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The Perceptions of High School Choral Students Regarding Sight-Singing Using Solfege Syllables and Hand Signs

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by

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THE PERCEPTIONS OF HIGH SCHOOL CHORAL STUDENTS

REGARDING SIGHT-SINGING USING SOLFEGE SYLLABLES AND HAND SIGNS

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ABSTRACT

Despite the theorized benefits of sight-singing in the choral classroom, little research has focused on the changing perceptions of high school choral students regarding sight-singing. The goal of this qualitative study with a historical approach and a grounded theory design is to assess the changing perceptions of high school choral students concerning the task of sight-singing using solfege syllables and Curwen hand signs. The study used a qualitative research approach with a pre-study and post-study questionnaire on sight-singing skills. The students received 1 twenty-minute lesson for four consecutive weeks. The goal of the questionnaire was to assess high school choral students' feelings and perceptions of sight-singing. This study answers the question of whether the two mentioned tools positively or negatively affect sight-singing accuracy. The data revealed from this study showed that student perceptions were more positive towards the use of solfege syllables, negative about using hand signs, and extremely negative about using both at the same time. The result of this study could encourage high school choral teachers to keep teaching the skills of solfege syllables and hand signs even students are disinterested and motivating becomes challenging. Using this knowledge, music education teachers can confidently and diligently persuade students to keep working on skills to achieve positive results. The study includes a discussion of the findings and conclusions.

Keywords: Curwen Hand Signs, Sight-Singing, Solfege Syllables, High School Students Perceptions

Acknowledgments/Dedication

I would like to dedicate this work to my children, John, Laura, and Rachel. Completing a Doctorate degree has always been a dream of mine and I have finally done it!! I hope that they will always remember that with hard work and dedication, they can accomplish anything! I would like to thank them for their love and support during my degree.

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To my Lord and Savior, Jesus Christ, I would like to give all the glory and honor to him for my accomplishments. He is the one that gave me the musical talent and the drive and determination to keep working to reach my goal. This process has not always been easy; however, with the love and support of family, professors, and the Lord I was able to finish the race.

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CHAPTER ONE: INTRODUCTION

Music educators have used sight-singing in music education curriculums for hundreds of years, and they continue to use it as a primary tool to teach music reading and music literacy. From previous research, it is known that many educators feel that "sight-singing training is an essential part of students' musical development."[1] A common discrepancy among music educators regarding sight-singing stems from struggling to choose which instructional methods and theories to use during sight-singing instruction. Some teachers are unwavering supporters of a single method. This strong support exemplifies the view that the method should drive instruction. Others choose a method or combination of methods that best fit their personalities and preferences, endorsing the premise that the "method should be instructor-driven."[2] Jane Kuehne showed that "during vocal warm-ups, 65% of teachers used solfege syllables and 57% used hand signs."[3] Regardless of the method chosen, using a method consistently appears the most advantageous.

Choral directors usually choose a method or variety of techniques most familiar to them and combines these into a unique and personal teaching method. By selecting the tools educators are comfortable with, they are better equipped to deliver higher-quality instruction. In addition to having a solid philosophy, "the choral director's attitude toward sight-singing plays an important role in sight-singing success."[4] Because the choral director's attitude or perception is essential,

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[1] Guillame Fournier et al., "Cognitive Strategies in Sight-Singing: The Development of an Inventory for Aural Skills Pedagogy," *Psychology of Music* 47, no. 2 (2019): 217, https://doi.org/10.1177/0305735617745149.

[2] Janet Mannheimer Zydney et al., "Music Instructional Methods," In *Encyclopedia of the Sciences of Learning* (Switzerland: Springer, 2012), 2405.

[3] Jane M. Kuehne, "Sight-Singing: Ten Years of Published Research," *The National Association for Music Education* 29, no. 1 (2010): 9, https://doi.org/10.1177/8755123310378453.

[4] Eva Floyd and Kelly D. Bradley, "Teaching Strategies Related to Successful Sight-Singing in Kentucky Choral Ensembles," *Applications of Research in Music Education* 25, no. 4 (2006): 72, https://doi.org/10.1177/87551233060250010108.

this study's premise is that high school students' perceptions of sight-singing while using solfege syllables and hand signs should be examined, evaluated, and considered. This study explored high school students' perceptions of sight-singing and the use of two methods, Curwen hand signs and solfege syllables. The author assumes that students' perceptions influence sight-singing success and the ease and accuracy of sight-singing performance. The study assesses students' perceptions before and after four weeks of planned lessons. The information collected and results that emerged from this study can be a source of encouragement to music educators to reinforce "the process of preparing for sight-singing evaluation has helped improve their choirs' music reading skills."[5] In addition, this study's outcomes could provide music educators with knowledge and insight into their students' feelings, thoughts, and perceptions about combining sight-singing with solfege syllables and hand signs.

Background

Guido d'Arezzo, a Benedictine monk from the Medieval Era, invented solfege.[6] According to Walter Bitner, solfege is a vital tool that is: "The oldest and most widely used system for teaching sight-singing and the ability to read music in the world. It is a training technique and a tool. It is common for students in music programs to use solfege every day as part of their musical training."[7] Guido d'Arezzo developed the first "solmization syllables that evolved into the system of solfege we use today."[8] Another essential method in learning to sight-sing of Curwen hand signs. The hand signs are used as "a multimodal approach to music reading,

[5] Floyd and Bradley, "Teaching Strategies Related to Successful Sight-Singing in Kentucky Choral Ensembles," 75.

[6] Walter Bitner, "The Legacy of Guido d'Arezzo," *The Choral Directors Magazine* (November/December 2017): 1.

[7] Ibid.

[8] Ibid.

noting that hand signs provide visual and kinesthetic reinforcement of solmization syllables."[9] Hand signs add a kinesthetic layer to the sight-singing process, which allows students' to "feel and see the location of each scale degree and its intervallic relationship to other scale degrees."[10] These methods can be used separately or together with sight-singing drills, melodies, or choral literature. A benefit of hand signs is that students' can sing a tune using their hands without simultaneously audiating the melody. If a high school music student can accomplish sight-singing accuracy using the tools of solfege syllables and hand signs, these tools together could help music educators support students' in becoming successful and competent music readers.

Statement of the Problem

Despite studies showing students' success using solfege syllables and Curwen hand signs when sight-singing, little information is available about the high school students' perceptions of solfege syllables and hand signs used during sight-singing. This study concerns how high school music students perceive the use of solfege syllables and hand signs when executing a sight-singing drill. This original research also includes insights from the high schoolers' perspectives of whether using these tools results in positive benefits, such as improving their pitch accuracy. This study could serve as a resource for choral directors and music educators who implement the sight-singing process in their classrooms. By using the tools of hand signs and solfege syllables, high school-aged choral students could achieve better success in sight-singing practice. Some students excel using solfege syllables, others thrive by using hand signs and others achieve excellence using both tools. Regardless of the methods used during the sight-singing process, the

[9] Frey Clark, "Pitch Systems and Curwen Hand Signs: A Review of Literature," *National Association for Music Education* 36, no. 1 (2017): 62, https://doi.org/10.1177/8755123316689812.

[10] Ibid.

benefits could produce musically literate high school students who might take the knowledge with them into the world and potentially become lifelong advocates and patrons of music. Within the classroom setting, successful educators are aware of the need for students to acquire some level of musical independence, and this "becomes increasingly possible with the development of music literacy skills – specifically, sight-reading (sight-singing) skills."[11]

Statement of Purpose

An essential job of music educators is tasked with is the development of a personal teaching philosophy regarding sight-singing instruction. Sight-singing is an integral part of music education, and "the ability to sing music on sight is considered a fundamental goal of music education."[12] The data from this research provides these teachers with concrete facts upon which they can formulate their unique way to teach sight-singing skills. Although this study focuses on the methods of solfege syllables and hand signs, if teachers are confident and secure in the craft of sight-singing, their instruction can improve student knowledge and competencies various sight-singing tools. According to a study of sight-singing strategies by Jane Cassidy, "effective teaching necessitates accuracy in subject matter from the teacher."[13] Therefore, if teachers make sight-singing a vital part of their philosophy, their students have a better chance of achieving music literacy. According to Eva Floyd and Marshall Haning in their analysis of choral sight-

[11] Michele L. Henry, "The Use of Specific Practice and Performance Strategies in Sight-Singing Instruction," *Applications of Research in Music Education* 26, no. 2 (Spring/Summer 2008): 11, https://doi.org/10.1177/8755123308317675.

[12] Alan C. McClung, "Sight-Singing Scores of High School Choristers with Extensive Training in Movable Solfege Syllables and Curwen Hand Signs," *Journal of Research in Music Education* 56, no. 3 (October 2008): 256, https://doi.org/10.1177/0022429408323290.

[13] Jane Cassidy, "Effects of Various Sight-Singing Strategies on Non-Music Major's Pitch," *Journal of Research in Music Education* 41, no. 4 (Winter 1993): 201, https://doi.org/10.2307/3345505.

singing method books, "music literacy is a basic foundational skill for students of vocal music."[14] Despite the importance of music literacy for all musicians, sometimes teachers are "pressured to offer students brief learning experiences in a wide variety of systems, leaving too little time for mastery."[15] This fact validates the purpose of this study. If teachers can determine student perception of sight-singing, hand signs, and solfege syllables, they could be better equipped to efficiently develop "students who are musically independent singers"[16] and excellent and competent sight-singers.

Significance of the Study

While "the majority of U.S. educators using a solfege system use movable "*do*" to teach sight-singing,"[17] the results of this study showed that the students initially have negative perceptions about sight-singing combined with the methods of solfege syllables and hand signs. Although they started with some doubts and negative perceptions, students' perceptions changed to a more positive outlook by the end of the sight-singing lessons. Previous research showed positive results when using the Curwen hand signs indicating that the hand signs "function as a tonal mnemonic device intended to bolster vocal literacy through reinforming tonal function."[18] When using solfege syllables, research shows that they "enable students to become proficient at reading notation and understanding music theory."[19] These positive results from previous studies

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[14] Eva G. Floyd, and Marshall Haning, "Sight-Singing Pedagogy: A Content Analysis of Choral Methods Textbooks," *Journal of Music Teacher Education*, 25, no. 1 (2015): 19, https://doi.org/10.1177/1057083714539767.

[15] Alan C. McClung, "Sight-Singing Systems: Current Practice and Survey of All-State Choristers," *Applications of Research in Music Education* 20, no. 1 (Fall 2001): 3, https://doi.org/10.1177/875512330102000102.

[16] M. R. Autry, "A Study of Hand Signs in the Development of Sight-Singing Skills" (PhD diss., The University of Texas at Austin, 1975), 1.

[17] Meredith McGuire, "A Kodaly-Based Sight-Singing Program for the Chicago, Illinois South Suburban Conference for High Schools" (PhD diss., Silver Lake College), 2010, 38.

[18] Clark, "Pitch Systems and Curwen Hand Signs," 61.

[19] Walter Bitner, "The Joy of Solfege," *The Choral Directors Magazine* (November/December): 2.

and results from questionnaires used in this study can be conveyed to teachers for research and pondering. Music teachers can determine whether combining these two methods to teach sight-singing is the most efficient and successful approach by carefully studying the facts provided. The study assumes that teachers could learn that despite high school students complaining, grumbling, and showing negative feelings toward sight-singing, hand signs, and solfege, these tools support success, and teachers should stay with them and discourage students from quitting prematurely.

Research Questions

After a thorough review of existing literature, the study culminated with several conclusions about sight-singing using hand signs and solfege syllables. One recommendation might be to continue to use the methods for sight-singing because "when students are adept at sight-singing, rehearsal is a more efficient process, and the choirs are able to learn and perform music at a faster rate and higher caliber."[20] Results showed that the use of "hand signs while teaching a class to sing kept them [the students] on task and helped them to focus on the beat."[21] Additionally, The National Standards for Arts Education in Music emphasizes the importance of sight-singing development for both elementary and secondary students.[22] The discussion continuing among educators on this topic concerns "what sight-singing approaches are the most

[20] Jennifer Brobeck Campman, "The White Whale: A Case Study of Sight-Singing Philosophies and Practices of Two Secondary Choral Music Educators," (PhD diss., The University of Alabama, 2020), 120.

[21] Ronald B. Sanders, "The Teaching of Choral Sight-Singing: Analyzing and Understanding Experienced Choral Directors Perceptions and Beliefs," (PhD diss., University of Houston, 2015), 75.

[22] Janice N. Killian and Michele Henry, "A Comparison of Successful and Unsuccessful Strategies in Individual Sight-Singing Preparation and Performance," *Journal of Research in Music Education* 53, no. 1 (Spring 2005):51, https://doi.org/10.1177/002242940505300105.

effective teaching strategies."[23] This discussion emphasizes the importance sight-singing in the music education curriculum. To better understand how students can be successful, educators should know students' perceptions of the strategies used to teach sight-singing.

This qualitative study used a pre-study and post-study questionnaire to evaluate and record the perceptions high school students have about sight-singing using the tools of hand signs and solfege syllables. The researcher used the responses from these questionnaires to gain insight into students' perceptions and offer novel outcomes to the literature on this topic. The students should understand why they are learning specific musical skills because they often perceive sight-singing using solfege syllables and hand signs as unpleasant, no fun, and too much work. If teachers gain knowledge of students' positive perceptions, this study could encourage high school music teachers all over the country.

Despite studies that show success with students using solfege syllables and Curwen hand signs when sight-singing, little information is known about high school students' perception when required to use the tools of solfege syllables and hand signs for the task of sight-singing. This study showed how high school music students perceived using these two methods while performing sight-singing exercises and whether they improved or hindered their accuracy or speed. Students' perceptions identified through this study could give music educators the knowledge to assess and improve their strategies based on the students' perceptions of sight-singing. In addition, teachers might learn that even though the students complain and lose motivation, students can be encouraged to keep working and trying to become successful when combining sight-singing, hand signs, and solfege syllables.

[23] Killian and Henry, "A Comparison of Successful and Unsuccessful Strategies in Individual Sight-Singing Preparation and Performance," 52.

As part of the movable "*do*" method, music educator Zoltan Kodaly uses solmization, and his "students are taught to associate a specific scale degree with a specific solmization syllable and to connect that syllable with the specific shape and thoracic location of a hand sign."[24] It is clear that Zoltan Kodaly developed a teaching method that required a "variety of simultaneous responses from the students."[25] These responses included an aural response (to listen, audiate, locate, and label pitches with specific solfege syllables), a visual response (to identify and connect specific solfege syllables to modeled handshapes or notated pitches), and a kinesthetic response (to create the physical handshapes for the various solfege syllables). These responses take place "while using the same hand to relate the intervallic rise and fall of pitches to the appropriate thoracic region."[26] In addition to an aural, visual, or kinesthetic response, the Kodaly method requires students to respond orally by matching the singing voice to a specific pitch using a specific solfege syllable. When performing all these tasks simultaneously, the connection between cognitive learning and music learning can occur. As a result, children learn the pitches more easily because the "kinesthetic and visual modalities can be used to reinforce the auditory."[27]

In a study of high school choral students using solfege and hand signs conducted by Alan McClung, the results showed that "the hand sign group scored statistically higher than the no hand sign group."[28] The results from Alan McClung reinforce that the kinesthetic movement of using hand signs when sight-singing does make a difference for students and how successful they

[24] McClung, "Sight-Singing Scores of High School Choristers with Extensive Training in Movable Solfege Syllables and Curwen Hand Signs," 256.

[25] Ibid.

[26] Ibid.

[27] Ibid.

[28] Ibid., 258.

are when sight-singing. This specific study "supports the findings of five earlier studies that investigated the effects of Curwen hand signs on sight-singing scores."[29] One of the studies that Alan McClung referenced in this article showed that the students who preferred using the physical gesture of hand signs "performed best when pitch responses included the intervallic rise and fall of the hand."[30]

Alan McClung also revealed through his study that students who had prior experience playing an instrument "were found to be significantly more successful on sight-singing tests than choristers without instrumental experience."[31] Additionally, Steven Demorest and William May's study of factors that influence successful sight-singers found that the "highest mean score for any particular group was for students who took piano lessons."[32] The demographic information of the participants in this study with instrumental experience will be addressed through the student questionnaires and individual sight-singing assessment. The fact that students with instrumental experiences performed better on the sight-singing exercise, along with the kinesthetic activity of using hand signs, warrants further study.

The following research questions emerged from the literature review regarding sight-singing, solfege, and hand signs.

This study aimed to address these research questions:

Research Question One: What are common student initial perceptions regarding the use of solfege syllables in a high school choral setting?

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[29] Killian and Henry, "A Comparison of Successful and Unsuccessful Strategies in Individual Sight-Singing Preparation and Performance," 262.

[30] Ibid., 263.

[31] Ibid.

[32] Steven M. Demorest and William V. May, "Sight-Singing Instruction in the Choral Ensemble: Factors Related to Individual Performance." *Journal of Research in Music Education* 43, no. 2 (December 1998): 157, https://doi.org/10.2307/3345676.

Research Question Two: What are common student initial perceptions regarding the use of hand signs in a high school choral setting?

Research Question Three: What are common student initial perceptions regarding the use of hand signs combined with solfege syllables in a high school choral setting?

Hypotheses

The first research question is related to the following hypothesis:

Hypothesis One: Common student initial perceptions regarding the use of solfege syllables in a high school choral setting include excitement toward learning, feelings of apathy, and indifference towards the task.

Solfege is considered as "the bridge between the student and notation."[33] Students can use this tool to associate a note on a page with a sung pitch. Made famous by the well-known Rodgers and Hammerstein musical "The Sound of Music," solfege syllables have been around for many years. For singers, solfege supports "refining pitch accuracy, intonation, and vowel placement."[34] This unique method uses "the assignment of a distinct syllable to each note of the scale."[35] Musicians and educators refer to the process as solmization and it is the basic principle of solfege.

The benefits of using consistently solfege syllables are pitch accuracy, accurate note reading, and better aural skills. In addition to sight-singing melodies and tunes, specifically written to teach music literacy, solfege is a tool to teach choral repertoire to high school students. First, students sing "the pitches of the melody on solfege syllables and the pitch and rhythm are

[33] Bitner, "The Joy of Solfege," 1.

[34] Ibid., 2.

[35] Ibid.

mastered before the text"[36] is introduced. Concurrently with this skill, high school students learn to mark "their music with solfege syllables and sing from that until the choir is ready to move on to the text."[37] This activity focuses first on pitch and rhythm before tasking singers to add the text. As a result, the skill of singing a complex choral piece becomes more manageable by breaking it down into smaller steps. Thus, the challenge of singing a song with correct pitches, rhythm, or text evolves into smaller achievable tasks.

Notably, students have mixed feelings during the initial times they sing using solfege syllables.[38] Some students might feel excited about trying something new, some might be apathetic, and others could have feelings of indifference. Regardless of students' perceptions about using this valuable tool when sight-singing, this research could be beneficial to raising educators' awareness and support the future of music education. From these findings, educators could have access to documented evidence that sight-singing is advantageous to many music students, and how incorporating solfege syllables makes the benefit even greater.

The answer to the second research question is linked to the following hypothesis:

> Hypothesis Two: Common student initial perceptions regarding the use of hand signs in a high school choral setting include feelings of intimidation, lack of interest, and discouragement about sight-singing.

Several circumstances can influence the answer to this question, such as the school music environment, music teachers' perception, attitude, the individual student's dedication, and the sight-singing material's difficulty. If teachers have a positive attitude about teaching sight-singing and appears confident demonstrating and instructing sight-singing, students often follow

[36] Bitner, "The Joy of Solfege," 3.

[37] Ibid.

[38] Ibid., 2.

the teachers' lead. Alternatively, if teachers only teaching sight-singing because they believe they must, students develop a negative perception. Furthermore, if students view sight-singing as unfavorable, they may not develop a positive perception about sight-singing later; thus, teachers are challenged to have students use hand signs during sight-singing drills. Lara Brittan encouraged music educators to "be content with small steps of improvement;"[39] however, teaching a new skill to students who do not want to try can be frustrating. Because students often feel intimidated or not interested when asked to try something new, such as incorporating hand signs with singing, others might feel discouraged when they are unsuccessful at using hand signs. This study reinforces the benefits that hand signs provide to high school music students and music educators.

According to Alan McClung's research on sight-singing, the use of "movable solfege syllables, reinforced kinesthetically with hand signs, is a core element of the music reading system attributed to the Hungarian musician Zoltan Kodaly."[40] Zoltan Kodaly was the first to take the hand signs and incorporate them into a music teaching method. Zoltan Kodaly wanted to musically educate children through singing, movement, and the use of hand signs. This method grew to be one of the most well-known techniques used in music education, especially in elementary school, and its' "approach to music education has influenced vocal music education generally and the development of music reading skills specifically."[41] The benefit of using hand signs appears to be their "function as visual and kinesthetic images of pitches represented not only by the relative height of the movement but also by the shape of the hand which changes for

[39] Lara M. Brittain, "Sight-Singing Pedagogy: Research Applied to Classroom Methods." *Choral Journal* 39.no. 1 (August 1989): 13, https://www.jstor.org/stable/23552445.

