Need for the Study.....	3
Purpose of the Study.....	6
Study Questions	7
Scope and Limitations	7
2 REVIEW OF LITERATURE.....	9
Teacher-Perceived Value of Sight Singing	9
Sight-Singing in the High School Choral Classroom.....	12
Sight-Singing Systems	12
Sight-Singing Instructional Practices	19
Evaluation of Student Achievement in Sight Singing.....	25
3 METHODOLOGY.....	33
Pilot Study	33
Participants	35
Instrumentation	36
Procedure and Response Rate	38
Operational Definitions	39
Statistical Research Questions.....	41

CHAPTER	Page
4 RESULTS	51
Descriptive Statistics	51
Research Question #1	55
Research Question #2	57
Research Question #3	59
Research Question #4	61
Research Question #5	63
Research Question #6	65
Research Question #7	67
Research Question #8	69
Research Question #9	71
Research Question #10	73
Research Question #11	74
Research Question #12	76
Research Question #13	77
Research Question #14	79
Research Question #15	80
Research Question #16	81
Research Question #17	83

CHAPTER	Page
5 DISCUSSION, IMPLICATIONS, FURTHER RESEARCH, AND CONCLUSIONS	92
Summary	92
Discussion.....	94
Descriptive Statistics	94
General Attitudes	95
Teaching Experience and Level of Education	97
Sight-Singing Systems	99
Self-Perceived Abilities.....	99
Group Sight-Singing Festival Ratings.....	101
Sight-Singing Daily Instructional Practices.....	102
Implications	103
Future Research.....	107
Conclusion.....	109
REFERENCES.....	111
APPENDIX	
A INSTITUTIONAL REVIEW BOARD APPLICATION FOR EXEMPT RESEARCH	122
B INFORMED CONSENT	124
C SURVEY	127

LIST OF TABLES

Table	Page
1 Frequency of Director Gender.....	52
2 Frequency of Directors' Undergraduate Major.....	52
3 Frequency of Directors' Highest Degree Obtained	52
4 Frequency of Directors' Total Years of Teaching Experience	53
5 Frequency of Directors' Total Years Teaching High School Choir.....	54
6 Frequency of Directors' Membership in AMEA and/or ACDA.....	54
7 Frequency of Directors' Participation in ACE Festival.....	54
8 Frequency of Directors' Participation in ACE Festival Sight-Singing Component.....	55
9 Statements of Directors' Attitudes toward Teaching Sight Singing in Choir Rehearsals.....	56
10 Statements of Directors' Attitudes toward which Sight-Singing Exercises Are Used.....	56
11 Statements of Directors' Attitudes toward Prior Training to Teach Sight Singing	57
12 Amount of Time Spend on Sight-Singing Instruction.....	57
13 Frequency of Directors' Teaching of Sight Singing in Minutes per Rehearsal	58
14 Frequency of Directors' Teaching of Sight Singing in Rehearsals per Week	58

Table	Page
15 Frequency of Directors' Teaching of Sight Singing in Minutes per Week	59
16 MANOVA Results of Directors' Experience Level and Level of Education on Statements Measuring Directors' Attitudes toward Sight-Singing Instruction.....	61
17 MANOVA Results for Statements Measuring Directors' Attitudes toward which Sight-Singing Exercises are used for Instruction and Directors' Experience Level and Level of Education.....	63
18 MANOVA Results for Statements Measuring Directors' Attitudes toward which Sight-Singing Exercises are used for Instruction and Directors' Experience Level and Level of Education.....	65
19 MANOVA Results for Statements Measuring Directors' Attitudes toward Sight-Singing Instruction and Directors' Undergraduate System Learned and the System they Currently use in the Classroom.....	67
20 MANOVA Results for Statements Measuring Directors' Attitudes toward which Sight-Singing Exercises are used for Instruction and Directors' Undergraduate System Learned and the System they Currently use in the Classroom.....	69
21 MANOVA Results for Statements Measuring Directors' Attitudes toward their prior training to teach sight singing and Directors' Undergraduate System Learned and the System they Currently use in the Classroom.....	71

Table	Page
22 MANOVA Results for Statements Measuring Directors’ Attitudes toward Sight-Singing Instruction and Directors’ Self-Perceived Abilities to Sight Sing and to Teach Sight Singing.....	72
23 MANOVA Results for Statements Measuring Directors’ Attitudes toward which Sight-Singing Exercises are used for Instruction and Directors’ Self-Perceived Abilities to Sight Sing and to Teach Sight Singing	74
24 MANOVA Results for Statements Measuring Directors’ Attitudes toward their Prior Training to Teach Sight-Singing and Directors’ Self-Perceived Abilities to Sight Sing and to Teach Sight Singing	76
25 MANOVA Results for Statements Measuring Directors’ Attitudes toward Sight-Singing Instruction and Directors’ Daily Instructional Practices for Sight-Singing Instruction	81
26 MANOVA Results for Statements Measuring Directors’ Attitudes toward which Sight-Singing Exercises are used for Instruction and Directors’ Daily Instructional Practices for Sight-Singing Instruction.....	82
27 MANOVA Results for Statements Measuring Directors’ Attitudes toward Prior Training to Teach Sight Singing and Directors’ Daily Instructional Practices for Sight-Singing Instruction	84

Chapter 1

INTRODUCTION

Sight-singing adjudication has been a part of choral music festivals throughout the United States since the early twentieth century (Mark & Gary, 1999). Today this practice continues in numerous regional and statewide choral festivals sponsored by state music education organizations. In some states (e.g. Arizona, Georgia, Maine, Ohio and Washington) the festival structure provides choral students and directors with opportunities to advance their musicianship by receiving feedback from expert judges on ensemble sight-singing skills.

Many music educators believe sight singing to be an important skill to be taught in the high school choral music classroom (Armstrong, 2001; Goss, 2010; May, 1993; Norris, 2004). The ability of choir members to sight sing may enable ensembles to learn repertoire more quickly and subsequently may allow directors to choose more difficult music for performance. Although experts in the choral music education field understand the meaning of sight singing, *The Harvard Brief Dictionary of Music* defines sight singing as “the ability to look at a piece of music, having never seen or heard it before, and sing what is written without the help of an instrument or modeling.” Additionally, Robert Ottman, the author of *Music for Sight Singing*, defines sight singing as “the ability to sing at first sight, with the correct rhythm and pitch, a piece of music previously unknown to the performer” (Ottman, 1996). For the purpose of this study, Ottman’s definition of sight singing will be used.

In 2007, the Arizona Choral Educators (ACE), the choral teachers' constituency group of the Arizona Music Educators Association, voted to include an optional group sight-singing component at the fall high school choral festival. Despite a passing vote by the general membership, choral educators voiced strong conflicting feelings about this addition; some teachers adamantly argued for its inclusion while other vehemently opposed it. Subsequently in 2008, for the first time, an optional sight-singing component was included at the regional and state ACE high school choral adjudication festivals and continues to be included today. The addition of group sight singing to the regional and state choral festivals remains a controversial topic in the state of Arizona.

One potential result of the assessment of sight singing at choral festivals is an increase in the number of choral educators who focus on sight-singing instruction in the classroom (Armstrong, 2001; Goss, 2010; May, 1993; Norris, 2004). As Brown (1974) notes, the development of the ability to sight sing must be approached in a logical, sequential, and progressive manner through a series of carefully selected music education experiences. Armstrong (2001) stated that comments of experienced professionals who assess the musical abilities of choral ensembles, including sight singing, is another beneficial outcome of choral adjudication festivals for directors.

While the knowledge that the ability to read music is still an essential component of a skilled choral musician in the Western-European choral tradition, teachers are often pressured with performance requirements, and therefore sight-singing instruction suffers due to the perceived lack of time teachers are able to dedicate to this skill acquisition (Goss, 2010; Smith, 1998). Whether or not the inclusion of a sight-singing component at

choral festivals is important, and whether or not teachers make time for sight-singing instruction, sight-singing adjudication remains a part of many state choral festivals, including choral festivals in the state of Arizona.

Need for the Study

Research on choral sight singing is vital for state associations to implement a group sight-singing component as part of the adjudication process at festivals (Norris, 2004). Although there has been a vast body of research on the topic of group sight singing in choirs (Armstrong, 2001; Bolton, 2009; Brittain, 1998; Cheeseboro, 1997; Christopherson, 2011; Daniels, 1985; Daniels, 1986a; Daniels, 1988; Demorest, 1998a; Demorest, 1998b; Demorest, 2004; Demorest & May, 1995; Demorest & Noble, 2001; Dwiggin, 1984; Egbert, 1990; Ewers, 2004; Hales, 1961; Henry, 2004; Henry & Demorest, 1994; Johnson, 1987; May, 1993; Miller, 1980; Norris, 2004; Potts, 2010; Short, 1971; Slaughter, 1957; Smith, 1998; Stevenson, 2010; Zimmerman, 1962), one area where authors indicate a lack of attention is the area of sight-singing instruction. Daniels (1986) indicates that there has been a failure to teach music reading, of which sight singing is a part, at all levels of public school choral music. In a 1987 survey of instructional practices of choral directors in the North Central region of the American Choral Directors Association (ACDA), Johnson indicated that although teachers may agree on the importance of sight singing, they devote little time to sight-singing instruction in ensembles. In a survey study, White (2009) reported that the introduction of the national standards for music education in 1994 showed a rise in the teaching of sight singing in the choral ensemble classroom. The national standards, combined with

the inclusion of group sight-singing components at large-group festivals, seem to have contributed to a rise in sight-singing instruction. These findings suggest that instructional time spent on sight-singing instruction was related to whether choral ensembles would be assessed in adjudicated festival situations (Armstrong, 2001; Norris, 2004).

Much research has been done in the area of sight-singing systems and factors that may influence the success of students' sight-singing achievement (Bentley, 1959; Brittain, 1998; Buchanan, 1946; Cheeseboro, 1977; Daniels, 1988; Demorest, 1998a; Dennee, 1996; Goss, 2010; Hales, 1961; Henry, 2004; Johnson, 1987; Killian & Henry, 2005; May, 1993; McClung, 2001; McClung, 2008; McPherson, 1994; Munn, 1990; Nelson, 1970; Ottman, 1956; Potts, 2010; Short, 1971; Smith, 1998; Stevenson, 2010; Tucker, 1969; von Kampen, 2003; White, 2009; Zimmerman, 1962). Although research on sight-singing methods exists (Bentley, 1959; Brittain, 1998; Buchanan, 1946; Cheeseboro, 1977; Daniels, 1988; Demorest, 1998b; Dennee, 1996; Goss, 2010; Hales, 1961; Henry, 2004; Johnson, 1987; Killian & Henry, 2005; May, 1993; McClung, 2001; McClung, 2008; McPherson, 1994; Munn, 1990; Nelson, 1970; Ottman, 1956; Potts, 2010; Short, 1971; Smith, 1998; Stevenson, 2010; Tucker, 1969; von Kampen, 2003; White, 2009; Zimmerman, 1962), much research is still needed in the following areas: studies on the attitudes of the teachers towards sight-singing pedagogies; how directors' attitudes impact the teaching of sight singing in their classroom; and the ability of a choir to participate in the group sight-singing portion of adjudication at a festival.

In 2007, the leadership board of ACE (Arizona Choral Educators) decided to include an optional sight-singing component in their fall choral adjudication festival, and

beginning in 2008 this change became effective. These decisions may have impacted high school choral music teachers' instructional practices in the state of Arizona. After five years of experience with adjudicating sight singing in festivals, this remains a contentious topic among Arizona high school choral directors. It is worthwhile to investigate whether including sight singing in the state festivals has had a perceived impact on high school music instructional practices in the state. This study investigates the attitudes of Arizona high school choral directors toward sight singing and their sight-singing instructional practices.

Because in 2007, a controversial decision was made by the Arizona Choral Educators (ACE) to include group sight singing in the adjudication process for high school choral festivals, research is needed in Arizona to investigate not only the attitudes of directors' towards sight-singing instruction, but also the sight-singing teaching practices of these directors. If choir directors are going to enter students into a festival that requires a group sight-singing evaluation, then research is needed not only to determine whether teachers value this addition to the festival, but also to examine whether and how students are being prepared for the choral sight-singing experience. Educators would likely agree that attending a festival is not about the rating, but rather the process by which students arrive at the festival ready for learning and the feedback they will receive about their preparation. Choral educators need to understand if teaching is being done with intention in the choral music classroom, then their choirs will have success, as determined by the judge's rating, when sight singing at festival.

Purpose of the Study

The purpose of this study was to investigate the attitudes, preferences and practices of Arizona high school choral directors towards the teaching of sight singing in regard to the use of a specific sight-singing system, the instructional practices employed in daily rehearsals, the value and importance of sight-singing skills to directors, and student success in group sight-singing evaluations. A survey method was employed. The results of this research could be used to inform the state music education organizations (such as the Arizona Music Educators Association and the Arizona chapter of the American Choral Directors Association) about whether teachers value the added component of sight singing to the festival, and about current instructional practices of high school choral music teachers. Knowing this information might inform university teacher educators and ensemble directors how sight singing is being taught in the schools and help them to design and implement coursework at the university to establish best practices in this area. Investigating these attitudes, preferences, and pedagogical choices may help choral educators to better understand what is being taught in high school choral music rehearsals in the state of Arizona and how these instructional practices might impact student achievement in regard to group sight-singing evaluations. In addition, understanding the current practices of high school choral educators may help inform professional organizations about potential topics of interest at the state conferences and in what ways they can provide professional development. The ability of these organizations to recognize trends in pedagogical needs of teachers may also inform policies and procedures written into handbooks that govern states festivals and events.

Study Questions

Study Question One: What are the attitudes of Arizona high school choral directors toward the perceived value of sight-singing instruction?

Study Question Two: What are the daily instructional practices used by Arizona high school choral music educators for teaching sight singing?

Study Question Three: What are the different sight-singing systems used by Arizona high school choral music educators?

Study Question Four: What variables in teachers' backgrounds reveal differences in regard to daily teaching practices of sight singing and methodological choices?

Study Question Five: What variables reveal differences on an achievement measure for group sight singing?

Study Question Six: What are the attitudes of Arizona high school choral directors toward the group sight-singing component at the ACE high school choral adjudication festival?

Scope and Limitations

This study includes only high school choral directors in the state of Arizona. Some participants may teach multiple subject areas and across multiple grades. While this may influence their attitudes, their position as the high school choral director justified their inclusion in this study. Data were not gathered from full time instrumental teachers or from choral teachers in the K–8 grade level. Research questions have been developed and written to reflect this focus. Also, this study investigated attitudes and practices through a one-time self-report (by the use of a single survey instrument) and may not

necessarily represent the actual practices of directors (Stone, 2000). This study does not investigate the attitudes or teaching practices of high school choral music teachers outside the state of Arizona. The quality of teacher instruction is outside the scope of this study. This study is only about group sight singing at festivals and not about individual sight singing.

This study does not address effectiveness or quality of sight-singing instruction methodology. This study is not about students; it does not take into account the opinions or attitudes of or impact upon students, but rather focuses on teachers' beliefs about sight-singing instruction and their pedagogical practices. While education, previous experience, and attitudes of high school choral directors will be used in the analyses, it is not implied that positive attitudes or presence of teaching methodologies equates to quality instruction.

Chapter 2

REVIEW OF LITERATURE

This chapter is divided into two sections of literature about the teaching of sight singing: (a) the teacher-perceived value of sight singing, and (b) sight-singing instructional practices in the choral music rehearsal. The review of literature focuses solely on high school choral sight singing. A review of literature is essential to inform the researcher of previous studies on the same topic, frame the current study in context, discover new approaches, methods, or insights to a problem, and determine areas for future research (Phelps, Sadoff, Warburton & Ferrara, 2005).

Teacher-Perceived Value of Sight Singing

For more than two-and-a-half centuries, American educators have been involved in the task of teaching students how to sing at sight, that is, how to translate musical notation into sound with their voices. Since the transition from shape note singing to traditional notation in mid-nineteenth century, notation has not changed significantly but instructional methods have. Another factor that points to change may be that the teaching of sight singing is less of a priority to teachers than it was even a few decades ago. Three survey-research studies (Goss, 2010; Olesen, 2010; von Kampen, 2003) will reveal findings in this area.

In a survey study, Olesen (2010) examined successful choral directors' beliefs about warm-ups, including sight singing, and their practices in conducting warm-ups, and the relationship of musical background, choral training and music teaching style of high school choral directors to these beliefs and practices. Participants were choral directors

($N = 365$) from 28 states. Olesen used descriptive analysis, correlation analysis, multivariate analysis of variance (MANOVA), and multiple regression to analyze the data for those relationships. Results indicated that choral directors' beliefs and practices differ as a function of musical background, demographic characteristics, choral conducting training, and music teaching styles. Olesen's study showed that warm-up beliefs were predicted by the director's knowledge of vocal health and the variety of their warm-ups. Also, those who used warm-ups to address discipline and focus showed a significant negative relationship with their beliefs about sight singing.

In a different survey study, von Kampen (2003) researched the status of sight singing in Nebraska high schools. The purpose of von Kampen's study was to determine choral directors' ($N = 278$) attitudes toward teaching sight singing, and to determine the extent to which selected demographic factors influence choral directors' decisions about whether or not to include sight-singing instruction. A five-point, Likert-type attitude assessment tool, the *Sight-Singing Questionnaire* (SSQ), was developed by the researcher. An analysis of the questionnaire responses revealed that over half of the choral directors did not utilize any system (e.g. fixed *do* or *la*-based minor) for sight singing, and that the choral directors had a mildly positive attitude toward sight singing. Only region of the state and school size were found to be significant predictors of sight-singing attitude with the data indicating that larger schools had more resources and directors at these schools were more likely to include sight-singing instruction in the choir rehearsal. Of those respondents who indicated that they utilized sight singing in the rehearsal, 38% indicated that they used a combination of systems rather than one

standardized system of instruction. The additional discovery that the larger schools in the eastern part of Nebraska have more financial resources to bring to the choral rehearsal was positively correlated with SSQ scores. It is possible that these directors are more likely to include sight singing in their choral rehearsals due to the resources afforded them, such as sight singing materials and the financial resources to purchase them. Von Kamen recommended that information gathered from this study could be used to encourage secondary vocal music teachers to explore the benefits of including sight-singing instruction in the vocal music curriculum.

Goss (2010), in a survey study, sought to ascertain the beliefs and specific assessment strategies used by middle and high school choral directors in Georgia to evaluate individual and group sight singing. Data were further gathered to determine which sight-singing assessment practices choral directors considered to be the most effective. This study was the first to present a comprehensive survey of assessment practices used by middle and high school choral directors ($N = 256$) in Georgia to evaluate sight singing. Results of the study indicated that the majority of the choral directors believed that individual success in sight singing was a primary indicator of group success and that individual testing was the best method for determining the sight-singing level of a student. However, because of lack of time to assess achievement, choral directors indicated that individual testing was used much less than other methods, such as written tests measuring musical knowledge. Goss notes that more research needs to be done in this area to determine more time-efficient, effective methods to assess individual achievement in sight singing. Goss also suggested that more research is

needed to determine the most effective and time efficient methods of teaching sight singing for the secondary choral director. As a corollary, the current study looked at systems used and time dedicated to group instruction of sight singing in the Arizona high school choral music classroom.

Sight-Singing in the High School Choral Classroom

Sight-Singing Systems

Various approaches for teaching sight singing exist. High school choral music teachers who instruct students on how to sight sing will most often, but not always, use a specific system. These assorted systems include, but are not limited to: numbers; a neutral syllable for all pitches, such as *la*; Solfège using moveable *do*, using *do* based minor; Solfège using fixed *do*, using *do* based minor; Solfège using moveable *do*, using *la* based minor; Solfège using fixed *do*, using *la* based minor. The extent to which these systems are used, and the success of each system, have been topics of much research. In the following section, research studies that concentrate on sight-singing systems will be summarized.

