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Part I: Portfolio

Title: Exploring the *voice student-choral singer* duality. What considerations are there in terms of singing, vocal health, and vocal practice?

Introduction:

My professional practice is tri-partite: opera singer, voice teacher, and choral vocal coach. As an educator, I serve two vocal learner populations: solo voice students and choral singers. Within my professional practice paradigm, I view *practice* as the bridge and conduit for performance enhancement (Williamon, 2004; Baughman, 2017). Therefore, it has become the emphasis of my *Master of Arts* research pathway at the *Voice Study Centre*. During this time, I have identified several knowledge gaps in the education of voice students. First, despite being frequently instructed to *practice*, there is a lack of guidance on how to do so. Baughman (2017), attributes this to an absence of appropriate vocal practice instruction, which underscores the existing gap between voice lessons and solitary practice contexts. Furthermore, the existing body of literature on vocal pedagogy primarily caters to voice instructors or teachers-in-training within the vocal studio context. Consequently, there is a lack of *practice* research for the voice students (Miller, 1996; Ware, 1998; Miller, 2004; McKinney, 2005; Jones, 2017; Ragan, 2020; Chapman & Morris, 2023). While most practice research focuses on instrumentalists, more research in the vocal music practice field is needed to provide educators with knowledge on teaching singers effective practice techniques, as students require guidance on how to engage in vocal practice effectively (Rainero, 2012; Baughman, 2017).

Previous investigation's findings prompted several advancements in my professional practice. Initially, the PARE/PASE reflective framework and its corresponding template were developed to provide voice students with an opportunity to describe their voice lesson experiences and procedures (López-Hernández, 2023, unpublished) (See appendix I, p. 41). Secondly, I recognized that, as a student and professional singer, I learned to practice by imitating or modeling the voice lesson environment due to a lack of proper vocal practice training (Poliva, 2016; Baughman, 2017; Swanson, 2020; López-Hernández, 2023, unpublished). This situation ignited my curiosity regarding its possible impact to choral

singers, particularly regarding the vocal consistency and vocal health of the *voice student-choral singer*.

Rationale:

My musical career began as a choral singer, which allowed me to establish a solid background in choral music. As a *voice student-choir singer*, I participated in various *cappella* and symphonic choral ensembles, an experience that allowed me to travel internationally, participating in choral competitions while obtaining my undergraduate degree in pedagogy and vocal performance. During that time, I remember my singing and academic schedule being incredibly demanding, with little to no vocal health or vocal practice training. After that, although my primary training was as a soloist, for the past ten years, I have served as a voice teacher and vocal coach for a choral ensemble. Therefore, my own experience and expertise as a *voice student-choral singer*, professional classical singer, voice teacher, and choir vocal coach provided the foundation for this investigation (Ragan, 2018; Bozeman and Ragan, 2021).

As a voice instructor, I am privy to the daily challenges voice student-choral singers face in maintaining proper vocal health and practice habits amidst their hectic schedules. Halstead (2019, p. 331) positions *practice* within the vocal health framework as a gateway for managing the “rigors of rehearsal and performance.” Optimal vocal health entails increasing voice efficacy through appropriate training, practicing skills, and refraining from detrimental habits, allowing singers to reach their full potential, and preventing problems with their voices (Nix & Roy, 2018). When reflecting on choral singers’ practice habits at the start of this module, I implemented a practice in which I requested my *voice student-choral singers* to sing a sample from their choral repertoire as part of their lesson work. These same voice students do excellent solo vocal work daily, thoroughly comprehending their procedural learning, including effective breath control, articulation, resonance, and expressive interpretation (Ragan, 2014; Holding, 2020). However, I was surprised by their difficulties in transferring the strategies they had successfully employed in their solo repertoire into their choral repertoire. This uncertainty prompted me to consider what and how voice students practice their choral repertoire. Hayase et al. (2018) argue that “cumulative singing practice

itself is an essential regulator of vocal learning plasticity” (p. 4). This discovery led me to conclude that voice students may be singing in solo and choral styles.

As a professional singer and voice teacher, I value the choral experience's benefits for voice students' vocal and musical development. Concurrently, as an insider researcher, I recognize that vocal health and consistency can be challenging for singers managing the duality of solo and ensemble singing (Miller, 1995a; McCoy, 2011; Kirsh et al., 2013a; Fleming, 2018). Additionally, within the realm of vocal learning and practice, Erickson (2022) underscores the importance of “practicing wisely” (p. 90), citing that learning and imprinting processes induce structural changes in the brain due to neuroplasticity. These observations lead me to believe that the population impacted by the knowledge gap in vocal practice instruction may be broader than I had anticipated, therefore affecting all singers in training, including choral singers (Rainero, 2012; Baughman, 2017).

Consequently, it was incumbent upon me to explore how to better serve those populations, from an ethical standpoint and my position as a voice instructor for choral and solo singers (Cohen, et al., 2007). As a result, my commitment to investigating, understanding, learning, and finally helping my voice students navigate the complexities of both vocal contexts constitutes the rationale for this investigation.