[40] McClung, "Sight-Singing Scores of High School Choristers with Extensive Training in Movable Solfege Syllables and Curwen Hand Signs," 255.

[41] Ibid., 256.

each pitch."[42] The spatial benefits of this method are considerable; and when students make the appropriate hand sign, they are "mentally hearing the sound represented by the sign."[43] This result reinforces students and educators that using hand signs is beneficial to "the development of inner hearing."[44] Therefore, the assumption is made that when students "learn pitch patterns, the kinesthetic and visual modalities can be used to reinforce the auditory."[45] The auditory skills developed from using hand signs could benefit students' musical literacy skills and enhance a choir's success in group sight-singing competitions. The results from this current study and previous studies support music educators who chose to use hand signs during sight-singing practice as they prepare for district or state festivals.

The third research question is addressed in the following hypothesis:

> Hypothesis Three: Common student initial perceptions regarding the use of hand signs combined with solfege syllables in a high school choral setting include frequent feelings of frustration, a sense of accomplishment, and a lack of motivation to keep trying to achieve the task.

Some students might perceive that combining these strategies is easy and that the strategies support each other well, while others may prefer to use only one. Each of these instructional methods has distinct strengths. For example, incorporating hand signs adds a kinesthetic aspect to the sight-singing experience and gives students an excellent understanding of spatial recognition between two individual pitches. Although designed to facilitate good singing technique and a pleasing vocal tone, the solfege syllables might also confuse some

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[42] Autry, "A Study of Hand Signs in the Development of Sight-Singing Skills," 2.

[43] Ibid., 3.

[44] Ibid., 2.

[45] McClung, "Sight-Singing Scores of High School Choristers with Extensive Training in Movable Solfege Syllables and Curwen Hand Signs," 256.

students because it requires extra thought and coordination, in addition to reading the correct rhythm and pitches. Students might experience that the rhythm, solfege syllable, and appropriate hand sign is too challenging and complicated leading to a slower rate of becoming accurate at sight-singing. In his study on integrating sight-singing into the choral rehearsal, Stephen Demorest found that "sight-singing in the choral rehearsal is not an all-or-nothing proposition."[46] Sight-singing instruction is also "a significant strategy in the promotion of the skills"[47] of music literacy, and the practice of sight-singing must be done consistently and diligently. The results of another study indicated that before sight-singing drills, students engage in "a brief preparation time which can be an important factor in sight-singing success."[48]

If high school students' perceive they can be successful, they could develop a sense of accomplishment; however, they are likely to be less successful and become frustrated if they perceive a high probability of failure. Some students might not want to use either method and prefer using a neutral syllable of "la" or "loo." These are scenarios in which individual educators will need to diffuse in the classroom. Music educators should be aware of music literacy as a fundamental skill for students.[49] Research evidence and intuitive understanding suggest that benefits are seen when sight-singing is taught daily with organized instruction.[50] Positive results have also been seen when a "director's positive attitude toward sight-singing tasks"[51] is evident

[46] Steven Demorest, "Integrating Sight-Singing into the High School Choral Rehearsal," *Choral Journal* 39, no. 5 (December 1998): 57.

[47] Michele L. Henry, "The Use of Targeted Pitch Skills for Sight-Singing Instruction in the Choral Rehearsal," *Journal of Research in Music Education* 52, no. 3 (Fall 2004): 206, https://doi.org/10.2307/3345855.

[48] Killian and Henry, "A Comparison of Successful and Unsuccessful Strategies in Individual Sight-Singing Preparation and Performance," 61.

[49] Floyd and Haning, "Sight-Singing Pedagogy," 19.

[50] Floyd and Bradley, "Teaching Strategies Related to Successful Sight-Singing in Kentucky Choral Ensembles," 72.

[51] Ibid.

in their instruction. Whatever the results are, this research aims to understand students' perceptions of sight-singing using solfege syllables and hand signs and record the data for study and analysis.

Definition of Terms

To fully understand the explanations of the study and results, the definitions of several key terms are needed. By understanding the usage of these terms, readers can understand the aims, methods, and outcomes of the study. The following terms are used throughout the study:

Audiate/Audiation – This was a term coined in 1975 by Edwin Gordon and refers to the comprehension and internal sound, or individuals' sensation of hearing or feeling music or sound in their minds when it is no longer or never has been physically present.[52]

Diphthong – This sound is when two vowel sounds are combined in a single syllable, as in coin or loud. When singing solfege syllables, the vowels should be pure Italian vowels.[53]

Fixed "*do*" Method – This is a sight-singing method where the syllables are tied to specific pitches, and "*do*" "is [always] middle C."[54]

Hand Signs – A set of hand symbols popularized by John Curwen that correspond with the solfege syllables.[55] The Curwen hand signs give each solfege syllable a unique hand

[52] Floyd and Haning, "Sight-Singing Pedagogy," 12.

[53] Bitner, "The Legacy of Guido d'Arezzo," 2.

[54] McClung, "Sight-Singing Systems," 3.

[55] Jane Bowyer, "More Than Solfege and Hand Signs: Philosophy, Tools, and Lesson Planning in the Authentic Kodaly Classroom," *Music Educators Journal* 102, no. 2 (December 2015): 72.

sign and function as "a tonal mnemonic device intended to bolster focal literacy through reinforcing tonal function."[56]

Movable "*do*" with a "*do*" based minor Method – This is a sight-singing method where the piece is centered around "*do."* It offers the "most efficacious tonal system."[57]

Movable "*do*" with a "*la*" based minor Method – This is a sight-singing method where the piece is centered around *"la". "La"* is the "tonic in a minor key."[58]

Music Literacy – Musical literacy consists of "the ability to read and write music notation and have a working knowledge of music literature."[59]

Sight-Reading or Sight-Singing – Sight-Reading/Sight-Singing has been defined as "the ability to read and perform music at first sight without preparatory study of the piece."[60]

Sight-Singer – A good sight-singer can "sing a melody that they have never seen or heard before."[61]

Solfege – In music, solfege, or solfeggio, also called sol-fa, solfa, solfeo, among many names, and is a music education method to teach aural skills, pitch, and sight-reading. Solfege is "the oldest and most widely used system for teaching sight-singing and the ability to read music in the world."[62]

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[56] Clark, "Pitch Systems and Curwen Hand Signs," 61.

[57] Bowyer, "More Than Solfege and Hand Signs," 70.

[58] McClung, "Sight-Singing Systems," 3.

[59] Bitner, "The Joy of Solfege," 2.

[60] Autry, "A Study of Hand Signs in the Development of Sight-Singing Skills," 3.

[61] Floyd and Haning, "Sight-Singing Pedagogy," 12.

[62] Bitner, "The Legacy of Guido d'Arezzo," 1.

Solfege Syllables – Guido d'Arezzo "chose the solmization syllables that evolved into the system of solfege we use today."[63] The original syllables were: *ut, re, mi, fa, sol, la,* and *si.* Each solfege syllable corresponds to a note in the musical scale. The syllables that Guido d'Arezzo developed and are used today are - *do, re, mi, fa, sol, la,* and *ti.*[64]

Solmization – This system originated with the Benedictine monk, Guido d'Arezzo. The sight-singing system assigns a "distinct syllable to each note of the scale."[65] Solmization is the basic principle of solfege.

Thoracic – This term refers to the chest/thorax part of the body known as the pectoral muscle.[66]

Summary

After a thorough review of existing literature and the original data provided by this study, several conclusions emerged about sight-singing using hand signs and solfege syllables. A recommendation is to continue to use these methods in sight-singing because "when students are adept at sight-singing, rehearsal is a more efficient process, and the choirs are able to learn and perform music at a faster rate and higher caliber."[67] More data that reinforces this says that using "hand signs while teaching a class to sing kept them on task and helped them to focus on the beat."[68]

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[63] Bitner, "The Legacy of Guido d'Arezzo," 2.

[64] Ibid.

[65] Bitner, "The Joy of Solfege," 3.

[66] McClung, "Sight-Singing Scores of High School Choristers with Extensive Training in Movable Solfege Syllables and Curwen Hand Signs," 256.

[67] Campman, "The White Whale," 110.

[68] Sanders, "The Teaching of Choral Sight Singing," 75.

This qualitative study used a pre-study and post-study questionnaire to evaluate and record the perceptions that high school students have about sight-singing and using the tools of hand signs and solfege syllables. At the time of this research, no previous studies or writings were found on this specific topic. Therefore, little is known about the students' perceptions regarding these skills. The students often perceive sight-singing using solfege syllables and hand signs as unpleasant. To avoid these negative perceptions, students should be told why they are learning these musical skills and why they are essential. Sight-singing is hugely vital to the skill of music literacy and should be of the highest importance music classroom of grades K-12. The findings produced by this study shows that even if students complain and want to quit, teachers should be gently encouraged to keep attempting to be successful combining sight-singing, solfege syllables, and hand signs. Teachers should not abandon this critical skill, and they must keep a positive attitude about sight-singing, regardless of students' perspectives. Furthermore, because hand signs are spatial movements, this student data could also encourage more research by those in the field of kinesiology.

Combining the task of singing with solfege syllables, note reading, and rhythm reading with the physical and kinesthetic movements of Curwen hand signs can be a challenging request. Previous research shows that "hand signs support faster and more correct identification of melodic intervals, also research indicates that showing pitch by gesture improves students' melodic progression."[69] Also, hand signs offer a visible image that promotes solidarity for the group, and the visual evidence shows that students understand all the concepts taught. Therefore,

[69] Marc Leman et al., "On the Role of the Hand in the Expression of Music," In *Studies in Applied Philosophy, Epistemology, and Rational Ethics* 38 (Switzerland: Springer, 2017), 186, https://doi.org/10.1007/978-3-319-66881-9_11.

it can be concluded that "hand signs play a central role in music interaction."[70] The music education "profession is made up of a diverse array of people who care deeply about finding ways to enrich students' lives with music, no matter what their age or musical profession."[71] Music teachers may have no better goal to set for students than to help them achieve music literacy by being the catalyst that provides them with the skills to be lifetime learners and supporters of music. Chapter two presents a literature review of research on topics related to this study. Topics of the literature review include sight-singing, hand signs, and solfege syllables. The following review of these scholarly sources further validates the purpose and needs of this study.

[70] Leman et al., "On the Role of the Hand in the Expression of Music," 186.

[71] Michael L. Mark, and Patrice Madura. *Music Education in Your Hands: An Introduction for Future Teachers* (United Kingdom: Taylor & Francis, 2009), 38.

CHAPTER TWO: LITERATURE REVIEW

Introduction

This study's purpose was to understand the perceptions of high school students concerning the skill of sight-singing while using solfege syllables and Curwen hand signs. This literature review contains an overview of the scholarly resources available for analysis related to this study's topic. Thus, the review consists of documentation that supports the importance of knowing high school students' perceptions of sight-singing through the systematic examination of previous research on the topics of sight-singing, instructional methods, instructional strategies, solfege syllables, and Curwen hand signs. Additionally, this chapter discusses the demographics of this study relating to private instruction, either vocally or instrumentally, and the significance of sight-singing related to student learning and music literacy. The application of sight-singing in the classroom can "teach your students to read the notes as well as the pitches"[72] and expand their music literacy. The researcher gathered the data presented in this chapter and thoroughly investigated the findings by comparing, contrasting, and recording literature published on this topic. Sources used to collect information about sight-singing, solfege syllables, and Curwen hand signs include research studies, dissertations, theses, scholarly journal articles, magazine articles, and books.

Examination of existing literature provided background knowledge and exposition on sight-singing's origin, history, and evolution. Understanding and tracing the roots and development of this necessary and crucial skill is essential to comprehending the tools to support sight-singing. Next, the significance of sight-singing emerges as the main topic. The significance of sight-singing is explored following the background and emerges as the main topic. This

[72] Bitner, "The Joy of Solfege", 4.

section of the review detailed the subtopics of music literacy, adjudication and contests, teachers' problems, and high school-age students. Lastly, the topic of sight-singing is viewed through a plethora of systems, methods, and teaching strategies available for educators. These strategies include solfege syllables, Curwen hand signs, rhythm reading, the fixed "*do*" method, the movable "*do*" method, group instruction, individual instruction, and other factors that affect sight-singing success.

History and Background of Sight-Singing

Much of modern American sight-singing traces to ancient times and a man named Guido d'Arezzo (b. 991-1033). Guido d'Arezzo was a Benedictine monk from a small town in Tuscany during the Medieval Period. He is perhaps one of the most influential musicians in history. Guido d'Arezzo was a "musician, a teacher, a music theorist,"[73] and is responsible for the beginnings of the well-known solfege syllables used today by countless music educators in instruction. This vital tool "is the oldest and most widely used system for teaching sight-singing and the ability to read music in the world. It is a training technique and a tool, and it is common for students in music programs to use solfege every day as part of their musical training."[74] It was Guido d'Arezzo "who chose the solmization syllables that evolved into the system of solfege we use today."[75]

[73] Bitner, "The Legacy of Guido d'Arezzo," 2.

[74] Ibid., 1.

[75] Ibid., 2.

Guido d'Arezzo

The syllables designed by Guido d'Arezzo were *ut, re, mi, fa, sol, la,* and *si.*[76] They formed the basis of the Guidoinian hand, which assigned the syllables to pitches linked to joints of the left hand's fingers, thus, physicalizing the practice of music reading. The first six of these syllables come from the beginning of each line of text in the Latin Hymn, "*Ut Queant Laxis,*" seen in Figure 1. For the seventh syllable, Guido d'Arezzo chose "the first two initials in *Sancte Iohannes,* which means Saint John."[77] A picture of this Latin Hymn is seen in Figure 1.

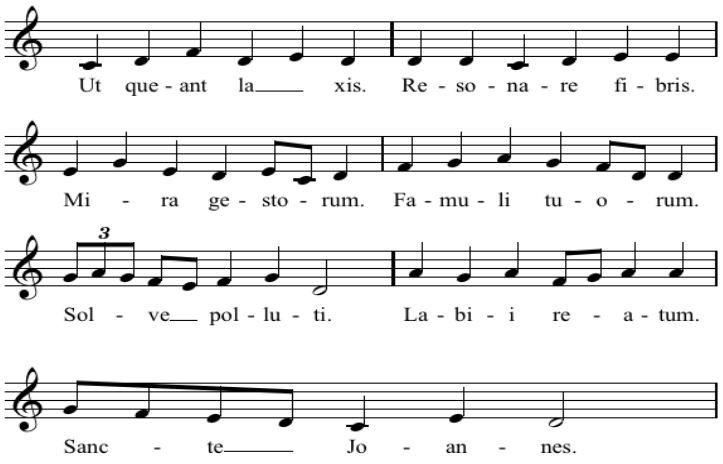

Figure 1. Latin Hymn "*Ut Queant Laxis"*.
Source: Public Domain.

Guido's d'Arezzo's system of sight-singing using solmization syllables went through many modifications and adaptations. During this evolution, musical literacy grew in importance in music education curriculums.

[76] Bitner, "The Legacy of Guido d'Arezzo," 2.

[77] Ibid., 3.

Sarah Anne Glover

"Throughout the 18th and 19th centuries, several other Europeans rose to prominence as experts in the field of music literacy and music education"[78] and made some significant changes to music education system. Sarah Anne Glover (b. 1786-1867), an English teacher recognized through the excellence of her children's choir performances, further developed the solmization syllables invented by Guido d'Arezzo. For over twenty years, she trained her choirs using a new set of notational syllables, *do*, *re*, *mi*, *fa*, *sol*, *la*, *ti*, and *do.* This system used by Sarah Anne Glover, which is identical to the modern solfege taught to choirs more recently, uses a separate neutral syllable for the scales notes and uses "*do"* to represent the tonic pitch.

Solfege is versatile and educators used it as an instructional strategy at every grade level. Solfege is considered "the bridge between student and notation, a concrete method to build the comprehension that translates symbols into sounds, and ultimately to develop audiation of what one reads on the page."[79] Bitner showed that using solfege is beneficial when teaching "reading notation and understanding music theory but for singers is also beneficial for refining pitch accuracy, intonation, and vowel placement."[80]

John Curwen

In the 19th century, an English minister John Curwen (b. 1816-1880), became acquainted with Sarah Anne Glover's solfege system. He worked to improve the methods used for sight-singing and historians best remember him for developing the Curwen hand signs. John Curwen devised a kinesthetic system that used a distinct hand sign to represent each note of the scale.

[78] Campman, "The White Whale," 16.

[79] Bitner, "The Joy of Solfege," 3.

[80] Ibid., 2.

Using "visual-spatial representations such as Curwen hand signs"[81] as a sight-singing strategy allows students to become physically involved with the process of music reading. A student "using hand signs is thus equipped to feel and see the location of each scale degree and its intervallic relationship to other scale degrees."[82] Students can sing using hand signs without using their voices, allowing individuals to practice and thus, not disturb the other students in the room. Additionally, this activity develops the young singers' inner ears, by requiring them to audiate pitches internally rather aloud.

Janice Killian and Michele Henry's results showed that students using hand signs performed sight-singing drills more accurately. Their accuracy was specifically seen in the areas of singing the correct pitches, keeping the beat, and maintaining a steady tempo.[83] The task of "keeping the beat on or in the body proved a useful strategy for more successful sight-singers."[84] According to Marc Leman, an expert on the hand's role in music expression, the "hands play a central role in music interaction."[85] Thus, John Curwen's hand sign method supports "faster and more correct identification of melodic intervals."[86] Additional research from Marc Leman suggested that hands representing or "showing a pitch with a gesture improves students' melodic progression."[87] The consistent use of hand signs during sight-singing drills was shown to "function as a tonal mnemonic device intended to bolster vocal literacy through reinforcing tonal

[81] Killian and Henry, "A Comparison of Successful and Unsuccessful Strategies in Individual Sight-Singing Preparation and Performance," 52.

[82] Clark, "Pitch Systems and Curwen Hand Signs," 62.

[83] Killian and Henry, "A Comparison of Successful and Unsuccessful Strategies in Individual Sight-Singing Preparation and Performance," 61.

[84] Ibid., 63.

[85] Leman, et al., "On the Role of the Hand in the Expression of Music," 162.

[86] Ibid., 186.

[87] Ibid.

function."[88] John Curwen's system has proved to be advantageous for students of all ages in developing musical literacy, and the use of Curwen hand signs continues to be a formative and vital part of many high-school students' experiences in the choral class. Those who are "advocates of Curwen hand signs have cited their utility as a multimodal approach to music reading, noting that hand signs provide visual and kinesthetic reinforcement of solmization syllables."[89] The evolution of solfege syllables from Guido d'Arezzo to Sarah Anne Glover and the addition of John Curwen's hand signs accelerated the development of music education philosophies. Furthermore, the growth and change in music education propelled the discipline of music education, music literacy, and the skill of sight-singing to new heights.

Zoltan Kodaly

Zoltan Kodaly (b. 1882-1967) developed a unique method of teaching music education in his native country of Hungary. Zoltan Kodaly's method was built upon his belief "that Hungarian music education should be designed to teach the spirit of singing to everyone, to educate all to be musically literate, and to bring music into everyday use in homes and in leisure activities."[90] Kodaly published songbooks based his method, and the philosophy quickly spread from Hungary to the United States. The Kodaly method is based on several vital philosophic tenets such as his conviction that singing is the best foundation for musicianship, "all people capable of linguistic literacy are also capable of musical literacy."[91] Kodaly further endorsed that music education should begin with young children using the folksongs of a child's heritage for early instruction,

[88] Clark, "Pitch Systems and Curwen Hand Signs," 61.

[89] Ibid., 62.

[90] Michael L Mark and Patrice Madura, *Contemporary Music Education* (Boston: Schirmer, 2014), 106.

[91] Ibid., 107.

and only the highest quality music should be utilized in teaching.[92] Perhaps the most important of Kodaly's ideals that "music should be at the heart of the curriculum"[93] and used as a basis for education in addition to being categorized as a core subject.

Kodaly's method of teaching music is "a highly structured and sequenced music curriculum based on child development principles."[94] Additionally, this carefully designed music method uses the tools of both solfege syllables and hand signs. The solfege syllables are a skill used to develop children's pitch beginning with the descending minor third (*sol – mi*). Introducing the solfege syllables and corresponding tones is "the most natural interval for children to sing and is one that they sing as part of play, usually heard by children on the playground."[95] The next tone taught is "*la*", which "adds the major second and perfect fourth to the children's musical vocabulary."[96] Most children have chanted or sung the sequence seen in Figure 2.

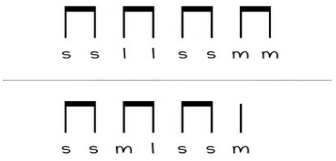

Figure 2. Rhythmic Solfege Pattern.
Source: Public Domain.

After those three pitches and solfege syllables are mastered, students then learn new pitches one at a time in a prescribed order until they have learned all the notes on a major scale.

[92] Mark and Madura, *Contemporary Music Education,* 108.

[93] Ibid.

[94] Ibid.