The debate over which sight-singing approach provides for the most effective teaching strategies is a continuous one. Researchers have surveyed in-service educators (May, 1993; Smith, 1998), college professors, and all-state chorus members (McClung, 2001) about their preferred sight-singing systems. Respondents have listed the following approaches: moveable *do* – Solfège; moveable *do* – numbers; fixed *do* – Solfège; neutral syllables (e.g. “loo”); letter names; and intervals. May’s 1993 survey study of Texas high schools’ choral music programs showed that a majority (82%) of programs use moveable

do. Smith's 1998 survey study performed in Florida showed similar results: the majority of programs were using moveable *do* and *la* based minor. A 2002 study by Casarow suggests that a consistent sight-signing pedagogical approach throughout a student's education is necessary for the greatest individual sight-singing achievement, thus making it very important to know what choral directors are teaching throughout a district if there is an intention to vertically align systems.

In an experimental study, Durocher (2006) examined the effect of kinesthetic activities on the sight-singing achievement of secondary choral music students. Subjects were students in grades six through twelve from two middle schools and two high schools in the Phoenix, Arizona metropolitan area ($N = 108$). The experimental group used a variety of kinesthetic activities in addition to Solfège hand signs as an aural and visual aid, while the control group utilized Solfège only as an aural and visual aid. Students were administered both a pretest and posttest utilizing the *Vocal Sight-Reading Inventory* (VSRI) (Henry, 1999). The reliability of Henry's VSRI was not reported in this dissertation. High school grade level, choral experience, private voice lessons, and prior sight-singing instruction were found to have significant relationships to sight-singing achievement. Judges scored the test results and inter-scorer reliability was reported as $r = .97$. Results indicated that the kinesthetic activities added to sight singing had no significant effect on sight-singing achievement, but students who participated in either private voice lessons or an instrumental ensemble performed significantly higher on sight-singing achievement. The researcher discussed many possible explanations for results, including the fact that instrumental students often show an increase in sight-

singing ability due to their instrumental experience. In addition, Durocher suggested that the duration of the experiment, fourteen weeks, was perhaps not enough time for students to assimilate to a new system for sight singing.

In a survey research study, Johnson (1987) investigated two aspects of sight-singing instruction: self-reported sight-singing systems used by high school choral teachers to determine if preferences for certain systems were present, and status of sight singing within the high school choral curriculum by measuring the amount of instructional time devoted to sight singing. Subjects were secondary choral teachers in the North Central Division of the American Choral Directors Association ($N = 179$). Data in this study showed that although many of the responding high school choral educators agreed with a philosophy that includes sight-singing instruction, in actuality, they devoted relatively little time to sight singing in ensembles. Results of the current study do not show similar findings in that over 50% of teachers report teaching sight singing for at least 10 minutes per week. Although in previous studies, researchers found that choral educators did not include sight singing due to performance pressure, Johnson found that approximately 15% of the total instructional time in mixed chorus ensembles was devoted to sight-singing instruction. Johnson speculates that directors who don't prepare students to sight sing may be settling for less difficult repertoire to allow enough time to learn the music prior to the concert or may be utilizing rote instruction. Data also showed a lack of sight-singing evaluation at festivals in the North Central Division of ACDA, and therefore would seem to support the premise that sight-singing evaluation at festivals may increase sight-singing instructional time. It is important to note that

Johnson did not consider teachers' perceptions or attitudes about the use of contests or the lack of them to promote educational objectives, but this was the aim of the current study.

In a qualitative study, Hanson (1990) interviewed five choral music educators in the state of Washington regarding their sight-singing instructional practices. Hanson found that most musicians generally accept the fact that the ability to read music promotes a clearer understanding of the musical score. Hanson stated that the process of understanding musical notation and transforming it into expressive musical sound is developmental in nature. The main focus of Hanson's research was to devise a logical, sequential approach to melodic and rhythmic sight-reading skills for both experienced and inexperienced high school choristers. Hanson was most interested in the types of resources--books, music, and literature--used for instruction. The result of the study was a compilation of sight-reading activities, such as kinesthetic singing games (including the use of hand signs, conducting gestures, and rhythmic movement) that were designed to simultaneously challenge the musically talented student and also provide successful music reading experiences for the beginning music student.

Hung (2012), in an experimental ex post facto study, investigated the influence of diatonic and chromatic complexity on sight-singing pitch accuracy for students who were trained either using fixed *do* or moveable *do* Solfège systems, and who had piano experience before or beginning at age 12. Hung points out that despite the fact that sight singing is recognized as an essential musical skill, it remains one of the weakest skills attained by music students in music education (Costanza & Russell, 1992). Studies

investigating the most effective of the two most common sight-singing systems (the fixed *do* and moveable *do* Solfège systems) provided inconclusive results for music with medium to high levels of diatonic and chromatic complexity. Participants ($N = 85$) trained under the fixed *do* Solfège system had statistically higher sight-singing pitch accuracy overall and at all three levels of diatonic and chromatic complexity than participants trained using moveable *do* Solfège systems. Hung used three independent variables (solfège system, diatonic complexity, and chromatic complexity), one dependent variable (pitch accuracy), and one control variable (piano learning experience). Results were analyzed using a one-way ANOVA and a three-way ANOVA $2 \times (3 \times 3)$ with repeated measures. There were no statistically significant two-way or three-way interactions among the three factors: Solfège system, diatonic complexity, and chromatic complexity. These findings suggest that the fixed *do* system is more effective for sight singing music with diatonic and chromatic complexity.

In a content analysis of interviews with 48 primary executive officers from state associations of the National Association for Music Educators (NAfME) association, McGuire (2011) discussed a common belief that singers do not know how to read music (two states were unable to participate). Although McGuire stated many purposes for the study, those relevant to the current study were: a content analysis of sight-singing textbooks currently available to educators and students, and a discussion of the variations of Solfège systems used by high school choral educators as a means for teaching sight singing. McGuire found that it is important for educators to teach their choral students the value of being able to read music. She believes that sight singing not only benefits

those students choosing to pursue a career in music performance or education, but also enables students to continue to enjoy music independently once they have left the high school choral setting. Furthermore, McGuire states that many elements present challenges to current music educators, for example, often times high school choral educators are expected to teach sight singing to students with little to no previous music reading experience. Additionally, McGuire found that scheduling conflicts, budget limitations, lack of resources, and personal experience also impact how a choral educator teaches sight singing. Regardless of the challenges mentioned, McGuire stated her belief that all students enrolled in music should not only learn how to perform music, but also more importantly, learn how to sight read music.

McClung (2008) investigated whether high school choir members achieved higher sight-singing scores with or without the use of the Curwen hand signs. McClung examined randomly chosen high school choristers ($N = 130$) with extensive training in Solfège syllables and Curwen hand signs from three moderately large high schools choral programs spread geographically across the northern Texas region. All subjects were asked to sight sing two melodies, one while using Curwen hand signs and the other without. Out of a perfect score of 16, the mean score with hand signs was 10.37 ($SD = 4.23$), and without hand signs, 10.84 ($SD = 3.96$). A repeated-measures ANOVA revealed no statistically significant difference, $F(1, 37) = .573, p = .454$.

McClung recommended future research in the form of an experimental study involving a pedagogical strategy for linking Curwen hand signs with students' preferred modes of learning, noting especially his interest in the kinesthetic mode, and whether or not kinesthetic learning helped to improve sight-singing achievement.

In a quasi-experimental study, Potts (2010) sought to determine if there was a significant difference in students' individual sight-singing performance as a result of instruction using a traditional written method of notation when compared with the treatment--instruction employing the researcher-constructed aural-based *Music Literacy for Secondary Choir* method. Subjects were beginning choir students from five Oklahoma high schools ($N = 116$), who were assigned by school into treatment and control groups. Before the instructional period, the students were pretested individually to establish a sight-singing skills base assessment standard and to ensure performance equality among all students before instruction. Each student participated in 30 seven-minute group sight-singing lessons, after which the students were again administered the individual sight-singing assessment. Analysis was performed using an independent-samples t test with one school eliminated due to an extremely low posttest mean. No significant difference was found between the posttest sight-singing score means of students in the control group and students in the experimental group. However, the experimental group produced larger pretest to posttest gains. All classes significantly improved their individual sight-singing scores, indicating individual sight-singing skills can be improved in an ensemble setting regardless of instructional method.

Stevenson (2010), in an experimental study, sought to find out if specific practice strategies effect individual sight-singing achievement and if music aptitude is a factor in the performance achievement of students. Participants ($N = 73$) from Iowa ($n = 41$) and Illinois ($n = 32$) were taught to employ strategies, such as the use of hand signs, that have been linked with high achievement during sight-singing trials (Henry, 2008; Killian & Henry, 2005) while avoiding behaviors, such as not using practice time provided during class, that have been linked with low achievement. Pretests and posttests of sight-singing achievement were audio recorded and scored by three judges using a researcher-designed rubric. Inter-judge reliability was measured and coefficients ranged from .83 to .89 demonstrating a moderately high level of reliability. A three-way ANOVA for state (Iowa, Illinois), group (specific practice strategies), and treatment (treatment, control) on pretest and posttest scores revealed no significant differences among groups or interactions among variables. Stevenson's findings suggest that additional strategies may be unnecessary for singers already capable of sight singing at a high level, and the lack of strategies prior to instruction may have rendered the preparation time essentially ineffective for low-scoring students.

Sight-Singing Instructional Practices

There is a distinct difference between knowing how to sight sing and knowing how to teach students to sight sing. This section of the literature review examines the variety of systems used by high school choral directors to teach the sight singing process. Egbert (1990), Ferrante (2010), and Smith (1998) suggest that teaching students to sight sing can mean less time spent teaching students to read the literature for the upcoming

concert and therefore more time can be spent on improving musical detail and experiencing the variety of educational elements of the music. As students' ability to read music increases, the overall amount of time to learn literature will decrease. The sacrifice happens in the beginning when the time investment is needed. Unfortunately time is not always allocated to the learning of sight singing, but rather teachers rationalize why it is not necessary. The investment is one that may pay off down the road for more efficient use of rehearsal time (Egbert, 1990; Ferrante, 2010; Smith, 1998).

In a survey study of high school choral teachers in the state of Texas ($N = 192$), May (1993) examined choral music teachers' attitudes regarding the teaching of sight singing in high school choral music programs. In the opinion of May, from the 1940's through the 1970's, vocal music programs have de-emphasized sight singing, and as a result much of the learning of choral literature in high school music classes has been accomplished by rote learning (Hales, 1961; Miller, 1980). May also asserts that when such a situation occurs, a greater amount of time is required to learn the chosen music, and as a result of this, choirs are restricted in their discipline, enjoyment, respect, and enthusiasm. Results of the study indicated that moveable *do* was the melody-reading system used by 82% of respondents. When directors chose to teach sight singing in minor, the relative minor (*la* based minor) was used by 59% of the respondents. The majority of participants (80%) indicated that they taught sight singing four or five days per week. The three most widely used books and materials were performance octavos, individual contest octavos, and self-composed materials. It would appear that in the state of Texas, (twenty years ago) most choral directors teach sight singing, which May states

is generalizable to the greater population. May found that choir directors in states wishing to include sight-singing evaluation at large group festivals often seek information from Texas, as this state has a long history of a sight-singing component for choral adjudication festivals.

Daniels (1986) investigated the relationships among selected factors from previous research and the ability of the select mixed high school choir students to sight sing music. The study involved students from a total of 20 high schools from the states of Georgia, North Carolina, South Carolina, and Tennessee ($N = 800$). By selecting schools that varied according to size, urban-rural setting, and socioeconomic level and ethnic background of the students, Daniels aimed to represent a cross section of high school students in American society. Regressions were used to analyze the data. Results indicated that the factors which, in combination, best predicted individual sight-singing achievement were: the ethnic make-up of the school, a large percentage of choir students who have a piano in their home, a school in a rural setting, an occasional use of rote procedures to teach music, a large percentage of choir students who participated in all-state chorus, a large proportion of choir students with experience playing a musical instrument, a large high school, and a chorus teacher who believed that the development of sight-reading ability is an important objective for the high school chorus. Daniels' study indicated that the ethnic make-up of the school was the single best predictor of group sight-reading ability in high school choirs favoring an all-white school.

Justus (1970), in an experimental study, compared two groups by examining the effectiveness of a conventional approach to the teaching of sight singing with an instructional design developed by the experimenter. The instructional design developed by Justus utilized certain innovations in a sequentially-structured form. The research was instigated by the desire to compare the results of a controlled design with the recognized success achieved by the innovative method during several years of practical application. The innovative method employed was based upon building on familiarity of musical symbols, intervallic and rhythmic drills, routines with no verbal text instruction given, student self-analysis, and joint student-teacher confidence in success. Subjects were randomly-selected females enrolled in a beginning-level choir class attending one of four high schools in Tucson, Arizona. Subjects were equated by means of a pretest scores on the *Seashore Measures of Musical Talent* test. Both the experimental and control groups were taught by the same instructor. The posttest results revealed that there was no significant difference in sight-singing performance among groups. However, the results showed a significantly higher gain in the improvement of sight-singing skills for the experimental group than the students taught by the conventional method during the same amount of time. In Justus' opinion, the results from this study provided justification for the adoption of a carefully-structured, sequential methodology for the teaching of sight singing.

In an experimental study, Egbert (1990) examined the effects of systematic rhythm-reading instruction versus rote-rhythm drill on the sight-singing skills of high school choral ensemble members. The subjects involved in the study were tenth through

twelfth-grade students ($N = 46$) from a small parochial school's select choir in a medium-sized Midwest community. Each student participated in an ensemble sight-singing pretest, 22 ten-minute group instructional sessions, and individual (as well as ensemble) sight-reading posttests. The individual posttest consisted of eight sight-singing exercises, each progressing in pitch and rhythm difficulty. Subjects were required to sight sing each of the eight individual posttest exercises with rhythm and melody as accurately as possible. The inter-judge reliability of the three judges for individual sight singing ($r = .94$) was calculated using a Pearson Product Moment Correlation. Subjects scored significantly higher on the rhythm reading than on the pitch reading component for the individual posttest. Using ANOVA statistical analysis, both groups showed substantial gains in ensemble sight singing from pretest to posttest; however, the only statistical significance was found when examining the rhythm component, where the results indicated that subjects scored significantly higher on the rhythm component than on the pitch component. It is important to note Egbert's choice to differentiate between rhythmic and melodic sight singing. In the current study sight singing is defined as the comprehensive product of both the rhythmic and melodic components of a sight-singing excerpt.

In a quasi-experimental study, Demorest (1998b) reviewed the research on sight-singing instruction and achievement in the secondary choral ensemble and the variables that are related to student success at both the group and individual level. Using prior literature as a basis, he examined the effect of individual instruction on the success of individual sight-singing achievement. In Demorest's review of literature section,

research on instructional time, methods, materials, and both individual and group achievement in sight singing were divided into descriptive and predictive studies. The purpose of Demorest's experimental study was to examine the effect of individual testing, in conjunction with group instruction, on students' sight-singing skills. Over the course of one school semester, beginning and advanced choir students ($N = 306$) from six high schools in the state of Washington took part in an experimental study. Subjects, who were randomly assigned to a pretest-posttest control group design, were from intact choirs. The pre-test consisted of having each student sight sing two melodic lines, one in major and one in minor. Students were given a score based upon their performance. Over the course of one semester the experimental group received individual sight-singing instruction in addition to the group instruction provided to the control group. During the melodic dictation instruction, the control group subjects were separated from the group. Results showed a significantly greater gain in individual sight-singing performance on the major melody for members of the experimental group. Members of the advanced choirs across both experimental and control groups scored significantly higher on the major melody than members of the non-advanced choirs. There were no significant differences in either the experimental or control groups for the minor melody. There was a significant school-to-school difference in individual achievement for both melodies among the experimental group, and no interaction with the treatment. Individual instruction was found to be an effective means of improving individual sight-singing performance in group instructional situations.

In an experimental study, Ferrante (2010) investigated the effects of melodic dictation tasks on the sight-singing skills of high school choral students. This experimental study was conducted over a period of 11 weeks. Participants ($N = 70$) consisted of a convenience sample of ninth through twelfth-grade students in beginning and advanced mixed choirs from two high schools. Participants from both beginning and advanced ensembles were randomly assigned to either an experimental or control group. Both groups received group sight-singing instruction as a part of the choir rehearsal. The experimental group also received instruction on written melodic dictation over the course of the nine-week period. The questions the researcher sought to answer were: (1) is there a significant difference in the test score for sight-singing skills between high school choral students who participate in regularly employed melodic dictation tasks and those who do not? and (2) does membership in a beginning or advanced choir have a relationship to regularly employed melodic dictation tasks on high school choral students' sight-singing skills? Prior to treatment, participants were individually pretested by sight singing a melody. Over the course of the nine-week treatment period, all participants were involved in sight-singing instruction during their regular choir rehearsal times, which occurred four times per week. For the posttest, all the participants individually sight sang a different melody than was used for the pretest. A two-way analysis of covariance (ANCOVA) was used to determine if there was a significant difference in posttest scores between treatment and control group participants within each choir, as well as a significant difference in posttest scores between the two choirs based on the independent variables, including level of ensemble. The covariate was the pretest

data gathered. Ferrante concluded not only that participation in regularly employed melodic dictation tasks in the high school choral rehearsal did not demonstrate significant differences between experimental and control groups' posttest scores for sight-singing skills, but also that membership in a beginning or advanced choir did not have an impact on the effects of regularly employed melodic dictation tasks on participants' sight-singing skills.

In a survey study, White (2009) investigated possible relationships among sight-singing scores of high school choral music students ($N = 396$) at a district/all-state audition event from the northeast region of a Midwestern state, and their teachers' self-reported sight-singing instructional systems ($N = 44$). Data were collected both across the school year and in a period of time prior to the district/all-state audition. Teacher participants completed a survey, and survey results were compared to students' sight-singing scores using a Pearson correlation. Weak positive relationships were discovered between student scores on the audition and both teacher understanding of the audition process and daily sight-singing instructional practices. White states that the findings of this study do not support any definitive conclusions about sight-singing success, but he suggests that the findings may possibly indicate that some weak relationships appear to exist between student sight-singing scores at a district/all-state audition event and teacher demographics, teacher opinions and some self reported instructional practices. He also states that more research is needed to determine the factors which best predict student sight-singing success.

Despite the belief among choral music educators that sight singing is indeed important, a 1988 study by Daniels noted that the development of competency in sight singing is an instructional goal that is frequently neglected in the choral-music classroom. Surveys and other research on the use of rehearsal time and priorities in secondary choral programs have supported this perception (Daniels, 1998; Hales, 1961; Johnson, 1987; Szabo, 2006).

Evaluation of Student Achievement in Sight Singing

Despite the various methods used, both formal and informal assessments become a key factor in evaluating the success of the given methodology. The teacher delivering the instruction is also a factor in the success of a given methodology. Is the group improving or are only certain individuals improving while others follow their lead? Even when group sight singing is taught, educators have questioned how many students in an ensemble are really reading music and how many are simply following a leader (Bennett, 1984). As states have begun to add a group sight-singing component to choral music festivals, the time spent on sight singing in the classroom has most likely increased. A question that has not been studied is whether or not the incorporation of a group sight-singing component at festivals is deterring certain directors from bringing their choirs to participate in any aspect of the festival.

Demorest and May (1995) examined the system used for group sight-singing instruction, individual sight-singing skills of choir members as a potential result of their private musical training, their choral experience, and the difficulty of the melodic material. The subjects ($N = 414$) were drawn from both the first and second choirs of four

Texas high schools. Two schools used the fixed *do* system of sight singing, the other two, the moveable *do* system. After a one-time test of sight-singing ability, subjects were randomly assigned to two melody conditions of varying difficulty. A multiple-regression analysis of musical background variables indicated that the number of years of school choir experience was the strongest predictor of individual success on sight-singing achievement, followed by years of piano, instrumental, and vocal lessons. Scores for the more challenging Melody Condition B were significantly lower than those for Melody A for all students. Covariates used in this study were years of choir experience, voice lessons and choir experiences outside of school. An analysis of covariance revealed that students in the moveable *do* groups scored significantly higher than did those in the fixed *do* groups on only B. However, this finding was tempered by the existence of other differences between the groups regarding private lessons, the consistency of method in the students' early Solfège training, and the sight-singing assessment procedures used in each school district as well as teacher differences.