Planned Program of Study:

Aims:

- Investigate and examine the *voice student-choral singer* duality, possible challenges, demands, and needs regarding vocal health and vocal consistency (Miller, 1995a; Titze, 2008; McCoy, 2011).
- Establish the benefits of belonging to a choral ensemble.
- Explore the *voice student-choral singer* transition from the voice lesson to choral contexts.
- Provide comprehensive and practical vocal transition advice for the duality singer, to further encourage their vocal health and development.
- Explore the impact vocal health training has on the *voice student-choral singer* (Gates, et al., 2013; Halstead, 2019).

- Explore what the literature says about the role of the voice teacher in the choral context (Smith and Sataloff, 2003).
- Explore the relationship the choral singer has solitary practice sessions.
- Create an overview of recommendations specific to the *voice student-choral singer* that could also impact the regular choral singer for their vocal health, hygiene, and development (Gates, et al., 2013; Nix & Roy, 2018; Halstead, 2019).

Objectives

- Identify the leading literature and research in the choral and vocal pedagogy field, pertaining to the solo and choral singer through a comprehensive search of seminal books, peer-reviewed, journals, studies, and articles.
- Establish and define the duality, *voice student-choral singer*.
- Analyze what the literature recommends as efficient vocal tools for the *voice student-choral singer*.
- Analyze how vocal health and hygiene training can impact the *voice student-choral singer* (Smith and Sataloff, 2003; Webb, 2007).
- Critically analyze the impact of solitary practice on the *voice student-choral singer* vocal learning and development (Williamon and Valentine, 2000; Jørgensen, 2004)
- Identify weaknesses and strengths in the views of authors and researchers within the literature.

Learning Outcomes:

- Discover methods to promote voice student autonomy and agency in their vocal training and development, specifically targeting voice student-choral singers and regular choral singers.
- Gain knowledge on how to facilitate a smoother transition from solo to choral singing to promote the vocal development and well-being of the performer.
- Continue to deepen and strengthen my research, reflective, and critical analysis skills.
- Enhance my knowledge of ensemble vocal learning by conducting research on voice building for vocal ensembles. Therefore, enabling me to pinpoint potential differences and similarities between these two contexts while also bolstering my

approach with evidence, thereby enhancing my competencies as a choir voice teacher-coach.

- Use the knowledge gained from conducting this research to form the basis for future research.

Furthermore, in my role as duality voice instructor, I must broaden my knowledge of choral pedagogy literature, specifically regarding the distinctions and similarities between solo and choral singing training (Miller, 1995b; Smith and Sataloff, 2003; Foster, Laura Anne, 2007; Coleman Detwiler, 2008; Titze, 2008; McCoy, 2011; 2012; Higgins, 2019). As a result, I am confident that the insights gained from this investigation will benefit not only my voice students and choral singers, but also the broader singing community.

Timescale:

Task	January	February	March	April	May
Topic to be agreed with tutor.					
Start portfolio introduction and rationale.					
Conduct research and develop a plan for the literature review process.					
Literature search and analysis to be conducted.					
Draft study for submission.					
Corrections, revisions, and final submission.					

Literature Review Process:

During this investigation, the researcher will utilize Cooper's (1985) Taxonomy to enhance her knowledge and strengthen her skills in literature reviews. The six characteristics that comprise Cooper's (1985) taxonomy are: *audience*, *focus*, *objective*, *perspective*, *coverage*, and *organization* (Cooper, 1985; Randolph, 2009). By following Cooper's framework, the researcher hopes to improve her ability to evaluate and synthesize prior literature on the current topic. Implementing this methodical approach will enhance the study's overall rigor and validity while also providing the ability to present a "coherence and perspective" to this investigation (Cooper, 1988, p. 105).

Focus

To improve my abilities as a vocal instructor in solo and choral singing contexts and advance my field of practice, I am undertaking this research to investigate the existing literature on this subject and use it to guide my research *focus* (Costley, 2006). This research will focus on the duality of settings that the solo voice student-choral singer negotiates and the best "practices and applications" (Randolph, 2009, p. 3) advised by the literature for these singers to navigate both singing contexts while maintaining their vocal development.

Goal

The *goal* of this investigation is to identify, understand, and potentially compare the vocal similarities and challenges encountered by *voice student-choral singers* when singing in these two distinct singing environments (Cooper, 1988a). To achieve this, I will investigate seminal literature on choral pedagogy, critically assess past research, and integrate it with the *focus* of my study (Cooper, 1988b; Randolph, 2009a). Furthermore, although my main area of training lies in solo singing, my additional *goal* is to investigate the voice teacher's role in choral settings and identify methods to enhance my skills to effectively assist singers in both populations. The overarching *goal* is to identify strategies to support and sustain ongoing vocal health and musical development while enhancing performance for singers experiencing this duality, which could serve as a potential knowledge base for my next primary research investigation (Cooper, 1988a; Williamon and Valentine, 2000; Smith and Sataloff, 2003; Titze, 2008; Randolph, 2009b; McCoy, 2011; 2012). Work responsibilities are

one of my primary obstacles in my research journey. Consequently, I strive to keep enhancing my structural and organizational skills to enhance the rigor of my process (Scott, 2022).