[95] Ibid., 109.

[96] Ibid.

The Kodaly concept also fosters kinesthetic development by using the hand signs. Zoltan Kodaly incorporated hand signs into music education because he believed that "learning to sight-read through a medium other than the voice improves musical reading skills."[97] The hand signs help students learn music reading skills "by translating sound into body motion."[98] Zoltan Kodaly's vision of music education was for children and students "to experience music on a daily basis and to be taught by teachers who were trained in music."[99] This vision seems to be the "impetus for Kodaly's approach to music education."[100]

Lowell Mason

The studies and expertise of the great musical minds of Guido d'Arezzo, Sarah Anne Glover, John Curwen, and Zoltan Kodaly, made the skill of sight-singing more accessible for music educators to implement in their classrooms. Other great musicians also contributed to the development and evolution of music education, music literacy, and sight-singing. Lowell Mason (b. 1792-1872) was at the forefront of music education and is regarded as the father of music education." He "believed that all people had a degree of musical talent, and that singing was a skill to be generally developed."[101] Mason's belief led him to "develop a sequential method of teaching sight-singing and singing skills to children."[102]

In 1837, Lowell Mason was the first public school music teacher in America, and in 1838, he petitioned the Boston School Committee to "include music in the public schools as a

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[97] Mark and Madura, *Contemporary Music Education,* 110.

[98] Ibid.

[99] Sanders, "The Teaching of Choral Sight Singing," 18.

[100] Ibid.

[101] Victoria Furby, "Process and Product: The Sight-Singing Backgrounds and Behaviors of First-Year Undergraduate Student," (Doctoral Dissertation, The Ohio State University, 2008), 15.

[102] Ibid.

curricular subject."[103] Lowell Mason's efforts as a school music teacher were the first that public taxes ever supported music instruction. His conviction that "music meets the criteria of being intellectually, morally, and physically beneficial to children"[104] became the core of his petition to the Boston School Committee.

Emile Jacques-Dalcroze

Emile Jacques-Dalcroze (b. 1865-1950), a Swiss music educator, relied heavily on Kodaly's method, which focused on music learning using a kinesthetic approach. The Dalcroze method has three main components eurythmics, ear training and solfege, and improvisation. Eurythmics uses rhythm as the core of lessons to train a pupil's ear, giving students an understanding of body-rhythm.[105] Using solfege develops "perfect pitch, accurate hearing, refined intonation, and memory."[106] By incorporating improvisation into the Dalcroze method, students are allowed to experiment with "music concepts, techniques, experiences, understandings, and ideas of their own devising."[107]

Carl Orff

Lastly, Carl Orff's (b. 1895-1982) contributions provided substantial growth and development in music education. Carl Orff held similar beliefs to Zoltan Kodaly concerning how to teach music to children. "Carl Orff emphasized that music was for children of all ages and abilities"[108] and that all should receive music training regardless of talent level. The essential

[103] Mark and Madura, *Contemporary Music Education*, 5.

[104] Ibid.

[105] Ibid., 100.

[106] Ibid., 101.

[107] Ibid., 102.

[108] Sanders. "The Teaching of Choral Sight Singing," 18.

parts of the Orff approach include the body, the voice, and the Instrumentarium. His approach used the voice for singing, the body for kinesthetic activity (stamping, patting, clapping, snapping), and xylophone-barred instruments (the Instrumentarium) for learning rhythm patterns and harmonies. Through these works and the expertise of many others, the discipline of music education, music literacy, and sight-singing has morphed into an essential and necessary subject taught in public and private schools and institutions.

The Importance of Sight-Singing

Audiation

The drill and practice of sight-singing in the choral rehearsal are necessary for the music learning process. For musicians, learning to sight-sing is similar to learning to read or speak a different language. The intricate skill of sight-singing involves a complex variety of musical languages such as pitch, rhythm, melody, articulation, and expression. Add to these musical elements the use of sight-singing languages such as solfege, numbers, or neutral syllables, and it becomes clear why it is important.[109] "Sight-singing training is an essential part of students' musical development,"[110] and mastering sight-singing to become musically literate requires dedication, hard work, and great patience. The research referenced in this literature review demonstrates the importance of learning these musical skills.

In her dissertation about hand signs and the development of sight-singing skills, M. R. Autry defined sight-singing as "the ability to read and perform music at first sight"[111] without a preparatory study of the piece. Again, the importance of sight-singing and the connection

[109] Adam Wurst, "The Cloud: Empowering Developing Sight Singers." *Choral Directors Magazine* (September 2015), 2.

[110] Fournier et al., "Cognitive Strategies in Sight Singing.", 271.

[111] Autry, "A Study of Hand Signs in the Development of Sight-Singing Skills," 3.

between sight-singing and music literacy is emphasized. Eva Floyd and Marshall Haning's research on sight-singing pedagogy concluded that "regardless of which system one uses to teach sight-singing, aural skills, and ear training, the underlying goal is the same: to internally organize sound."[112] Music educators have described and used the skill of internally organizing sound in various ways. E. E. Gordon's analysis of tonal syllables called this process audiation. Gordon described audiation as being able to hear "in our minds music for which the sound is no longer or never has been physically present."[113] In the article "Do You Auralize?" by D. W. Martin, audiation is described as "the process of hearing music mentally in the absence of the physical sound."[114] Zoltan Kodaly noted that often "inner hearing, the process of hearing and analyzing music without the presence of sound, is used"[115] and becomes the first step to successful sight-singing.

Solfege Syllables

For an exciting learning experience for students, music educators that deem sight-singing essential typically use various methods to facilitate mastering these skills. Solfege syllables are one of these tools that becomes "a concrete method to build the comprehension that translates symbols into sounds, and ultimately develops audiation of what one reads on the page."[116] This reinforces the importance of sight-singing for learners striving for music literacy. In a study by Michele Henry about sight-singing instruction in the choral rehearsal, she confirms the importance of sight-singing and music literacy by stating that "the development of musical

[112] Floyd and Haning, "Sight-Singing Pedagogy," 12.

[113] Ibid.

[114] Ibid.

[115] Ibid.

[116] Bitner, "The Joy of Solfege," 3.

literacy seems essential to the goal of equipping students with independent musicianship skills."[117]

Guido d'Arezzo birthed the solfege system as used today by contemporary music educators. This vital tool is the oldest and most widely used system for teaching sight-singing and the ability to read music in the world. It is both a training technique and a tool, and it is common for students in music programs to use solfege every day as part of their musical training.[118] Guido d'Arezzo "chose the solmization syllables that evolved into the system of solfege we use today."[119] The solfege system used in modern classrooms applies a separate neutral syllable to each note of the scale and is a variation of Guido d'Arezzo's original syllables. Using Guido d'Arezzo syllables, Sarah Anne Glover developed the modern solfege syllables for students when singing a major diatonic scale; these syllables are *do*, *re*, *mi*, *fa*, *sol*, *la*, and *ti*. These syllables allow singers to focus on the pitch first and secondly on the rhythm without worrying about pronouncing the text, which is often tricky. Singers should sing the vowels of the solfege syllables as pure Italian vowels with no diphthongs. Using pure vowels is beneficial because they initially focus sight-singing on singing with good vocal tone production, dynamics, and proper intervals. Once students master these skills, they can add they rhythm and text.

Curwen Hand Signs

The Curwen hand signs are another method that emerged as an essential tool relating to sight-singing instruction. The essential tool of hand signs created by John Curwen can "improve

[117] Henry, "The Use of Targeted Pitch Skills for Sight-Singing Instruction in the Choral Rehearsal," 206.

[118] Bitner, "The Legacy of Guido d'Arezzo," 1.

[119] Ibid., 2.

the accuracy of typically problematic intervals."[120] Using hand signs during sight-singing allows students to "differentiate pitches based on their location in the scale."[121] The hand signs, seen in Figure 3, "allows students to demonstrate that they can sing the tune in their heads while only showing the hand sign"[122] visually. Using hand signs when sight-singing brings a solidification of aural, visual, and kinesthetic actions.

Figure 3. Curwen Hand Signs.
Source: Public Domain.

Although the efficacy of hand signs is disputed among music scholars and educators, there are "widely supported reasons for their use."[123] Hand signs are used as "a multimodal approach to music reading, noting that hand signs provide visual and kinesthetic reinforcement of solmization syllables"[124] The kinesthetic layer added by using the hand signs contributes to the benefits of sight-singing and allows students to "feel and see the location of each scale degree and its intervallic relationship to other scale degrees."[125] Hand signs can "help students hear, see, and touch the pitches on a tone ladder in a kinesthetic manner."[126]

[120] Bowyer, "More Than Solfege and Hand Signs," 72.

[121] Ibid.

[122] Ibid.

[123] Ibid.

[124] Clark, "Pitch Systems and Curwen Hand Signs," 62.

[125] Ibid.

[126] Bowyer, "More Than Solfege and Hand Signs," 72.

Hand Signs and Solfege Syllables

Both hand signs and solfege syllables can be used alone or together when sight-singing melodies. An advantage of using the hand signs is that "the student can sing the melody with their hands and not have to audiate the melody at the same time."[127] This result benefits high school music teachers because all students in the choral class can simultaneously practice their sight-singing simultaneously when using hand signs and not their voices. This practice provides a quiet classroom with the students fully engaged in the sight-singing assignment while using hand signs. Thus, they can participate in individual learning and not disrupt other's learning. Using solfege syllables provides benefits to students as well. In an article published in *The Choral Director Magazine,* Walter Bitner wrote that he "found solfege to be an ideal and malleable tool for every grade level."[128] He noted that solfege syllables helped students develop audiation by giving them "the ability to look at a piece of written music notation and read it, hear it, and sing it in the mind."[129] When high school music student can accomplish accuracy in sight-singing by using the skills of solfege syllables and hand signs, they can also become successful and competent music readers - resulting in students reaching the goal of musical literacy. Janes Bowyer studied the Kodaly method in-depth and concluded that "the Kodaly concept is more than hand signs and solfege, and he hoped that music educators were inspired to bring these concepts to their classrooms."[130]

[127] Clark, "Pitch Systems and Curwen Hand Signs," 62.

[128] Bitner, "The Joy of Solfege," 2.

[129] Ibid.

[130] Bowyer, "More Than Solfege and Hand Signs," 75.

Music Literacy

Even with the structured and proven methods of hand signs and solfege syllables, "the importance of sight-singing instruction and musical literacy has raged in a continual debate since the introduction of music education to the general public of the United States."[131] Over time, some high school choral directors have seen the benefit and need of teaching sight-singing to high school choirs, and as a result, they "treated the teaching of sight-singing as a primary objective for the chorus class."[132] In contrast, other choral directors make little or no attempt to include sight-singing instruction in their lessons. Still, other educators choose to spend their rehearsal time using sight-singing as a tool for teaching literacy. This problem brings about a plethora of issues for the modern music educator. As a result, when choral directors do not focus on making sight-singing a priority, students suffer by not being taught to read music. Thus, students could participate in a high school choral program for four years and graduate as musically illiterate.

Challenges for Educators

Music literacy is often overlooked because many music programs focus more "on performance and rote teaching at the expense of developing music reading skills."[133] A teacher's choice not to teach music reading skills only contributes to students' difficulties attaining music literacy. Additionally, the aspect of developing competency in sight-singing is frequently neglected in the choral music discipline. Ultimately, "sight-singing in the choral rehearsal is not

[131] Furby, "Process and Product," 13.

[132] Campman, "The White Whale," 19.

[133] Demorest and May, "Sight-Singing Instruction in the Choral Ensemble," 156.

an all-or-nothing proposition."[134] Sight-singing must be a priority, taught consistently by dedicated educators, and given the appropriate time in the rehearsal. If educators uphold these steps, the students learn in an environment that encourages success over failure and fosters learning over ignorance.

Regardless of the approach teachers use in music instruction, another common problem continues to face music educators: finding the time to actually "focus on producing quality performances rather than teaching music reading."[135] Because many music groups are performance-based, teachers constantly struggle between teaching music literacy via sight-singing or choosing to concentrate on the performing. Some have speculated that "teachers feel they do not have the time to teach music reading."[136] Teachers might feel internal and external pressure to have many performances scheduled for their choirs; however, their "focus on performance might come from the need to satisfy the expectations of the administration."[137] Additionally, the many activities available to students at the high school level spread their involvement in activities other than music, and they "spend less time in the classroom."[138] The less time students spend in music classrooms, the less often they are instructed in the necessary skills of reading music. This problem is authentic, and each teacher must find a satisfactory resolution. Jane Kuehne reviewed research of teacher practices in classrooms related to sight-singing and concluded that "teachers should choose a method, use it consistently, and teach their

[134] Demorest, "Integrating Sight-Singing into the High School Choral Rehearsal," 58.

[135] Kuehne, "Sight-Singing," 7.

[136] Ibid.

[137] Ibid.

[138] Ibid.

students to prepare effectively."[139] Thus, supporting the idea that music literacy and sight-singing are a vital part of a music education.

Contests and Festivals

Michele Henry studied the effectiveness of sight-singing instruction using pitch skills, and the results revealed that "participants in choirs that consistently receive the highest ratings at group sight-reading contests achieved an individual average of 66 percent accuracy in pitch and rhythm."[140] Because sight-singing is often a component of choral contests and district and state choral festivals, "sight-singing instruction is a normal and important part of many daily choral rehearsals."[141] The fact that a majority of states have incorporated sight-singing as a part of various contests indicates that they are "highlighting the importance of music literacy skills"[142] by identifying and bringing recognition to their "most capable and accomplished musicians."[143] The choirs or individuals who receive superior ratings in the sight-singing aspect of the festivals receive an award or recognition within that district or state. These opportunities for students reinforce why sight-singing should be part of the music educators' daily routine. In some circumstances, "sight-singing is taught more often when performance and sight-singing is assessed annually at a festival/contest."[144] Therefore, some teachers "use the festivals as their students' annual assessment."[145] When teachers prioritize sight-singing, the students become aware that mastery of sight-singing is an important aspect of their music education. If ensembles

[139] Kuehne, "Sight-Singing," 10.

[140] Henry, "The Use of Targeted Pitch Skills for Sight-Singing Instruction in the Choral Rehearsal," 207.

[141] Ibid., 206.

[142] Henry, "The Use of Specific Practice and Performance Strategies in Sight-Singing Instruction," 11.

[143] Ibid.

[144] Kuehne, "Sight-Singing," 10.

[145] Ibid.

have a successful performance on the sight-singing portion of the annual assessment, the instructors might feel motivated to continue teaching and instructing their choirs on how to sight-sing.

Methods and Teaching Strategies Used in the Choral Rehearsal

Sight-Singing in the Classroom

In a typical high school choral rehearsal, the sight-singing training "usually occurs immediately following the warmups."[146] The time spent on sight-singing in classrooms varies, depending on the priorities of each music teacher. According to Steven Demorest's study of the integration of sight-singing in the choral rehearsal, the duration of designated time for sight-singing drills is typically five to fifteen minutes. The results showed that "practicing sight-singing through regular and sequential exercise is invaluable in developing this fundamental skill."[147] Nevertheless, consistency and structure are not the only vital strategies for training a choir to achieve sight-singing success. In addition to having a committed instructor, the sight-singing materials used, and the skills taught should be linked choral rehearsal's performance standards. This connection means that after the sight-singing time in the rehearsal has expired, sight-singing learning does not necessarily end. The strategies and knowledge acquired during sight-singing must "not end at the moment the rehearsal of the choral literature begins."[148] Many educators fail to encourage continued learning because they do not connect the choral literature learned to the sight-singing drills and concepts taught. Furthermore, music directors compound the dilemma because they choose not to make sight-singing a consistent practice. If sight-singing

[146] Demorest, "Integrating Sight-Singing into the High School Choral Rehearsal," 55.

[147] Ibid.

[148] Ibid.

is essential to the choral rehearsal, "why teach the students this skill if they are not going to have an opportunity to exercise their skills?"[149]

Stephen Demorest researched the integrating sight-singing into the high school choral rehearsal. He sought to answers to the question, "How do you deal with the challenge of incorporating music reading and sight-singing skills into the rehearsal without compromising the quality of the literature performed by the choir?"[150] A solution identified in the study is to vary "teaching approaches utilized in sight-singing to fit the structure of the music."[151] For example, the idea of allowing the choir to pre-read a piece of music before learning it has benefits. This perspective allows "the group to identify areas of improvement and show what they learned"[152] when attempting to sing a new piece for the first time. In addition, the sight-singing process challenges students, gives them the experience and "ability to keep the beat going and find their part in relation to it."[153] Students are not expected to sing a piece to near-perfection; however, the practice makes classroom sight-singing experiences more closely related to those in choral contests, festivals, or all-state auditions. More importantly, the choral literature directly specifies some skills and strategies for teachers during sight-singing instruction.

Other ways to incorporate sight-singing skills into choral literature are to break a piece down into smaller sections, sing the song with the piano accompaniment, sing the piece with solfege, and have students incorporate the dynamics of their choral pieces into their rehearsal time. If a choral piece has a section of imitative counterpoint, the director can "have students sing

[149] Demorest, "Integrating Sight-Singing into the High School Rehearsal," 55.

[150] Ibid.

[151] Ibid.

[152] Ibid.

[153] Ibid., 56.

the main motive with the text then accompanying counterpoint on solfege syllables."[154] By using these techniques, singers become "aware of the structural function of their line, and it helps to avoid problems later."[155] If the piece is harmonically based, the song can be introduced "by singing a chord exercise that reflects certain progressions from the piece."[156] If the piece is rhythmically based, the conductor can "present difficult rhythm patterns and melodic patterns separately and without the text or the piece."[157] When considering these creative ways of incorporating choral literature into a rehearsal, a productive course includes that the tasks should be isolated and taught singularly. Sight-singing is a constructive memory activity where "you apply previous knowledge of musical patterns and relationships to what you already know."[158] Thus, introducing a limited portion of a choral piece into the sight-singing materials can give the choral students a prior knowledge and exposure to the choral piece before teaching to the choir.

Various Methods and Strategies

Music educators have used a variety of methods and teaching strategies to teach sight-singing successfully. Several sight-singing systems "use numbers, syllables, or letter names of pitches for reading purposes. Other aids such as shaped notes, various pictorial symbols, and hand signs are used to develop sight-reading skills."[159] The National Standards for Arts Education in music "emphasize the importance of sight-singing development for both elementary and

[154] Demorest, "Integrating Sight-Singing into the High School Rehearsal," 55.

[155] Ibid.

[156] Ibid.

[157] Ibid.

[158] Ibid.

[159] Autry, "A Study of Hand Signs in the Development of Sight-Singing Skills," 1.

secondary students."[160] The fact that sight-singing is a part of a national document should indicate to music educators that sight-singing must be an absolute priority in music education.

Janice Killian and Michele Henry studied the success of sight-singing strategies. Based on their "observations during the tests administration, they constructed a list of behaviors occurring during the study/practice times and the performances."[161] The behaviors that emerged during their study were "pitch strategies (the use of Curwen hand signs, use of solfege or number syllables, singing out loud), rhythm strategies (keeping a steady beat in the body), and overall strategies (tempo, starting over, isolating trouble spots."[162] The testing procedures used to gather data were "modeled after those used during all-state sight-singing auditions."[163] In this scenario, singers are provided with 30 seconds to study, chant, or sing the unknown melody before they are required to sing it for the adjudicator. They then must sing the piece for the adjudicator. After 30 seconds expire, "the tonic triad and starting pitch are played again. The participants then sing the melody." [164] Next, participants are asked to sing a second melody without the 30 second study time. The results from Janice Killian and Michele Henry's study indicated that "overall scores were significantly higher for the melody sung with a 30 second preparation."[165] The strategies the participants and researcher observed included the use of hand signs, singing aloud during practice time, keeping the beat physically, isolating problems, and tonicizing during practice time.

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[160] Killian and Henry, "A Comparison of Successful and Unsuccessful Strategies in Individual Sight-Singing Preparation and Performance," 51.

[161] Ibid., 55.

[162] Ibid.

[163] Ibid., 54.

[164] Ibid.

[165] Ibid., 56.

Killian and Henry found no significant differences regarding the method students used during the testing time of this study; moreover, the results showed "the use of hand signs did not yield a significant relationship to the overall success"[166] of students. Other results "indicate that it is not only the repetition of testing procedures that could be effective training strategies but that teaching singers what to do, as well as what not to do, when sight-singing may help singers, regardless of their ability level."[167] The Killian and Henry study also looked at the high scorers of the sight-singing assessment and considered other outside factors that positively influence the accuracy of sight-singing. The results revealed that high scorers included those who studied private voice or piano lessons and played an instrument. The concept of private lessons and their effect on sight-singing performance will be further discussed in this study's findings.