In a pretest-posttest experimental design, Dennee (1996) sought to investigate various aspects of instructional time and teacher effects on selected measures of student achievement, such as sight singing, in high school freshman choral music ensembles, and to determine the efficacy of a researcher-designed instrument to measure instructional time variables and teacher effects in music ensemble classes. Fifteen high school choral teachers and six students from each of the schools ($N = 90$) participated in the study. A three-part researcher-designed *Music Performance Achievement Test* was used to measure subjects' individual achievement in sight singing, among other musical

variables. Between the pre and posttests, each teacher's ensemble rehearsal was videotaped twice. Dennee used these videos along with the *Academic Learning Time* (ALT) in music coding sheet to observe the teacher and six students selected for study. Independent variables included years of prior choral experience, years of private voice instruction, and years of instrumental music experience. Dependent variables included the researcher-designed *Music Performance Achievement Test* which yielded three test scores. The results indicated that the accrual of ALT in music by students was an important factor for performance achievement in music education. Results of this study showed that choral music teachers who spend little time addressing issues outside the goals of choral music and much time singing and addressing topics directly related to the music at hand help students attain higher level of performance achievement. Dennee recommended more research on time variables and teacher effects as they relate to student achievement.

In a survey study, Norris (2004) examined sight-singing requirements at junior and senior high school large-group ratings-based choral festivals throughout the United States. Responses to the following questions were sought from each state: (1) Are there ratings-based large-group choral festivals? (2) Is sight-singing participation a requirement? (3) Are there specific levels or classes of difficulty? (4) Is musical content specified for each level or class? (5) Is there an overall rating that includes both the performance and sight singing? Norris gathered data from all fifty states either from survey or from the individual state websites. Data revealed that less than half of U.S. states (Alabama, Arkansas, Colorado, Florida, Georgia, Idaho, Illinois, Indiana,

Kentucky, Louisiana, Maine, Maryland, Michigan, Mississippi, Missouri, Montana, New Hampshire, New Jersey, New Mexico, Ohio, Oklahoma, South Carolina, Tennessee and Texas) require group sight singing at large-group festivals at the high school level. Even fewer states delineate levels of difficulty, outline musical content to be assessed, and use the sight-singing rating in an overall final rating. Norris suggested that further analysis of the most evolved state sight-singing assessment systems be done to develop a more uniform, sequential system of content, materials, and assessment. It is worth noting that at the time of the Norris study (2004) Arizona was listed as a state that did not include sight singing at festivals. This changed in 2008 as Arizona included group sight-singing adjudication for the first time at regional and state festivals.

Scott (1996) constructed a holistic, criterion referenced sight-singing test for high school sopranos ($N = 120$). The purpose of this study was to answer the following four research questions: Through what means can test items be selected that accurately measure sight-singing performance as delineated by the national standards while incorporating the musical elements of melody, rhythm, harmony, and tonality within a holistic context? Does the test provide valid and reliable data without extensively encumbering the test administrator or scorer? What relationship, if any, exists between high school choral experience, instrumental experience, private piano experience, and test scores. How well do high school soprano choral students sight-sing holistic choral excerpts in comparison with the achievement standards set forth as part of the Content Standard Five, reading and notating music? The final test was administered to 120 sopranos from four Illinois high schools. A 3 x 4 two-way ANOVA was used for

statistical analysis. These students were evenly divided into a 3 x 4 matrix consisting of one, two, three, or four-year choral students. Test results showed a significant difference in pitch scores on the holistic test between the first and fourth-year students in high school choir, favoring the older students. There were also significant differences in the pitch and rhythm mean scores of students with instrumental experience and students with only choral experience. The findings indicated that singers were not singing at the achievement levels as established by the national standards, although most students were able to accurately sight-sing level one difficulty music. The researcher did not report the validity of the test, however, Cronbach's alpha was computed and the reliability of the test was reported as $r = .95$.

Scofield (1979) developed a reliable and valid test for the measurement of sight-singing achievement for students. Of specific importance was the practicality and usability of the test reflective of the method. Additionally, four more data gathering instruments were administered to subjects in the study: 1) a musical experience questionnaire; 2) a subjective rating – consisting of a teacher's numerical rating of the student's performance on a choral selection from standard literature; 3) a traditional standardized sight-singing tests – the *Otterstein-Mosher* (O-M) test; and 4) the original unirhythmic sight-singing test. Reliability for the test was reported as high, $r = .974$, as well as the coefficient for scorer reliability, $r = .999$. Criterion-related validity was determined by comparing the performance on the standardized test with the unirhythmic test. A correlation coefficient of $r = .926$ was calculated establishing high criterion-related validity. Two important conclusions were made from the results of the study.

First, the method of measuring sight-singing performance using a test without rhythm was valid for the sample studied. Second, a sight-singing test is available that is not only reliable and valid, as are many others, but also highly usable as well. Further study was recommended to determine if similar conclusions would be achieved using a much larger sample, equal sample sizes for the groups, and stricter controls throughout the study.

Chapter 3

METHODOLOGY

The purpose of this study was to investigate the attitudes, preferences, and practices of Arizona high school choral directors towards the teaching of sight singing, including the use of a specific sight-singing system, the instructional practices employed in daily rehearsals, the value and importance of sight-singing skills to directors, and student success in group sight-singing evaluations. Additionally, differences in teacher practices were investigated using independent variables of teaching experience, level of education, and education regarding the teaching of sight singing the choral directors received during their collegiate education. Survey research was determined to be the best method for this study, as a survey could reach the most participants and therefore increase the amount of data gathered (Sue & Ritter, 2007). This chapter includes descriptions of the pilot study, participants, instrumentation, procedures, and response rate, as well as operational definitions and research questions.

Pilot Study

A previous analysis of attitudes towards sight-singing instruction and practices by high school choral teachers in the state of Arizona as connected to sight-singing festival scores (Farenga, 2012) served as a pilot study for the current study. Data were collected through an online survey tool. The subjects were high school choral directors in the state of Arizona. These contacts were made through use of the Arizona Music Educators Association's 2010 directory. The survey was administered with ZipSurvey, and an invitation to participate was sent by e-mail. The survey was sent to 153 high school

choral directors and 60 responded, yielding a response rate of 39%. Descriptive statistics gathered revealed that the mean years of teaching experience was 13.55, ($N = 60$) while the mean years of teaching experience in a high school choral music classroom was 9.39. All 60 participants held a Bachelor's degree, while over half (33 participants) also held a Master's degree and three held a terminal degree in Music or Music Education. While all 60 participants held a teaching position in the state of Arizona, 22 of them attended an undergraduate institution out of state.

Due to a somewhat low return rate of 39%, results could not be generalized to the greater population of Arizona high school choral directors. The findings and methodology from the pilot study served as the basis for the current study, which is more in depth and yielded a higher response rate, thereby allowing results to be generalized to the population of Arizona high school choral directors. Analysis of pilot study results showed no significant differences between groups who scored a superior on the sight-singing component at festival and groups who did not when considering the following: the sight-singing methodology used in the classroom and the amount of time spent on sight singing during classroom instruction (as measured by both days per week and minutes per day). Further analysis showed that the inclusion of a group sight-singing component at the area and state choral festivals did not impact the amount of time spent on sight-singing instruction in the classroom and did not influence participation in the state festival. The low return rate (39%) for the pilot study indicated that follow-up measures would need to be employed to ensure a higher return rate for the dissertation study.

Participants

For the current study, I compiled a list of Arizona high school choral directors ($N = 146$) from various sources to formulate the high school choir teacher population in the state. I began with a list of all high schools in the state provided by the Arizona Department of Education. I then cross-referenced this list of high schools with lists of teachers' names and schools found in directories provided by the Arizona chapter of the American Choral Directors Association and the Arizona Music Educators Association. Once choral teachers were identified, I obtained contact information through various means: databases of state professional organizations, such as the *eDirectory* from the Arizona Music Educators Association; an email contact list from the Arizona chapter of the American Choral Directors Association; and internet searches of individual school websites.

Sue and Ritter (2007) suggest that an online questionnaire or survey protocol is warranted when the desired sample size is large, widely geographically distributed, and the target population has access to the internet. With the use of ZipSurvey, all high school choral music teachers in the state of Arizona were sent an invitation to participate in the survey via e-mail. Some schools have more than one choral music teacher; in these cases, the survey was administered to both teachers. As a matter of clarification, it is important to note that some participants in the study took more than one choral ensemble to the fall ACE choral adjudication festival.

Some of the participants in the current study participated in the previous study (2010). Due to the passage of time, the researcher believes that participation in the pilot study did not affect participation in the current study.

Instrumentation

The dissertation survey instrument for this study included components from the pilot study along with questions based on consideration of studies in the review of literature (Norris, 2004; Smith, 1998; von Kampen, 2003). Norris (2004) examined sight-singing requirements at junior and senior high school large-group ratings-based choral festivals throughout the United States. Smith (1998) examined the pedagogical practices, teacher attitudes, and university preparation as related to sight singing in the high school choral rehearsal. Smith identified relationships between teacher experience, preparation, perceptions of ability, pedagogical practices, and attitudes. Von Kampen (2003) described the status of sight singing in Nebraska high schools. The purpose of von Kampen's study was to determine choral directors' attitudes toward teaching sight singing, and to determine the extent to which selected demographic factors influence choral directors' decisions on whether or not to include sight-singing instruction. The current study builds upon these lines of inquiry.

The survey instrument for the current study was divided into multiple sections that address various areas of interest: demographics; undergraduate and graduate schooling regarding sight singing and the teaching of sight singing; choral adjudication festival participation and scores; teacher attitudes and preferences regarding various topics surrounding sight-singing instruction. The researcher was able to use gender as a

variable in this study because all participants are professionally known to the researcher. Gender was not collected in the survey because the researcher was able to assign gender of the participants by examining the names of the participants. At no point while assigning gender to participants was confidentiality compromised in the participants survey responses.

The first section of the survey contained a statement of informed consent and information pertinent to participation (see Appendix B) in the survey (see Appendix C). The second section included seven demographic questions designed to gather data such as teaching experience, educational background and membership in professional organizations. The third section of the survey instrument was designed to provide information about the participant's college coursework in sight singing as it pertains to their attitudes about sight singing and the teaching of sight singing. The fourth section of the survey included questions regarding the daily practices of teachers pertaining to sight-singing instruction, as well as information about festival participation and choir-festival ratings. The fifth section of the survey was a series of Likert-type questions used to gather information on attitudes towards sight-singing instruction, systems used, and teacher education. A 5-point, Likert-type scale ranging from 5 for "Strongly Agree" to 1 for "Strongly Disagree" was used as a response mode for these questions. Attitudinal statements were later divided into three groups: (1) directors' attitudes towards teaching sight singing in choir rehearsals; (2) directors' preferences toward which sight-singing exercises are used; and (3) directors' attitudes toward their preparation to teach sight singing. Cutietta (1992) explains that Likert-type questions are often used as this

“technique is unquestionably the most common attitude measurement technique used in music education practice and research today” (pg. 295). The last section of the survey contained open-ended questions.

The current study’s survey was pretested with five high school choral colleagues of the researcher then pilot tested with ten randomly selected high school choir directors across the state of Arizona using ZipSurvey. Comments and results from the pretest and pilot tests were collected and appropriate changes were made to the survey to ensure content validity of the survey instrument. Cronbach’s alpha was conducted on main study Likert-type responses to test the internal consistency and reliability of the survey instrument and resulted in a reliability of .762. This reliability measurement is "adequate for analysis and reporting" (Babbie, pg. 182).

Procedure and Response Rate

A link with an invitation to the survey was electronically sent to 146 Arizona high school choral music teachers via ZipSurvey on April 25, 2013. By the first response deadline (May 2, 2013), 31 surveys had been returned (21% return rate). A follow-up email was sent and by the second response deadline (May 9, 2013) an additional 22 surveys were returned yielding a cumulative return rate of 36%. An additional 50 teachers were contacted by personal emails or telephone, encouraging them to go online to take the survey. The extra time allotted for additional responses was two weeks. This yielded 33 survey responses. Follow-up telephone calls served as a reminder for the participant to take the survey (Babbie, 1990). By making multiple contacts by various methods, a higher response rate was achieved, thus providing an increased response rate

of 59% for the current study. In the end, a total of 86 surveys were collected ($n = 86$) and the total return rate for the population was 59%, producing what an acceptable return rate for generalizability to the target population (Huck, 2004).

Operational Definitions

Arizona Music Educators Association – AMEA. The music educators professional organization in the state of Arizona.

Arizona Choral Educators - ACE. The current choral constituent group within AMEA.

Attitude. “An attitude is a firmly held mental network of beliefs, feelings, and values that is organized through an individual’s experience, and that exerts a directive and dynamic influence on the individual’s perception and response to all objects and situations with which it is related” (Cutietta, 1992, pg. 296).

American Choral Directors Association – ACDA. The choral directors professional organization in the United States.

Arizona chapter of the American Choral Directors Association – AzACDA. The choral directors’ professional organization in the state of Arizona.

Choral Directors of Arizona – ChoDA. The former choral constituent group within AMEA.

Choral Teacher. A currently employed high school teacher that teaches at least one course of choral music in their schedule.

Daily Instructional Time. Refers to the amount of time sight-singing instruction is given, measured in minutes per rehearsal, rehearsals per week, and minutes per week.

Fixed do. In the fixed *do* method of teaching, *do* is always C, *re* is always D, *mi* is always E, etc. The fixed *do* system does not change based upon whatever key or harmony the notes may appear. For example, when singing a scale that starts on the absolute pitch named D, the solfège syllable is *re*; therefore, a D to D scale would be *re-mi-fa-sol-la-ti-do-re*. (Baker, 1995).

Moveable do. The moveable *do* system of solfège is one in which the tonic of every major scale is assigned *do*, the second degree assigned *re*, the third *mi*, etc. (Baker, 1995). The minor keys in this system may begin on *la* or *do* (Smith, 1998).

Ratings. The ACE (Arizona Choral Educators) and the Arizona chapter of the ACDA (American Choral Directors Association) both host choral music festivals (ACE in the fall and ACDA in the spring) which use the same rating system. Ratings are: Superior, Excellent, Good, Fair, Poor. Qualified judges assign ratings based upon their judgment of the group. The judges' scores are then averaged for one final score. An average rating of both performance and sight-singing adjudication is given to a choir after both an adjudicated performance of a prepared piece and a sight-singing evaluation.

Sight singing. The goal of sight singing is the ability to sing at first sight, with the correct rhythm and pitch, a piece of music previously unknown to the performer (Ottman, 1996).

Statistical Research Questions

The following questions are for both descriptive analyses and tests of difference.

1. What are the overall attitudes of high school choral directors toward sight singing in the high school choral music classroom? (Survey Questions 25–33)

2. What are directors' daily instructional practices when teaching sight singing? (Survey Questions 14, 15)

3. Is there a significant difference among levels of teaching experience and levels of education on attitudes toward sight-singing instruction?

(Survey Questions 3, 6, 25, 26, 27, 28)

Q₁: Is there a significant difference among levels (years) of teaching experience on attitudes toward sight-singing instruction?

H₀: There is no significant difference among levels of teaching experience on attitudes toward sight-singing instruction.

Q₂: Is there a significant difference among levels of education on attitudes toward sight-singing instruction?

H₀: There is no significant difference among levels of education on attitudes toward sight-singing instruction.

Q₃: Is there a significant interaction between years of teaching experience and level of education on directors' attitudes toward sight-singing instruction?

H₀: There is no significant interaction between years of teaching experience and level of education on directors' attitudes toward sight-singing instruction.

4. Is there a significant difference among levels of teaching experience and levels

of education on preferences toward which sight-singing exercises are used for instruction?

(Survey Questions 3, 6, 29, 30, 31)

Q₁: Is there a significant difference among levels of teaching experience on preferences toward which sight-singing exercises are used for instruction?

H₀: There is no significant difference among levels of teaching experience on preferences toward which sight-singing exercises are used for instruction.

Q₂: Is there a significant difference among levels of education on preferences toward which sight-singing exercises are used for instruction?

H₀: There is no significant difference among levels of education on preferences toward which sight-singing exercises are used for instruction.

Q₃: Is there a significant interaction between years of teaching experience and level of education on directors' preferences toward which sight-singing exercises are used for instruction?

H₀: There is no significant interaction between years of teaching experience and level of education on directors' preferences toward which sight-singing exercises are used for instruction.

5. Is there a significant difference among levels of teaching experience and levels of education on attitudes toward their prior training to teach sight singing?

(Survey Questions 3, 6, 32, 33)

Q₁: Is there a significant difference among levels of teaching experience on attitudes toward their prior training to teach sight singing?

H₀: There is no significant difference among levels of teaching experience on attitudes toward their prior training to teach sight singing.

Q₂: Is there a significant difference among levels of education on attitudes toward their prior training to teach sight singing?

H₀: There is no significant difference among levels of education on attitudes toward their prior training to teach sight singing.

Q₃: Is there a significant interaction between years of teaching experience and level of education on directors' attitudes toward their prior training to teach sight singing?

H₀: There is no significant interaction between years of teaching experience and level of education on directors' attitudes toward their prior training to teach sight singing.

6. Is there a significant difference among systems directors were trained to use as a student and the system they currently use in the classroom on their attitudes toward sight-singing instruction? (Survey Questions 9, 24, 25, 26, 27, 28)

Q₁: Is there a significant difference among systems directors were trained to use as a student on their attitudes toward sight-singing instruction?

H₀: There is no significant difference among systems directors were trained to use as a student on their attitudes toward sight-singing instruction.

Q₂: Is there a significant difference among systems directors currently use in the classroom on their attitudes toward sight-singing instruction?

H₀: There is no significant difference among systems directors currently use in the classroom on their attitudes toward sight-singing instruction.

Q₃: Is there a significant interaction between the system directors were trained to use as a student and the system they currently use in the classroom on directors' attitudes toward sight-singing instruction?

H₀: There is no significant interaction between the system directors were trained to use as a student and the system they currently use in the classroom on directors' attitudes toward sight-singing instruction.

7. Is there a significant difference among systems directors were trained to use as a student and the system they currently use in the classroom on their preferences toward which sight-singing exercises are used for instruction? (Survey Questions 9, 24, 29, 30, 31)

Q₁: Is there a significant difference among systems directors were trained to use as a student on their preferences toward which sight-singing exercises are used for instruction?

H₀: There is no significant difference among systems directors were trained to use as a student on their preferences toward which sight-singing exercises are used for instruction.

Q₂: Is there a significant difference among systems directors currently use in the classroom on their preferences toward which sight-singing exercises are used for instruction?

H₀: There is no significant difference among systems directors currently use in the classroom on their preferences toward which sight-singing exercises are used for instruction.

Q₃: Is there a significant interaction between the system they were trained to use as a student and the system they currently use in the classroom on directors' preferences toward which sight-singing exercises are used for instruction?

H₀: There is no significant interaction between years of teaching experience and level of education on directors' preferences toward which sight-singing exercises are used for instruction.

8. Is there a significant difference among systems directors were trained to use as a student and the system they currently use in the classroom on their attitudes toward their prior training to teach sight singing? (Survey Questions 9, 24, 32, 33)

Q₁: Is there a significant difference among systems directors were trained to use as a student on their attitudes toward their prior training to teach sight singing?

H₀: There is no significant difference among systems directors were trained to use as a student on their attitudes toward their prior training to teach sight singing.

Q₂: Is there a significant difference among systems directors currently use in the classroom on their attitudes toward their prior training to teach sight singing?

H₀: There is no significant difference among systems directors currently use in the classroom on their attitudes toward their prior training to teach sight singing.

Q₃: Is there a significant interaction between the system they were trained to use as a student and the system they currently use in the classroom on directors' attitudes toward their prior training to teach sight singing?

H₀: There is no significant interaction between the system they were trained to use as a student and the system they currently use in the classroom on directors' attitudes toward their prior training to teach sight singing.