Perspective

To better understand the dual nature of the context encountered by the voice student-choral singers, I intend to research this topic utilizing vocal and choral pedagogy, vocal health, deliberate practice, and my personal expertise as a solo and choir voice instructor and singer. In 2022, I earned a *Vocal Health First Aider* certification from *Vocal Health Education Ltd.*, under the guidance of Stephen King and Dr. Jennifer Williams. In 2023, I received the *Applied Voice and Neuroscience* certification from the *Voice Study Centre*, under the guidance of Heidi Moss Erickson. Both courses have shaped my perspective during my research journey and have become central to the way I teach and view the voice as a biopsychosocial whole with a “command center” called the brain (Hart & King, 2022, p. 9) (Moss Erickson, 2022).

Considering this literature review, I anticipate performing a qualitative analysis of the collected data, which will permit “clarification or modification” of my methodology in response to the discoveries that emerge during the process (Scott, 2022, p.8). My inquiry is about finding “what works” (Creswell, 2003, p.11) for the voice student-choral singer to manage the vocal challenges of negotiating this duality while remaining focused and allowing the research topic to guide my approach (Cheema, 2018; Scott, 2022). To this end, I will operate within a pragmatic paradigm. While this is secondary research, as a voice instructor of both vocal contexts, I am an insider to the phenomenon under investigation. As such, I can draw from my personal experience and that of my students (Leedy et al., 2015; Fleming, 2018).

Coverage

Cooper (1985) characterizes *coverage* as “the most distinctive aspect of literature reviewing” (p. 12). During this phase, the researcher determines the literature most appropriate and applicable for the investigation. Considering my personal and professional practice workload's prevailing obligations and limitations, I intend to utilize the vast library resources of the *University of Wales Trinity Saint David (UWTSD)*, the *Voice Study*

Centre (VSC), and my library to compile a “purposive sample” of seminal choral and vocal pedagogy literature that are “pivotal” (Cooper, 1985, p.14; Randolph, 2009b, p.4). I will incorporate peer-reviewed articles and doctoral dissertations on vocal health, choral pedagogy, solo and choral technique, vocal health and hygiene, vocal practice, and the choral ensemble to examine the potential “lines of thinking” still established and yet to be explored and integrated regarding my research topic (Cooper, 1988a, p.111; Hart, 1998; Smith and Sataloff, 2003; Randolph, 2009; McCoy, 2011; Gates, et al., 2013; Halstead, 2019; Reckers et al., 2020). Furthermore, regarding vocal development, the parallels and differences of opinions established between choral conductors and voice teachers will be explored. Consequently, the findings derived from this study will be substantiated by the reviewed and presented body of literature (Cooper, 1985; 1988).

Organization

The research will be conceptual, building upon the rationale for the topic and drawing upon potential theories and ideas found in the literature (Cooper, 1988c; Randolph, 2009b). Consequently, the findings will expand an established list of codes. To pragmatically grasp the “essence of categorizing a phenomenon,” I shall commence my coding process utilizing a lumpers coding strategy, subsequently enhancing the conceptual depth of my concepts (Saldaña, 2016, p.52). Through this process, I aim to, confidently understand, and subsequently integrate and analyze the correlations among the concepts, as well as their potential utility to my research inquiry (Hart, 1998).

Audience

According to Hart (1998), research endeavors to “contribute in some way to our understanding of the world” (p. 12). Therefore, while the primary audience for this literature review will be academics and the language employed will reflect this, I foresee that non-specialized scholar, including voice students and members of the wider choral community I serve, will ultimately assume the role of secondary audiences to develop our understanding of the subject further (Cooper, 1985; 1988; Randolph, 2009).

Cooper's (1984) five stages of conducting a literature review will be adhered to increase validity, maintain rigor, and ensure a comprehensive examination of the body of literature (Russell, 2005; Randolph, 2009a)

1-Problem formulation

I reached the core of my research problem through reflection and self-inquiry. According to Costley (2006), inquiry is essential for generating and uncovering “new knowledge” in practice-based settings. Given this, as mentioned by Chema (2018) and instructed by my tutor, I had to let the research problem and process guide me. My observations of my voice students' difficulties in applying their successful solo repertoire strategies to their choral repertoire sparked an examination of the unique circumstances encountered by voice students who also sing in choral ensembles. During voice lessons, I noted that students sang in two vocal modes: choral and solo.