Jane Kuehne wrote a review of sight-singing studies published from 1998 to 2008. As a result, she identified several teaching strategies among the studies. Kuehne concluded that teachers should choose a method and use it consistently.[168] Furthermore, she noted that high school directors spent more time than middle school directors on sight-singing instruction, and they often use the movable "*do*" method. In a study of high school choral programs in Alabama, Arkansas, Georgia, Mississippi, Tennessee, and Louisiana, results showed that teachers used the movable "*do*" system in Louisiana, and in other states, they used melody pitch numbers. This study also showed that only 80 percent of the directors from among the schools included taught sight-singing for the entire year, the directors felt that sight-singing instruction helped students with performance literature, and 83 percent of the directors from these states placed sight-singing

[166] Killian and Henry, "A Comparison of Successful and Unsuccessful Strategies in Individual Sight-Singing Preparation and Performance," 62.

[167] Ibid., 63.

[168] Kuehne, "Sight-Singing," 7.

at the beginning of the rehearsal. Another conclusion highlighted in this research article is that "student preparation time is important to the teaching process."[169] Jane Kuehne reported that the chosen method and materials might not be consequential, but the preparation time before sight-singing contributed more to students' success.[170] In summary, this study shows that "there are many components to successfully teaching sight-singing, and there are many skills students must obtain for success."[171] In addition, each educator should have the goal of helping their students become better musicians.

Group Versus Individual Sight-Singing

Jane Kuehne found evidence that shows "students are more likely to learn to sight-read effectively if the development of sight-reading skills is treated as a major objective for the high school chorus."[172] The typical setting for sight-singing to occur within the choral classroom is in the group setting. Because "sight-singing usually occurs in a group setting, the individual development"[173] of sight-singing skills is often overlooked. Thus, a debate exists about whether group or individual sight-singing instruction is most beneficial. Michele Henry concluded that during sight-singing instruction, "attention must be given to instructional strategies designed for individual sight-readers as well as choral group participants."[174]

Janice Killian and Henry found "several overt behaviors linked to overall individual sight-reading success."[175] The methods and behaviors of students' sight-singing performance

[169] Kuehne, "Sight-Singing," 11.

[170] Ibid., 12.

[171] Ibid., 13.

[172] Brittain, "Sight-Singing Pedagogy," 13.

[173] Henry, "The Use of Specific Practice and Performance Strategies in Sight-Singing Instruction," 11.

[174] Ibid.

[175] Ibid., 11-12.

include establishing the key vocally, using of hand signs, singing aloud during the designated practice time, keeping the beat with their bodies, and completing the entire exercise during the 30-second preparation time. The key results from this research showed that typically students who demonstrating the behaviors described above were also high scorers on individual sight-singing assessments. Janice Killian and Michele Henry also discovered that "the movable "*do*" system was the most widely used modern method and has been positively related to accuracy"[176] when sight-singing. Henry solidified this debate over group and individual assessments in solidified by another study. Her study examined the effectiveness "of teaching individual singers to employ specific behaviors that have been linked with high achievement during individual sight-reading."[177] The conclusions that emerge from this research provided "supporting evidence that reinforces the need for developing and practicing effective individual sight-reading strategies"[178] Michele Henry also noted that "high scorers reported practicing sight-reading individually more often than did low scorers."[179]

Movable "do" Versus Fixed "do"

Being a music educator is a challenging job; however, if the overall goal of the educator is independent musicianship and music literacy, then "steps must be taken to ensure that the goal is being met."[180] To avoid the trap of "rote teaching at the expense of developing music reading skills,"[181] there are other methods that directors can use to accomplish and develop their goal of

[176] Killian and Henry, "A Comparison of Successful and Unsuccessful Strategies in Individual Sight-Singing Preparation and Performance," 52.

[177] Henry, "The Use of Specific Practice and Performance Strategies in Sight-Singing Instruction" 11.

[178] Ibid., 15.

[179] Ibid.

[180] Demorest and May, "Sight-Singing Instruction in the Choral Ensemble," 166.

[181] Ibid.

students' competency in sight-reading. In addition to using solfege syllables, hand signs, number singing, rhythm drills, and movable "*do,*" directors have many other instructional strategies to choose. The study and research of these methods have provided the music education community with evidence and recommendations to consider in instruction.

When comparing the movable "*do*" method with the fixed "*do*" method, research findings by Michele Henry and Steven Demorest showed that "both methods seem equally effective in developing sight-singing skills."[182] In contrast, Steven Demorest and William May "found that students using the movable "*do*" system scored significantly higher than those using the fixed "*do*" method."[183] Janice Killian and Michele Henry "found the instructional method for sight-singing was less a factor for sight-singing."[184] R.D. Daniel's study about the sight-reading ability of high school choirs indicates "that the choral director's attitude toward sight-singing plays an important role in sight-singing success while specific music curriculum is not a predictor of success."[185] R. Cutietta showed "a choral ensemble could learn to sight-sing by devoting a portion of rehearsal time to organized sight-singing instruction."[186] A.C. McClung studied systems used in six southeastern states and found that "the most common system utilized was the scale-degree system followed in order by movable "*do*", neutral syllables, and fixed "*do*."[187] R.D. Daniels surveyed choral directors around the country and found that "the most popular method of teaching sight-skills was a combination of clapping rhythms and unison sight-singing."[188] Lastly,

[182] Floyd and Bradley, "Teaching Strategies Related to Successful Sight-Singing in Kentucky Choral Ensembles," 70.

[183] Ibid.

[184] Ibid.

[185] Ibid.

[186] Ibid.

[187] Ibid.

[188] Ibid.

Steven Demorest's findings indicated that a "high number of directors use the movable "*do*" system (64 percent) for pitch reading and the counting method (47 percent) for rhythm reading."[189]

Eva Floyd and Kelly Bradley Research

Along with solfege syllables and hand signs, the tried-and-true systems of movable "*do*", pitch reading, rhythm reading, and the counting method have led to success in different scenarios across the United States for educators attempting to teach sight-singing. In addition to the successful methods used to achieve excellence in sight-singing, researchers have identified other factors as predicting success for students' sight-singing. Eva Floyd and Kelly Bradley found predictors such as piano experience, particularly private piano study, having a piano at home, choral experience, school choral experience, and identifying the harmonic context. For instance, they found that individual sight-singing performance was improved by adding harmonic context to the single melodic line and that more school choral experience predicted more facility with sight-singing. From these data and the previous research done on sight-singing methods, evidence showed that "directors can improve individual sight-singing skills by adding individual sight-singing tests as well as group sight-singing instruction."[190] Floyd and Bradley concluded that "both research and common sense suggest that daily, organized sight-singing instruction, along with the director's positive attitude toward sight-singing tasks, is beneficial."[191]

[189] Floyd and Bradley, "Teaching Strategies Related to Successful Sight-Singing in Kentucky Choral Ensembles," 70.

[190] Ibid., 72.

[191] Ibid., 71.

Summary

Through the careful study and review of these scholarly sources, results show evidence that to create "independent, lifelong learners,"[192] educators must set a goal of developing students' music literacy skills. Teachers can cultivate and nurture literacy in music can be cultivated and nurtured through the clear and consistent instruction of sight-singing skills. If educators "structure the learning in small steps, the rewards will add up as students become independent learners. Their musical self-esteem will increase, and precious rehearsal time will be saved as rote learning gives way to self-directed learning."[193]

The various methods discussed in this literature review are available to educators for teaching sight-singing skills. Group sight-singing instruction is excellent, and teachers should utilize this in choral classrooms; however, individual instruction has proven invaluable and they should not overlook it. The development of literacy skills should be "essential to the goal of equipping students with independent musicianship skills."[194] Although group sight-singing is often a "component of choral contests and all-state choir auditions in many states,"[195] teaching sight-singing skills in a group setting might not be the most effective way of achieving individual sight-singing accuracy. Michele Henry studied on sight-singing during choral rehearsal and suggested that "individualized testing may be an effective instructional tool for teaching sight-singing."[196] Research has shown that students "who participate in periodic individual testing scored significantly higher"[197] on assessments than those who only received group instruction for

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[192] Henry, "The Use of Specific Practice and Performance Strategies in Sight-Singing Instruction" 11.

[193] Brittain, "Sight-Singing Pedagogy," 11.

[194] Henry, "The Use of Targeted Pitch Skills for Sight-Singing Instruction in the Choral Rehearsal," 206.

[195] Ibid.

[196] Ibid., 207.

[197] Ibid.

sight-singing. Music educators should consider group versus individual training when planning sight-singing instruction.

In summary, "music theorists, educators, and researchers have produced a growing body of literature on tonal mnemonic devices."[198] The pitch systems naturally form two categories: fixed and movable systems. The movable systems are "characterized by syllables that correspond with tonal function such as movable "*do*" and the singing of scale degree numbers."[199] The Curwen hand signs, "like pitch systems, function as a tonal mnemonic device."[200] John Curwen intended for the hand signs to "reinforce movable "*do*" solmization visually and kinesthetically."[201] The wide variety of methods and strategies available makes it difficult for music educators when making pedagogical decisions; however, "it is recommended that educators consider the literature on the rationales behind these devices."[202] If music educators are diligent and acquire the appropriate knowledge of these strategies, learn how to use and implement them in the classroom, and become aware of the "effectiveness of pitch systems and Curwen hand signs, educators may be equipped to make informed decisions in order to cultivate musically literate singers."[203] Furthermore, if educators dedicate their efforts to developing students' musical literacy, their "rehearsal time is made more efficient and the intonation of their choirs' is improved."[204] Thus, their students could become accomplished at sight-singing skills, and the choral program reaps the benefits of students who can adequately read music. Chapter

[198] Clark, "Pitch Systems and Curwen Hand Signs," 64.

[199] Ibid.

[200] Ibid., 61.

[201] Ibid.

[202] Ibid., 64.

[203] Ibid.

[204] Floyd and Bradley, "Teaching Strategies Related to Successful Sight-Singing in Kentucky Choral Ensembles," 77.

three discusses the specific methods used in this study to collect data from high school students regarding their perception of sight-singing using hand signs and solfege syllables.

CHAPTER THREE: METHODS

Introduction

The primary focus of this study to understand better the perceptions of high school students when using solfege syllables and Curwen hand signs to sight-sing. The grounded theory design used in this study was selected to develop new theory. The qualitative data originated from the participants' experiences and perceptions collected using interviews, surveys, individual assessments, and observations.

According to John and David Creswell, a qualitative study is a process that "involves emerging questions and procedures; collecting data in the participants' setting, and analyzing the data inductively."[205] Using a grounded theory research design provides data that are "grounded in information from participants."[206] Because this study involved collecting data in the participants' setting and gaining a knowledge of their perceptions regarding sight-singing, solfege syllables, and hand signs, a study with qualitative methods is appropriate. Using a historical approach and grounded theory design, this qualitative aimed to identify the perceptions of high school choral music students regarding sight-singing, solfege syllables, and hand signs. The participant's perceptions were explored by analyzing written and verbal feedback and other related data and information collected during this study. Additionally, data analysis revealed new findings and themes that emerged from students' perceptions about teaching sight-singing in the high school setting. These data were gathered from multiple sources, including pre-study and post-study questionnaires, researcher observations, daily feedback forms, and individual sight-singing

[205] John W. Creswell and J. David Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (Thousand Oaks, California: Sage Publications, 2018), 250.

[206] Ibid., 63.

assessments. These results could be vital for students and teachers when determining the best approach for sight-singing with high school students.

Research Design

The researcher chose grounded theory as the study design because it is qualitative approach and a philosophical world view. According to John and David Creswell, a qualitative study includes words rather than numbers, collected using open-ended questions with responses in writing, and verbally via interviews.[207] This qualitative study also uses a historical approach, which responses from high school students regarding their perceptions about sight-singing when using solfege syllables and hand signs. The study included a selected group of high school students as participants and was "collected in the participant's setting."[208] Multiple data sources were used to acquire the participant's unique perceptions about sight-singing, solfege syllables, and hand signs. These data collection instruments include questionnaire forms developed by the researcher specifically for this study; these questionnaires contained open-ended and closed-ended questions. The interviews were one-on-one individual interviews, again using open-ended and closed-ended questions. The researcher took notes during the interviews and observations. The researcher analyzed all data to "provide a specific direction for the research."[209] Additionally, the researcher reviewed the data to make interpretations by "inductively building from particulars to general themes."[210]

[207] Creswell and Creswell, *Research Design,* 3.

[208] Ibid., 4

[209] Ibid., 11.

[210] Ibid.

During the week before starting origination the study, the researcher sent a letter to the participants describing research topic and activities involved. Additionally, the parents of potential participants received a parental consent form, and after consenting, the students responded to questions on the pre-study survey. Following the introductory week, the students participated in a twenty-minute lesson for the following four weeks. These four sessions included a vocal warm-up, a thirty-second preparation time, an individual assessment of each student's sight-singing, and individual interview questions. After each daily sight-singing lessons, the participants answered daily feedback on the survey. For the duration of the study, all participants were required to take part in each aspect of the planned activities.

The researcher's role was to develop the questionnaires, i.e., "Pre-Study: Sight-Singing Questionnaire," and the "Post-Study: Sight-Singing Questionnaire." Both questionnaires are in the Appendix B section. The researcher designed the instruments to collect participants' perceptions of sight-singing tools and acquire written feedback from the students before and after the study. These surveys incorporated both open and closed-ended questions and specifically designed to collect feedback from the participants about their perceptions of sight-singing, solfege syllables, and hand signs. The open-ended questions are helpful because the "participants can share their ideas freely, not constrained by predetermined scales."[211] In addition, the researcher made comparisons between the responses given before the study started and after the students had experienced sight-singing instruction.

Additional data were acquired by having each student in the research group sight-sing individually for the researcher at the end of lesson. This assessment represents a qualitative observation "because the researcher [took] field notes on the behavior and activities of the

[211] Creswell and Creswell*, Research Design,* 181.

individuals."[212] Each participant received the same exercise to sing as a part of their assessment. Following the assessment of each individual's sight-singing performance, the participant answered at least one or two open-ended follow-up questions. The researcher took handwritten notes and memos to record the participant's responses on their assessments, verbal responses to questions, and other pertinent information contributing to the research study. The participants' scores during the assessment were on a scale of one to five, with five as the highest rating. They were scored in the categories of solfege syllables, hand signs, pitch accuracy, and interval accuracy. The researcher used these scores only for the reference when analyzing the collected data. After their singing assessment, the researcher asked the students to fill out a daily feedback survey. This survey, seen in Appendix B, contained specific feedback from the participants relating to the lesson and activities for that day.

Some of the open-ended questions on the Daily Feedback Form were: "What specific tasks did you have trouble with during this lesson?," "What specific tasks were you successful at during this lesson?," "How does sight-singing using either solfege syllables or hand signs alone or together make you feel?," and "What are your perceptions of using either solfege syllables, hand signs, or both solfege syllables and hand signs together when sight-singing?"[213] The responses to these questions were in a narrative form, allowing for honest and unbiased feedback, along with their perceptions. In addition to the open-ended questions, the closed-ended questions provided an additional view of the student's feelings and perceptions by asking them to assess their knowledge of the sight-singing exercise for that day. Collecting these data was accomplished by students ranking their success using the words "very proficient, proficient,

[212] Creswell and Creswell, *Research Design*, 186.

[213] Daily Feedback Forms 1-4, Google Forms, Appendix B.

average, emerging, beginner, and no experience."[214] An example of a closed-ended question is "How would you rate your current level of sight-singing using hand signs and solfege syllables?"[215] The pre-study and post-study questionnaires, the four daily feedback forms, the sight-singing exercises, and detailed lesson plans are in this document's Appendix B.

The researcher collected the daily feedback form after each of the four lessons and used it in assessing hypotheses. The hypotheses emerged from the research questions developed for this study and from the researcher's experience teaching sight-singing. The assumptions made about high school students were that some students could excel in all areas of sight-singing, others might get frustrated, confused, and learn less when trying hand signs and solfege syllables to sight-sing. These daily feedback forms used questions specific to the lesson topic for that day and contained open-ended questions to probe into the participants' perceptions.

Research Questions and Hypotheses

The following research questions emerged from the existing literature on sight-singing, solfege syllables, and hand signs. This study aimed to answer these questions through a historical approach, and the results added to the literature on the study topic.

The questions for this research were:

Research Question One: What are the common student initial perceptions regarding the use of solfege syllables in a high school choral setting?

Research Question Two: What are the common student initial perceptions regarding the use of hand signs in a high school choral setting?

[214] Pre-Study: Sight-Singing Questionnaire, Google Form, Appendix B.

[215] Ibid.

Research Question Three: What are the common student initial perceptions regarding the use of hand signs combined with solfege syllables in a high school choral setting?

Through this qualitative study with a historical approach and a grounded theory design, the researcher formed the hypotheses to address the research questions. A grounded theory approach takes systematic steps to generate categories or themes to look for during the research process.[216] This approach considered the perceptions and feelings of the high school choral students regarding sight-singing using the tools of hand signs and solfege syllables.

The answer to the first research question is linked to the following hypothesis:

> Hypothesis One: Common student initial perceptions regarding the use of solfege syllables in a high school choral setting include excitement toward learning, feelings of apathy, and indifference towards the task.

The answer to the second research question is related to the following hypothesis:

> Hypothesis Two: Common student initial perceptions regarding the use of hand signs in a high school choral setting include feelings of intimidation, lack of interest, and discouragement about sight-singing.

The answer to the third research question corresponds to the following hypothesis:

> Hypothesis Three: Common student initial perceptions regarding the use of hand signs combined with solfege syllables in a high school choral setting include frequent feelings of frustration, a sense of accomplishment, and a lack of motivation to keep trying to achieve the task.

[216] Creswell and Creswell, *Research Design,* 198.

Participants

A qualitative research approach involves "exploring and understanding the meaning individuals or groups"[217] give to a specific research topic. Therefore, the sampling method was a convenience sample of participants selected using study criteria. The researcher recruited the sample of participants in this study from the researcher's current teaching site, which allowed the research to take place in the participant's natural setting; however, to reduce bias, the participants chosen were not a part of the researcher's class. The participant's grades were not influenced by the work they did for this sight-singing study, and the only requirement to participate in the research study was enrollment in a yearlong music course at the study site. This requirement ensured a highly qualified and select sample of participants. All students who participated were enrolled in the same class period, which facilitated observation and interviewing them.

The participants in the study included fourteen female participants (N=14). These participants' grade levels included six seniors, three juniors, two sophomores, and three freshmen students. At the time of the research, the school district and school site were governed by the state guidelines of Phase II reopening due to the Covid-19 Pandemic. As a result of the pandemic, many students chose to attend class through the virtual platform provided by the school district, Google Classroom. Therefore, not all the students who participated in this research were physically on campus. The participants consisted of three attending school face-to-face and eleven participants attending virtually. The researcher's goal regarding the participants was to "keep a focus on learning the meaning that the participants [held]"[218] about the research

[217] Creswell and Creswell, *Research Design,* 4.

[218] Ibid., 182.

topic. For this reason, all the activities, questions, and tasks developed for this study related to understanding their perceptions of sight-singing, solfege syllables, and hand signs.

Setting

John and David Creswell's book *Research Design* define a natural setting as one where the researcher can gather information by "talking directly to people and see them behave and act within their context."[219] This study's location was a natural setting where the participants attended their music class, and all the data were collected. The researcher chose the study location because the participants attended the same school and music class. Additionally, the location was optimal because the researcher access to the participants in their natural setting, which observation in a familiar, more relaxed environment. The natural setting provided the researcher a venue to collect data from the participants and observe their behavior and actions when completing the research tasks. This high school location also provided access for the researcher because the researcher is employed at the high school. The school selected for this research setting has students from ninth through twelfth grade and a total student body of about 1400.

Because of the Covid-19 Pandemic and the nature of high school instruction at this location, the instructional schedule transitioned to a hybrid or blended setting, which included students at the school site and students attending class virtually from a remote or virtual location. The instruction related to the research was administered via two modes of delivery, either virtually through Google Classroom to the participants located at home or face-to-face to the participants attending school in a music classroom. Although gathering data that "involves

[219] Creswell and Creswell, *Research Design,* 181.

studying the researcher's own organization, or friends, or immediate work setting"[220] is generally considered unfavorable, there were multiple strategies used to collect the data from the participants. Using varied strategies of data collection, like triangulation, supports that the results gained were reliable and valid. Some of the strategies included were member checking to determine accuracy, peer debriefing, enlisting an external auditor, and concise documentation throughout the research.

Role of the Researcher

The researcher was the key instrument and administered the steps of the research activities were administered, including collecting the data. In a qualitative study, the "researchers are the ones who actually gather the information and interpret it."[221] At the onset of the study, the researcher's first task was to gain parental consent. After distributing these forms and collecting them, the next step was to administer the pre-study questionnaire to the participants. The researcher designed this questionnaire to gather the students background information relating to their musical experience and knowledge of sight-singing, music literacy, solfege syllables, and hand signs. In the weeks following the initial questionnaire administration, the students participated in a twenty-minute group lesson focused only on sight-singing. Next, the students were required to sight-sing individually for the researcher. During this assessment, one of the researcher's goals was to observe the participant's behavior during the thirty-second preparation time. Having the opportunity to observe the participants during their unstructured preparation time allowed the researcher to identify any methods or tools the participants might use to sing the given melody, such as solfege syllables, counting, neutral syllables, or rhythm counting.