9. Is there a significant difference among directors' self-perceived abilities to sight sing and to teach sight singing on their attitudes toward sight-singing instruction? (Survey Questions 10, 11, 25, 26, 27, 28)

Q₁: Is there a significant difference among directors' self-perceived ability to sight sing on their attitudes toward sight-singing instruction?

H₀: There is no significant difference among directors' self-perceived ability to sight sing on their attitudes toward sight-singing instruction.

Q₂: Is there a significant difference among directors' self-perceived ability to teach sight singing on their attitudes toward sight-singing instruction?

H₀: There is no significant difference among directors' self-perceived ability to teach sight singing on their attitudes toward sight-singing instruction.

Q₃: Is there a significant interaction between their self-perceived abilities to sight sing and to teach sight singing on directors' attitudes toward sight-singing instruction?

H₀: There is no significant interaction between their self-perceived abilities to sight sing and to teach sight singing on directors' attitudes toward sight-singing instruction.

10. Are there significant difference among directors' self-perceived abilities to sight sing and to teach sight singing on their preferences toward which sight-singing exercises are used for instruction? (Survey Questions 10, 11, 29, 30, 31)

Q₁: Is there a significant difference among directors' self-perceived ability to sight sing on their preferences toward which sight-singing exercises are used for instruction?

H₀: There is no significant difference among directors' self-perceived ability to sight sing on their preferences toward which sight-singing exercises are used for instruction.

Q₂: Is there a significant difference among directors' self-perceived ability to teach sight singing on their preferences toward which sight-singing exercises are used for instruction?

H₀: There is no significant difference among directors' self-perceived ability to teach sight singing on their preferences toward which sight-singing exercises are used for instruction.

Q₃: Is there a significant interaction between the their self-perceived ability to sight sing and ability to sight sing on directors' preferences toward which sight-singing exercises are used for instruction?

H₀: There is no significant interaction between the their self-perceived ability to sight sing and ability to sight sing on directors' preferences toward which sight-singing exercises are used for instruction.

11. Is there a significant difference among directors' self-perceived abilities to sight sing and to teach sight singing on their attitudes toward their prior training to teach sight singing? (Survey Questions 10, 11, 32, 33)

Q₁: Is there a significant difference among directors' self-perceived ability to sight sing on their attitudes toward their prior training to teach sight singing?

H₀: There is no significant difference among directors' self-perceived ability to sight sing on their attitudes toward their prior training to teach sight singing.

Q₂: Is there a significant difference among directors' self-perceived ability to teach sight singing on their attitudes toward their prior training to teach sight singing?

H₀: There is no significant difference among directors' self-perceived ability to teach sight singing on their attitudes toward their prior training to teach sight singing.

Q₃: Is there a significant interaction between the their self-perceived ability to sight sing and their self-perceived ability to teach sight singing on directors' attitudes toward their prior training to teach sight singing?

H₀: There is no significant interaction between the their self-perceived ability to sight sing and their self-perceived ability to teach sight singing on directors' attitudes toward their prior training to teach sight singing.

12. Is there a significant difference among directors' choir's group sight-singing ratings on their attitudes toward sight-singing instruction? (Survey Questions 19, 23, 25, 26, 27, 28)

Q₁: Is there a significant difference among directors' choir's group sight-singing ratings on their attitudes toward sight-singing instruction?

H₀: There is no significant difference among directors' choir's group sight-singing ratings on their attitudes toward sight-singing instruction.

13. Is there a significant difference among directors' choir's group sight-singing ratings on their preferences toward which sight-singing exercises are used for instruction? (Survey Questions 19, 23, 29, 30, 31)

Q₁: Is there a significant difference among directors' choir's group sight-singing ratings on their preferences toward which sight-singing exercises are used for instruction?

H₀: There is no significant difference among directors' choir's group sight-singing ratings on their preferences toward which sight-singing exercises are used for instruction.

14. Is there a significant difference among directors' choir's group sight-singing ratings on their attitudes toward their prior training to teach sight singing? (Survey Questions 19, 23, 32, 33)

Q₁: Is there a significant difference among directors' choir's group sight-singing ratings on their attitudes toward their prior training to teach sight singing?

H₀: There is no significant difference among directors' choir's group sight-singing ratings on their attitudes toward their prior training to teach sight singing.

15. Is there a significant difference among directors' daily instructional practices on their attitudes toward sight-singing instruction? (Survey Questions 14, 15, 25, 26, 27, 28)

Q₁: Is there a significant difference among directors' daily instructional practices on their attitudes toward sight-singing instruction?

H₀: There is no significant difference among directors' daily instructional practices on their attitudes toward sight-singing instruction.

16. Is there a significant difference among directors' daily instructional practices on their preferences toward which sight-singing exercises are used for instruction? (Survey Questions 14, 15, 29, 30, 31)

Q₁: Is there a significant difference among directors' daily instructional practices on their preferences toward which sight-singing exercises are used for instruction?

H₀: There is no significant difference among directors' daily instructional practices on their preferences toward which sight-singing exercises are used for instruction.

17. Is there a significant difference among directors' daily instructional practices on their attitudes toward their prior training to teach sight singing? (Survey Questions 14, 15, 32, 33)

Q₁: Is there a significant difference among directors' daily instructional practices on their attitudes toward their prior training to teach sight singing?

H₀: There is no significant difference among directors' daily instructional practices on their attitudes toward their prior training to teach sight singing.

Chapter 4

RESULTS

The purpose of this study was to investigate the attitudes, preferences, and practices of Arizona high school choral directors towards sight-singing skills, and student success in group sight-singing evaluations, the teaching of sight singing including preference for a specific sight-singing system, and the instructional practices employed in daily rehearsals. Additionally, differences in teacher practices were compared using the independent variables of teaching experience, level of education, and sight-singing training the teacher received during their education.

Descriptive Statistics

The total number of teachers who responded to the survey was 86, which comprised 59% of the state's high school choral directors, this is considered an acceptable response rate in survey research (Babbie, 1990). Background data were collected to provide an overall description of the sample, including: gender, undergraduate major, highest degree obtained, total years of teaching experience, total years teaching high school choir, membership in AMEA and/or ACDA, and directors participation in group choral sight-singing evaluation at festivals. Frequencies and percentages of this descriptive data appear in Tables 1, 2, 3, 4, 5, 6, 7, and 8.

When examining gender (Table 1), there were 44 female directors (51%) and 42 male directors (49%). The overwhelming majority of directors' reported an undergraduate major (Table 2) in music education (74%), with an additional 12 directors earning a degree in music performance (14%) and another 10 directors listing an

undergraduate major of “other” (12%). Out of 86 directors, 34 directors (40%) named a Bachelor’s degree as the highest degree earned (Table 3), with 52 directors (61%) having earned a graduate degree, which revealed a highly educated teaching pool.

Table 1

Frequency of Director Gender

Gender	Frequency	Percentage
Female	44	51.2
Male	42	48.8

Table 2

Frequency of Directors’ Undergraduate Major

Major	Frequency	Percentage
Music Education	64	74.4
Music Performance	12	14.0
Other	10	11.6

Table 3

Frequency of Directors’ Highest Degree Obtained

Degree	Frequency	Percentage
Bachelor’s	34	39.5
Master’s	33	38.4
Master’s Plus or Doctorate	19	22.1

When examining total years of full-time teaching experience, groups were created based upon natural breaks in the data (Table 4). Directors with zero to three years of high school choral experience numbered 12 (14%), those with four to nine years of high school choral experience numbered 20 (23%), those with 10 to 19 years of high school choral experience numbered 26 (30%), and those with 20 or more years numbered 28 (33%), the largest group in this sample. Total years of high school choral teaching experience at the high school level was also examined (Table 5). Directors with zero to three years of high school choral experience numbered 18 (21%), those with four to nine years of high school choral experience numbered 30 (35%), those with 10 to 19 years of high school choral experience numbered 23 (27%), and those with 20 or more years of high school choral experience numbered 15 (17%). An overwhelming majority of respondents, 83 (97%), were members of a professional choral music educators association (Table 6). Out of 86 directors, 15 (17%) indicated participating in the fall ACE choral adjudication festival (Table 7). All but one of those 15 participating directors (93%) participated sight-singing portion of the festival (Table 8).

Table 4

Frequency of Directors' Total Years of Teaching Experience

Years	Frequency	Percentage
0–3	12	14.0
4–9	20	23.3
10–19	26	30.2
20+	28	32.6

Table 5

Frequency of Directors' Total Years Teaching High School Choir

Years	Frequency	Percentage
0–3	18	20.9
4–9	30	34.9
10–19	23	26.7
20+	15	17.4

Table 6

Frequency of Directors' Membership in AMEA and/or ACDA

Member	Frequency	Percentage
Yes	83	96.5
No	3	3.5

Table 7

Frequency of Directors' Participation in ACE Festival in 2012

Participation	Frequency	Percentage
Yes	15	17.4
No	70	81.4
No response	1	1.2

Table 8

Frequency of Directors' Participation in ACE Festival Sight-Singing Component

Participation	Frequency	Percentage
Yes	14	93.3
No	1	6.7

Demographic data collected indicates the average Arizona choral music educator in this study was a female director (51%) with an undergraduate degree in Music Education (74%) who also held a graduate degree (61%) as the highest degree obtained. The average director has taught for an average of 15 years, 11 of which were spent in the high school choral classroom. The average respondent is a member of a professional music teaching organization (97%) who did not participate in the fall state choral adjudication festival (83%).

Research Question #1: What are the overall attitudes and preferences of high school choral directors toward sight singing in the high school choral music classroom? (Survey Questions 25–33)

Attitude and preference statements were divided into three groups: (1) directors' attitudes towards teaching sight singing in choir rehearsals; (2) directors' preferences toward which sight-singing exercises are used for instruction; and (3) directors' attitudes toward their prior training to teach sight singing. Attitudinal and preferential data were gathered in the survey with Likert-type items using a five-point scale (5 = strongly agree,

4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree). Means and standard deviations for each statement in these categories appear in Tables 9, 10, and 11.

Table 9

Statements of Directors' Attitudes toward Teaching Sight Singing in Choir Rehearsals

Statement	<i>N</i>	<i>M</i>	<i>SD</i>
Sight singing is a part of my choir rehearsal.	85	4.65	0.48
I have difficulty finding enough class time to teach sight singing.	85	2.86	1.36
I spend more time teaching sight singing in the first quarter of school (the time preceding the fall ACE festival).	82	3.20	1.32
The inclusion of sight singing at the ACE festival has motivated me to teach sight singing all year long.	68	2.56	1.14

Table 10

Statements of Directors' Preferences toward which Sight-Singing Exercises Are Used

Statement	<i>N</i>	<i>M</i>	<i>SD</i>
I use isolated drills for sight-singing exercises.	84	3.82	1.02
I use choral literature for sight-singing exercises.	85	3.82	0.97
I write my own sight-singing exercises.	84	3.15	1.40

Table 11

Statements of Directors' Attitudes toward Prior Training to Teach Sight Singing

Statement	<i>N</i>	<i>M</i>	<i>SD</i>
My training in college was adequate for teaching sight singing to high school choral students.	85	2.77	1.24
I would have liked to have had more college training in the teaching of sight singing.	85	4.17	0.90

Research Question #2: What are directors' daily instructional practices when teaching sight singing?

Daily instructional practices were measured by asking for the following information regarding the frequency of teaching sight singing in choral rehearsals: minutes per rehearsal, rehearsals per week, and minutes per week. The frequencies and percentages, as well as means and standard deviations are shown in Tables 12, 13, 14, and 15.

Table 12

Amount of Time Spent on Sight-Singing Instruction

Time	<i>N</i>	<i>M</i>	<i>SD</i>
Minutes per Rehearsal	85	9.94	4.13
Rehearsals per Week	85	3.52	1.22
Minutes per Week	85	34.02	17.24

Table 13

Frequency of Directors' Teaching of Sight Singing in Minutes per Rehearsal

Minutes	Frequency	Percentage
0-4	0	0.0
5-9	33	38.3
10-14	32	37.2
15-19	15	17.4
20+	5	5.8
No response	1	1.2

Table 14

Frequency of Directors' Teaching of Sight Singing in Rehearsals per Week

Rehearsals	Frequency	Percentage
1	4	4.7
2	16	18.6
3	21	24.4
4	20	23.3
5	24	27.9
No response	1	1.2

Table 15

Frequency of Directors' Teaching of Sight Singing in Minutes per Week

Minutes	Frequency	Percentage
0–9	2	2.3
10–19	9	10.5
20–29	21	24.5
30–39	20	23.2
40–49	16	18.7
50–59	8	9.3
60+	9	10.5
No response	1	1.2

Research Question #3: Is there a significant difference among levels of teaching experience and levels of education on attitudes toward sight-singing instruction?

A 4 x 2 multivariate analysis of variance (MANOVA) test was conducted to determine if teaching experience and level of education differed for responses to statements measuring directors' attitudes toward sight-singing instruction. Participants ($N = 86$) were divided into four groups according to their years of teaching experience (Group 1: 0–3 years, $n = 18$; Group 2: 4–9 years, $n = 30$; Group 3: 10–19 years, $n = 23$; Group 4: 20 years and above, $n = 15$), and two groups according to their level of education (Group 1: Bachelor's degree, $n = 34$; Group 2: graduate degree, $n = 52$).

Levene's Test of Equality of Variance was conducted to check for homogeneity of variance-covariance matrices with no serious violations noted.

There was a statistically significant difference between levels of teaching experience on the combined dependent variables, $F(12, 152) = 2.32, p = .01$; Wilks' Lambda = .61, (Table 16). When the results from the dependent variables were considered separately, the only difference to reach statistical significance, using a Bonferroni adjusted alpha level of .01, was the statement of "Sight singing is a part of my choir rehearsal," $F(3, 55) = 3.85, p = .01$. An inspection of the mean scores indicated that those with 20+ years of teaching experience, ($M = 4.92, SD = .29$), reported slightly higher statistically significant levels of agreement with the statement "Sight singing is a part of my choir rehearsal," than those with 0–3 years teaching experience, ($M = 4.57, SD = .51$), those with 4–9 years teaching experience, ($M = 4.57, SD = .51$), and those with 10–19 years teaching experience, ($M = 4.83, SD = .38$).

The null hypothesis that there is no significant difference among levels of teaching experience on attitudes toward sight-singing instruction was rejected. The other two null hypotheses were retained. These were: there is no significant difference among levels of education on attitudes toward sight-singing instruction and there is no significant interaction between years of teaching experience and level of education on directors' attitudes toward sight-singing instruction.

Table 16

MANOVA Results of Directors' Experience Level and Level of Education on Statements

Measuring Directors' Attitudes toward Sight-Singing Instruction

Effect	Wilks' Lambda	<i>F</i>	<i>df</i>	Error <i>df</i>	Sig.
Overall	.56				.17
Degree	.80	1.75	8	104	.15
Experience Level	.61	2.45	12	138	.01*
Degree * Experience Level	.81	.50	24	182	.92

**p* = .01 Bonferroni adjusted alpha level

Research Question #4: Is there a significant difference among levels of teaching experience and levels of education on preferences toward which type of sight-singing exercises are used for instruction?

A 4 x 2 multivariate analysis of variance (MANOVA) test was conducted to determine if teaching experience and level of education were differed on responses to statements measuring directors' preferences toward which sight-singing exercises are used for instruction. Participants were divided into four groups according to their years of teaching experience (Group 1: 0–3 years, *n* = 18; Group 2: 4–9 years, *n* = 30; Group 3: 10–19 years, *n* = 23; Group 4: 20 years and above, *n* = 15), and two groups according to their level of education (Group 1: Bachelor's Degree, *n* = 34; Group 2: graduate degree, *n* = 52). Levene's Test of Equality of Variance was conducted to check for homogeneity of variance-covariance matrices with no serious violations revealed.

There was a statistically significant difference among levels of teaching experience on the combined dependent variables, $F(9, 168) = 3.17, p = .001$, Wilks' Lambda = .68 (Table 17). When the results from the dependent variables were considered separately with univariate ANOVA analyses, the only variable to reach statistical significance--using a Bonferroni adjusted alpha level of .02--was the statement of "I use choral literature for sight-singing exercises," $F(3, 71) = 4.17, p = .009$. An inspection of the mean scores indicated that those with 0–3 years of teaching experience, ($M = 4.06, SD = .85$), reported slightly higher statistically significant levels of agreement with the statement "I use choral literature for sight-singing exercises," than those with 4–9 years teaching experience, ($M = 3.60, SD = 1.03$), those with 10–19 years teaching experience, ($M = 3.91, SD = .90$), and those with 20+ years teaching experience, ($M = 3.86, SD = 1.1$). The null hypothesis that there is no significant difference among levels of teaching experience on preferences toward which sight-singing exercises are used for instruction was rejected. The other two null hypotheses were retained. These were: there is no significant difference among levels of education on preferences toward which sight-singing exercises are used for instruction and there is no significant interaction between years of teaching experience and level of education on directors' preferences toward which sight-singing exercises are used for instruction.

Table 17

MANOVA Results for Statements Measuring Directors' Preferences toward which Sight-Singing Exercises are used for Instruction and Directors' Experience Level and Level of Education

Effect	Wilks' Lambda	F	df	Error df	Sig.
Overall	.68				.11
Degree	.89	1.08	6	138	.36
Experience Level	.68	1.92	9	168	.05*
Degree * Experience Level	.68	0.93	18	196	.50

* $p = .02$ Bonferroni adjusted alpha level

Research Question #5: Is there a significant difference among levels of teaching experience and levels of education on attitudes toward their prior training to teach sight singing?

A 4 x 2 multivariate analysis of variance (MANOVA) test was conducted to determine if teaching experience and level of education differed on responses to statements measuring directors' attitudes toward which sight-singing exercises are used for instruction. Participants were divided into four groups according to their years of teaching experience (Group 1: 0–3 years, $n = 18$; Group 2: 4–9 years, $n = 30$; Group 3: 10–19 years, $n = 23$; Group 4: 20 years and above, $n = 15$), and two groups according to their level of education (Group 1: Bachelor's Degree, $n = 34$; Group 2: graduate degree, $n = 52$). Levene's Test of Equality of Variance was conducted to check that data fulfilled

assumptions of like variance. Responses to one statement were found to violate this assumption (“I would have liked to have had more college training in the teaching of sight singing”). Therefore, Pillai’s Trace was utilized for analyses in place of the more common Wilks’ Lambda. Pillai’s Trace is a more robust multivariate analysis that is less susceptible to errors due to unequal variances, and therefore, should be used when the assumption of like covariance is not met (Mertler & Vannatta, 2005).

MANOVA results indicated no significant differences in responses among levels of teaching experience or levels of education and no significant interaction between the independent variables on the dependent variables (Table 18). Please refer back to Table 11 for means and standard deviations for these attitude statements. All three null hypotheses were retained. These were: there is no significant difference among levels of teaching experience on attitudes toward their prior training to teach sight singing; there is no significant difference among levels of education on attitudes toward their prior training to teach sight singing; and there is no significant interaction between years of teaching experience and level of education on directors’ attitudes toward their prior training to teach sight singing.

Table 18

MANOVA Results for Statements Measuring Directors' Attitudes toward which Sight-Singing Exercises are used for Instruction and Directors' Experience Level and Level of Education

Effect	Pillai's Trace	<i>F</i>	<i>df</i>	Error <i>df</i>	Sig.
Overall	.85				.51
Degree	.05	.09	4	146	.92
Experience Level	.09	1.15	6	146	.34
Degree * Experience Level	.07	.84	12	146	.54

**p* = .03 Bonferroni adjusted alpha level

Research Question #6: Is there a significant difference among systems directors were trained to use as a student and the system they currently use in the classroom on their attitudes toward sight-singing instruction?