Based on this perspective, I formulated the following queries while recognizing that many of them belong in primary research * context:

- How does the voice student-choir singer's duality impact their vocal development?
- Are they imprinting a new way of singing? (Hayase et al., 2018; Moss Erickson, 2022)*
- Does the *voice student-choral singer* know how to apply their vocal expertise and knowledge to the choral context? *
- During their solitary practice sessions (SPS), do they practice their choral and solo repertoires or only their solo repertoire? *
- What relationship does the choral singer have with solitary practice? *
- Does choral pedagogy literature specify any guidelines about choral singer SPS?
- How can we, as voice teachers “in the know”, ensure our students are implementing the appropriate vocal approach/technique to their choral repertoire? (Swanson, 2020, p. 31)
- If the voice student learns to practice through mimicry of the voice lesson context, does the choral singer imitates the rehearsal during their practice sessions? (Poliva, 2016; Swanson, 2020).*

2-Data collection

By conducting a critical analysis and identification of seminal works in choral and vocal pedagogy, I aim to construct a “pivotal” sample of the respective disciplines (Cooper, 1988,

p. 111; Randolph, 2009). Considering the prevalence of voice student majors serving as members of choral ensembles (Miller, 1995b; McCoy, 2011; 2012) and the abundance of literary resources devoted to choral singing and pedagogy designed for conductors and conductors-in-training, one may inquire about the extent to which literature targets the voice student-choral ensemble singer's needs, specifically regarding solitary practice strategies and vocal health. Furthermore, a search will be conducted regarding the function of the voice instructor within the choral setting, as well as the vocal and musical development advantages that voice students derive from participating in choral ensembles. Additionally, I will assess relevant research studies and articles that have been published in journals that are scholarly and peer-reviewed, including *Journal of Singing*, *Choral Journal*, and *Journal of Voice*. In addition, doctoral dissertations pertinent to the research topic will be considered, given their comprehensive referencing, supervision, and review by a dissertation panel (Smith and Sataloff, 2003; Foster. Laura Anne, 2007; Coleman Detwiler, 2008; Titze, 2008; McCoy, 2011). Further inquiry topics will encompass techniques employed in solo and choral singing, the implications of choral blend for soloists, and the significance of solitary practice for choral ensemble singers. Ultimately, if time allows, I will peruse the reference lists of the articles being evaluated to identify any crucial inquiries that may have escaped my oversight. I will utilize the *Google Scholar* search engine to expand and refine my scholarly literature, in addition to the *UWTSD* and *VSC* online libraries. The search keywords encompassed choral sound, solo and choral singing, practice, and the vocal health of singers within the choral ensemble.

3- Data Evaluation

The data sources will be carefully structured, as suggested by Hart (1998) and Randolph (2009). For this, I will use the *Mendeley* platform with a spreadsheet for reference. Literature describes writing as a cognitive process that facilitates reasoning and thinking, emphasizing that it allows for reflection, and highlights that it enhances knowledge retention (Oatley and Djikic, 2008; Alonso, 2015). Both written and electronic notes will be recorded to facilitate additional critical analysis and comprehension (Hart, 1998). The research's selection criteria will be determined according to its aims, objectives, goals, and focus (Randolph, 2009b).

4- Analysis and Interpretation

The study will compile a list of pre-existing codes to create a logical and consistent “conceptual framework” for the investigation (Cooper, 1985; Randolph, 2009b, p.4; Saldaña, 2016). These include choral singing, vocal and musical development, consistency, efficiency, and performance enhancement. Although lumping coding will be the predominant strategy, the initial phases of data navigation will likely employ descriptive coding (Saldaña, 2016). Consequently, we hope to advance in the identification and comprehension of the duality phenomenon encountered by *choir singers-voice students* by gathering the research to facilitate the integration of the concepts (Hart, 1998). I anticipate employing deductive and inductive reasoning methods to conduct the data analysis. This approach will further enhance my analytical capabilities and cultivate a research-oriented mindset (Leedy et al., 2015)

5- Public Presentation

I aim to present my work with the utmost adherence to the highest academic standards I have acquired thus far, given that my primary target audience consists of researchers and academics (Randolph, 2009b). Thus, to further advance scholarship during this research endeavor, I intend to present my discoveries with clarity and methodically (Hart, 1998). Consequently, by utilizing my personal experience as a lens, I shall endeavor to establish correlations between the recently acquired literature and knowledge, "ideas and theories," and my current research trajectory (Hart, 1998, p.8).

Critical Reflection: The Learning Process

This has been the most challenging module for me thus far. My main struggle has always been juggling teaching, singing, and studying. My health suddenly deteriorated on this occasion, hindering my ability to work, sing, and study at my usual pace. This increased my anxiety and stress because deadlines shape all elements of my academic and professional duties. Furthermore, my student workload doubled this semester, and my choral coaching duties increased as the ensemble I work for prepared for an international competition. In addition, when submitting my investigation, I will be traveling to perform, resulting in a full

schedule. Lastly, during the initial phases of this module, tutor changes resulted in a sense of uncertainty, leading to self-doubt.