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[220] Creswell and Creswell, *Research Design*,184

[221] Ibid., 181.

Next, each participant sang the sight-singing exercise individually while the researcher took observational notes. The observation technique gives the "researcher a firsthand experience with the participant."[222] The notes taken were related to the specific task for the participants, sight-singing with solfege syllables, hand signs, or both. The researcher scored the participants on a scale from one to five, with five as superior, four as excellent, three as very good, two as good, and one as fair. The researcher also utilized these individual assessments to ask open-ended questions about sight-singing, hand signs, and solfege syllables. The researcher recorded the participant's verbal feedback to the open-ended questions for further analysis. The questions asked during the assessment aimed to develop knowledge on specific areas of the sight-singing drill that presented difficulties. For example, if the researcher noticed that a participant struggled with a task, the researcher questions to help determine what the student felt contributed to mistakes. After the individual daily assessment, the researcher asked each participant to complete a survey and respond to the feedback questions relating to the day's lesson. The questions on this survey were open and closed-ended to elicit the participant's perceptions of the sight-singing lesson and exercises they had just completed.

The researcher followed this outline of events for the next three weeks, with only the lesson content changing. Week one's lesson focused on using solfege syllables to sight-sing, week two was centered on sight-singing with hand signs, and week three concentrated on using both solfege syllables and hand signs when sight-singing. The fourth and final week included the sight-singing a new exercise as if they were participating in a contest. The lesson plans and sight-singing exercises are in the Appendix B section of this study.

[222] Creswell and Creswell, *Research Design,* 188.

While researching other studies relating to sight-singing, the researcher discovered a study whose purpose was "to build a comprehensive inventory of cognitive strategies related to sight-singing."[223] This specific study focused first on participants' "personal history of sight-singing training,"[224] which was assessed through an interview, and secondly focused on "their actual use of strategies."[225] To explore these questions, the participants were "asked to sight-sing either aloud or in their mind, the melody number 106"[226] from the "Solfege des Solfeges" book written by Adolphe Danhauser. These three solfege method books were tailored to teaching a sequential solfege method of sight-singing. This study was remarkably successful at identifying the strategies that allowed this group of participants success when sight-singing. Guillaume Fournier's analysis of these data identified strategies related to "reading mechanisms, sight-singing preparation, performance, learning processes, and metacognition."[227] The conclusion of this study showed that students "benefited from combining many different sources, which enabled a rich and diverse array of strategies to emerge."[228] Some of the specific strategies identified were pitch decoding, locating melodic patterns, using of preparation time, and locating rhythmic patterns. After reading this article, the researcher decided to use Adolphe Danhauser's sight-singing book research related to this study. From book one, the Danhauser sight-singing exercise numbers thirty-two and thirty-three were used for weeks one through three. During week four, the focus was on using both solfege and hand signs, and the participants were

[223] Fournier, et al., "Cognitive Strategies in Sight-Singing," 270.

[224] Ibid., 273.

[225] Ibid.

[226] Ibid.

[227] Ibid., 277.

[228] Ibid., 279.

assessed with a new sight-singing tune, number fifty-nine from the "Solfege des Solfeges" sight-singing book number one.

Qualitative research is "interpretative research, and the inquirer is typically involved in a sustained and intensive experience with participants."[229] As a result of the researcher's contact with the participants during the data collection, the reader can gain a picture of the researcher's past experiences with the research topic and problem. This element of the design and results are central to a reader's ability to "understand the connection between the researcher and the study."[230] This reflexivity requires the researcher to divulge information about their background related to the study topic.

Because of the researcher's level of experience and success with sight-singing, solfege syllables, and hand signs, the collection, and analysis of the data in this study, she performed these tasks through her lens of knowledge, experience, and skill relating to the research topic. To add to the validity of this study, the researcher has twenty-plus years of teaching at all grade levels dramatically enhanced her expertise. As the evidence reveals, the researcher's maturity and excellence in the field of music education helps to avoid any potential bias or feelings that might produce "favorable or unfavorable conclusions about the sites or participants."[231]

Instrumentation

The researcher created the instruments to collect the data for this study topic. The specific and researcher-created instruments used for collecting data included the following: survey, pre-study and post-study questionnaires, daily feedback questions, individual assessments, open-

[229] Creswell and Creswell, *Research Design,* 183.

[230] Ibid., 184.

[231] Ibid., 190.

ended questions, closed-ended questions, observational data, audio/video data, and notes of reflection recorded by the researcher throughout the study. The researcher developed each mentioned instruments to gather participants' perceptions of sight-singing, hand signs, and solfege syllables. All students' names and identities were confidential during the study and after completion, and thus, no participants' personal information is contained in this report. To avoid using the participants' name as an identifier, the researcher assigned a unique numerical code to each participant to differentiate the responses. During this research, the researcher used audio and visual recordings to clarify the data and results during the compiling of the data and in preparation for analysis. The researcher chose Google meet recordings as the study's official audio/visual recording method because they were easily accessible and technologically reliable. Additionally, only the researcher collected the data for this study, and no one else had access to the data.

Procedures and Data Collection

The data collection steps first included "setting the boundaries for the study through sampling and recruitment and collecting information through unstructured or semi-structured observations."[232] In order to collect quality data, the researcher must "locate a site or an individual"[233] who can help them gain access to the chosen participants. Next, tasks like "recording information, exploring field issues, and storing data"[234] are used to collect the data. Creswell and Creswell list the above steps to data collection, and as a result, this study's qualitative data collection methods include interviews, individual assessments, surveys,

[232] Creswell and Creswell, *Research Design,* 185.

[233] Ibid.

[234] John W. Creswell, *Qualitative Inquiry & Research Design: Choosing Among Five Approaches* (Thousand Oaks, California: Sage Publications, 2013), 145.

observations, researcher reflection, and journaling. The researcher conducted the observations of participants and the individual interviews as assessments held one-on-one with the researcher and participants. Finally, the researcher analyzed the survey documents and conducted written reflection and journaling throughout the study.

This study's data collection types included observations, interviews, documents, audiovisual materials, and digital materials. The descriptive notes, reflexive notes, and demographic information accompanied the observational data during analysis. The descriptive notes included a "description of the physical setting and accounts of particular events and activities."[235] The research's physical setting was a music classroom where the participants attended their class. The events and activities included group sight-singing, individual sight-singing assessment, and completing the required forms for this survey. The researcher took observational notes during each sight-singing session, reflected on the lessons through journaling after the sessions, and made comprehensive notes during the individual sight-singing assessments. The researcher's reflexive notes include "speculations, feelings, problems, ideas, and impressions"[236] of the research process. The demographic information recorded the time, place, and date the observations took place at the start of each sight-singing session. The researcher visually studied participants as they prepared and sang a previously selected sight-singing exercise. Because the goal was to identify the participants' perceptions, the researcher gathered and recorded data using the same questioning and strategies for each student. The researcher stored the data on the researcher's password-protected computer and in a locked filing cabinet until the time to shred, delete, and destroy the information recorded. As a result of the

[235] Creswell and Creswell, *Research Design,* 190.

[236] Ibid.

steps chosen to carry out this grounded theory, qualitative study, the findings could be advantageous and informative to the researcher and ultimately to music educators.

Data Analysis

The data analysis for this qualitative study consisted of making "sense out of both text and image data."[237] Analyzing data involves segmenting and pulling apart the data only to put it back together again. This process co-occurs in qualitative research and goes "hand-in-hand with other parts of developing the qualitative study."[238] Before analysis began, the organization and preparation of data facilitated exaction of the pertinent details. The researcher sorted the written notes, journaling, or observational material into categories. Next, the data needs to be studied and read by the researcher. Finally, the coding process began.

Coding is "the process of organizing the data by bracketing chunks and writing a word representing a category in the margin."[239] From this detailed work, the coding process led to generating themes. These themes "appear as major findings in qualitative studies and are often used as headings in the findings sections of studies."[240] Thus, the various visuals represented the themes figures, tables, and graphs to facilitate presenting the findings in an organized manner.

The researcher winnowed the data regarding sight-singing using the tools of solfege syllables and hand signs. Winnowing is extracting several main themes from the data, and once the data are collected at the research site from the participants; for this study, the qualitative data analysis software program MAXQDA was as an efficient means to store, locate, and process the

[237] Creswell and Creswell, *Research Design,* 190.

[238] Ibid., 192.

[239] Ibid., 193.

[240] Ibid., 194.

data in an organized manner. To aid in the study's analysis process, the researcher used a Qualitative Data Analysis (QDA) computer program called MAXQDA. This program helped to compare, transcribe, code, and visualize connections within the new data. More importantly, it allowed the researcher to compare the new data collected with previous data quickly. MAXQDA also generated visual representations of the data, such as graphs, charts, and data maps. The use of a computer program also helped add validity to the research results.

The value of "qualitative research lies in the particular description and themes developed"[241] through this rigorous analysis. Some of the themes that emerged through this data analysis include student perceptions of solfege syllables and hand signs when sight-singing, music literacy, music reading methods that music educators use, preparation time during sight-singing assessment, the importance of sight-singing in the choral curriculum, and the various tools available to teach sight-singing. After developing the themes, a concept map showed "the flow of ideas."[242] Using a concept map, a narrative was written as a general summary to illustrate the study's overall results. Following these steps, the researcher rechecked and cross checked the results for validity.

Validity and reliability are two strengths of qualitative research, according to John and David Creswell.[243] Qualitative validity "means that the researcher checks for the accuracy of the findings by employing certain procedures."[244] The data analysis results were checked and cross-checked for validity using various strategies. The strategies used included member checking, peer debriefing, using an external auditor, and discussing the researcher's bias. Qualitative

[241] Creswell and Creswell, *Research Design*, 202.

[242] Ibid., 198.

[243] Ibid., 199.

[244] Ibid.

reliability "indicates that the researcher's approach is consistent across different researchers and among different projects."[245] The intricate process of analyzing these data supported a valid and reliable study accurate results.

Summary

Collecting data for a qualitative survey involves several approaches, and the researcher was the only person to collect and analyze the data. The grounded theory research design used for this study relied primarily on questionnaires and other tools developed by the researcher. These tools, seen in Appendix B, contained open and closed-ended questions, individual assessments, and observations to collect data. The participants' classroom, i.e., their natural setting, was the study site, and the participants were high school students enrolled in a yearlong music class at the selected site. The study's primary goal was to discover high school students' perceptions concerning sight-singing when using solfege syllables and Curwen hand signs.

Additionally, after winnowing, analyzing, and coding the data, several themes emerged. The themes that emerged through this data analysis were student perceptions of solfege syllables and hand signs when sight-singing, music literacy, music reading methods that music educators use, preparation time during sight-singing assessment, the importance of sight-singing in the choral curriculum, and the various tools available to teach sight-singing. Finally, the data analysis process was aided by using the qualitative data analysis computer program,[246] MAXQDA. MAXQDA, a web-based qualitative data analysis tool, made organizing and storing the data much more manageable. Using the concept map, the researcher wrote a narrative regarding the data analysis procedure and finding through careful study and dissection of the

[245] Creswell and Creswell, *Research Design*, 199.

[246] Ibid., 208.

themes. The next chapter, Research Findings, contains the findings and more specific details about the results from which themes emerged.

CHAPTER FOUR: RESEARCH FINDINGS

Overview

The purpose of this qualitative historical study was to identify high school students' initial perception of sight-singing using the tools of solfege syllables and hand signs. The results presented in this chapter could support music educators with the knowledge of how high school students perceive sight-singing while using the tools of solfege syllables and hand signs. In addition, the results from this study could allow music educators to make a more well-informed decision about how to implement sight-singing in their music rehearsal. Chapter 3 details the procedures and sequence for data collection and analysis, and Chapter 4 presents the findings.

Research Design

The researcher performed the data analysis procedures for this research as the data were collected. Throughout the research process and data collection, the goal was to "identify and describe patterns and themes from the perspective of the participants, then attempt to understand and explain the patterns and themes."[247] The researcher performed the coding and sub-coding of the main themes main themes and organized the data categorically and chronologically. Additionally, the repeated reviewing and recoding was a part of the process necessary. This ongoing process brought forth lessons, interpretations of the data, and limitations of the results. The data collection procedures and tools included the pre-study survey, post-study survey, daily feedback forms, individual assessments, researchers' notes, and memos made during the lessons or the individual assessment. All the tools used to collect data, are in the Appendices. Lastly, the

[247] Creswell and Creswell, *Research Design,* 208.

researcher compared previously published literature with the new findings that emerged from this study.

The qualitative research process with a grounded theory approach requires using various strategies to verify the findings. Triangulation, member checking, rich narrative descriptions, and peer debriefing were the methods used to verify validity and reliability. Additionally, the data were viewed and presented through the researcher's lens by explaining "how their interpretation of the findings is shaped by their backgrounds, such as their gender, culture, history, and socioeconomic origin."[248] Finally, the data were interpreted and presented in narrative and visual formats following steps mentioned above.

Data Population

The sampling method of participants was done purposefully in this research study. The recruited sample came from among students in the researchers' current teaching site. As a result, the research took place in the participant's natural setting. During this study, the participant's contributions did not influence their grades in music class. The only requirements to participate in the research study were enrollment in a yearlong music course at the identified location and a signed consent form. The study included sixteen participants. Their grade levels included students from the ninth through the twelfth grades. At the time of the research, the school district was governed by the state guidelines of Phase II reopening related to the Covid-19 Pandemic. Because of the pandemic, many students chose to attend class through the school district's virtual platform, Google Classroom. Although not all students who participated in this research were physically on campus, the data collection and other procedures for the study took place using the

[248] Creswell and Creswell, *Research Design,* 201.

virtual platform Google Meet as needed. The selected participants consisted of face-to-face and virtual students.

Validity and Reliability

Throughout the data analysis process, it is crucial to apply various strategies to ensure the trustworthiness of the data. Therefore, steps were taken to support the validity and reliability of the findings. Qualitative validity "means that the researcher checks for the accuracy of the findings"[249] Qualitative reliability "indicates that the researcher's approach is consistent across different researchers and among different projects."[250] Using multiple strategies to validate the data is necessary for this type of research.[251] The strategies used in this study include member checking, peer debriefing, and follow-up interviews with the participants.[252]

Coding the Data

Before developing the codes for this specific study, the researcher read the data several times and wrote memos in the margins to help facilitate the coding process. Then, the data reduction was performed to extract the most relevant points made by the participants. From the data analysis, three types of code categories emerged. These categories contained some expected codes, surprising codes, and unusual codes.[253] The research questions were considered during the code development, and the codes were aligned based on the participants' responses to the research methods used.

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[249] Creswell and Creswell, *Research Design,* 199.

[250] Ibid.

[251] Ibid.

[252] Ibid., 200.

[253] Ibid., 193-198.

In a grounded theory research approach, the primary purpose of coding "entails classifying things, persons, and events and the properties that characterize them."[254] The data collected were organized categorically, chronologically, reviewed repeatedly, and continually coded.[255] The researcher worked to "identify and describe patterns and themes from the perspective of the participants, then attempted to understand and explain the patterns and themes."[256]

Research Findings: Pre-Study Questionnaire

The themes that emerged from this study were sight-singing with solfege, sight-singing with hand signs, sight-singing with both solfege and hand signs, music literacy, and the benefits of sight-singing. The identified and expected themes from this study included sight-singing, solfege syllables, and hand signs. The unexpected themes that emerged were music literacy, participants' perceived benefits of sight-singing, and the impact of piano or instrumental private lessons on sight-singing success. The students' perceptions related to these themes included positive and negative comments, thoughts, and feelings.

Solfege Syllables: Pre-Study

In the pre-study questionnaire, the participants were asked, "What is your perception of sight-singing using solfege syllables?" and "Do solfege syllables help you sight-sing better?"[257] The most common responses to this question were "they help me sing better," "they help in finding intervals," "they make learning new pieces easier," and "I have been successful using

[254] Creswell and Creswell, *Research Design,* 208.

[255] Ibid.

[256] Ibid.

[257] Pre-Study: Sight-Singing Questionnaire, Google Form. Appendix B.

solfege syllables when sight-singing."[258] Other positive perceptions included the words and phrases: "effective, very useful, makes sense, and makes you smarter in music."[259] Some negative perceptions about using solfege syllables were "I am horrible at it [sight-singing using solfege syllables]" and "it is confusing for new singers." More positive perceptions were given than negative ones. The results showed that 20 percent of the participants ranked themselves as very proficient using solfege syllables when sight-singing. Thus, it the participants experienced the benefits of using solfege syllables for sight-singing but lacked the confidence and practice with using the solfege syllables.

Hand Signs: Pre-Study

Using the pre-study questionnaire, the participants responded to "What is your perception of sight-singing using hand signs?" and "Do hand signs help you sight-sing better?"[260] The responses to this question were more negative than positive. The positive comments about hand signs were "they are nice and reliable, especially in combination with solfege syllables," "I have been successful [using hand signs]," "I prefer singing with hand signs," and "the hand signs do not hinder my accuracy very much."[261] The negative statements included phrases such as "they are abstract and strange," "hand signs did not help me at all," and "if it is a difficult piece to sight-read, then the hand signs are not helpful to me."[262] Using hand signs to sight-sing was described as "difficult, distracting, not helpful, confusing, and hard to use with solfege

[258] Pre-Study: Sight-Singing Questionnaire, Google Form. Appendix B.

[259] Ibid.

[260] Ibid.

[261] Ibid.

[262] Ibid.

syllables."[263] From these statements gathered from the participants on the pre-study questionnaire, hand signs were considered more complex and bothersome than solfege syllables.

When the participants ranked their proficiency with using hand signs while sight-singing, 30 percent ranked themselves as average. The negative comments about hand signs and the participant's feelings about their proficiency reinforce the hypothesis about hand signs: Common student initial perceptions regarding the use of hand signs in a high school choral setting include feelings of intimidation, lack of interest, and discouragement about sight-singing.

Solfege Syllables and Hand Signs: Pre-Study

When questions posed to the participants concerned using both hand signs and solfege syllables simultaneously when sight-singing, their responses were mostly negative. Some of the statements given were "hand signs do not help me," "it is difficult to think about so many things at once," "for me though I have trouble using the correct hand signs [when using them with solfege syllables]," and "hand signs make it more difficult and hinder my rhythm when I am sight-singing with solfege syllables."[264] Alternatively, some of the participants described this sight-singing method as: "very useful," "helping with rhythm," "they [solfege and hand signs] reinforce each other," and "using both are a great way to sight-read."[265] A response that stood out as surprising and unexpected was, "these tools should only be used with advanced singers; otherwise, it distracts the singer."[266] Another participant response stated that she had successfully used both [solfege and hand signs] separately, but she had not successfully used these in

[263] Pre-Study: Sight-Singing Questionnaire, Google Form. Appendix B.

[264] Ibid.

[265] Ibid.

[266] Ibid.

combination.[267] The negative responses to this difficult task were not surprising and reinforce part of the original hypothesis.

The original hypothesis for this skill was:

> Common student initial perceptions regarding the use of hand signs combined with solfege syllables in a high school choral setting include frequent feelings of frustration, a sense of accomplishment, and a lack of motivation to keep trying to achieve the task.

The responses the participants gave on the pre-study questionnaire supported the assumption that sight-singing with both hand signs and solfege syllables caused frustration and a lack of motivation to try. The participants generally found this skill difficult and felt unsuccessful at achieving the task. The responses concerning the ranking of proficiency shows only 10 percent of the participants ranked themselves as very proficient, with most of the responses falling in the average category. Although initial perceptions were not very positive, two of the participants expressed that they were proficient.

Music Literacy: Pre-Study

Music literacy was a topic incorporated into the questionnaire and was a theme that emerged. Although music literacy was not directly considered in this study, music literacy does generally link to the skill of sight-singing. Thus, music educators should be aware that "music literacy is a basic foundational skill for students."[268] The question posed to participants was, "How important do you think that musical literacy is?"[269] Surprisingly, the feedback was

[267] Pre-Study: Sight-Singing Questionnaire, Google Form, Appendix B.

[268] Floyd and Haning, *Sight-Singing Pedagogy*, 19.

[269] Pre-Study: Sight-Singing Questionnaire, Google Form, Appendix B.

overwhelmingly positive. Most of the responses included the phrase "it is very important."[270] One insightful participant responded that music literacy is very important "if music is a major aspect of your life."[271] The students' comments showed that music literacy is an essential aspect of a quality music education.

Benefits of Sight-Singing: Pre-Study

Music educators often incorporate sight-singing into their music curriculum because it is a vital tool that teaches students to read music. Alan McClung's article reinforced the use of sight-singing by stating, the "ability to sing music on sight is considered a fundamental goal of music education and a key to the development of an independent music learner."[272] The question for the participants on the pre-study questionnaire that was "From your experience, what are the benefits of learning to sight-sing?"[273] The most frequent comment was that sight-singing helps students learn music "faster or quicker."[274] Other responses included: "it helps me with auditions," "it helps me learn my music," and "I don't depend on someone else to teach me my music."[275] Another perspective was that "being able to sight-sing requires more than one skill."[276] Therefore, responses agreed with McClung's assertion that, "current sight-singing practice includes complex skills that require the singer to combine melodic pitches with durational values

[270] Pre-Study: Sight-Singing Questionnaire, Google Form. Appendix B.