A 3 x 5 multivariate analysis of variance (MANOVA) test was conducted to determine if the system directors were trained to use as a student and the system they currently use in the classroom differed on responses to statements measuring directors' attitudes toward sight-singing instruction. Participants were divided into three groups according to the system they were trained to use as a student (Group 1: Solfège, *n* = 61; Group 2: numbers, *n* = 13; Group 3: none, *n* = 9), and five groups according to the system they currently use in the classroom (Group 1: Solfège with fixed *do*, *n* = 9; Group 2: Solfège with moveable *do* using *do* based minor, *n* = 23; Group 3: Solfège with

moveable *do* using *la* based minor, $n = 45$; Group 4: numbers, $n = 6$; Group 5: Other, $n = 2$). Levene's Test of Equality of Variance was conducted to check that data fulfilled assumptions of like variance. Responses to three statements were found to violate this assumption ("Sight singing is a part of my choir rehearsal," "I have difficulty finding enough class time to teach sight singing," and "I spend more time teaching sight singing in the first quarter of school (the time preceding the Fall ACE festival)"). Therefore, Pillai's Trace was utilized for MANOVA analyses in place of the more common Wilks' Lambda.

Using a Bonferroni adjusted alpha level of .01, MANOVA results indicated no significant differences in attitude responses among the system they were trained to use as a student or the system they currently use in the classroom and no significant interaction between the independent variables (Table 19). Please refer back to Table 9 for means and standard deviations for these attitude statements. All three null hypotheses were retained. These were: there is no significant difference among systems directors were trained to use as a student on their attitudes toward sight-singing instruction; there is no significant difference among systems directors currently use in the classroom on their attitudes toward sight-singing instruction; and there is no significant interaction between the system directors were trained to use as a student and the system they currently use in the classroom on directors' attitudes toward sight-singing instruction.

Table 19

MANOVA Results for Statements Measuring Directors' Attitudes toward Sight-Singing Instruction and Directors' Undergraduate System Learned and the System they Currently use in the Classroom

Effect	Pillai's Trace	<i>F</i>	<i>df</i>	Error <i>df</i>	Sig.
Overall	.52				.53
System Learned	.11	.80	8	108	.60
System Taught in Classroom	.26	.96	16	224	.50
Learned * Taught	.30	1.13	16	224	.33

**p* = .01 Bonferroni adjusted alpha level

Research Question #7: Is there a significant difference among systems directors were trained to use as a student and the system they currently use in the classroom on their preferences toward which type of sight-singing exercises are used for instruction?

A 3 x 5 multivariate analysis of variance (MANOVA) test was conducted to determine if the system they were trained to use as a student and the system they currently use in the classroom differed on responses to statements measuring directors' preferences toward which sight-singing exercises are used for instruction. Participants were divided into three groups according to the system they were trained to use as a student (Group 1: Solfège, *n* = 61; Group 2: numbers, *n* = 13; Group 3: none, *n* = 9), and five groups according to the system they currently use in the classroom (Group 1:

Solfège with fixed *do*, $n = 9$; Group 2: Solfège with moveable *do* using *do* based minor, $n = 23$; Group 3: Solfège with moveable *do* using *la* based minor, $n = 45$; Group 4: numbers, $n = 6$; Group 5: Other, $n = 2$). Levene's Test of Equality of Variance was conducted to check that data fulfilled assumptions of like variance. The response to one statement was found to violate this assumption. Therefore, Pillai's Trace was utilized for analyses in place of the more common Wilks' Lambda.

Using a Bonferroni adjusted alpha level of .02, MANOVA results indicated no significant differences in attitudes toward the system they were trained to use as a student or the system they currently use in the classroom and no significant interaction between the independent variables (Table 20). Please refer back to Table 10 for means and standard deviations for these attitude and preference statements. All three null hypotheses were retained. These were: there is no significant difference among systems directors were trained to use as a student on their preferences toward which sight-singing exercises are used for instruction; there is no significant difference among systems directors currently use in the classroom on their preferences toward which sight-singing exercises are used for instruction; and there is no significant interaction between years of teaching experience and level of education on directors' preferences toward which sight-singing exercises are used for instruction.

Table 20

MANOVA Results for Statements Measuring Directors' Preferences toward which Sight-Singing Exercises are used for Instruction and Directors' Undergraduate System Learned and the System they Currently use in the Classroom

Effect	Pillai's Trace	<i>F</i>	<i>df</i>	Error <i>df</i>	Sig.
Overall	.71				.86
System Learned	.03	.35	6	136	.91
System Taught in Classroom	.10	.58	12	207	.86
Learned * Taught	.16	.89	15	207	.57

**p* = .02 Bonferroni adjusted alpha level

Research Question #8: Is there a significant difference among systems directors were trained to use as a student and the system they currently use in the classroom on their attitudes toward their prior training to teach sight singing?

A 3 x 5 multivariate analysis of variance (MANOVA) test was conducted to determine if the system they were trained to use as a student and the system they currently use in the classroom differed on responses to statements measuring directors' attitudes toward their prior training to teach sight singing. Participants were divided into three groups according to the system they were trained to use as a student (Group 1: Solfège, *n* = 61; Group 2: numbers, *n* = 13; Group 3: none, *n* = 9), and five groups according to the system they currently use in the classroom (Group 1: Solfège with fixed *do*, *n* = 9; Group 2: Solfège with moveable *do* using *do* based minor, *n* = 23; Group 3:

Solfège with moveable *do* using *la* based minor, $n = 45$; Group 4: numbers, $n = 6$; Group 5: Other, $n = 2$). Levene's Test of Equality of Variance was conducted to check that data fulfilled assumptions of like variance. The response to one statement was found to violate this assumption. Therefore, Pillai's Trace was utilized for analyses in place of the more common Wilks' Lambda.

Using a Bonferroni adjusted alpha level of .03, MANOVA results indicated no significant differences in responses among the system they were trained to use as a student or the system they currently use in the classroom and no significant interaction between the independent variables (Table 21). Please refer back to Table 11 for means and standard deviations for these attitude statements. All three null hypotheses were retained. These were: there is no significant difference among systems directors were trained to use as a student on their attitudes toward their prior training to teach sight singing; there is no significant difference among systems directors currently use in the classroom on their attitudes toward their prior training to teach sight singing; there is no significant interaction between the system they were trained to use as a student and the system they currently use in the classroom on directors' attitudes toward their prior training to teach sight singing.

Table 21

MANOVA Results for Statements Measuring Directors' Attitudes toward their prior training to teach sight singing and Directors' Undergraduate System Learned and the System they Currently use in the Classroom

Effect	Pillai's Trace	<i>F</i>	<i>df</i>	Error <i>df</i>	Sig.
Overall	.80				.76
System Learned	.05	.91	4	142	.46
System Taught in Classroom	.06	.50	8	142	.85
Learned * Taught	.07	.53	10	142	.87

**p* = .03 Bonferroni adjusted alpha level

Research Question #9: Is there a significant difference among directors' self-perceived abilities to sight sing and to teach sight singing on their attitudes toward sight-singing instruction?

A 4 x 4 multivariate analysis of variance (MANOVA) test was conducted to determine if teachers' self-perceived abilities to sight sing and to teach sight singing differed on responses to statements measuring directors' attitudes toward sight-singing instruction. Participants were divided into four groups according to their self-perceived ability to sight sing (Group 1: Superior, *n* = 21; Group 2: Excellent, *n* = 42; Group 3: Good, *n* = 20; Group 4: Fair, *n* = 2), and four groups according to their self-perceived ability to teach sight singing (Group 1: Superior, *n* = 10; Group 2: Excellent, *n* = 47; Group 3: Good, *n* = 25; Group 4: Fair, *n* = 3). Levene's Test of Equality of Variance was conducted to check that data fulfilled assumptions of like variance. The responses to

two statements were found to violate this assumption. Therefore, Pillai's Trace was utilized for analyses in place of the more common Wilks' Lambda.

Using a Bonferroni adjusted alpha level of .01, MANOVA results indicated no significant differences in responses among their self-perceived abilities to sight sing and to teach sight singing and no significant interaction between the independent variables (Table 22). Please refer back to Table 9 for means and standard deviations for these attitude statements. All three null hypotheses were retained. These were: there is no significant difference among directors' self-perceived ability to sight sing on their attitudes toward sight-singing instruction; there is no significant difference among directors' self-perceived ability to teach sight singing on their attitudes toward sight-singing instruction; and there is no significant interaction between their self-perceived abilities to sight sing and to teach sight singing on directors' attitudes toward sight-singing instruction.

Table 22

MANOVA Results for Statements Measuring Directors' Attitudes toward Sight-Singing Instruction and Directors' Self-Perceived Abilities to Sight Sing and to Teach Sight Singing

Effect	Pillai's Trace	<i>F</i>	<i>df</i>	Error <i>df</i>	Sig.
Overall	.43				.07
Self-Perceived Ability	.13	.93	8	110	.49
Self-Perceived Teaching Ability	.26	1.81	8	110	.05
Ability * Teaching Ability	.29	1.08	16	228	.38

**p* = .01 Bonferroni adjusted alpha level

Research Question #10: Is there a significant difference among directors' self-perceived abilities to sight sing and to teach sight singing on their preferences toward which type of sight-singing exercises are used for instruction?

A 4 x 4 multivariate analysis of variance (MANOVA) test was conducted to determine if directors' self-perceived abilities to sight sing and to teach sight singing differed on responses to statements measuring directors' preferences toward which sight-singing exercises are used for instruction. Participants were divided into four groups according to their self-perceived ability to sight sing (Group 1: Superior, $n = 21$; Group 2: Excellent, $n = 42$; Group 3: Good, $n = 20$; Group 4: Fair, $n = 2$), and four groups according to their self-perceived ability to teach sight singing (Group 1: Superior, $n = 10$; Group 2: Excellent, $n = 47$; Group 3: Good, $n = 25$; Group 4: Fair, $n = 3$). Levene's Test of Equality of Variance was conducted to check that data fulfilled assumptions of like variance. The response to one statement was found to violate this assumption. Therefore, Pillai's Trace was utilized for analyses in place of the more common Wilks' Lambda.

Using a Bonferroni adjusted alpha level of .02, MANOVA results indicated no significant differences in responses among their self-perceived abilities to sight sing and to teach sight singing and no significant interaction between the independent variables (Table 23). Please refer back to Table 10 for means and standard deviations for these attitude and preference statements. All three null hypotheses were retained. These were: there is no significant difference among directors' self-perceived ability to sight sing on their preferences toward which sight-singing exercises are used for instruction; there is no

significant difference among directors' self-perceived ability to teach sight singing on their preferences toward which sight-singing exercises are used for instruction; and there is no significant interaction between the their self-perceived ability to sight sing and ability to sight sing on directors' preferences toward which sight-singing exercises are used for instruction.

Table 23

MANOVA Results for Statements Measuring Directors' Preferences toward which Sight-Singing Exercises are used for Instruction and Directors' Self-Perceived Abilities to Sight Sing and to Teach Sight Singing

Effect	Pillai's Trace	<i>F</i>	<i>df</i>	Error <i>df</i>	Sig.
Overall	.71				.70
Self-Perceived Ability	.17	1.40	9	216	.19
Self-Perceived Teaching Ability	.12	1.00	9	216	.45
Ability * Teaching Ability	.08	.45	12	216	.94

**p* = .02 Bonferroni adjusted alpha level

Research Question #11: Is there a significant difference among directors' self-perceived abilities to sight sing and to teach sight singing on their attitudes toward their prior training to teach sight singing?

A 4 x 4 multivariate analysis of variance (MANOVA) test was conducted to determine if directors' self-perceived abilities to sight sing and to teach sight singing differed on responses to statements measuring directors' attitudes toward their prior

training to teach sight singing. Participants were divided into four groups according to their self-perceived ability to sight sing (Group 1: Superior, $n = 21$; Group 2: Excellent, $n = 42$; Group 3: Good, $n = 20$; Group 4: Fair, $n = 2$), and four groups according to their self-perceived ability to teach sight singing (Group 1: Superior, $n = 10$; Group 2: Excellent, $n = 47$; Group 3: Good, $n = 25$; Group 4: Fair, $n = 3$). Levene's Test of Equality of Variance was conducted to check for homogeneity of variance-covariance matrices with no serious violations noted.

Using a Bonferroni adjusted alpha level of .03, MANOVA results indicated no significant differences in responses among their self-perceived abilities to sight sing and to teach sight singing and no significant interaction between the independent variables (Table 24). Please refer back to Table 11 for means and standard deviations for these attitude statements. All three null hypotheses were retained. These were: there is no significant difference among directors' self-perceived ability to sight sing on their attitudes toward their prior training to teach sight singing; there is no significant difference among directors' self-perceived ability to teach sight singing on their attitudes toward their prior training to teach sight singing; and there is no significant interaction between their self-perceived ability to sight sing and their self-perceived ability to teach sight singing on directors' attitudes toward their prior training to teach sight singing.

Table 24

MANOVA Results for Statements Measuring Directors' Attitudes toward their Prior Training to Teach Sight-Singing and Directors' Self-Perceived Abilities to Sight Sing and to Teach Sight Singing

Effect	Wilks' Lambda	F	df	Error df	Sig.
Overall	.73				.24
Self-Perceived Ability	.94	.80	6	148	.57
Self-Perceived Teaching Ability	.91	1.15	6	148	.34
Ability * Teaching Ability	.88	1.17	8	148	.32

* $p = .03$ Bonferroni adjusted alpha level

Research Question #12: Is there a significant difference among directors' choir's group sight-singing ratings on their attitudes toward sight-singing instruction?

Due to the existence of low numbers in each group, multiple non-parametric Kruskal-Wallis tests were conducted to determine if the group sight-singing ratings of directors' choirs at festival differed on responses to statements measuring directors' attitudes toward sight-singing instruction.

For the statement, "Sight singing is a part of my choir rehearsal", a Kruskal-Wallis test revealed no statistically significant differences across four different groups (Group 1, $n = 8$: Superior, Group 2, $n = 4$: Excellent, Group 3, $n = 2$: Good, Group 4, $n = 1$: Fair), $\chi^2(3, n = 15) = .875, p = .831$. For the statement, "I have difficulty finding enough class time to teach sight singing", a Kruskal-Wallis test revealed no statistically

significant differences across four different groups (Group 1, $n = 8$: Superior, Group 2, $n = 4$: Excellent, Group 3, $n = 2$: Good, Group 4, $n = 1$: Fair), $\chi^2(3, n = 15) = 2.71, p = .439$. For the statement, “I spend more time teaching sight singing in the first quarter of school (the time preceding the fall ACE festival)”, a Kruskal-Wallis test revealed no statistically significant differences across four different groups (Group 1, $n = 8$: Superior, Group 2, $n = 4$: Excellent, Group 3, $n = 2$: Good, Group 4, $n = 1$: Fair), $\chi^2(3, n = 15) = 6.00, p = .112$. For the statement, “The inclusion of sight singing at the ACE festival has motivated me to teach sight singing all year long”, a Kruskal-Wallis test revealed no statistically significant differences across four different groups (Group 1, $n = 8$: Superior, Group 2, $n = 4$: Excellent, Group 3, $n = 2$: Good, Group 4, $n = 1$: Fair), $\chi^2(3, n = 15) = 3.68, p = .298$. Therefore, the null hypothesis was retained: there is no significant difference among directors’ choir’s group sight-singing ratings on their attitudes toward sight-singing instruction. Please refer back to Table 9 for means and standard deviations for these attitude statements.

Research Question #13: Is there a significant difference among directors’ choir’s group sight-singing ratings on their preferences toward which sight-singing exercises are used for instruction?

Due to the existence of low n ’s in each group, multiple Kruskal-Wallis tests were conducted to determine if group sight-singing ratings of directors’ choirs at festival differed on responses to statements measuring directors’ preferences toward which sight-singing exercises are used for instruction.

For the statement, “I use isolated drills for sight-singing exercises”, a Kruskal-Wallis test revealed no statistically significant differences in responses among statements measuring directors’ preferences toward which type of sight-singing exercises are used for instruction across four different groups (Group 1, $n = 8$: Superior, Group 2, $n = 4$: Excellent, Group 3, $n = 2$: Good, Group 4, $n = 1$: Fair), $\chi^2(3, n = 15) = 4.46, p = .216$.

For the statement, “I use choral literature for sight-singing exercises”, a Kruskal-Wallis test revealed no statistically significant differences in responses among statements measuring directors’ preferences toward which type of sight-singing exercises are used for instruction across four different groups (Group 1, $n = 8$: Superior, Group 2, $n = 4$: Excellent, Group 3, $n = 2$: Good, Group 4, $n = 1$: Fair), $\chi^2(3, n = 15) = 3.20, p = .362$.

For the statement, “I write my own sight-singing exercises”, a Kruskal-Wallis test revealed no statistically significant differences in responses among statements measuring directors’ preferences toward which type of sight-singing exercises are used for instruction across four different groups (Group 1, $n = 8$: Superior, Group 2, $n = 4$: Excellent, Group 3, $n = 2$: Good, Group 4, $n = 1$: Fair), $\chi^2(3, n = 15) = .808, p = .848$.

Therefore, the null hypothesis was retained: there is no significant difference among directors’ choir’s group sight-singing ratings on their preferences toward sight-singing instruction. Please refer back to Table 10 for means and standard deviations for these attitude statements.

Research Question #14: Is there a significant difference among directors' choir's group sight-singing ratings on their attitudes toward their prior training to teach sight singing?

Due to the existence of low n 's in each group, multiple Kruskal-Wallis tests were conducted to determine if the group sight-singing ratings of directors' choirs at festival differed on responses to statements measuring directors' attitudes toward their prior training to teach sight singing.

For the statement, "My training in college was adequate for teaching sight singing to high school choral students", a Kruskal-Wallis test revealed no statistically significant differences in responses among statements measuring directors' attitudes toward their prior training to sight sing and to teach sight singing across four different groups (Group 1, $n = 8$: Superior, Group 2, $n = 4$: Excellent, Group 3, $n = 2$: Good, Group 4, $n = 1$: Fair), $\chi^2(3, n = 15) = .845, p = .839$. For the statement, "I would have liked to have had more college training in the teaching of sight singing", a Kruskal-Wallis test revealed no statistically significant differences in responses among statements measuring directors' attitudes toward their prior training to sight sing and to teach sight singing across four different groups (Group 1, $n = 8$: Superior, Group 2, $n = 4$: Excellent, Group 3, $n = 2$: Good, Group 4, $n = 1$: Fair), $\chi^2(3, n = 15) = 3.67, p = .300$. Therefore, the null hypothesis was retained: there is no significant difference among directors' choir's group sight-singing ratings on their attitudes toward their prior training to teach sight singing. Please refer back to Table 12 for means and standard deviations for these attitude statements.

Research Question #15: Is there a significant difference among directors' daily instructional practices on their attitudes toward sight-singing instruction?

A one-way between-groups multivariate analysis of variance (MANOVA) test was conducted to determine if daily instructional practices differed on responses to statements measuring directors' attitudes toward sight-singing instruction. Four dependent variables were used; these were attitude statements on sight-singing instruction. The independent variable was daily instructional practice, as measured by minutes per week, that students received sight-singing instruction. Participants were divided into four groups according to the amount of time spent on sight-singing instruction during a week of rehearsals (Group 1: 0-19 minutes, $n = 7$; Group 2: 20-39 minutes, $n = 31$; Group 3: 40-59 minutes, $n = 21$; Group 4: 60-79 minutes, $n = 8$). Levene's Test of Equality of Variance was conducted to check for homogeneity of variance-covariance matrices with no serious violations noted.

MANOVA results showed that there was a statistically significant difference between the time teachers spent on sight-singing instruction on the combined dependent variables, $F(12, 159) = 2.39, p = .007$; Wilks' Lambda = .65, (Table 28). When the results for the dependent variables were considered separately, the only difference to reach statistical significance, using a Bonferroni adjusted alpha level of .01, was on the attitude statement, "Sight singing is a part of my choir rehearsal", $F(3, 63) = 6.31, p = .001$. An inspection of the mean scores indicated that those who spent more than 60 minutes per week on sight-singing instruction ($M = 5.00, SD = 0.0$), reported slightly higher levels of agreement with the statement "Sight singing is a part of my choir

rehearsal” than those who spent between 40 and 59 ($M = 4.91, SD = .30$), those who spent 20–39 ($M = 4.58, SD = .50$), and those who spent 0–19 ($M = 4.29, SD = .50$).

Therefore, the null hypothesis was rejected: there is no significant difference among directors’ daily instructional practices on their attitudes toward sight-singing instruction.