This scenario generated a challenge that forced me to reconsider my plan of action, resulting in an unanticipated change in direction. Contrary to my initial belief that this would hinder my objective, it directed me towards the focus of this investigation. Relying on the knowledge and skills acquired in prior modules, as well as my sense of accountability towards my professional practice, constituted the single advantage I possessed when compared to my circumstances. To familiarize my new tutor with my prior investigations, I needed to revisit them. This “going back and forth in reflection” (Kolb and Kolb, 2005, p.194) allowed me to review my research journey which consequently caused a sense of untouched business to emerge. As always, my investigation started with my voice students in mind. As I sat in choir rehearsal as a vocal coach, I thought, “choral singers are also my voice students.” Therefore, as I considered how to take this learning experience and better serve the populations I work with, I broadened the scope of my research by emphasizing the three categories that constitute my teaching professional practice: choral singers, solo voice students, and the *voice student-choral singer*. For this, I will use Kolb's (1984) learning cycle, which has supported my learning experiences in previous investigations.

Kolb's cycle

This investigation's learning process was driven by my professional practice experience in the context of voice studio and choir rehearsal and my research journey at the *Voice Study Centre*. The simplicity and utility of Kolb's Experiential Learning Theory Model lies in its four-stage cyclical process of “experiencing, reflecting, thinking, and acting” (Kolb, Alice and Kolb, David, 2018, p.8). I adopted it as a framework to strengthen my learning since this model enabled me to analyze my experiences thoroughly. According to Kolb's (2012), learning is a transactional process that calls for relearning, conflict resolution, integration, and self-adaptation to one's environment. Additionally, it calls for assimilation to new experiences allowing for “the transformation of the experience” creating knowledge (Kolb and Kolb, 2012, p.194).

Kolb's model involves four stages: Active Experimentation (AE), Reflective Observation (RO), Concrete Experience (CE), and Abstract Conceptualization (AC) (Kolb, 1984).

Concrete experience

Although refining a research topic may require weeks or months, as stated by Hart (1998), doing so increases the probability of successfully concluding the investigation. Refinement also develops your intellectual and practical skills by cultivating a “research mindset” and making you think critically about your topic and what research you can do in the time you have, saving the researcher time and effort in the future (Hart, 1998, p.13; Creswell, 2003).

As a voice teacher and vocal coach, I listen to rehearsals, work with the singers one-on-one and in an ensemble capacity (e.g., warm-up, vocal technique, vocal health advice), and collaborate with the conductor to assist choir members in their vocal development and address any difficulties or uncertainties arising from specific repertoire. Consequently, this process leads me to an inner reflection path regarding how to further the singer's vocal goals.

While immerse in the choral context, a familiar situation started to flourish as I witnessed an uncertainty of practice experienced by the conductor (Schön, 1983). She was repeating the same vocal directive she had given the singers for a few rehearsals in a row. I remember writing in my score *SM* (stop moment) and asking myself, how do choral singers practice in the solitary? How do they go about it and what do they do during their SPS. An *SM* is based on the PARE/PASE reflective framework I developed on 2022-2023 and it is a moment of stopping for reflection (stop moment) where something requires the individual to slow down in action, explore the difficulty of the moment, to consequently continue in action (go moment) (López-Hernández, 2023, p.11, Unpublished).

After reviewing my previous research and realizing the lack of training in vocal practice (Baughman, 2017), I also considered the potential consequences for choral singers. This raised several questions, such as: How much solitary practice do choral singers undertake between rehearsals, like what orchestra members or athletes do before ensemble or teamwork? (Titze, 2008). And if so, how do they proceed? Do voice students practice their choral repertoire in the same way they practice their solo repertoire? Although these

inquiries require primary research, this reflective process motivated me to acquire the necessary knowledge that may serve as the foundation for subsequent investigations.

Reflective observation

When I created the PARE/PASE framework, one of the secondary goals was to support the voice lesson continuity process. In my teaching, I repeated the same directives and technical information to my students weekly. This led me to consider what I could do better as a teacher and how students developed the knowledge created in the voice lesson in their SPS (López-Hernández, 2023, unpublished). I value the process of repetition and *deliberate practice* is built on carefully designed activities that require mindful and “proper” repetition for performance improvement (Ericsson, Krampe and Tesch-Römer, 1993; Lehmann and Anders Ericsson, 1997; Ericsson and Harwell, 2019; Woody, 2022, p. 74). This prompted an investigation into the progress of the students' SPS, which led to the identification of their frustrations and my subsequent obligation to address them (López-Hernández, 2023, unpublished).

I primarily spend my days teaching undergraduate voice students who sing in various choral ensembles. Their vocal needs require them to sing for over ten hours weekly in rehearsals, coaching sessions, competitions, and performances. Additionally, they have weekly voice lessons, during which I observe how hard they strive to comprehend their vocal learning processes and expand that understanding in their solitary practice sessions (SPS). Simultaneously, I spend my nights working in the choir rehearsal with many of my voice students-choral singers, but now as their vocal coach. This vocal load contributes to an already rigorous and demanding schedule. As their voice instructor, I consistently underscore the importance of their vocal health, adequate rest, and hydration, and, most of all, learning to listen to their bodies so they can be vocally resilient and as efficient as possible.