[271] Ibid.

[272] McClung, *Sight-Singing Systems*, 3.

[273] Pre-Study: Sight-Singing Questionnaire, Google Form, Appendix B.

[274] Ibid.

[275] McClung, *Sight-Singing Systems*, 3.

[276] Ibid.

(rhythms), dynamics, and articulation symbols."[277]There were no negative responses to this question.

Sight-Singing Methods Used: Pre-Study

According to the literature, a variety of methods exist that music educators commonly use to teach sight-singing in choral classrooms. Besides solfege syllables and hand signs, some other methods are singing with numbers, singing the rhythm by counting, singing letter names, and using the fixed or movable "*do*" method.[278] When asked about prior experience with methods, the top response was solfege syllables, followed by singing the rhythm by counting, and then hand signs. The use of numbers and letter names was less familiar to the participants in this study. Additionally, all but one participant had learned to sight-sing using the movable "*do*" method rather than the fixed "*do*" method. These responses were not surprising to the researcher; however, even if a participant was familiar with hand signs and solfege syllables, none of the participants were proficient in using these two methods simultaneously.

The Impact of Private Instrumental or Vocal Lessons: Pre-Study

In the 1995 study by Steven Demorest and William May, the fact was revealed that a wide variety of factors can impact students' performance and success of sight-singing. Their study concluded that "private lessons – instructions on instruments other than piano and voice – are only important to increased sight-singing skill when taken in tandem with piano and/or voice lessons."[279] When students are exposed to private instrumental instruction, there was seen a

[277] McClung, *Sight-Singing Systems*, 3.

[278] Ibid.

[279] Demorest and May, "Sight-Singing Instruction in the Choral Ensemble," 162.

significant increase in their performance on sight-singing assessments.[280] In congruence with the Demorest and May research, the research for this study reinforces their findings. On the pre-study questionnaire, the five students taking private vocal or piano instruction had more positive perceptions than the other participants. Although the post-study did see an overall increase in positive perceptions from each participant, the largest increase was seen in the students who have a private vocal or piano instructor. Not only was the feedback of these five students more positive than those who did not have a private instructor, but all of them also had prior exposure to solfege syllables and hand signs before they entered high school. The combination of these factors reinforces the positive influence that a private instrumental or vocal instructor can have on a student's success at sight-singing.

Research Findings: Post-Study Questionnaire

The research findings included comparing the high school student's perceptions of sight-singing, solfege syllables, and hand signs at the beginning of the study to their perceptions after working on these crucial musical skills. The results suggested some improvement in their understanding and knowledge of sight-singing when using hand signs and solfege syllables. For example, one student replied that since she had "been exposed to it [sight-singing, solfege syllables, and hand signs] so much as of late, she finds herself being more confident."[281] This response further confirms that consistent and organized practice of these skills does help improve the perceptions and knowledge of high school students. Additionally, encouragement can be offered to music educators that they should discard the teaching of sight-singing to their students

[280] Demorest and May, "Sight-Singing Instruction in the Choral Ensemble," 164.

[281] Post-Study: Sight-Singing Questionnaire, Google Form, Appendix B.

because if they present it regularly, then students' sight-singing knowledge can dramatically improve.

Solfege Syllables: Post-Study

The post-study questionnaire about solfege syllables revealed highly positive responses. Some students' perceptions on the questionnaires were "I think that it's easier now that I have done it before," "It is easier, but it can hinder my rhythm," "I think it helps me sight-sing better because I know where I'm going with the notes," and "it allows me to assign roles to the pitches and makes them easier to find when I lose *do*."[282] The most positive student perception was, "It is great! I have been successful. Solfege syllables help me sight-sing better, and it does not hinder my accuracy."[283] The findings concerning using solfege syllables with sight-singing exercises were positive and encouraging. The students' perceptions expressed on the post-study questionnaire, support the use of solfege syllables as a tool for sight-singing instruction.

When students responded concerning their level of proficiency in sight-singing using solfege syllables on the post-study questionnaire, the results contrasted with those from the pre-student questionnaire. As seen in the data results, 66 percent of the participants responded that their skill level was proficient, and 16 percent responded that they felt very proficient. Only 16 percent of the students ranked their level of sight-singing with solfege was emerging. Although many participants did not perceive their progress as proficient, the results show that they were aware of their improvements they made from the beginning to the end of the study. Compared to the pre-study results when 10 percent ranked themselves as beginner and 20 percent as average, no students ranked themselves as average or beginner; thus, the results show positive responses

[282] Post-Study: Sight-Singing Questionnaire, Google Form, Appendix B.

[283] Ibid.

and improvement in students' overall perceptions of using solfege syllables as a successful tool when sight-singing.

Hand Signs: Post-Study

The post-study question about using hand signs when sight-singing produced diverse responses among students. Most of the responses were negative, with only a few positive. The positive comments were "they [hand signs] help me greatly, and I have been successful," "they [hand signs] do help me sight-sing better," "now that I have been exposed to it so much as of late, I find myself being more confident," and "my voice sort of follows my hands."[284] The negative responses included "it can be distracting," "it was so hard to multitask the two things at once," "I don't quite understand the reason for hand signs," they can get in the way sometimes," "they are not really super helpful," and "I have to focus harder because I am multitasking when doing hand signs."[285] Interestingly, that two of the responses included the word multitasking. The participants described using the hand signs when sight-singing was multitasking; however, using the solfege syllables to sight-sing did not elicit this response. Thus, reinforcing their perceptions that hand signs are more difficult than solfege syllables.

These post-study results show improvement in students' perceptions of hand signs. The most prominent response was the average range, the next most common was very proficient, and the least frequent response was beginner level. Only 30 percent of students' responses from the pre-study questionnaire attributed their success of using hand signs was average, but in the post-study, 50 percent attributed their success as average when using hand signs. Few students responded by ranking themselves in the beginner level, and none responded with the beginner

[284] Post-Study: Sight-Singing Questionnaire, Google Form, Appendix B.

[285] Ibid.

level. Additionally, no students responded with no experience and 10 percent responded with no experience. These results give support that consistently working on the hand signs led students to perceive their skills improved. The participants attained more positive perceptions of hand signs over the course of this study.

Solfege Syllables and Hand Signs: Post-Study

Participants gave mixed responses to the question about using both hand signs and solfege syllables when sight-singing. The positive comments were "it's quite helpful," "together they are really helpful," "I have been successful, and they help me sight-sing better," and "they can help to better understand what's going on."[286] These responses suggest that some of the participants did feel confident in their sight-singing skills when using these two sight-singing tools. The negative responses included the following "I find it to be a little difficult, but honestly the more I am forced to do it, the better that I get and the more confident," "they [solfege syllables and hand signs] are not my favorite thing," "I definitely struggle," and "multitasking is pretty difficult for me."[287]

The perceptions of struggling, confusion, and multitasking when trying to sight-sing with solfege syllables and hand signs could possible be attributed to the split attention effect. This effect is seen in this study when the participants could sing the correct pitch but not produce the correct hand sign. Part of this split attention effect is called the cognitive load theory. This theory "suggests that educators remove competing stimuli in order to avoid the split-attention effect."[288] When two or more tasks are introduced at the same time, the students get overloaded and

[286] Post-Study: Sight-Singing Questionnaire, Google Form, Appendix B.

[287] Ibid.

[288] Chandler, Paul, and John Sweller. "Cognitive Load Theory and the Format of Instruction." *Cognition and Instruction* 8, no. 4 (1991): 293, http://www.jstor.org/stable/3233596.

overwhelmed and cannot achieve either of the skills. This is like asking a choral student to sight-sing. To be successful, they must read pitches, assign the correct solfege syllable to the pitches, sing the pitches with correct rhythms, and then produce the appropriate hand sign. This is when the split-attention effect occurs. It would benefit music educators if there was more information on this that related specifically to music.

The perceptions expressed show the diversity of students' views and demonstrated the study's validity. As seen in the data results, the largest percentage of responses fall into the average category, and the next largest is in very proficient category. Although most participants perceived their skill level to be average at the end of the study, the post-study compared to the pre-study responses were more focused on very proficient and average. A possible explanation is that participants' perceptions of their skill level at the beginning of this study were largely inaccurate. The pre-study responses showed a wider variety of answers. The perceptions of using these two methods were more positive than their performance of the two methods when sight-singing. Regardless, students' perceptions were overall more negative concerning multitasking when using both solfege and hand signs to sight-sing. They showed a lack of confidence and dislike of using these two methods simultaneously while sight-singing.

Lessons Learned

The lessons learned because from this study suggest the students' perceived their abilities improved improvement from the pre-study to the post-study questionnaire. The overall results were not surprising, but the students' detailed comments about their perceptions of sight-singing, solfege syllables, and hand signs were of interest. The students' perceptions of the overall benefits of sight-singing were extremely positive and surprising because they led to the theme of music literacy. The researcher did not expect the emergence of this theme as a possible major

theme for the study; however, the results support that music literacy is a vital part of sight-singing, and the methods used to sight-sing could have equal importance. Music educators are mainly responsible for the methods chosen for sight-sing in their classrooms, and this study is consistent with sight-singing as essential and to teach it regularly improves music literacy.

Lessons Learned – Solfege Syllables

The lessons learned about solfege syllables concern students' perceptions of success when using solfege syllables as a tool for sight-singing. The initial results from the pre-study questionnaire mainly showed negative responses, including a lack of consistent and daily practice using the solfege syllables; and only 20 percent of the participants ranked themselves as proficient initially. However, the post-study responses showed an increase in positive perceptions, and versus those from the pre-study questionnaire; 66 percent of the students ranked themselves very proficient at using solfege syllables when sight-singing. These responses show a considerable change toward positive responses from the start of the study to the end. Overall, the participants suggested that the solfege syllables were easier because they worked on them consistently throughout the study.[289]

Lessons Learned – Hand Signs

Using hand signs as a sight-singing method was not as familiar to the participants in this study as were some other methods. Most of the responses were negative, and many of the students felt unsuccessful when sight-singing using hand signs. Their perceptions were that hand signs were more "complex and bothersome"[290] to use when sight-singing, and on the pre-study

[289] Pre-Study: Sight-Singing Questionnaire, Google Form, Appendix B.

[290] Ibid.

questionnaire, only 30 percent of the participants ranked themselves as average at this skill. These findings reinforce the hypothesis that the student perceptions would include intimidation, lack of interest, and discouragement about hand signs. Their perceptions showed negative feelings, frustration, a desire to give up, and the idea that hand signs are too complicated to learn.

The post-study responses showed a mix of positive and negative perceptions. Two participants preferred using the solfege syllables because the method helped them be successful while using hand signs. One student expressed that since she had been "exposed to it [hand signs] more"[291] she felt more confident using hand signs. Alternately, most of the students expressed that using hand signs to sight-sing was difficult because they had to multitask; thus, most participants had a view of using the methods together.[292] One student expressed that she did not find the hand signs helpful at all.[293] These varied perceptions show music educators that consistent work using hand signs to sight-sing can improve students' results using hand signs.

Lessons Learned – Both Solfege Syllables and Hand Signs

Using both hand signs and solfege syllables was expected as the most negatively perceived tasks on which the participants. The pre-study student perceptions were very negative. The negative perceptions included feelings of difficulty and feeling like using both hand signs and solfege syllables to sight-sing only made the task more difficult.[294] One insightful response was that using both hand signs and solfege syllables should be only for advanced singers because these methods might distract the novice sight-singer.[295] The pre-study results from participants'

[291] Pre-Study: Sight-Singing Questionnaire, Google Form, Appendix B.

[292] Post-Study: Sight-Singing Questionnaire, Google Form, Appendix B.

[293] Ibid.

[294] Pre-Study: Sight-Singing Questionnaire, Google Form, Appendix B.

[295] Ibid.

rankings of their skill levels on this task surprisingly showed that 10 percent perceived they were proficient; however, the post-survey showed that 50 percent ranked themselves as only average. This finding reinforces the hypothesis that the participants would show frustration and a lack of motivation when using hand signs and solfege syllables to sight-sing. Their negative perceptions about these two methods used together were evident.

Post-study results showed that one participant found the two methods together helped improve her sight-singing; however, the negative comments from participants showed that when using these two methods together, it was difficult, and multitasking was tricky.[296] The results show that more participants found combining hand signs and solfege syllables was difficult. One student said that working on the use of hand signs and solfege syllables during the study forced her to "get better and more confident."[297] Again, these results show that the hypothesis is supported, i.e., students' perceptions include feelings of frustration and a lack of motivation to keep trying. Music educators can learn to provide consistent work on solfege syllables and hand signs separately before using them simultaneously while sight-singing. If teachers push the students too hard to use both methods together, the student could very often become frustrated and give up. Thus, not working hard enough to master the combined methods to a level of proficiency.

Summary

The research questions and hypotheses should be considered to understand the lessons learned from this research. Therefore, the following research questions were developed for this study relating to sight-singing, solfege syllables, and hand signs.

[296] Post-Study: Sight-Singing Questionnaire, Google Form, Appendix B.

[297] Ibid.

Research Question One: What are common student initial perceptions regarding the use of solfege syllables in a high school choral setting?

Research Question Two: What are common student initial perceptions regarding the use of hand signs in a high school choral setting?

Research Question Three: What are common student initial perceptions regarding the use of hand signs combined with solfege syllables in a high school choral setting?

The following hypotheses emerged related to these research questions and the researcher's prior knowledge of sight-singing, solfege syllables, and hand signs.

Hypothesis 1 is related to the first research question:

Hypothesis One: Common student initial perceptions regarding the use of solfege syllables in a high school choral setting include excitement toward learning, feelings of apathy, and indifference towards the task.

Hypothesis 2 is linked to question two:

Hypothesis Two: Common student initial perceptions regarding the use of hand signs in a high school choral setting include feelings of intimidation, lack of interest, and discouragement about sight-singing.

The third research question is addressed in hypothesis 3:

Hypothesis Three: Common student initial perceptions regarding the use of hand signs combined with solfege syllables in a high school choral setting include frequent feelings of frustration, a sense of accomplishment, and a lack of motivation to keep trying to achieve the task.

Based on the results presented in this chapter, the hypotheses developed as answers to this research were all seen during the data collection process. At least one participant stated at least

one of the perceptions as part of the hypotheses on the pre-study or post-study questionnaire; thus, all recorded perceptions are included.

Comparison of Findings to Past Literature

Much prior research exists concerning sight-singing, solfege syllables, and hand signs. While conducting a literature review, a link between music literacy and sight-singing emerged as the main topic. When music educators apply sight-singing in the classroom, their students learn "to read the notes as well as the pitches,"[298] and this learning leads to greater music literacy among high school choral students. Regardless of the methods used to strengthen the sight-singing process, the benefits could produce musically literate high school students who could take that knowledge into the world and potentially be lifelong music patrons. Within classroom settings, successful educators know that students need a level of musical independence, and this "becomes increasingly possible with the development of music literacy skills – specifically, sight-reading (sight-singing) skills."[299]

According to Eva Floyd and Marshall Haning's, analysis of choral sight-singing methods, "music literacy is a basic foundational skill for students of vocal music."[300] Despite the importance of music literacy for all musicians, sometimes teachers are "pressured to offer students brief learning experiences in a wide variety of systems, leaving too little time for mastery."[301] This issue can arise if music educators are not well-prepared prepared to use sight-singing consistently and make it a vital part of classroom instruction. The results of this study

[298] Bitner, "The Joy of Solfege," 4.

[299] Henry, "The Use of Specific Practice and Performance Strategies in Sight-Singing Instruction," 11.

[300] Floyd and Haning, "Sight-Singing Pedagogy," 19.

[301] McClung, "Sight-Singing Systems," 3.

show the perceptions of high school students concerning sight-singing as "helpful," "beneficial to personal improvement in reading a score of music," and an essential tool for "increasing music literacy."[302]

Along with dedicated time and practice of sight-singing, the strategies used are equally important. M. R. Autry noted that several sight-singing methods "use numbers, syllables, or letter names of pitches for reading purposes. Other aids such as shaped notes, various pictorial symbols, and hand signs can support development of sight-reading skills."[303] The participants' responses to the pre-study questionnaire showed that sight-singing solfege syllables, rhythm/counting, hand signs, and movable *do* were the methods they perceived best to use when sight-singing.[304]

Personal Perspective

The personal perspectives of the researcher are influenced by her previous experiences of sight-singing using solfege syllables and hand signs. These experiences include her high school and college training and her teaching philosophy for over twenty-five years. Qualitative research is "interpretative research, and the inquirer is typically involved in a sustained and intensive experience with participants."[305] As a result of the researcher's contact with the participants during the data collection, the researcher could understand the participants' context and translate this as a part of the study. The reader should be guided to "understand the connection between

[302] Post-Study: Sight-Singing Questionnaire, Google Form, Appendix B.

[303] Autry, "A Study of Hand Signs in the Development of Sight-Singing Skills," 1.

[304] Pre-Study: Sight-Singing Questionnaire, Google Form, Appendix B.

[305] Creswell and Creswell, *Research Design,* 183.

the researcher and the study."[306] This reflexivity requires the researcher to divulge information about their background related to the topic of study.

The researcher's background of this study includes having grown up learning music at church, home, and school. As a musician, she excelled in reading music, playing the piano, and singing. By the sixth grade, she accompanied her school choir in class and public performances, helped her choral director hold sectional rehearsals, and taught children's music at her church. In addition, she began studying private piano lessons in the first grade and continued through college. Her training in sight-singing consisted of several different methods such as letter names, neutral syllables, hand signs, and solfege syllables. She was introduced to the Curwen hand signs while still in high school, and during this time, the researcher became competent in sight-singing with hand signs and solfege syllables. Her college education included an intensive sight-singing class which helped improve her skills. This sight-singing class required students to learn melodies from the book *Music for Sight Singing* by Robert Ottman. As the researcher began her student teaching semester, she had mastered hand signs, solfege syllables, the Kodaly method, and the Orff method to instruct students.

Due to the researcher's level of experience and success with sight-singing, solfege syllables, and hand signs, the collection and analysis of the data in this study relied partly on her knowledge, experience, and skill relating to this research topic. To add to the validity of this researcher's qualifications, she has more than twenty-years of teaching experience at all grade levels demonstrating her broad expertise. The researcher's maturity and excellence in the field of

[306] Creswell and Creswell, *Research Design,* 183.

music education help to avoid any bias or feelings that might produce "favorable or unfavorable conclusions about the sites or participants."[307]

Future Implications

Future implications resulting from this study show, most notably, that music literacy is an essential foundational skill for students and learning how to sight-sing is a path to music literacy. In addition, the in the students' perceptions of their skill levels of all three areas shows that consistent practice is beneficial and improves music literacy. This study assessed skills using individual testing, which has shown better accuracy when rating student performance when sight-singing, using solfege syllables, and using hand signs. Although some of the perceptions of the tested skills were initially negative, the results imply that students can improve their sight-singing skills and music literacy with consistent and routine work.

Limitations

There are limitations to the method and procedures used to collect data in any research study. One limitation of this study was that few previous studies used technology as an assessment tool when sight-singing. As music educators have learned over the past year during the Covid-19 Pandemic, many technological resources are available to aid educators in teaching sight-singing. One such program is the Smart Music Program, developed in 2011. This program "has revolutionized the use of computers for instrumental assessment."[308] Unfortunately, the data collection process did not include technology to gather and score the students on pitch accuracy

[307] Creswell and Creswell, *Research Design,* 184.

[308] Michele Henry, "Vocal Sight-Reading Assessment: Technological Advances, Student Perceptions, and Instructional Implications," *National Association for Music Education* 33, no. 2 (2014): 58, https://doi.org/10.1177/8755123314547908.

when sight-singing. A lack of objective measurements could be a limitation of the study, and future studies could benefit from using computer technology to score participants' pitch accuracy. In addition to scoring the skill of pitch accuracy, a novel study should be conducted to gather student perceptions about sight-singing when using computer technology. Michele Henry's study was "to determine choral students' comfort level with the use of computer-based voice recognition software for vocal sight-reading assessment."[309] The results indicated "great potential for using technology in vocal sight-reading instruction and assessment."[310]

Summary of Findings

The themes that emerged from this study were sight-singing with solfege, sight-singing with hand signs, sight-singing with both solfege and hand signs, music literacy, and the benefits of sight-singing. Before beginning the study, the expected themes were potentially sight-singing, solfege syllables, and hand signs. The unexpected themes that emerged were music literacy and the benefits of sight-singing from the participants' perceptions. The students' responses related to these themes contained positive and negative comments, thoughts, and feelings. Overall, the findings implied improvement in participants' understanding of sight-singing when using hand signs and solfege syllables.

Solfege Syllables

Data from the pre-study questionnaire showed that although the positive student perceptions outnumbered the negative regarding solfege syllables, the findings show that the

[309] Henry, "Vocal Sight-Reading Assessment," 58.