Table 25

MANOVA Results for Statements Measuring Directors’ Attitudes toward Sight-Singing Instruction and Directors’ Daily Instructional Practices for Sight-Singing Instruction

Effect	Wilks’ Lambda	<i>F</i>	<i>df</i>	Error <i>df</i>	Sig.
Minutes per Week	.65	2.38	12	159	.007*

* $p = .01$ Bonferroni adjusted alpha level

Research Question #16: Is there a significant difference among directors’ daily instructional practices on their preferences toward which type of sight-singing exercises are used for instruction?

A one-way between-groups multivariate analysis of variance (MANOVA) test was conducted to determine if daily instructional practices differed on responses to statements measuring directors’ preferences toward which sight-singing exercises were used for instruction. Three dependent variables were used; these were preference statements on exercises used for sight-singing instruction. The independent variable was daily instructional practice, as measured by minutes per week, that students received sight-singing instruction. Participants were divided into four groups according to the amount of time spent on sight-singing instruction during a week of rehearsals (Group 1:

0-19 minutes, $n = 7$; Group 2: 20-39 minutes, $n = 31$; Group 3: 40-59 minutes, $n = 21$; Group 4: 60-79 minutes, $n = 8$). Levene's Test of Equality of Variance was conducted to check for homogeneity of variance-covariance matrices with no serious violations noted.

Using a Bonferroni adjusted alpha level of .02, MANOVA results indicated no significant differences in responses among statements measuring directors' preferences toward which exercises were used for sight-singing instruction, (Table 29). Please refer back to Table 10 for means and standard deviations for these preference statements.

Therefore, the null hypothesis was retained: there is no significant difference among directors' daily instructional practices on their preferences toward which sight-singing exercises are used for instruction.

Table 26

MANOVA Results for Statements Measuring Directors' Preferences toward which Sight-Singing Exercises are used for Instruction and Directors' Daily Instructional Practices for Sight-Singing Instruction

Effect	Wilks' Lambda	<i>F</i>	<i>df</i>	Error <i>df</i>	Sig.
Minutes per Week	.84	1.14	12	201	.33

* $p = .02$ Bonferroni adjusted alpha level

Research Question #17: Is there a significant difference among directors' daily instructional practices on their attitudes toward their prior training to teach sight singing?

A one-way between-groups multivariate analysis of variance (MANOVA) test was conducted to determine if daily instructional practices differed on responses to statements measuring directors' attitudes toward their prior training to teach sight singing. Two dependent variables were used; these were attitude statements on prior training to teach sight singing. The independent variable was daily instructional practice, as measured by minutes per week, that students received sight-singing instruction. Participants were divided into four groups according to the amount of time spent on sight-singing instruction during a week of rehearsals (Group 1: 0-19 minutes, $n = 7$; Group 2: 20-39 minutes, $n = 31$; Group 3: 40-59 minutes, $n = 21$; Group 4: 60-79 minutes, $n = 8$). Levene's Test of Equality of Variance was conducted to check for homogeneity of variance-covariance matrices with no serious violations noted.

Using a Bonferroni adjusted alpha level of .03, MANOVA results indicated no significant differences in responses among statements measuring directors' attitudes toward prior training to teach sight singing, (Table 30). Please refer back to Table 11 for means and standard deviations for these attitude statements. Therefore, the null hypothesis was retained: there is no significant difference among directors' daily instructional practices on their attitudes toward their prior training to teach sight singing.

Table 27

MANOVA Results for Statements Measuring Directors' Attitudes toward Prior Training to Teach Sight Singing and Directors' Daily Instructional Practices for Sight-Singing Instruction

Effect	Wilks' Lambda	F	df	Error df	Sig.
Minutes per Week	.91	1.01	8	158	.43

* $p = .03$ Bonferroni adjusted alpha level

Open-Ended Questions

The last section of the survey instrument included ten open-ended questions regarding the teaching of sight singing in the choral rehearsal. A summary of responses is provided in this section.

Open-Ended Question #1: If AMEA were to offer a session on TEACHING sight singing in the high school choral rehearsal, would you find that to be a valuable experience? Why or why not?

Seventy-eight participants responded to this question with seventy-four indicating that this would be a valuable experience. Some concerns were expressed that when this has been done in the past, sessions are aimed at beginning teachers and they would like to see more advanced workshops. One director stated, "Yes. I think the primary discussion needs to be on how to develop a system that works for your rehearsal and your program. Knowing what sight-singing is and knowing that it's important is one thing. Implementing it successfully is another."

Open-Ended Question #2: How do you incorporate student leaders/section leaders in the teaching of sight singing in your choral rehearsal?

Eighty-five participants responded to this question with forty-one indicating that they do involve student leaders/section leaders in the teaching of sight singing in their choral rehearsal. One director stated, “In the beginning of the year I have all students practice writing in the solfege. Then I have section leaders speak their solfege aloud, for others to check. As we get further along in the year I will have the section leaders sing the example first, so the singers who are still learning get a chance to watch the notes and hear. Then I have the whole group sing.”

Open-Ended Question #3: If you teach sight singing, do you use the ACE festival procedure in your rehearsal on a regular basis?

Eighty-four participants responded to this question with seventy-two indicating that they do not use the ACE festival procedure in your rehearsal on a regular basis.

Open-Ended Question #4: If you have participated in the sight-singing component at the ACE festival, do you find the music being used as sight singing excerpts to be appropriate? Why or why not? What might you change?

Fifty participants responded to this question with many directors indicating that they do find the materials being used appropriate. However some directors consider the materials to be too difficult. One director stated, “I think it is a bit too hard, and discourages some students - even though they are skilled. Since they are in a pressure situation, I think we should be more on the side of students and make the examples even more diatonic.”

Open-Ended Question #5: If you teach sight singing, has the way you teach sight singing changed over the course of your career? If so, please explain how.

Seventy participants responded to this question with sixty-three directors indicating that the way they teach sight singing over the course of their career has changed. One director stated, “Yes. I attempt to look at many different approaches. I incorporate the ideas of others, especially colleagues who have taught workshops on sight-reading and sessions where publishers-authors have made presentations of their materials. I also attempt to keep up with new materials that become available. I also keep many reference materials/books in my files. I also keep copies of region and All-state sight-reading materials. I use a particular method for a year or two and then change to another method (book/materials/ideas). I keep coming back to previously used materials through the years. I seldom adopt a particular method book. I always incorporate movable do and important elements of music theory (note names, key signatures, intervals, rhythms, chord spellings (the 17 major triads), circle of fifths and some chord functions. I have always tried to apply the isolated examples of sight-reading to the literature we are presently studying. This helps with relevance.”

Open-Ended Question #6: Please use the space bellow to tell me anything else you want to regarding your training to TEACH sight singing.

Thirty-nine directors took an opportunity to share something regarding their training to teach sight singing. One director stated, “I didn't have any formal training in sight singing during undergrad. We did sight singing in choir, theory, and private lessons, but I didn't even have to learn solfege until my second year of voice lessons and my

teacher found out I didn't know it. Then in grad school we had sight singing/ear training as a separate class, and what really helped was practicing audiating chords and also making up songs using solfege... My ear has always been TERRIBLE, so learning intervals and being able to sing any of them on solfege is what makes me a better sight reader, and I use the same technique to help my kids... sometimes I have them write solfege syllables on the board, then we have to sing the song... just on quarter notes... we don't use actually notes on a staff... instead just syllables. It's fun.” Another director stated, “Sight-reading must be an integral component of the choral experience in the classroom. It is important to use isolated examples included in a "method" but this does not override using examples from the literature the students are being taught on a daily basis. When a piece is learned and the students are able to sing it from memory, then I have them use the music and use it as a way to improve sight-reading abilities. I also use choral literature from the choral library and have the choir use it to sight-read through. It is surprising to see that there are always students who like some of the literature from passed years. We do a disservice to our students if they only sing the 3 or 4 selections they are learning for each a concert. The dynamics of sight-reading are always in a state of flux, because (1) student demographics change (2) the literacy level of each group (3) the pressures of the time of year in preparing for concerts/events.”

Open-Ended Question #7: Please use the space bellow to tell me anything else you want to regarding your attitude towards teaching sight singing.

Fifty-four directors chose to answer this question. There were a large variety of responses, but one theme that repeated itself over and over again was that directors

believe sight-singing instruction to be important. One director stated, "My attitude hopefully has already been expressed. (1) It must be an important component of every choral rehearsal. (2) Choral educators must be grounded in the important components of sight-reading. (3) They must constantly use it throughout the entire year. When rehearsal time must be focused on other components, SR can still be incorporated. I have even demonstrated sight-reading in some of our concerts through the years. (4) Directors must be grounded in a "method" and then adapt/adopt and be willing to incorporate things that work. (5) Students like routines. SR should be a part of that routine, but it must always be applied to the literature they are presently preparing. (6) Different "methods" use different sequences of instruction (introducing a sequential approach to concepts). I competent choral educator finds these instructional sequences that work from these materials and from the experiences he/she has in the choral classroom from years of experience. (7) The important thing: I think we need to change our mindset as music educators and just call it "reading," not sight-reading. When a child learns to read, he reads he doesn't sight-read. As a choral educator trained thoroughly in piano performance and pedagogy, I had a professor constantly drill us as his private students and in classes he taught the importance of reading through much piano literature. This one facet has helped me more than any other class/workshop I have ever attended. PS. Please know that I retired from teaching in May 2012. Because this survey was sent to me and because I have strong opinions re: the importance of including sight-reading strategies in the choral classroom, I have completed this survey. The importance of incorporating SR in the choral classroom has become stronger with each year of my 31 years of teaching

choral music at the El/Jr and HS levels (particularly HS).”

Open-Ended Question #8: Please use the space below to tell me anything else you want to regarding your daily rehearsal habits when it comes to teaching sight singing.

Thirty-eight directors chose to answer this question. Many directors explained times throughout the year when sight-singing instruction isn't a priority and how their instruction changes. One director stated, “Components of SR (1) Choral Warm-ups: Stretching, tone generation, range extensions and flexibility (2) Some of those choral warm-ups use sol-fa (a-la Kodaly-hand signs) (3) Theory applications (including occasional hand-outs, charts, reference materials, overhead projections and more recently the use of power-point. (4) Review songs they already know. Always identify at least one concepts extracted from the literature they already know) (5) Work new literature. Use sectionals when needed and appropriate. Be a floater to see how they are doing. Remember things from the sectionals that can be reinforced in the rehearsal. (6) Always introduce (reinforce) the most important concept/element of the rehearsal at the 2/3 or 3/4ths portion of the rehearsal. (7) Always sing something all the way through without stopping them. (8) Always dig deeper into a piece than the students want to. (9) Always have them sing something from memory (10) Students are always content to rehearse/perform under their level of ability. Always push them to excel. (11) The greatest danger to excellence the use of the word "good." You use it in rehearsal to compliment them and they mentally start to shut down and feel like they have arrived. Use this word judiciously. (12) An effective rehearsal always uses a delicate balance

between the routine, the unexpected and the constant challenge to improve. The incorporation of these elements assists each student in being validated and helps with motivation.”

Open-Ended Question #9: Do you have a specific strategy for teaching sight singing that you would like to share? If applicable, please do so here.

Only thirty-three directors chose to answer this question. Many directors spoke about the importance of consistency in actually teaching sight singing on a daily basis in the rehearsal. One director stated specifics of his/her strategy, saying “Sight Reading Process (as groups become more advanced, some of these steps can be skipped): 1. Clap the Rhythm 2. Identify the Key 3. Establish the key - Play 1-3-5-3-1-5-1 4. Students practice the melody on their own for 30 seconds by using hand signs and humming 5. Speak the rhythm of the example on Solfege and sometimes use hand signs (optional) 6. Re-establish the key 7. Students sing the sight reading example on Solfege I also feel that it is important to introduce new keys slowly (C, G, F for a while before moving on to other keys - if the students are beginners).”

Open-Ended Question #10: Do you have any additional comments about the inclusions of a sight signing portion of the ACE festival?

Only twenty-one directors chose to answer this question. The majority of directors that answered this question stated positive comments about the inclusion of sight singing. A few directors said that the process should be examined. One director stated, “The silent study ONLY is weird. I understand not allowing a teacher to sing pitches to their students, but the silent study portion is impractical, and is opposite of how

I run things in my classroom. I've spent a lot of energy convincing student that it is okay to preview out loud and make a mistake. It was frustrating to go to festival and have to revert to what I consider to be a bad learning philosophy. (Both my choirs scored Superior in sight-reading).”

Chapter 5

DISCUSSION, IMPLICATIONS, FURTHER RESEARCH, AND CONCLUSIONS

Summary

This survey-research study examined the attitudes, preferences, and practices of Arizona high school choral directors towards teaching sight singing, their use of a specific sight-singing system, and their instructional practices. In addition, this study looked at how these teachers' choral ensembles fared with group sight-singing evaluations in Arizona choral festivals and compared their sight-singing scores to several independent variables such as directors' experience level, level of education and system used to teach sight singing in the classroom. Research questions in the current study investigated the use of a specific sight-singing system, the instructional practices, time employed in daily rehearsals, the value and importance of sight-singing skills to directors, and ensemble success with group sight-singing evaluations. Data were collected using a pre-tested and piloted researcher-designed survey administered through ZipSurvey, an online survey administration tool. All high school choral directors in the state of Arizona ($N = 146$) were invited to participate, and 86 directors took part yielding a response rate of 59%. The survey collected demographic information and attitudinal/preferential data in three groups: (1) directors' attitudes towards teaching sight singing in choir rehearsals; (2) directors' preferences toward which sight-singing exercises are used for instruction; and (3) directors' attitudes toward their prior training to teach sight singing.

Analyses of attitudinal data revealed that:

- Directors overwhelmingly agree that sight singing is a part of their choir rehearsals.
- Directors indicated that they include sight singing instruction in their classes because they believe it to be an important part of the choral rehearsal.
- Significant differences in attitudes were found among directors teaching experience on one statement measuring directors' attitudes toward sight-singing instruction.
- Significant differences in attitude were found among directors teaching experience on one statement measuring director's preferences toward which sight-singing exercises are used for instruction.
- Teaching experience and level of education were found to have no significant difference on attitudinal responses toward directors' prior training to teach sight singing.
- The system that directors were trained to use as a student and the system they currently use in their classroom were found to have no significant differences among attitudinal responses.
- Directors' self-perceived abilities to sight sing and to teach sight singing were found to have no significant difference among attitudinal statements.
- The group sight-singing ratings of choirs at festival were found to have no significant difference among attitudinal responses.

- Daily instructional practices of teaching sight singing were found to be significantly different for one statement measuring directors' attitudes toward sight-singing instruction.
- Not only which sight-singing exercises were used for instruction, but also prior training to teach sight singing were found to have no significant differences among statements measuring directors' attitudes toward sight-singing instruction.

Discussion

Descriptive Statistics

Results of demographic data from this study provide a picture of high school choir music educator in the state of Arizona in 2012. Findings suggest that directors are almost equally divided by gender -- female (51%) or male (49%) -- and hold an undergraduate degree in music education (74%). Of 86 directors, 52 (61%) listed a graduate degree as the highest degree earned. The largest group by experience was those teachers ($n = 28$) with 20 or more years of experience (33%). An overwhelming majority, 83 (97%) of participants were members of a professional choral music educators association. Out of 86 directors, only 15 (17%) indicated participating in the fall Arizona Choral Educators (ACE) choral adjudication festival, with 14 of 15 (93%) of those directors participating in the sight-singing portion of the festival. The data point to a highly educated work force with many years of experience who value being a member of a professional organization.

General Attitudes and Preferences

It appears that high school choral directors in the state of Arizona believe that sight singing is an educationally worthy part of the choral rehearsal. However, closer inspection of the data unveils some interesting findings.

Responses to statements measuring directors' attitudes toward sight-singing instruction were quite positive in nature. Some directors do not have difficulty in finding class time to teach sight singing ($M = 2.86$, $SD = 1.36$), while others do, and many make it a priority to include sight-singing instruction in their rehearsal ($M = 4.65$, $SD = 0.48$). Directors strongly believe in the inclusion of sight-singing instruction in their choir curriculum, which is consistent with findings of previous research (May, 1993; Norris, 2004; White, 2009). It was interesting to note that the ACE fall adjudication festival apparently had very little impact upon sight-singing instruction, however this lack of impact of the ACE festival upon directors' sight-singing instruction is not altogether surprising, as only 17% of directors surveyed reported participating in the festival. Directors reported that they generally did not spend more time teaching sight singing in the first quarter of school when the ACE festival is held ($M = 3.20$, $SD = 1.32$), and they didn't feel motivated by the inclusion of sight-singing adjudication at the fall ACE festival ($M = 2.56$, $SD = 1.14$). This low percentage of participation in the fall ACE festival is of concern and will be addressed later.

When investigating the resources that directors use for sight-singing instruction, it is clear that directors use a variety of resources for sight-singing instruction across the state of Arizona. The mode for each of the following three statements was 4.0. Some

directors used isolated drills for sight-singing exercises ($M = 3.82, SD = 1.02$) while others use choral literature for sight-singing exercises ($M = 3.82, SD = 0.97$). Less common was the use of self-composed exercises ($M = 3.15, SD = 1.40$). This is consistent with research done by May (1993), which states that the three most widely used types of materials for sight-singing instruction in the choral rehearsal were performance octavos, individual contest octavos, and self-composed materials. May does not discuss isolated drills as a resource for sight-singing instruction.

One area of concern for high school choral directors, however, was directors' responses to statements regarding prior preparation to teach sight singing. Directors largely agreed that their college coursework and ensemble participation was not adequate for teaching sight singing to high school choral students ($M = 2.77, SD = 1.24$). In response to the statement "I would have liked to have had more college training in the teaching of sight singing," there was consensus among directors ($M = 4.17, SD = 0.90$). It is essential that we address this need and understand why teachers largely feel so unprepared to teach this aspect of the curriculum. Twenty-five percent of directors rated their ability to sight sing as superior yet only 12% rated their ability to *teach* sight singing as superior. It is of concern that only a quarter of high school choral directors consider themselves superior at sight singing, with fewer than that believing themselves to be superior teachers of sight singing. All directors, regardless of their level of teaching experience or level of education, feel they could have benefitted from more education on how to teach sight singing. Collegiate level professors need to address this both in the music education courses and ensemble rehearsals.

Teaching Experience and Level of Education

A significant difference was found between teaching experience and the statement “Sight singing is a part of my choir rehearsal.” An inspection of the mean scores indicated that those with 20 or more years of teaching experience reported slightly higher levels of agreement with the above statement ($M = 4.92$, $SD = .29$) than all other levels of experience. This difference could be due in part to a generational shift in thinking -- teachers with more experience agree that sight-singing instruction is more important than less experienced teachers. Another possible reason for this difference could be that teachers with less experience struggle to find the time to include sight-singing instruction in the rehearsal because they feel the pressure to prepare quality performances. It is also possible that teachers with less experience do not understand the benefit of student sight-singing achievement to rehearsal efficiency – a realization that perhaps comes with experience.

A significant difference was found between teaching experience and the statement “I use choral literature for sight-singing exercises.” An inspection of the mean scores indicated that those with 0–3 years of teaching experience reported slightly higher levels of agreement with the above statement. This difference could be due in part perhaps to neophyte teachers not having exposure and/or access to sight-singing resources. Another possible explanation is that they are teaching how they were taught instead of investigating other methods for instruction such as composing their own exercises or purchasing available resources.

One interesting note is the absence of any significant differences between teaching experience or level of education and directors' attitudes toward their prior training to teach sight singing. Directors of all levels of experience and education tended to agree not only that they were not adequately prepared to teach sight singing ($M = 2.77$, $SD = 1.24$), but also that they would have liked to have had more college training in the teaching of sight singing ($M = 4.17$, $SD = 0.90$). The overwhelming agreement of directors points to a perceived deficiency of this aspect of our teacher-preparation programs. This lack of preparation and uncertainty on the part of directors to teach sight singing could be contributing to the lack of participation in festivals where sight singing is evaluated.