When I *reflect-on-action* (Schön, 1983), on my own experience as an undergraduate voice student, dealing with similar challenges to those my students are currently facing, I realize that I was unaware of how to maintain an appropriate vocal health practice that supported the vocal demands faced during the transition to becoming professionals.

Abstract conceptualization

By immersing myself in the choral context, I gained a deep understanding of the numerous similarities between the solo and ensemble settings. The voice teacher and conductors serve as instructors for the respective instruments, namely the solo voice and the choral ensemble. The voice lesson is equivalent to the choir rehearsal for the choral singer, which involves warm-ups, technical, and repertoire work. Identifying these similarities led me to hypothesize that if there is a gap between the voice lesson and the SPS context, there may be another gap between the choral rehearsal and the choristers' SPS.

Throughout this research journey, it became apparent that as a student and professional singer, I, and possibly many singers, learned to practice by imitating the voice lesson context due to a lack of formal practice instruction, as modeling or mimicking are biologically conserved processes (Poliva, 2016; Baughman, 2017; Swanson, 2020; López-Hernández, 2023b, Unpublished). Therefore, if this is the circumstance for the voice student, what does this imply for the choral singer? What is the relationship the choral singer has with solitary practice? If the voice student imitates the voice lesson context, does the choral singer imitates the rehearsal? This suggests that the likelihood of these knowledge deficits affecting a larger population than I had previously anticipated exists. This facilitated my understanding of how deficiencies in vocal practice instruction impact choral and solo singers, as well as all vocal learners in training.

Active experimentation

Today, I feel compelled to recognize my own reflection in my students, remembering my time as a voice student who lacked the optimal vocal health and practice resources needed to meet the demanding vocal requirements of aspiring professionals. A difficult challenge I faced during this investigation was acknowledging my expertise as a valid foundation for articulating the research topic. Despite working as a voice teacher and choral vocal coach for the past ten years and having extensive choral experience, I was unconsciously overlooking my expertise. I believe this was because my formal education was primarily as a soloist, not a choral pedagogy major. Fortunately, engaging in dialogical reflection with colleagues provided me with the space to develop self-awareness and clarity when I felt

“over-stretched” by the setting of my inquiry, allowing me to accept the validity of my expertise within my professional duties (Warwick, 2007; Finlay, 2008, p. 10). Therefore, I had to navigate the uncertainties of the research process and clarify my perspective to avoid undervaluing my training and expertise, which I considered “self-evident” (Finlay, 2008, p. 10) in the pursuit of professional artistry (Schön, 1983).

Although difficult, this learning experience helped me explore, validate, and appreciate the training and experience I gained as a choral singer prior to transitioning to solo singing, ultimately integrating both contexts into what I currently call my professional practice. Gates et al. (2013, p. 74) state that “voice instructors are voice specialists.” Although my primary training is not in choral pedagogy or voice science, being a professionally “established singer” and a student-researcher gives me the clarity to understand the performing vocal instrument “firsthand,” allowing me to teach my students with “aesthetic empathy” (Gates et al., 2013, p. 74). This reflection informed my literature review, which aims to identify efficient practices for students transitioning from solo to choral settings, promoting vocal health and vocal development.

Part II: The Assignment

Literature Review

The researcher desires to advance students' vocal skills by helping them navigate the challenges of studying voice while belonging to multiple choral ensembles. As duality singers, voice students have a hectic singing schedule and may find it difficult to balance vocal function, vocal health, and performance because they must adjust to the different vocal demands needed for solo and ensemble singing (Miller, 1995a; Kirsh et al., 2013a). Consistently prioritizing vocal health management, rest, hydration, and SPS efficiency has been the prevailing approach to reducing vocal fatigue and fostering vocal resiliency (Brewer & Garnett, 2012; Rainero, 2012; Gates et al., 2013). The researcher and the research, as well as the student and the teacher, form a "continuum and closeness" (Fleming, 2018, p. 311), as does the researcher's previous voice student experience, establishing the voice teacher's insider positionality, thus recognizing the connection to the demographic needs under advocacy.

This literature review will provide a foundation for encouraging voice students to regard their voices as "walking instruments" (Chapman & Morris, 2023, p. 4), thereby equipping them with the skills required to improve their vocal capabilities and surmount forthcoming singing challenges. Specifically, it will assist in identifying strategies that could facilitate a more harmonious transition for students from solo to choral settings, thereby ensuring their continued vocal well-being and success. This literature review will begin with a discussion of the duality of the voice of the student-choral singer, followed by the benefits of the choral experience. Secondly, it will explore the characteristics of solo and choral singing, highlighting the similarities and distinctions between the two contexts. Finally, in keeping with Halstead's (2019) identification of practice, rest, and proper hydration as key elements of vocal health, it will discuss vocal health, vocal practice, and potential strategies for *voice student-choral singers*.