[310] Ibid.

participants realized the potential benefits of using solfege syllables when sight-singing but lacked confidence and practice using them. The data results showed that 50 percent of the participants rated themselves as proficient at solfege syllables before beginning the study; however, their perceptions moved to a more positive self-assessment on the post-study questionnaire. The comments made by student at the end of the study were mostly positive, with 66 percent perceived themselves as proficient with solfege syllables. In addition, no students self-assessed the average or beginner range; thus, their perceptions of using solfege syllables as a successful tool when sight-singing imply that they improved their abilities.

Hand Signs

Regarding using hand signs to sight-sing, the perceptions were more negative than positive. The initial statements gathered from the participants on the pre-study questionnaire suggested they found hand signs to be more complex and bothersome than solfege syllables were. In the pre-study questionnaire, 30 percent ranked themselves as being average at using hand signs to sight-sing. The negative comments given to the open-ended questions and the participant's feelings about their proficiency reinforce the hypothesis about using hand signs. The participants expressed perceptions of intimidation, lack of interest, and discouragement about sight-singing.

The post-study responses about using hand signs when sight-singing were diverse; however, the bulk of the responses were negative, with only a few positive. Interestingly the students used the word multitasking when describing hand signs and sight-singing. The participants described that using the hand signs to sight-sing constituted multitasking but using the solfege syllables alone did not elicit this same description. Among the post-study responses concerning proficiency at sight-singing using hand signs, participants' perspectives of their usage

suggested some improvement. The most frequent response was self-rating in the average range, the next most frequent response was proficient, and the least frequent was at the beginner level. Among the responses to the pre-study questionnaire, 10 percent indicated no experience; however, the post-study responses showed that none of the participants responded with no experience. These results provide evidence that working the solfege syllables consistently led the students to perceive they had improved with sight singing.

Solfege Syllables and Hand Signs

Questions about using hand signs and solfege syllables simultaneously when sight-singing garnered mostly negative responses on the pre-study questionnaire; however, few were positive. One participant expressed that "these tools should only be used with advanced singers; otherwise, it distracts the singer."[311] These responses support the assumption in Hypothesis 3 that both hand signs and solfege syllables would cause frustration and a lack of motivation try. The participants generally found this skill difficult and felt unsuccessful at achieving the task. When asked to rank their proficiency using this skill, only 10 percent felt very proficient, with most of the responses in the average category.

The post-study responses for this method were a mix of both positive and negative comments. Some participants did feel confident in their sight-singing skills when using these two sight-singing tools. The students' perceptions include a variety of feelings, and these expressions support the study's validity. When asked to rank their proficiency, largest percentage of the responses fall into the average category, and the next largest in the very proficient category. Although more participants perceived their skill level in the average category at the end of the

[311] Pre-Study: Sight-Singing Questionnaire, Google Form, Appendix B.

study, compared to the pre-study responses, the post-study responses focused on the categories of very proficient and average. Thus, showing an improvement in their perceptions.

CHAPTER FIVE: CONCLUSION

Summary of Purpose

An essential job of music educators is the development of their teaching philosophy regarding sight-singing instruction. Sight-singing is an integral part of music education, and "the ability to sing music on sight is considered a fundamental goal of music education."[312] Although this study focused on the methods of solfege syllables and hand signs, if teachers are confident and secure with the craft of sight-singing, their instruction can likely improve student knowledge and competency using many sight-singing tools. The purpose of the study was to provide music teachers with insights into high school students' perceptions. Results from this research could help guide educators when considering sight-singing in classrooms. The study also considered dual-use of solfege syllables and Curwen hand signs when learning sight-singing. The participants' perceptions were in the form of written, verbal, and other related data and information.

In their analysis of sight-singing books for choral groups, Eva Floyd and Marshall Haning found that "music literacy is a basic foundational skill for students of vocal music."[313] Yet, despite the importance of music literacy for all musicians, sometimes teachers are "pressured to offer students brief learning experiences in a wide variety of systems, leaving too little time for mastery." This problem supports the purpose and needs of this study and the findings offer validation for this study on sight-singing, solfege syllables, and hand signs. If teachers can determine student perceptions of sight-singing, hand signs, and solfege syllables, they could be

[312] McClung, "Sight-Singing Scores of High School Choristers with Extensive Training in Movable Solfege Syllables and Curwen Hand Signs," 256.

[313] Floyd and Haning, "Sight-Singing Pedagogy," 19.

better equipped to develop the type of "students who are musically independent singers"[314] and excellent and competent sight-singers.

Summary of Procedure

The research method chosen for this thesis uses a qualitative research design, a historical approach, and a grounded theory design. According to John and David Creswell, qualitative studies are based on words rather than numbers to obtain descriptions of a phenomenon; thus, open-ended questions and interviews are used.[315] In addition, this qualitative study uses the historical approach, which includes a grounded theory research design that is contrived to elicit responses from high school students regarding their sight-singing perceptions when using solfege syllables and hand signs. Multiple data sources were used to acquire the participant's perceptions about sight-singing, solfege syllables, and hand signs.

This study explored high school students' perceptions of sight-singing and the use of two methods, Curwen hand signs and solfege syllables. The researcher assumed that students' perceptions could influence their success with sight-singing and the ease and accuracy of the performance. This qualitative study used a pre-study and post-study questionnaire to evaluate and record the perceptions high school students have about sight-singing using the tools of hand signs and solfege syllables. The questionnaires used both open-ended and closed-ended questions to solicit the participant's perceptions about sight-singing. The open-ended questioning is beneficial so that the "participants can share their ideas freely, not constrained by predetermined scales."[316]

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[314] Autry, "A Study of Hand Signs in the Development of Sight-Singing Skills," 1.

[315] Creswell and Creswell, *Research Design,"* 3.

[316] Ibid, 181.

The data collected via the questionnaires were used to gain insight into the students' perceptions and offer something novel findings to the body of literature.

Summary of Findings and Prior Research

Previous research has shown that when music educators apply sight-singing in the classroom setting, their students learn "to read the notes as well as the pitches."[317] If educators make sight-singing an essential part of daily instruction, the results could be higher levels music literacy among high school choral students. Regardless of the methods used during the learning process, the benefits of sight-singing lead high school students to be musically literate; these students could take that knowledge to promote music. In addition, music educators can promote musical independence when students can sight-sing.[318]

The findings of this study show that the participants felt more secure using solfege syllables than they did hand signs, and the most challenging task was sight-singing with both hand signs and solfege syllables. Although they lacked confidence in using them, the participants perceived and communicated the benefits of using the solfege syllables. The data showed that about 67 percent of the students ranked their solfege skills as being proficient. The perceptions of using hand signs alone were more negative than when using only solfege syllables. The participants perceived the hand signs to be more complex and bothersome, and they had feelings of discouragement and intimidation when sight-singing with the hand signs. However, at the end of the study, the students' perceptions were more positive concerning hand signs. Although some participants believed that the hand signs were too difficult, the results showed that consistently using them could be beneficial.

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[317] Bitner, "The Joy of Solfege," 4.

[318] Henry, "The Use of Specific Practice and Performance Strategies in Sight-Singing Instruction," 11.

When questioned about the skill of simultaneously using the hand signs and solfege syllables to sight-sing, the students' responses primarily negative. The students expressed feelings of frustration and a lack of motivation to try, and they found this skill difficult and thus, unsuccessful at this task. At the end of the study, the participants' perceptions included a variety of feelings; however, their most prominent rankings of ability fell into the average category. The post-study showed that more participants felt very proficient than when responding in the pre-study data collection.

M. R. Autry described several sight-singing methods that "use numbers, syllables, or letter names of pitches for music reading purposes."[319] Autry also revealed other methods, such as "shaped notes, various pictorial symbols, and hand signs are also used to develop sight-reading skills."[320] The questions on the pre-study questionnaire required the students to list the different sight-singing methods they had previously used, and the top four included solfege syllables, rhythm/counting, hand signs, and movable "*do."* Alan McClung's work on sight-singing systems shows that the method or methods a music educator uses do not matter as long as educators teach sight-singing daily and are consistent with the methods they choose.[321]

Recommendations for Future Study

As a result of an extensive literature, several areas for future study emerged. The sources used include research studies, dissertations, theses, scholarly journal articles, magazine articles, and books. These recommendations for future study result from the systematic examination of previous research related to sight-singing, solfege syllables, and hand signs.

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[319] Autry "A Study of Hand Signs in the Development of Sight-Singing Skills," 1.

[320] Ibid.

[321] McClung, "Sight-Singing Systems," 3.

Michele Henry's research investigated "choral singers comfort level using computer technology for vocal sight-reading assessment."[322] She recommended further research on the role of anxiety when sight-reading vocally. Henry's post-test survey results from the students' showed they felt "less anxiety with computer-based testing."[323] The most frequent negative response concerning computer testing was "the inability to set their own tempo"[324] when assessed by the computer. The participants expressed that with "live scorers, singers are typically asked to establish and maintain their own tempo for sight-reading."[325] The participants reported "very little experience with computer-based technology for vocal sight-reading or other vocal performance tasks for practice or assessment."[326] Further research in the use of technology could provide new insights into the skill of sight-singing.

In another study by Michele Henry, she developed an "individualized vocal sight-reading assessment tool that represents the skills involved in vocal sight-reading."[327] Currently, no standardized test for vocal sight-singing is available that: "represents fundamental pitch skills, accommodates time constraints of secondary choral music directors, provides formative and summative evaluation to teachers, students, and parents, and provides validity, reliability, or norming data."[328] Michele Henry's study successfully designed a test for vocal sight-singing and resulted in "data that can serve as an inventory of the ability of each participant to sing each of

[322] Henry, "Vocal Sight-Reading Assessment," 58.

[323] Ibid., 61.

[324] Ibid.

[325] Ibid., 62

[326] Ibid., 62.

[327] Henry, "The Development of a Vocal Sight-Reading Inventory," *Bulletin of the Council for Research in Music Education* 150 (Fall 2001): 21, https://www.jstor.org/stable/40319097.

[328] Ibid., 23.

the designated component skills."[329] The skills incorporated in this study's assessment included repeated notes, scale patterns, ascending and descending scales, leaps, skips, cadences, chromatic movement, and modulation. This study produced several items that deserved further study. The first one is assessing pitch skills in the minor mode. The second is lengthening the test. The third consists of longitudinal studies charting the sight-reading achievement of students over a school year or high school career.[330]

Michele Henry's study of pitch and rhythm and their effect on vocal sight-reading performance also produced recommendations for further study. In this study, the "author sought to determine the relationship between pitch and rhythm tasks occurring concurrently."[331] This study found that singers prioritized pitch over rhythm, and singers with instrument or piano experience only scored significantly higher than did those with no instrument or piano training.[332] Those singers with instrument or piano experience did perform more proficiently when executing both pitch and rhythm together.[333] Thus, the study recommended that further research be done on the interaction between pitch and rhythm.[334] The author also suggested an exploration into the "efficacy of utilizing rhythm-reading systems during individual vocal sight-reading instruction"[335] and "the level of success at sight-reading with other elements in addition to pitch and rhythm."[336]

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[329] Henry, "The Development of a Vocal Sight-Reading Inventory," 28.

[330] Ibid.

[331] Michele L. Henry, "The Effect of Pitch and Rhythm Difficulty on Vocal Sight-Reading Performance," *Journal of Research in Music Education* 59, no. 1 (2011): 73, https://doi.org/10.1177/0022429410397199.

[332] Ibid.

[333] Ibid.

[334] Ibid.

[335] Ibid., 82.

[336] Ibid.

Steven Demorest and William May examined "individual sight-singing skills of choir members in relation to their private musical training, their choral experience, the difficulty of the melodic material, and the system used for group sight-singing."[337] The study showed that "private piano, instrumental, and vocal lessons were all significant factors in predicting success at individual sight-singing performances."[338] The findings of this study reinforce the Demorest and May research which unpacked authentication suggesting that students who study private instrumental or vocal lessons are more successful at sight-singing. The students in this study that meet this qualification revealed many positive perceptions about solfege syllables and hand signs as related to sight-singing success. This unexpected fact about the positive influence private lessons have on sight-singing, reinforces the fact that sight-singing success takes a "wide variety of skills related to a number of variables."[339]

Another interesting outcome of the Demorest and May research was that the "consistency of the system rather than the type of the system that is the most important element"[340] when sight-singing. The researchers suggested that further exploration of "the relationship of individual evaluation to improved sight-singing performance is clearly warranted."[341] These authors mentioned "the need for an experimental examination of the role of individual evaluation as a pedagogical tool and a further exploration of the relationship of broad-based musical training and individual sight-singing achievement."[342]

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[337] Demorest and May. "Sight-Singing Instruction in the Choral Ensemble: Factors Related to Individual Performance.," 156.

[338] Ibid., 164.

[339] Ibid., 157.

[340] Ibid., 165.

[341] Ibid.

[342] Ibid., 166.

Two additional studies that contributed to this research were focused on using the Curwen hand signs as a sight-singing method. First, Jane Cassidy's study on the effects of sight-singing strategies on non-music majors, suggested that "although Curwen hand signs have been isolated from solfege and found to have no significant effect on improving sight-singing, these two strategies have not been isolated and compared with other tools."[343] Secondly, Frey Clark reviewed the literature on pitch systems and Curwen hand signs and found the "use of mnemonic devices to reinforce tonal relationships is a long-standing practice among musicians."[344] Clark advocated the use of hand signs that allows students to "feel and see the location of each scale degree and its intervallic relationship."[345] Furthermore, teachers and student "can communicate with hand signs without singing."[346] Additional research on Curwen hand signs might "include interviewing students who have used hand signs for different lengths of time to learn the extent to which they find the signs helpful."[347] Frey Clark also suggested that it may be "interesting to learn the extent to which educators incorporate hand signs for their pragmatic benefits, such as ease of dictating drills, versus pedagogical aims, such as the improvement of vocal accuracy."[348]

Summary of Study

The skill of sight-singing has been a part of public-school music education curriculums for hundreds of years, and sight-singing continues to be a primary tool used to teach music reading and music literacy. Many educators support that "sight-singing training is an essential

[343] Cassidy, "Effects of Various Sight-Singing Strategies on Non-Music Majors," 294.

[344] Clark, "Pitch Systems and Curwen Hand Signs,": 59.

[345] Ibid., 62.

[346] Ibid.

[347] Ibid., 63.

[348] Ibid.

part of students' musical development."[349] Choral directors must choose a method or variety of familiar techniques to combine to create their them into their teaching method. In addition to having a teaching philosophy, "the choral director's attitude toward sight-singing plays an important role in sight-singing success."[350] The information collected from this study could encourage to music educators and help reinforce that "the process of preparing for sight-singing evaluation has helped to improve their choirs' music reading skills."[351] Additionally, educators might gain insight into the minds of high school students and how they perceive sight-singing, solfege syllables, and hand signs.

Using systems, such as Guido d'Arezzo's solfege system and Curwen's hand signs to complement the solfege syllables, benefits can be accrued in the progression of sight-singing skills. The participants of this study first perceived solfege syllables more positively. Although there were some negative perceptions, more participants ranked themselves as proficient at using solfege syllables than not. Implications that student perceptions improved over the study are evident in the post-study data. Post-study, the students' perceptions were highly favorable, and 17 percent more of the participants felt proficient at using solfege syllables to sight-sing.

The responses regarding the Curwen hand signs showed that the participants were overall not as familiar with using the hand signs to sight-sing as other methods. Their perceptions were primarily negative; they mentioned, feelings of being unsuccessful using hand signs to sight-sing. When the participants rated themselves, the highest-ranking was average. Surprisingly, the post-study perceptions produced a variety of positive and negative responses and two of the

[349] Fournier, et al., "Cognitive Strategies in Sight-Singing," 217.

[350] Floyd and Bradley, "Teaching Strategies Related to Successful Sight-Singing in Kentucky Choral Ensembles," 72.

[351] Ibid.

participants felt very strongly about how successful they had been using the hand signs to sight-sing. These results show that the participants' steady and consistent work during the length of this study helped improve the overall perceptions of hand signs.

The results of using both hand signs and solfege syllables simultaneously when sight-singing, produced mostly negative perceptions. The students found it challenging to multitask, both skills at once. A positive comment included that only more advanced music students should be asked to simultaneously use both hand signs and solfege. These results support the hypothesis that high school students would become frustrated and unmotivated when trying to sight-sing using solfege and hand signs. The perceptions of the participants were generally interpreted as a feeling of being unsuccessful at this task. The post-study responses showed a mix of positive and negative perceptions; moreover, the specific comments showed that they did not feel very confident with these two methods used to sight-sing. Despite these comments, most of the participants ranked themselves proficient when using solfege and hand signs when sight-singing.

The literature review in Chapter 2 supports the importance of sight singing. Music educators are aware that students must acquire some level of musical independence. Student acquisition of being musically independent "becomes increasingly possible with the development of music literacy skills – specifically, sight-reading (sight-singing) skills."[352] By using the tools of hand signs and solfege syllables, high school-aged choral students can achieve maximum success in their sight-singing practice. Some students excel using solfege syllables, others use hand signs, and others achieve excellence using both tools. Regardless of the methods chosen to enhance sight-singing, the students with these skills will likely be musically literate and lifelong devotees of music. These results could encourage educators to implement sight-singing in their

[352] Henry, "The Use of Specific Practice and Performance Strategies in Sight-Singing Instruction," 11.

curriculum due to the benefits for students, and which include an excellent foundation for music literacy. Even though students often feel frustrated, disinterested, or discouraged when incorporating the tools of solfege syllables or hand signs with sight-singing, educators are encouraged to "be content with small steps of improvement."[353]

Vincent Van Goh, a famous post-impressionistic painter, once said, "Great things are not done by impulse, but by a series of small things brought together."[354] Music educators should take those small steps to make music exciting and interesting to students worldwide; they might gain some knowledge from this qualitative research to aid and encourage them to implement sight-singing as a vital part of their classroom. Furthermore, from findings in this study, educators can use the methods of solfege syllables and hand signs when teaching sight-singing with confidence.

[353] Brittain, "Sight-Singing Pedagogy," 13.

[354] Robert Collier, "20 Quotes to Inspire You to Take Small Steps Each Day," Accessed November 6, 2021. Habits for Wellbeing, https://www.habitsforwellbeing.com/20-quotes-to-inspire-you-to-take-small-simple-steps-each-day/.

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APPENDICES

APPENDIX A

Supporting Documentation

Pre-Study Questionnaire: Given to students before the beginning of the research.

Pre-Study: Sight-Singing Questionnaire

* Required

1. Participant Code *

2. Grade *

3. Age *

4. How many years have you been in choir from 6th-12th grade? *

5. How would you rate your current level of sight-singing? *

Mark only one oval.

- Very Proficient
- Proficient
- Average
- Emerging
- Beginner
- No Experience

6. How would you rate your current level of sight-singing using solfege syllables? *

Mark only one oval.

- Very Proficient
- Proficient
- Average
- Emerging
- Beginner
- No Experience

7. How would you rate your current level of sight-singing using hand signs? *

Mark only one oval.

- Very Proficient
- Proficient
- Average
- Emerging
- Beginner
- No Experience

8. How would you rate your current level of sight-singing using hand signs and solfege syllables? *

Mark only one oval.

- Very Proficient
- Proficient
- Average
- Emerging
- Beginner
- No Experience

9. If you do have prior experience in sight-singing, what method do you feel is the best? (select all that apply) *

Check all that apply.

- [ ] Numbers
- [ ] Rhythm/Counting
- [ ] Solfege Syllables
- [ ] Hand Signs
- [ ] Fixed "Do"
- [ ] Movable "Do"
- [ ] Letter Names

10. What is your perception of sight-singing using solfege syllables? Have you been successful with solfege? Do solfege syllables help you sight-sing better? Does it hinder your accuracy with pitch or rhythm? *

11. What is your perception of sight-singing using hand signs? Have you been successful with hand signs? Do the hand signs help you sight-sing better? Does it hinder your accuracy with pitch or rhythm? *

12. What is your perception of sight-singing using BOTH solfege syllables and hand signs? Have you been successful using BOTH solfege syllables and hand signs? Do these methods used together help you sight-sing better? Do they hinder your accuracy with pitch or rhythm? *

13. From your prior experience in choir classes, has your teacher ever tested you individually on sight-singing? *

Mark only one oval.

- ◯ Yes
- ◯ No
- ◯ N/A

14. Have you ever been a part of a choir that participated in a festival or contest that required sight-singing (individually or as a group)? *

Mark only one oval.