Sight-Singing Systems

No significant differences were found for any preference statement among systems directors were trained to use as a collegiate student and the system they currently use in the classroom. The systems discussed in this study were: numbers; a neutral syllable, such as *la*; Solfège using moveable *do*; Solfège using fixed *do*; Solfège using *la* based minor; and Solfège using *do* based minor. The current results could indicate a number of possible explanations. One such possibility for this lack of difference could be that perceptions about sight-singing instruction are largely not affected by the specific system used by directors, but rather by other factors such as teaching experience or level of education.

The current study revealed some interesting information about the systems used by Arizona high school choral directors for sight-singing instruction. May (1993) revealed that 82% of programs use moveable *do*. The results from the current study match May's data showing that 80% of the respondents used moveable *do*. Of those directors who use moveable *do* for sight-singing instruction, 66% use *la*-based minor while 34% use *do*-based minor. Similarly, May (1993) found that 60% of directors who chose to instruct students in the minor mode used *la*-based minor for instruction.

Another interesting finding from the current study was that only 3.5% of directors report not using a system for sight-singing instruction. Perhaps this would indicate that Arizona high school choral directors who teach sight singing strongly believe in the consistent use of a system, possibly an influence from their pre-service experiences or their high school experience. A 2002 review of literature study by Casarow suggests that a consistent pedagogical approach throughout a student's education is necessary for the greatest sight-singing achievement. The finding from the current study differ from a 2003 survey research study by von Kampen who reported that over half of directors did not use a specific system. The specific system used had no impact upon their attitudes toward instruction, toward which exercises were used, or their attitudes towards prior training.

Self-Perceived Abilities

No significant differences were found for any attitudinal statements among directors' self-perceived abilities to not only to sight sing, but also to teach sight singing. The current results could indicate a number of possible explanations. One such

possibility for this lack of difference could be that the homogeneity of responses regarding self-perceived abilities is similar enough that it did not affect attitudes toward sight-singing instruction. Results from the current study show that 98% of Arizona high school choral directors had a positive self-perception of their ability to sight sing ($M = 2.04$, $SD = 0.73$), while 97% of directors had a positive self-perception of their ability to teach sight singing ($M = 2.25$, $SD = 0.71$). Participants responded to two statements “Rate your ability to sight sing.” and “Rate your ability to teach sight singing.” Data were gathered using the following rating scale: Superior = 1, Excellent = 2, Good = 3, Fair = 4 and Poor = 5. Directors previously reported that they did not feel their prior educational experiences prepared them to teach sight singing, yet this data show they feel their ability to teach sight singing is also high, potentially pointing towards an incongruity in the data. This discrepancy can possibly be explained by the fact that the majority of directors who took the survey are seasoned veteran teachers who despite their earlier training have figured out how to adequately teach sight singing over the course of their careers.

Investigating directors’ self-perceived abilities regarding sight singing and the teaching of sight singing are perhaps related to the training or lack thereof that these directors received in their undergraduate education. Despite the positive attitudes of directors when it comes to their abilities regarding sight singing and the teaching of sight singing, directors felt more preparation was needed during their undergraduate education ($M = 3.66$, $SD = 1.08$). Participants responded to the following statement, “Rate your college preparation for teaching sight singing to high school choir students.” Data were

gathered using the following rating scale: Superior = 1, Excellent = 2, Good = 3, Fair = 4 and Poor = 5.

Further investigation showed a negative correlation between directors' self-perception to teach sight singing and their self-perception of their college preparation to teach sight singing. The relationship between perceived ability to teach sight singing and perceived quality of college preparation to teach sight singing was investigated using a Pearson product-moment correlation coefficient. There was a positive correlation between the two variables, $r = .30$, $n = 85$, $p < .005$, with high levels of perceived ability to teach sight singing associated with high levels of perceived quality of their college preparation to teach sight singing. Interestingly, this relationship perhaps indicates that high school choir teachers in Arizona have not let their college preparation affect their ability to do their job. Regardless of their confidence in their ability to teach, teachers equally value sight-singing instruction in their classroom. This confidence in abilities had no bearing on which exercises they chose to use during instruction.

Group Sight-Singing Festival Ratings

No significant differences were found for any attitudinal statement by group sight-singing ratings at festival. One possible explanation for this similarity in attitudes is that directors whose choirs attend sight-singing adjudication tend to have similar beliefs about sight-singing instruction. It appears that the score on group sight-singing adjudication doesn't have any bearing on how directors are teaching sight singing nor the effort they put forth in teaching sight singing; directors are largely making an effort and using multiple resources for instruction.

Sight-Singing Daily Instructional Practices

A significant difference was found between daily instructional practices and the statement “Sight singing is a part of my choir rehearsal”. An inspection of the mean scores indicated that those who spent more than 60 minutes per week on sight-singing instruction ($n = 9$) reported slightly higher levels of agreement with the above statement ($M = 5.00, SD = 0.0$). This finding indicates face validity in the data; directors are reporting dependable data in multiple places on the survey instrument.

The current study indicated that 52% of Arizona high school choir directors provide sight-singing instruction four or five days per week. A survey study by May (1993) indicated that 80% of high school choir directors taught sight singing four or five days per week. The current study’s results indicate a lower percentage of directors teaching sight singing four or five days per week. It is important to note that an additional 25% of Arizona high school choral directors reported teaching sight singing three days per week. This data does not take into account the length of instructional time in minutes on those days.

No significant differences were found for the attitudinal statement, “I have difficulty finding enough class time to teach sight singing” by daily instructional practices ($M = 2.86, SD = 1.36$). No significant differences were found for the attitudinal statement, “I spend more time teaching sight singing in the first quarter of school (the time preceding the fall ACE festival)” by daily instructional practices ($M = 3.22, SD = 1.34$). No significant differences were found for the attitudinal statement, “The inclusion of sight singing at the ACE festival has motivated me to teach sight singing all year long”

by daily instructional practices ($M = 2.57, SD = 1.14$). The current results could indicate a number of possible explanations. One such possibility for the lack of difference could be that these outside factors of time and festivals do not change the underlying philosophy of these teachers; they are going to implement their curriculum regardless of outside factors -- other instructional demands are more valued by directors.

No significant differences were found for any attitudinal statements considering which sight-singing exercises were used for instruction by group sight-singing ratings at festival. In addition, no significant differences were found for any attitudinal statements considering directors prior training to teach sight singing by group sight-singing ratings at festival. One possible explanation for this similarity in attitudes is that directors whose choirs achieve at a certain level with sight-singing adjudication tend to have similar beliefs about sight-singing instruction. The amount of time dedicated to sight-singing instruction was not shown to be significant based upon the type of instructional materials used nor their prior training.

Implications

The results from this study suggest that the directors across the state of Arizona feel that sight singing is an important part of the choral rehearsal. Other researchers have found that sight singing continues to be an important part of the choral music education discourse (Armstrong, 2001; Bolton, 2009; Brittain, 1998; Cheeseboro, 1997; Christopherson, 2011; Daniels, 1985; Daniels, 1986; Daniels, 1988; Demorest, 1998a; Demorest, 1998b; Demorest, 2004; Demorest & May, 1995; Demorest & Noble, 2001; Dwiggin, 1984; Egbert, 1990; Ewers, 2004; Giles, 1991; Hales, 1961; Henry, 2004;

Henry & Demorest, 1994; Johnson, 1987; May, 1993; Miller, 1980; Norris, 2004; Potts, 2010; Short, 1971; Slaughter, 1957; Smith, 1998; Stevenson, 2010; Zimmerman, 1962). By including sight-singing instruction in the choral music rehearsal, directors are helping to create young musicians with the skill set to enable them to read music on their own and therefore be life-long musicians, should they choose.

High school choir directors in the state of Arizona believe strongly not only in the teaching of sight singing, but also in the use of one system for instruction. That said, across the state of Arizona there is a lack of consistency with regard to the specific system being taught. In a 2002 study, Casarow discusses the importance of consistency with systems in regard to a student's ability to achieve success with sight singing throughout their K-12 experience. The reality is that students will attend more than one school throughout their education and therefore the possibility exists that students will have to assimilate to the use of different systems throughout their K-12 education in choral music, both from district to district and also within the same district. Perhaps it would be beneficial for Arizona high school choral directors at a minimum to know what their district colleagues are teaching and begin a dialogue about adopting a unified system for sight-singing instruction within their district. This unification would allow for both vertical and horizontal alignment in the curriculum. If directors are going to spend time on sight-singing instruction in the choral music classroom, then perhaps more discussion would make this a better process.

If sight-singing instruction and the acquisition of that skill is truly important, then how are we measuring the success of that skill? By an academic standard, we must

assess individually each student's skill level as compared to the performance objective, yet often our classes and festivals are ensembles based. How do we report the collective assessment of the group as demonstrated by the shared musicianship of the ensemble whose goal is to work together towards group sight-singing achievement (Bennett, 1984)? Does this not count as well? Within this ensemble context, it is nearly impossible to accurately assess individual achievement. To sight sing as an ensemble is to put into practical application the skills and the methods that have been taught as a component of that course and in doing so one can assess the work of both students and teacher. Choral directors largely believe that student success in sight singing is a primary indicator of group success and that individual testing is the best method for determining the sight-singing level of a student in the choral classroom. However, because of lack of instructional time to assess achievement, choral directors often do not find the time to assess students individually (Goss, 2010). Additional strategies are needed for the profession.

How do we measure the success of high school choral music programs? What constitutes a well-respected program? The answers to these questions are quite diverse. Group sight singing is a skill that is measured at festivals where results often lead directors to make a judgment about how well they are doing their job. One additional issue to consider is that different expectations are placed on music programs throughout the state. Every choral program in the state is unique and faces its own set of distinct challenges. Programs come in all different sizes ranging from a school that has one choir with twenty students to a program of over 300 singers. Programs receive differing

amounts of funding and non-financial resources from their district thus enabling directors to provide different levels of support for their programs. When comparing athletic programs in the state of Arizona, schools are grouped into divisions and compared against schools within their own division. When considering marching band competitions, schools are measured against schools with similar size band programs thus making comparison more equitable. In choral music, there are no measures to provide a more accurate comparison among programs, leaving some directors feeling that their program is less than adequate or perhaps that the festival system is not fair.

There are written state standards for sight-singing instruction in Arizona, however there are no formal assessments in place to measure if these standards have been met. This is an enormous problem. Every single school and choral music program is so uniquely different with regard to expectations, demands, and resources that it is often difficult to compare one program to another, yet we regularly do with festival results.

The lack of participation, as reported in this study ($n = 15$), in the ACE fall adjudication festival requires some attention. Why is it that only 15 directors, of the 86 who participated in the survey, elected to bring their choirs to festival? More research needs to be done to investigate the participation rates of high school choirs in Arizona state adjudication festivals and across the nation. This would give directors in Arizona a sense of whether continuation of the festival is worthwhile or if it's necessary to find a more valuable educational experience for all stakeholders. It would be beneficial to differentiate participation rates between state festivals that include group sight-singing adjudication as part of the festival process and those that do not. Perhaps it would benefit

the ACE organization to more fully understand the reasons teachers choose or do not choose to participate in their state festivals. If reasons for lack of participation were better understood, then it is possible that participation would increase if these reasons were addressed. When examining the teaching-experience level and level of education of Arizona high school choral directors, data of this study show a very seasoned and highly educated population. Perhaps this in some ways affects participation or lack thereof in the ACE fall choral festival. It is the job of the ACE organization to find adjudicators who are experts in the field with whom even veteran teachers will benefit from the experience. These clinicians can serve as motivators for the choir making this a valuable educational experience for both teacher and students. Perhaps these festivals should also include educational sessions on sight-singing instruction by these seasoned teachers.

Future Research

The current study is an investigation into the attitudes of Arizona high school choir directors toward sight-singing instruction, and therefore, has raised a number of questions and observations that require further research. The researcher suggests the following:

1. A qualitative study is needed to look into the attitudes of non-attendees of the ACE festival. It would be important to understand why these high school choral directors not only do not attend the ACE festival, but also why they seem not to value the ACE festival offerings.
2. A nationwide research study surveying the status of group sight-singing adjudication at state festivals is needed to provide a more complete picture of

the assessment of this skill on a national level.

3. Further research is needed into the attitudes of teachers toward sight-singing instruction in states where sight singing is adjudicated at high school choral festivals. The researcher recommends the current study be replicated in states where sight singing is adjudicated at high school choral festivals to determine the instructional impact in the classroom of group sight-singing assessment at festivals. If a researcher were to replicate this study, it would be recommended that questions about consistency of system use be asked of the participants.
4. An in-depth study of Arizona high school choral teachers participation or lack thereof in state choral adjudication festivals is needed. A relatively low percentage of schools participate in state adjudication festivals. It would provide insight into how to make the ACE festival more highly attended.
5. Further research is necessary to determine the validity and reliability of the group sight-singing evaluation at Arizona high school choral festivals. Is the evaluation at the ACE festival truly measuring the sight-singing achievement of the choir? Is the evaluation instrument measuring consistently from choir to choir?

6. An in-depth examination of participation in other state wide choral adjudication events (such as Solo & Ensemble, Regional Music Festivals, the Arizona All-State Festival and group adjudication festivals hosted independently by schools, e.g. Chandler Gilbert Community College) is needed to understand the needs of high school choral directors in the state.

Conclusion

Sight-singing instruction has been and continues to be valued and therefore a part of many high school choral music classrooms. Historically much discussion has taken place about the worth of including sight singing as part of the high school choir festival adjudication process. Many teachers understand and seek to obtain the benefits of sight-singing skill acquisition with their choral ensembles. Arizona high school choral teachers largely believe sight-singing instruction to be a vital part of their programs and actively work to include this instruction in their daily rehearsals. In 2008, the Arizona Choral Educators organization included sight-singing adjudication in their fall festival for the first time. This decision proved to be quite controversial among high school choral directors in the state. Participation in the fall ACE festival is a qualifying event for the state choral festival held by ACDA in the spring. Participation in the sight-singing component became mandatory for choirs to be considered for participation in the state festival yet the ACE sight-singing component seemingly has had little impact on participation.

The current study shows the Arizona high school choral director to be a well-educated and seasoned teachers. These teachers largely do not attend the state choral adjudication festivals held by the Arizona Choral Educators organization, and therefore, do not take their choirs for group choral sight-singing adjudication. It is important to understand why the population of Arizona high school choral teachers is largely not participating in state festivals and to address this lack of involvement. Arizona high school choral teachers recognize and value the importance of sight-singing instruction to the overall productivity and level of performance achievement of their ensembles. Yet despite this acknowledgement, they are fundamentally not a part of the state professional organization's attempt to address this important educational aim. Sight-singing instruction in the high school choral music classroom will not only enable students to perform at a higher level, but also allows young singers to experience music on a personal level providing the platform for a life long relationship with music.

REFERENCES

- Adams, G. (1976). Teaching sight reading: It can be enjoyable. *Music Educators Journal*, 62(7), 63.
- Armstrong, M. (2001). Adjudicated sight-reading for the choral ensemble: An incentive for musical literacy. *Choral Journal*, 41(10), 21–30.
- Autry, M. (1975). *A study of the effect of hand signs in the development of sight singing skills*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 7614404).
- Babbie, E. *Survey Research Methods* (2nd ed.). Belmont, CA: Wadsworth Publishing Company, 1990.
- Baker, T. (Ed.). (1995). *Pocket manual of musical terms* (5th ed.). New York, NY: Schirmer Books.
- Bennett, P. (1984). Tricks, masks, and camouflage: Is imitation passing for music reading? *Music Educators Journal*, 71(3), 62–69.
- Bentley, A. (1959). Fixed or moveable *do*? *Journal of Research in Music Education*, 7(2), 164–68.
- Bertalot, J. (1996). Choirs love singing new music: It's such fun! Ten commandments for teaching sight-singing. *Organists Review*, 82(1), 45.
- Birge, E. (1966). *History of Public School Music in the United States*. Reston, VA: Music Educators National Conference.
- Blum, B. (1971). Solmization and pitch notation in nineteenth-century American school music textbooks. *Journal of Research in Music Education*, 19(4), 443–452.
- Bolden, J. (1967). *The influence of selected factors of growth in sight singing and rhythmic reading*. (Unpublished doctoral dissertation). Michigan State University, East Lansing, MI.
- Bolton, S. (2009). *A study to determine if current music education practices in selected school districts in eastern Nebraska are effective to teach vocal sight reading to non-instrumentally trained vocal music students*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 1465615).
- Boyle, J. (1970). The effect of prescribed rhythmical movements on the ability to read music at sight. *Journal of Research in Music Education*, 18(4), 307–318.

- Boyle, J., & Lucas, K. (1990). The effect of context on sightsinging. *Bulletin of the council for research in music education*, 1–9.
- Brittain, L. (1998). Sight-singing pedagogy: Research applied to classroom methods. *Choral Journal*, 39(1), 9–18.
- Brown, A. (1974). Letters, syllables, numbers and intervals. *Music Educators Journal*, 61(3), 52-55, 101–103.
- Buchanan, W. (1946). *Comparison of fixed and moveable solfège in teaching sight singing from staff* (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 0002027).
- Byars, R. (1996). *A comparative review of six choral sight-singing manuals*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 1382095).
- Carey, D. (1959). *A survey of the sight reading ability of senior students in nine Kansas high schools*. (Unpublished doctoral dissertation). University of Kansas, Lawrence, KS).
- Casarow, Pattye. (2002). *Sight-singing pedagogy: Analysis of practice and comparison of systems as described in related literature*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 3043816).
- Cheeseboro, B. (1977). *An approach to the development of sight singing skills in a high school beginning choral class*. (Unpublished doctoral dissertation, The Florida State University). The Florida State University, Tallahassee, FL.
- Christopherson, K. (2011). *Standards based assessments for high school choral ensembles in the Sheboygan area school district, Sheboygan, Wisconsin*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI EP31798).
- Costanza, P. & Russel T. (1992). Methodologies in music education. In R. Colwell (Ed.), *Handbook on research on music teaching and learning* (pp. 498–508). New York, NY: Schirmer Books.
- Cutieta, R. (1992). The measurement of attitudes and preferences in music education. In R. Colwell (Ed.), *Handbook on research on music teaching and learning* (pp. 295-309). New York, NY: Schirmer Books.
- Daniels, R. (1986a). *Relationships among selected factors and the sight-reading ability of high school mixed choirs*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 8604259).

- Daniels, R. (1986b). Relationships among selected factors and the sight-reading ability of high school mixed choirs. *Journal of Research in Music Education*, 34(4), 279–289.
- Daniels, R. (1988). Sight-reading instruction in the choral rehearsal. *Update: Applications of Research in Music Education*, 6(2), 22–24.
- Davenport, L. (1992). American instruction in sight-singing then and now. *The Bulletin of Research in Music Education*, 13(2), 90–111.
- Demorest, S. (1998a). Improving sight-singing in the choral ensemble: The effect of individual testing. *Journal of Research in Music Education*, 46(2), 182–192.
- Demorest, S. (1998b). Sightsinging in the secondary choral ensemble: A review of the research. *Bulletin of the Council for Research in Music Education*, 1–15.
- Demorest, S. (2004). Choral sight-singing practices: Revisiting a web-based survey. *International Journal of Research in Choral Singing*, 2(1), 3–10.
- Demorest, S., & May, W. (1995). Sight-singing instruction in the choral ensemble: Factors related to individual performance. *Journal of Research in Music Education*, 43(2), 156–167.
- Demorest, S., & Noble, W. (2001). *Building choral excellence: Teaching sight-singing in the choral rehearsal*. New York: Oxford University Press.
- Dennee, P. (1996). *Teacher effects on performance achievement of ninth-grade choral music students*. (Doctoral dissertation, Arizona State University). Retrieved from Proquest Dissertations and Theses. (UMI 9640047).
- Dettwiler, P. (1989). Developing aural skills through vocal warm-ups: Historical overview of pedagogical approaches and applications for choral directors. *The Choral Journal*, 30(3), 13–19.
- Durocher, J. (2006). *An investigation of the application of kinesthetic activities to a Solfège based sight-singing program*. (Doctoral dissertation, The University of Arizona). Retrieved from Proquest Dissertations and Theses. (UMI 3367141).
- Dwiggins, R. (1984). Teaching sight-reading in the high school chorus. *Update: Applications of Research in Music Education*, 2(2), 8–11.
- Egbert, J. (1990). *The effects of systematic rhythm reading instruction versus rote rhythm drill on the pitch and rhythm sight-singing performance of high school choral ensemble members*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 9108332).