The Duality: *Voice Student-Choral Singer*

Most aspiring classical music singers will join different choral ensembles as part of their academic obligations. Furthermore, many may participate in opera choruses, take on

church positions for financial assistance, or become paid members of a professional choir (McCoy, 2011). A challenge faced by voice students in maintaining vocal consistency is the potential discrepancy between the vocal techniques and stylistic demands of solo singing compared to choral singing (Miller, 1995a; Kirsh et al., 2013a). For instance, choral singing prioritizes blend and ensemble cohesion, whereas solo singing frequently demands a focus on individual vocal technique and expression. Voice students may experience challenges as they navigate these two musical contexts while striving to maintain vocal consistency (McCoy, 2011; Brewer & Garnett, 2012). Voice students often allocate considerably more time to practicing with their conductors and choral ensembles than their voice instructors, which further compounds the difficulties encountered by voice student-choral singers due to the adjustments in singing (McCoy, 2011). Furthermore, this situation also poses difficulties for voice instructors, as they must generally elicit “the choir” sound from the student's voice before commencing significant solo exercises in the voice lesson (McCoy, 2011, p. 298).

According to Kirsh et al. (2013), duality singers raise concern because vocal demands from one context may conflict with those of the other. Brewer and Garnett (2012, p. 259) define *ensemble* as “the quality of consensus, of individuals cooperating to produce something that none of them could independently produce”. While the solo performer will maintain essential technical qualities such as “breath support, posture, range, aperture of the mouth and throat, and laryngeal flexibility”, how specific techniques are executed to attain an ideal blended choral sound will vary significantly in a choral setting (Kirsh et al., 2013a, p.26). Many must be modified in the solo context to emphasize the individual's unique qualities of timbre, “ring,” or “singers' formant” (Kirsh et al., 2013a, p. 26; Sataloff & Smith, 2012, p. 90) (see *Singing in the duality*, p. 21). The duality challenges may be inevitable if training is not addressed, given the fundamental distinction between choral training, which emphasizes uniformity and the ability to blend, and solo training, which emphasizes individuality and projection (McCoy, 2011).

The choral experience

As a voice instructor and professional singer, the researcher wholeheartedly advocates for the choral experience. The numerous benefits that literature bestows on singers-in-training and beyond are long-established, and among them we find that regardless of training level,

chorus members develop their artistic abilities, vocal technique, repertory, and musicianship (Smith and Sataloff, 2003; Coleman Detwiler, 2008, p. iv; Kirsh et al., 2013). The choral arena aids in the development of phonatory efficiency in singers at the developmental stage (Coleman Detwiler, 2008). Furthermore, it fosters the development of effective collaborative and fundamental musical skills that are applicable in a variety of choral settings and ensemble work, including “opera, oratorio, concert, and chamber music” (McCoy, 2011, p. 297). Additionally, it provides individuals with exceptional musical experiences, motivating them to dedicate their lives to music and improving their skills and achievements compared to their initial stages as solo performers (McCoy, 2011).

Sataloff & Smith (2012) assert that the chorus rehearsal serves as a platform for learning and experimentation, where individuals can develop their interpretive abilities in conjunction with their peers and the conductor. This process also facilitates a dynamic connection between the conductor and each participant on a mental, physical, and spiritual level. Furthermore, the choral setting provides “companionship”, creating a sense of community and a haven from the outside world, offering a “social outlet” that brings comfort, relief, and inspiration to individuals (Sataloff & Smith, 2012p. 260). Therefore, the choral experience offers an array of health advantages beyond the scope of vocal health that have a favorable impact on the overall wellness of the *voice student-choral singer* (Kirsh et al., 2013b, p.25).

Vocal technique in the choral context

Smith and Sataloff (2003) argue that choral pedagogy, pertains to the necessity for choral conductors to possess enhanced knowledge regarding vocal health. The choral rehearsal aims to enhance the vocal instrument by cultivating effective singing techniques (Smith & Sataloff, 2003). According to Titze (2008), just like solo singers, choral singers must thoroughly understand their instruments to accurately assess their condition. Choral singers typically receive their sole voice instruction from the conductor, who, at the start of the rehearsal, takes on the role of voice teacher in developing the choral instrument (Vick, 2003). This entails paying close attention to cultivating good singing habits and guiding the choral ensemble to use proper singing techniques in preparation for the rehearsal (Vick, 2003). Literature agrees that standards for vowel unification, breath support, resonance techniques, good vocal production, and “harmonic/melodic intonation” should all be built into

the choral-vocal instrument through vocalization exercises (Kirsh et al., 2013a, p. 26; McCoy, 2011; Smith & Sataloff, 2003; Vick, 2003).