- ◯ Yes - Individually
- ◯ Yes - Group
- ◯ Yes - Both
- ◯ No

15. Do you think that sight-singing is an important skill to be taught in a high school choral class? Please explain your answer. *

16. Do you think using various methods (such as hand signs or solfege syllables) are beneficial when practicing sight-singing? Please explain your answer. *

17. On a scale of 1-10, 10 being the highest, how much do you like to sight-sing? *

18. On a scale of 1-10, 10 being the highest, how much do you like to sight-sing with hand signs? *

19. On a scale of 1-10, 10 being the highest, how much do you like to sight-sing with solfege syllables? *

20. On a scale of 1-10, 10 being the highest, how much do you like to sight-sing with hand signs and solfege syllables? *

21. How important do YOU think that musical literacy is? *

22. From your experience, what are the benefits of learning to sight-sing? *

23. Should sight-singing be included in a National Curriculum for Music Education? Explain why. *

24. Should sight-singing with hand signs be included in a National Curriculum for Music Education? Explain why. *

25. Should sight-singing with solfege syllables be included in a National Curriculum for Music Education? Explain why. *

26. Should sight-singing with BOTH hand signs and solfege syllables be included in a National Curriculum for Music Education? Explain why. *

27. Is it important to YOU as a high school choral student that your teacher explain to you why he/she teaches sight-singing a certain way? *

28. Is it important to YOU as a high school choral student that your teacher explain to you why you are required to learn to sight-sing? *

29. If YOU were the teacher, how would you implement sight-singing in a high school choral class? *

30. Should sight-singing be taught all year or just when preparing for a festival or contest? *

Post-Study Questionnaire: Given to students at the conclusion of the research.

Post-Study: Sight-Singing Questionnaire

* Required

1. Participant Code *

_____

2. Grade *

_____

3. Age *

_____

4. How many years have you been in choir from 6th-12th grade? *

_____

5. How would you rate your current level of sight-singing? *

Mark only one oval.

- Very Proficient
- Proficient
- Average
- Emerging
- Beginner
- No Experience

6. How would you rate your current level of sight-singing using solfege syllables? *

Mark only one oval.

- Very Proficient
- Proficient
- Average
- Emerging
- Beginner
- No Experience

7. How would you rate your current level of sight-singing using hand signs? *

Mark only one oval.

- Very Proficient
- Proficient
- Average
- Emerging
- Beginner
- No Experience

8. How would you rate your current level of sight-singing using hand signs and solfege syllables? *

Mark only one oval.

- Very Proficient
- Proficient
- Average
- Emerging
- Beginner
- No Experience

9. If you do have prior experience in sight-singing, what method do you feel is the best? (select all that apply) *

Check all that apply.

- [ ] Numbers
- [ ] Rhythm/Counting
- [ ] Solfege Syllables
- [ ] Hand Signs
- [ ] Fixed "Do"
- [ ] Movable "Do"
- [ ] Letter Names

10. What is your perception of sight-singing using solfege syllables? Have you been successful with solfege? Do solfege syllables help you sight-sing better? Does it hinder your accuracy with pitch or rhythm? *

11. What is your perception of sight-singing using hand signs? Have you been successful with hand signs? Do the hand signs help you sight-sing better? Does it hinder your accuracy with pitch or rhythm? *

12. What is your perception of sight-singing using BOTH solfege syllables and hand signs? Have you beensuccessful using BOTH solfege syllables and hand signs? Do these methods used together help you sight-sing better? Do they hinder your accuracy with pitch or rhythm? *

13. From your prior experience in choir classes, has your teacher ever tested you individually on sight-singing? *

Mark only one oval.

- Yes
- No
- N/A

14. Have you ever been a part of a choir that participated in a festival or contest that required sight-singing (individually or as a group)? *

Mark only one oval.

- Yes - Individually
- Yes - Group
- Yes - Both
- No

15. Do you think that sight-singing is an important skill to be taught in a high school choral class? Please explain your answer. *

16. Do you think using various methods (such as hand signs or solfege syllables) are beneficial when practicing sight-singing? Please explain your answer. *

17. On a scale of 1-10, 10 being the highest, how much do you like to sight-sing? *

18. On a scale of 1-10, 10 being the highest, how much do you like to sight-sing with hand signs? *

19. On a scale of 1-10, 10 being the highest, how much do you like to sight-sing with solfege syllables? *

20. On a scale of 1-10, 10 being the highest, how much do you like to sight-sing with hand signs and solfege syllables? *

21. How important do YOU think that musical literacy is? *

22. From your experience, what are the benefits of learning to sight-sing? *

23. Should sight-singing be included in a National Curriculum for Music Education? Explain why. *

24. Should sight-singing with hand signs be included in a National Curriculum for Music Education? Explainwhy. *

25. Should sight-singing with solfege syllables be included in a National Curriculum for Music Education?Explain why. *

26. Should sight-singing with BOTH hand signs and solfege syllables be included in a National Curriculumfor Music Education? Explain why. *

27. Is it important to YOU as a high school choral student that your teacher explain to you why he/she teaches sight-singing a certain way? *

28. Is it important to YOU as a high school choral student that your teacher explain to you why you are required to learn to sight-sing? *

29. If YOU were the teacher, how would you implement sight-singing in a high school choral class? *

30. Should sight-singing be taught all year or just when preparing for a festival or contest? *

Daily Feedback Questionnaires

Lesson #1 Feedback: Given to the participants at the conclusion of the first lesson.

Sight-Singing Study - Lesson #1

* Required

1. Participant Code:

_____

2. How would you rate your knowledge of sight-singing with Solfege?

Mark only one oval.

- ◯ Superior
- ◯ Excellent
- ◯ Very Good
- ◯ Good
- ◯ Fair

3. After practice time on today's sight-singing exercise, how well do you think you sang the exercise at the end of the class?

Mark only one oval.

- ◯ Superior
- ◯ Excellent
- ◯ Very Good
- ◯ Good
- ◯ Fair

5. What specific things were you successful at during this lesson?

6. How does sight-singing using solfege syllables make you feel?

7. What is your perception of sight-singing using solfege syllables? (are they beneficial, do they get in the way, do you love or hate them, etc ....)

Sight-Singing Study - Lesson #2

* Required

1. Participant Code:

_____

2. How would you rate your knowledge of sight-singing using the Curwen hand signs? *

Mark only one oval.

- ◯ Superior
- ◯ Excellent
- ◯ Very Good
- ◯ Good
- ◯ Fair

3. After practice time on today's sight-singing exercise, how well do you think you sang the exercise at the end of the class? *

Mark only one oval.

- ◯ Superior
- ◯ Excellent
- ◯ Very Good
- ◯ Good
- ◯ Fair

5. What specific things were you successful at during this lesson? *

6. How does sight-singing using Curwen hand signs make you feel? *

7. What is your perception of sight-singing using Curwen hand signs? (are they beneficial, do they get inthe way, do you love or hate them, etc...) *

Sight-Singing Study - Lesson #3

* Required

1. Participant Code *

_____

2. How would you rate your overall performance on the sight-singing exercise today (using solfege and hand-signs)? *

Mark only one oval.

- ◯ Superior
- ◯ Excellent
- ◯ Very Good
- ◯ Good
- ◯ Fair

3. List any specific things you had trouble with during this lesson.

_____

_____

_____

_____

_____

4. List any specific things you were successful with during this lesson.

_____

_____

_____

_____

_____

5. Do you think you have learned anything about your sight-singing skills over the past four weeks?

6. Reflecting on the past lessons when you did sight-singing using solfege, hand-signs, and both at the same time, what overall perception do you have of the methods .....how did using them make you feel?

7. Do you feel the practice time before was beneficial or not? Please answer yes or no and explain your answer.

Sight-Singing Study - Lesson #4

* Required

1. Participant Code *

2. How would you rate your overall performance on the sight-singing exercise today (using solfege and hand-signs)? *

   Mark only one oval.

   - ◯ Superior
   - ◯ Excellent
   - ◯ Very Good
   - ◯ Good
   - ◯ Fair

3. List any specific things you had trouble with during this lesson.

5. Do you think you have learned anything about your sight-singing skills over the past four weeks?

6. Reflecting on the past lessons when you did sight-singing using solfege, hand-signs, and both at the same time, what overall perception do you have of the methods. how did using them make you feel?

7. Do you feel the practice time before was beneficial or not? Please answer yes or no and explain your answer.

Researcher's Lesson Plans

Sight-Singing Lesson Plans

Lesson #1

Goal: Participants will sight-sing the given exercise using solfege syllables

1. Vocal Warm-Up
    a. Participants will sing vocal warm-up exercise led by the researcher
        i. Five-Note Scale on "AH"
        ii. Ascending and descending for two octaves
        iii. Participants will sing various intervals using solfege syllables as instructed by the researcher
2. Sight-Singing Exercise
    a. Participants will be given 30-seconds to look over the given exercise
    b. All participants will chant the exercise using solfege syllables, with no correction from the researcher
3. Individual Assessment
    a. Participants will sight-sing the exercise for the researcher from beginning to end
    b. Participants will be sent into the hall until it is their turn to sight-sing – they will sing individually (without anyone else in the room except the researcher)

Sight-Singing Lesson Plans

Lesson #2

Goal: Participants will sight-sing the given exercise using hand signs

1. Vocal Warm-Up
    a. Participants will sing vocal warm-up exercise led by the researcher
        i. Five-Note Scale on "AH"
        ii. Ascending and descending for two octaves
        iii. Participants will sing various intervals using hand signs as instructed by the researcher
2. Sight-Singing Exercise
    a. Participants will be given 30-seconds to look over the given exercise
    b. All participants will chant the exercise using hand signs, with no correction from the researcher
3. Individual Assessment
    a. Participants will sight-sing the exercise for the researcher from beginning to end

b. Participants will be sent into the hall until it is their turn to sight-sing – they will sing individually (without anyone else in the room except the researcher)

Sight-Singing Lesson Plans

Lesson #3

Goal: Participants will sight-sing the given exercise using solfege syllables and hand signs

1. Vocal Warm-Up
    a. Participants will sing vocal warm-up exercise led by the researcher
        i. Five-Note Scale on "AH"
        ii. Ascending and descending for two octaves
        iii. Participants will sing various intervals using solfege syllables and hand signs as instructed by the researcher
2. Sight-Singing Exercise
    a. Participants will be given 30-seconds to look over the given exercise
    b. All participants will chant the exercise using solfege syllables and hand signs, with no correction from the researcher
3. Individual Assessment
    a. Participants will sight-sing the exercise for the researcher from beginning to end
    b. Participants will be sent into the hall until it is their turn to sight-sing – they will sing individually (without anyone else in the room except the researcher)

Sight-Singing Lesson Plans

Lesson #4

Goal: Participants will sight-sing the given exercise using solfege syllables and hand signs.

1. Vocal Warm-Up
    a. Participants will sing vocal warm-up exercise led by the researcher
        i. Five-Note Scale on "AH"
        ii. Ascending and descending for two octaves
        iii. Participants will sing various intervals using solfege syllables and hand signs as instructed by the researcher
2. Sight-Singing Exercise
    a. Participants will be given 30-seconds to look over the given exercise

    b. All participants will chant the exercise using solfege syllables and hand signs, with no correction from the researcher
3. Individual Assessment
    a. Participants will sight-sing the exercise for the researcher from beginning to end
    b. Participants will be sent into the hall until it is their turn to sight-sing – they will sing individually (without anyone else in the room except the researcher)

APPENDIX B

IRB Documentation - Approval Letter from IRB

May 26, 2021

Kimberly Costanza
Betty Damon

Re: IRB Approval - IRB-FY20-21-551 The Changing Perceptions of High School Choral Students When Sight-Singing Using Solfege Syllables and Hand Signs

Dear Kimberly Costanza, Betty Damon:

We are pleased to inform you that your study has been approved by the Liberty University Institutional Review Board (IRB). This approval is extended to you for one year from the following date: May 26, 2021. If you need to make changes to the methodology as it pertains to human subjects, you must submit a modification to the IRB. Modifications can be completed through your Cayuse IRB account.

Your study falls under the expedited review category (45 CFR 46.110), which is applicable to specific, minimal risk studies and minor changes to approved studies for the following reason(s):

6. Collection of data from voice, video, digital, or image recordings made for research purposes.

Your stamped consent form(s) and final versions of your study documents can be found under the Attachments tab within the Submission Details section of your study on Cayuse IRB. Your stamped consent form(s) should be copied and used to gain the consent of your research participants. If you plan to provide your consent information electronically, the contents of the attached consent document(s) should be made available without alteration.

Administrative Chair of Institutional Research
Research Ethics Office

Recruitment Letter to Participants

Dear Students and Parents,

As a graduate student in the School of Music at Liberty University, I am conducting research as part of the requirements for a Doctor of Music Education degree. The purpose of my research is to gather data and information about high school students' perceptions on sight-singing, solfege syllables, and hand signs. I am writing to invite eligible participants to join my study.

Participants must be 9th-12th grade high school students, currently enrolled in a choral music class. Participants, if willing, will be asked to fill out a pre- and post-study questionnaire online (10-15 minutes) and participate in audio- and video-recorded, 20-minute lessons once a week for four weeks. The lessons will take place in-person during their music class time. Each lesson will conclude with the participants completing an individual assessment of their skills and completing a feedback form. The skill assessment will be done one at a time with the researcher and will involve the participants sight-singing and using solfege syllables or hand signs. The feedback form will be sent to each participant via google classroom and will be the concluding activity of the lesson. Names and other identifying information will be requested as part of this study, but the information will remain confidential.

To participate, contact me using the contact information below.

A consent document is attached to this recruitment letter. The consent document contains additional information about my research. Please sign and return the consent document to me prior to participating in any procedures.

Sincerely,

Kimberly Costanza

Consent Forms for Participants and Parents

Parental Consent

Title of the Project: The Changing Perceptions of High School Choral Students When Sight-Singing Using Solfege Syllables and Hand Signs
Principal Investigator: Kimberly Costanza, Doctoral Student, Liberty University

Invitation to be Part of a Research Study

Your student is invited to participate in a research study. Participants must be 9th-12th grade high school students and currently enrolled in a choral music class. Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to allow your student to take part in this research project.

What is the study about and why are we doing it?

The purpose of the study is to assess the changing perceptions of high school students in regard to sight-singing solfege syllables and hand signs.

What will participants be asked to do in this study?

If you agree to allow your student to participate in this study, I will ask him or her to do the following things:

1. Fill out the Pre-Study questionnaire online. (10-15 minutes)
    a. This questionnaire will be completed before the lessons take place. It will be completed individually via google classroom.
2. Participate in one lesson each week for four weeks. (20 minutes)
    a. The lessons will be audio- and video- recorded and will take place during your student's music class time.
    b. Each lesson will conclude with a Google Form questionnaire, which will provide daily feedback on the topic covered. The questionnaires will be completed individually via google classroom.
3. Fill out the post-Study questionnaire online. (10-15 minutes)
    a. This questionnaire will be the LAST activity required of the participants. It will be completed individually via google classroom.

How could participants or others benefit from this study?

The direct benefit participants should expect to receive from taking part in this study is an improved knowledge of sight-singing, solfege syllables, and hand signs.

Benefits to society include adding valuable data to the research base of sight-singing using hand signs and solfege syllables and adding to the information systems of music educators.

What risks might participants experience from being in this study?

The risks involved in this study are minimal, which means they are equal to the risks your student would encounter in everyday life.

During this research, the researcher may become privy to information that triggers the mandatory reporting requirements of child abuse, child neglect, elder abuse, or intent to harm self or others.

How will personal information be protected?

The records of this study will be kept private. Research records will be stored securely, and only the researcher will have access to the records. Data collected as part of this study may be shared for use in future research studies or with other researchers. If data collected from the participants is shared, any information that could identify them, if applicable, will be removed before the data is shared.

- Participant responses will be kept confidential using codes.
- Data will be stored on a password-locked computer and in a locked cabinet. The data may be used in future presentations. After three years, all electronic records will be deleted, and all physical records will be shredded.
- The lessons will be recorded and transcribed. Recordings will be stored on a password locked computer for three years and then erased. Only the researcher will have access to these recordings.
- Confidentiality cannot be guaranteed in the lesson settings. While discouraged, other members of the study may share what was discussed with persons outside of the study.

What conflicts of interest exist in this study?

The researcher serves as a talented music teacher at Baton Rouge High School; however, this teacher does not teach or give grades to any of the students participating in the study. To limit potential or perceived conflicts, not participating in the study will not affect their grade or participation in their music classes. This disclosure is made so that you can decide if this relationship will affect your willingness to allow your student to participate in this study. No action will be taken against an individual based on his or her decision to allow his or her student to participate in this study.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether to allow your student to participate will not affect your, his, or her current or future relations with Liberty University or Baton Rouge High School. If you decide to allow your student to participate, he or she is free to not answer any question or withdraw at any time without affecting those relationships.

What should be done if a participant wishes to withdraw from the study?

If you choose to withdraw your student from the study/your student chooses to withdraw from the study, please contact the researcher at the email address/phone number included in the next paragraph or inform the researcher in person. Should you choose to withdraw her or him or should your student choose to withdraw, data collected from your student, apart from the recorded lesson data, will be destroyed immediately and will not be included in this study. The recorded lesson data will not be destroyed, but your student's contributions to the lessons will not be included in the study if you choose to withdraw him or her or your student chooses to withdraw.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is Kimberly Costanza. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at may also contact the researcher's faculty sponsor, Dr. Mindy Damon.

Whom do you contact if you have questions about rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board.

Your Consent

By signing this document, you are agreeing to allow your student to be in this study. Make sure you understand what the study is about before you sign. You will be given a copy of this document for your records. The researcher will keep a copy with the study records. If you have any questions about the study after you sign this document, you can contact the researcher using the information provided above.

I have read and understood the above information. I have asked questions and have received answers. I consent to allow my student to participate in the study.

☐ The researcher has my permission to audio- and video-record my student as part of his/her participation in this study.

_____

Printed Child's/Student's Name

_____

Parent's Signature Date

_____

Minor's Signature Date

Participant Consent (For students 18 years or older)

Title of the Project: The Changing Perceptions of High School Choral Students When Sight-Singing Using Solfege Syllables and Hand Signs
Principal Investigator: Kimberly Costanza, Liberty University

Invitation to be Part of a Research Study

You are invited to participate in a research study. To participate, you must be a high school student in the 9th through 12th grade and currently enrolled in a choral music class. Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to take part in this research project.

What is the study about and why is it being done?

The purpose of the study is to assess the changing perceptions of high school students regarding sight-singing, solfege syllables, and hand signs.

What will happen if you take part in this study?

If you agree to be in this study, I will ask you to do the following things:

1. Fill out the Pre-Study questionnaire online. (10-15 minutes)
    a. This questionnaire will be completed before the lessons take place. It will be completed individually via google classroom.
2. Participate in one lesson each week per week for four weeks. (20 minutes)
    a. The lessons will be audio- and video- recorded and will take place during your music class time.

    b. Each lesson will conclude with a Google Form questionnaire which will provide daily feedback on the topic covered. The questionnaires will be completed individually via google classroom.

4. Fill out the post-Study questionnaire online. (10-15 minutes)
    a. This questionnaire will be the LAST activity required of the participants. It will be completed individually via google classroom.

How could you or others benefit from this study?

The direct benefit participants should expect to receive from taking part in this study is an improved knowledge of sight-singing, solfege syllables, and hand signs.

Benefits to society include adding valuable data to the research base of sight-singing using hand signs and solfege syllables and adding to the information systems of music educators.

What risks might you experience from being in this study?

The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

During this research, the researcher may become privy to information that triggers the mandatory reporting requirements or child abuse, child neglect, elder abuse, or intent to harm self or others.

How will personal information be protected?

The records of this study will be kept private. Research records will be stored securely, and only the researcher will have access to the records. Data collected from you may be shared for use in future research studies or with other researchers. If data collected from you is shared, any information that could identify you, if applicable, will be removed before the data is shared.

- Participant responses will be kept confidential using codes.
- Data will be stored on a password-locked computer and may be used in future presentations. The hard copy records will be stored at the researcher's home in a filing cabinet with a padlock. No one else will have access to the hard copies. After three years, all electronic records will be deleted, and all physical records will be shredded.
- The lessons will be recorded and transcribed. Recordings will be stored on a password locked computer for three years and then erased. Only the researcher will have access to these recordings.
- Confidentiality cannot be guaranteed in the lesson settings. While discouraged, other members of the study may share what was discussed with persons outside of the study.

Does the researcher have any conflicts of interest?

The researcher serves as a talented music teacher at Baton Rouge High School; however, this teacher does not teach or give grades to any of the participating students. To limit potential or perceived conflicts, not participating in the study will not affect your grade or participation in your music class. This disclosure is made so that you can decide if this relationship will affect your willingness to participate in this study. No action will be taken against an individual based on his or her decision to participate in this study.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether to participate will not affect your current or future relations with Liberty University or Baton Rouge High School. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

What should you do if you decide to withdraw from the study?

If you choose to withdraw from the study, please contact the researcher at the email address/phone number included in the next paragraph or inform her in person. Should you choose to withdraw, data collected from you, apart from the recorded lesson data, will be destroyed immediately and will not be included in this study. The recorded lesson data will not be destroyed, but your contributions to the lessons will not be included in the study if you choose to withdraw.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is Kimberly Costanza. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her. You may also contact the researcher's faculty sponsor, Dr. Mindy Damon.

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I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

☐ The researcher has my permission to audio- and video-record me as part of my participation in this study.

_____

Printed Subject Name

_____

Signature and Date