- Ewers, M. (2004). *Computer-assisted music instruction as supplemental sight-singing instruction in the high school choir*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 3160882).
- Farenga, J. (2012). *Teacher Attitudes and Experiences With Group Choral Sight-Singing Performance*. Unpublished manuscript.
- Ferrante, J. (2010). *An investigation of the effects of regularly employed melodic dictation tasks on the sight-singing skills of high school choral students*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 3399484).
- Flom, J. (1969). *An investigation of growth in musical facts and concepts, in musical discrimination, and in vocal performance proficiency as a result of senior high school vocal music experiences*. (Doctoral dissertation, University of Minnesota). Retrieved from Proquest Dissertations and Theses. (UMI 7005562).
- Flom, J. (1971). An Investigation of Growth in Musical Facts and Concepts, Musical Discrimination, and Vocal Performance Proficiency as a Result of Senior High School Music Experiences. *Journal of Research in Music Education*, 19(4), 433–442.
- Foltz, R. (1976, April). Sight-singing: Some new ideas on an old institution. In *College Music Symposium* (Vol. 16, pp. 95–100). College Music Society.
- Garofolo, R. (1976). Teaching sight reading – it can be done. *Music Educators Journal*, 62(7), 64–65.
- Giles, M. (1991). Choral reading built on the basics. *Music Educators Journal*, 77(6), 26–29.
- Gordon, E. (1997). *Learning Sequences in Music: Skill, Content, and Patterns : A Music Learning Theory*. Chicago, IL: GIA Publications, 1997. Print.
- Goss, D. (2010). *Sight-singing assessment: A study of current beliefs and practices of Georgia middle and high school choral directors*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (AAI 3398032).
- Hales, B. (1961). *A study of music reading programs in high school choruses in the rocky mountain states*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 6104524).
- Hanson, D. (1990). *Kodaly-oriented sequential approach to melodic and rhythmic sight-reading for the heterogeneous high school choir*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI EP31789)

- Helbling, D. (1965). *An experimental study of the relative effectiveness of “who” and “part” methods of teaching sight singing*. (Unpublished doctoral dissertation). Indiana University, Bloomington, IN.
- Henke, H. (1984). The application of Emile Jaques-Dalcroze’s solfège -rhythmique to the choral rehearsal. *The Choral Journal*, 25(4), 11–14.
- Henry, M. (1999). *The development of an individual vocal sight-reading inventory*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 9921434).
- Henry, M. (2004). The use of targeted pitch skills for sight-singing instruction in the choral rehearsal. *Journal of Research in Music Education*, 52(3), 206–217.
- Henry, M., & Demorest, S. (1994). Individual sight-singing achievement in successful choral ensembles. *Update: Applications of Research in Music Education*, 13(1), 4–8.
- Hewson, A. (1966). Music reading in the classroom. *Journal of Research in Music Education*, 14(4), 289–302.
- Hicks, C. (1980). Sound before sight: Strategies for teaching music reading. *Music Educators Journal*, 66(8), 53–55, 65.
- Hodges, D. (1992). The acquisition of music reading skills. In R. Colwell (Ed.), *Handbook on research on music teaching and learning* (pp. 466–471). New York, NY: Schirmer Books.
- Huck, S. (2004). *Reading statistics and research* (4th ed). Boston, MA: Pearson Education Inc.
- Hung, J. (2012). *An investigation of the influence of fixed-do and moveable-do solfège systems on sight-singing pitch accuracy for various levels of diatonic and chromatic complexity*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 3526431).
- Isgro, R. (1982). Some thoughts on ear training for the choral director. *The Choral Journal*, 22(9), 11–13.
- Johnson, G. (1987). *A descriptive study of the pitch-reading methods and the amount of time utilized to teach sight-singing by high school choral teachers in the north central region of the American Choral Directors Association*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 1331350).

- Jones, A. (1966). The tone-word system of Carl Eitz. *Journal of Research in Music Education*, 14(2), 84–98.
- Jones, A. (1971). Sight-singing with a lift: Tone-words are not just static symbols. *Music Educators Journal*, 57(7), 40–41.
- Justus, L. (1969). Developing satisfactory sight singing techniques for high school vocal students. *The Choral Journal*, 9, 10–23.
- Justus, L. (1970). *Evaluation of an innovative instructional design for sight singing*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 7018182).
- Justus, L. (1974). Who says your singers can't So-Fa? *The Choral Journal*, 14, 9–12.
- Kanable, B. (1969). An experimental study comparing programmed instruction with classroom teaching of sightsinging. *Journal of Research in Music Education*, 17(2), 217–226.
- Keene, J. (1982). A history of music education in the United States. Hanover, NH: University Press of New England.
- Killian, J., & Henry, M. (2005). A comparison of successful and unsuccessful strategies in individual sight-singing preparation and performance. *Journal of Research in Music Education*, 53(1), 51–65.
- Kugler, A. (1976). Teaching sight-reading: Sightsinging in the secondary school. *Music Educators Journal*, 62(7), 69.
- Mark, M., & Gary, C. (1999). A History of American Music Education (2nd ed.). Reston, VA: MENC: The National Association for Music Education.
- Marquis, J. (1963). *A study of interval problems in sightsinging performance with consideration of the effect of context*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 6304748).
- May, J. (1993). *A description of current practices in the teaching of choral melody reading in the high schools of Texas*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 9320311).
- McClung, A. (2001). Sight-singing systems: Current practice and survey of all-state choristers. *Update: Applications of Research in Music Education*, 20(1), 3–8.

- McClung, A. (2008). Sight-singing scores of high school choristers with extensive training in moveable solfège syllables and Curwen hand signs. *Journal of Research in Music Education*, 56(3), 255–266.
- McGuire, M. (2011). *Kodaly-based sight-singing program for the Chicago, Illinois south suburban conference high schools*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI EP31731).
- McPherson, G. (1994). Factors and abilities influencing sightreading skill in music. *Journal of Research in Music Education*, 42(3), 217–231.
- Mertler, C. A., & Rachel, A. Vannatta. (2005). *Advanced and multivariate statistical methods: practical application and interpretation*.
- Miller, R. (1988). *Contributions of selected music skills to music sight-reading achievement and rehearsed reading achievement*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 8908779).
- Miller, S. (1980). Literacy for the beginning and intermediate high school choir. *Choral Journal*, 20(7), 11–14.
- Munn, V. (1990). *A sequence of materials for developing sight-singing skills in high school choirs*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 9110044).
- Music Educators National Conference (with CNAEA). (1994). National standards for arts education: What every young american should know and be able to do in the arts. Reston, VA: Author.
- Nelson, J. (1970). *A comparison of two methods of measuring achievement in sight singing*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 7015629).
- Norris, C. (2004). A nationwide overview of sight-singing requirements of large-group choral festivals. *Journal of Research in Music Education*, 52(1), 16–28.
- Olesen, B. (2010). *The impact of musical background, choral conducting training and music teaching style on the choral warm-up philosophy and practices of successful high school choral directors*. (Doctoral dissertation, University of Miami). Retrieved from Proquest Dissertations and Theses. (UMI 3424794).
- Ottman, R. (1956). A statistical investigation of the influence of selected factors on the skill of sight-singing. (Doctoral dissertation, North Texas State University, 1956). Reviewed by M. L. Sherburn. *Bulletin of the Council for Research in Music Education*, 5, 43–50.

- Ottman, R. (1996). *Music for sight singing*. (4th ed.). Upper Saddle River, NJ: Prentice Hall, Inc.
- Phelps, R., Sadoff, R., Warburton, E., & Ferrara, L. (2005). *A guide to research in music education*. Lanham, Maryland: Scarecrow Press, Inc.
- Philips, K. (1984). Sight singing. Where have we been? Where are we going? *The Choral Journal*, 24(6), 11–17.
- Phillips, K. (1996). Teaching Singers to Sight-Read. *Teaching music*, 3(6), 32–33.
- Potts, S. (2010). *Choral sight-singing instruction: An aural-based ensemble method for developing individual sight-reading skills compared to a non-aural based sight-singing method*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 3387446).
- Read, J. (1968). *An investigation of the relationship of selected variable to sight-singing ability*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 6905276).
- Roberts, E. (2011). *Step singing: A Kodaly approach to diatonic sight singing*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI EP31767).
- Scofield, W. (1979). *The construction and validation of a method for the measurement of the sight-singing abilities of high school and college students*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 8020739).
- Scott, T. (1996). *The construction of a holistic, criterion-referenced sight-singing test for high school sopranos based on the voluntary national standards for music education*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 9712431).
- Sheldon, D. (1998). Effects of contextual sight-singing and aural skills training on error-detection abilities. *Journal of Research in Music Education*, 46, 384–395.
- Short, M., Jr. (1971). *The development and application of a harmonic method for teaching sight-singing in a high school choral music class*. (Unpublished master's thesis). The Florida State University, Tallahassee, FL.
- Slaughter, W. (1957). *The development and application of a method for teaching sight singing to a high school choral class*. (Unpublished doctoral dissertation). The Florida State University, Tallahassee, FL.
- Sloboda, J. (1974). The eye-hand span: An approach to the study of sight-singing. *Psychology of Music*, 2, 4–10.

- Sloboda, J. (1984). Experimental studies of music reading: A review. *Music Perception*, 2, 222–236.
- Smith, S. (1998). *Sight singing in the high school choral rehearsal: Pedagogical practices, teacher attitudes and university preparation*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 9839776).
- Smith, T. (1991). A comparison of pedagogical resources in solminization systems. *Journal of Music Theory Pedagogy*, 5(1), 1–24.
- Stebbleton, E. (1987). Predictions of sight reading achievement: A review of the literature. *Update: Applications of Research in Music Education*, 6, 11–15.
- Stegall, J. (1992). *The influence of isolated rhythmic training with a selected method of study on the ability to sing music at sight*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 9239643).
- Stevenson, A. (2010). *The effect of specific strategies on the sight-singing performance of high school singers*. (Master's thesis). Retrieved from Proquest Dissertations and Theses. (UMI 1476769).
- Stone, A., et al, eds. *The Science of Self-Report: Implications for Research and Practice*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc., 2000. Print.
- Sue, V., & Ritter, L. (2007). *Conducting online surveys*. Thousand Oaks, CA: Sage Publications, Ltd.
- Swiggum, R. (1998). Strategies for teaching high school chorus: Your key to implementing the national standards for music education. *MENC's Strategies for Teaching Series*, 101–108.
- Szabo, C. (2006). *A profile of ten high school choral directors and their activities during one week*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 9300377).
- Taylor, J. (1972). *Perception of melodic intervals within melodic context*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 7215149).
- Tefler, N. (1993). Sight-singing in the choral rehearsal. *Choral Journal*, 34(1), 39–40.
- Thiebe, E. (1973). *Differential effects of interval presentation orders upon developmental sight singing behavior*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 7324443).

- Thornley, T., Jr. (1980). *A design of an instructional program in the sight reading of music*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 8024060).
- Thostenson, M. (1969). The study and evaluation of certain problems in eartraining related to achievement in sightsinging and music dictation. *Bulletin of the Council for Research in Music Education*, 11, 14–35.
- Thurman, V. (1977). *A frequency and time description of selected rehearsal behaviors used by five choral conductors*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 7726765).
- Tucker, D. (1970). *Factors related to musical reading ability of senior high school students participating in choral groups*. (Unpublished doctoral dissertation). University of California, Berkeley, CA.
- Tucker, G. (1969). *The influence of isolated rhythmic drill on growth in sight singing*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 7002342).
- von Kampen, K. (2003). *An examination of factors influencing Nebraska high school choral directors' decisions to use sight-singing instruction*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 3102578).
- White, A. (2009). *Relationships among high school choir teachers' self described teaching practices and sight-singing scores from a district/all-state audition event*. (Master's thesis). Retrieved from Proquest Dissertations and Theses. (UMI 1467787).
- White, R. (1983). *A measure of the effects of a moveable number system upon the perception and vocal performance of non-tonal music*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 8329867).
- Whitman, G. (2001). *The effects of vocal improvisation on attitudes, aural identification skills, knowledge of music theory, and pitch accuracy in sight-reading of high school choral singers*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 1405142).
- Wilcox, E. (1968). *The effects on sight singing of voice class instruction utilizing variants of traditional vocalizes*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 6905989).
- Winnick, W. (1987). Hybrid methods in sight-singing. *The Choral Journal*, 28(1), 24–30.

Wolf, T. (1976). A cognitive model of musical sight reading. *Journal of Psycholinguistic Research*, 5, 143–171.



Zimmerman, C. (1962). *Relationship of musical environment to choral sight-reading ability*. (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 6302390).

APPENDIX A
INSTITUTIONAL REVIEW BOARD
APPLICATION FOR EXEMPT RESEARCH



Office of Research Integrity and Assurance

To: Jill Sullivan
MUSIC BUIL

From:  Mark Roosa, Chair 
Soc Beh IRB

Date: 03/08/2013

Committee Action: Exemption Granted

IRB Action Date: 03/08/2013

IRB Protocol #: 1303008905

Study Title: Attitudes of Arizona High School Choral Directors toward Sight Singing Methodologies and Instructi

The above-referenced protocol is considered exempt after review by the Institutional Review Board pursuant to Federal regulations, 45 CFR Part 46.101(b)(2) .

This part of the federal regulations requires that the information be recorded by investigators in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. It is necessary that the information obtained not be such that if disclosed outside the research, it could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

You should retain a copy of this letter for your records.

APPENDIX B
INFORMED CONSENT

Informed Consent Information

The purpose of this form is to provide you (as a prospective research study participant) information that may affect your decision as to whether or not to participate in this research and to record the consent of those who agree to be involved in the study.

I am a doctoral student in music education at Arizona State University in Tempe, Arizona, under the direction of Dr. Jill Sullivan. I am inviting your participation in this research study as part of my degree requirements for dissertation research.

The purpose of this research study is to investigate the attitudes of high school choral directors towards sight reading not only as a skill being taught in the choral classroom but also as a skill being evaluated at festivals. If you decide to participate, then you will join a study involving research into these aspects of choral sight-reading. If you say YES, then your participation will last about 15-20 minutes. You will be asked to fill out an online questionnaire. High school choral directors from the state of Arizona have been invited to participate in this study.

All information obtained in this study is strictly confidential. The results of this study will be used for a dissertation but the researcher will never identify you. In order to maintain anonymity of your records, the researcher will not collect your name or other personally identifiable information in this questionnaire. All data collected online is safeguarded by password-protected access used by the researcher.

There are no known risks associated with taking part in this study, but in any research, there is some possibility confidential information may accidentally be released. The above measures will be taken to help minimize this risk by assuring that your responses remain anonymous. The possible benefit from your participation in the research is an increased knowledge for the music education community about high school choral directors' attitudes towards group choral sight reading as a skill in the state of Arizona.

Your participation in this study is completely voluntary. It is ok for you to say no. Even if you say yes now, you are free to say no later, and withdraw from the study at any time. Your decision to withdraw from the study will not affect your relationship or your students' relationship with Arizona State University. There is no payment for your participation in this study, but we hope that you will give your time to help increase knowledge high school choral sight-reading.

Any questions you have concerning the research study or your participation in the study, before or after your consent, will be answered by Justine Farenga, justine.farenga@asu.edu. You may also contact the principal advisor for this research, Dr. Jill Sullivan, jill.sullivan@asu.edu. If you have any questions regarding your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subject Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788.

APPENDIX C

SURVEY

Sight Singing: Attitudes and Practices of

Arizona High School Choral Directors

Please provide the following demographic information about yourself:

1. My current teaching assignment is:
High School Choral Music
High School Choral Music & Instrumental Music
I do not teach High School Choral Music

2. Including this year, how many years have you taught?

3. Including this year, how many years have you taught high school choral music?

4. My Bachelor's degree is in (select all that apply):
Music Education
Music Performance
Other (please specify)

5. My graduate degree is in (select all that apply):
Music Education
Music Performance
I do not have a graduate degree
Other (please specify)

6. Indicate your highest level of education.
Bachelor's degree
Masters degree
Additional work beyond Masters degree
Doctoral degree

7. I belong to a national or state professional music organization (such as NAFME or ACDA).
Yes
No

Please provide the following information about your college coursework as it pertains to your beliefs about personal ability to teach sight singing:

8. Which college course was the most beneficial to you in learning to teach sight singing?
Theory / Ear Training
Choral Methods
Choir Rehearsals
Secondary Methods
Elementary Methods
Applied Lessons
Other (please specify)
9. What system of sight singing were you taught as an undergraduate student?
10. Rate your ability to sight sing.
Superior
Excellent
Good
Fair
Poor
11. Rate your ability to teach sight singing.
Superior
Excellent
Good
Fair
Poor
12. Rate your college preparation for TEACHING sight singing to high school choir students.
Superior
Excellent
Good
Fair
Poor
13. Do you teach sight singing in your choral classroom?
Yes
No

Please answer the following questions to the best of your ability:

14. On average, I work on sight singing in rehearsal with my students _____ days per week.
15. On average, I spend _____ minutes per rehearsal working on sight singing.
16. I took a choir(s) to the 2012 Fall Arizona Choral Educators (formerly ChoDA) Choir Festival.
Yes
No
17. Did you participate in the sight-singing portion?
Yes
No
18. Why not?
19. My choir's rating on the SIGHT SINGING portion of the festival was:
Superior
Excellent
Good
Fair
Poor
20. I took another choir to the 2012 Fall ACE festival.
Yes
No
21. Did you participate in the sight-singing portion?
Yes
No
22. Why not?
23. My choir's rating on the SIGHT SINGING portion of the festival was:
Superior
Excellent
Good
Fair
Poor

24. I use the following system of sight singing in my choir classroom:

- Solfège, Fixed *do*
- Solfège, Moveable *do* (*do* based minor)
- Solfège, Moveable *do* (*la* based minor)
- Numbers
- None
- Other (please specify)

Please indicate your current attitude toward the following statements:

Strongly Agree Agree Neutral Disagree Strongly Disagree

- 25. Sight singing is a vital part of my choir rehearsal.
- 26. I have difficulty finding enough class time to teach sight singing.
- 27. I spend more time teaching sight singing in the first quarter of school (the time preceding the fall ACE festival).
- 28. The inclusion of sight singing at the ACE festival has motivated me to teach sight singing all year long.
- 29. I use isolated melodic drills for sight singing exercises.
- 30. I use choral literature for sight singing exercises.
- 31. I write my own sight singing exercises.
- 32. My training in college was adequate for teaching sight singing to high school choral students.
- 33. I would have liked to have had more college training in the teaching of sight singing.

Please answer the following open-ended questions to the best of your ability:

- 34. If AMEA were to offer a session on TEACHING sight singing in the high school choral rehearsal, would you find that to be a valuable experience? Why or why not?
- 35. Do you incorporate student leaders or section leaders in the teaching of sight singing?
Yes
No

36. How do you incorporate student leaders/section leaders in the teaching of sight singing in your choral rehearsal?
37. If you teach sight singing, do you use the ACE festival procedure in your rehearsal on a regular basis?
Yes
No
38. If you have participated in the sight-singing component at the ACE festival, do you find the music being used as sight singing excerpts to be appropriate? Why or why not? What might you change?
39. If you teach sight singing, has the way you teach sight singing changed over the course of your career? If so, please explain how.
40. Please use the space below to tell me anything else you want to regarding your training to TEACH sight singing.
41. Please use the space below to tell me anything else you want to include regarding your attitude towards teaching sight singing.
42. Please use the space below to tell me anything else you want to include regarding your daily rehearsal habits when it comes to teaching sight singing.
43. Do you have a specific strategy for teaching sight singing that you would like to share? If applicable, please do so here.
44. Do you have any additional comments about the inclusions of a sights singing portion of the ACE festival?