Due to the unique timbre characteristics of each vocal instrument, the choral conductor's objective should not be to motivate soloists to imitate the technical prowess of novice singers, but rather to inspire less proficient singers to achieve higher levels of efficiency (Miller, 1995a). Smith & Sataloff (2003) recommend that when a choral conductor needs more confidence in their ability to lead a choir through voice-building exercises, they consider enlisting the assistance of a professional voice instructor for this task. The researcher's role as vocal coach entails consulting on voice-related matters, offering careful guidance, and working in tandem with the choral conductor to ensure that students engage in singing practices that promote vocal well-being.

Singing in the duality

According to Sataloff & Smith (2003, p.238), “solo and choral singing are compatible but different vocal activities.” In pursuance of the overarching goal of forming a unified ensemble, Brewer, and Garnett (2012) state that choir members voluntarily surrender a portion of their individuality. Smith and Sataloff (2003) delineate the subsequent distinctions among duality contexts: in choral singing, the conductor expects each vocalist to contribute to the collective sound of the ensemble without exerting dominance over it, thereby adhering to the artistic standards established. Conversely, soloists' interpretive abilities are of considerable importance during solo performances. These distinctions give rise to different technical requirements, as the acoustic qualities of the two environments vary in terms of “spectral characteristics, sound levels, and phonation frequency” (Kirsh et al., 2013a, p.25). Solo singing necessitates qualities that foster individuality, while choral singing demands the opposite (Coleman Detwiler, 2008; Kirsh et al., 2013a).

Within Western classical vocal techniques, solo singers amplify distinct resonant vocal characteristics to project their voice over the environment (Smith and Sataloff, 2003; Kirsh et al., 2013a). Sataloff and Smith (2012, p. 317) define the singer's formant as the “vocal tract resonance,” establishing that “the formant frequencies are tuned by the vocal tract shape and determine much of the vocal quality.” The singer's *ring*, which helps a solo singer stand out over the sounds of choirs and orchestras, is due to this acoustical quality. When

absent, the sound may blend into the “surrounding envelope of sound” (Sataloff & Smith, 2012, p. 90). We must adjust this quality to prevent staring voices from standing out in the choral setting, even though it is essential for exciting solo singing.

According to Coleman Detwiler (2008, p. iii), empirical evidence suggests that in choral contexts, untrained or “underdeveloped upper partials” singers exhibit greater phonatory efficiency than their trained counterparts with “well-developed upper partials,” who are compelled to blend their efficiency to harmonize with the other vocal parts. Most undergraduate voice students will encounter both ends of this spectrum (Coleman Detwiler, 2008). According to McCoy (2011), adapting vocal technique to meet the challenges of singing in various genres is an activity that must be learned and needs the guidance of a “qualified mentor”. Consequently, choral conductors and voice instructors must work together to ensure that voice students receive efficient vocal instruction that meets their needs (Smith and Sataloff, 2003).

The choral and the solo sound

To achieve an optimal choral sound in a coordinated manner, singers must blend with the ensemble by aligning their volume, intonation, and vocal timbre, which refers to the distinct color of an individual’s tone (Kirsh et al., 2013a). While many solo singing skills can be useful in generating a choral sound, not all of them are applicable. Miller (1995, p. 34) states that solo and choral singers must learn to “track the vowel” by adjusting the configuration of their vocal tract to match the intended vowel sound. Moreover, “relaxation, posture, and breathing” are excellent practices for both vocal contexts (Sataloff & Smith, 2012, p. 7). Kirsh et al. (2013, p. 26) identified singing “too quietly” with a “straight tone,” singing excessively loud to sustain a section, and singing beyond one’s normal “pitch range” as inefficient singing practices that one should avoid when attempting to blend in a choir since they may result in muscular tension and ineffective “breath support,” all detrimental to vocal health. According to Miller (1995) and Brewer & Garnett (2012), the conductor is responsible for attending to and managing the needs of both individuals and the group. Joseph Lewis (1945) indicates that the only way to achieve “togetherness” is for everyone to be “subservient to the whole” (Brewer & Garnett 2012, p. 256), actively cooperating in the process of singing and listening, and being satisfied with playing a supporting role within the

bigger scope. American conductor Robert Shaw argued that it is just as “illogical” for an orchestra conductor to expect all instruments to have the same “timber” as it is for a choral conductor to demand the same quality from all choral parts (Miller, 1995a, p.32). Shaw recognized that balancing the voices is a more effective choral technique than striving for an “unrealizable” choral blend. The takeaway here is that effective “breath management, free laryngeal action, and flexible resonator track adjustment” should be the cornerstones of a well-rounded choral sound (Miller, 1995a, p.32). Furthermore, vocal health training has been acknowledged to enhance the general quality of the choral sound, much like how students must comprehend and adhere to suitable vocal hygiene practices during their developing stages (Webb, 2007; Reckers et al., 2020).

Vocal health for the duality

Healthy and optimally functioning laryngeal mechanisms are essential for singers to sustain their demanding singing schedule, guaranteeing success not only in their academic pursuits but also in their professional endeavors (Reckers et al., 2020). Nix and Roy (2018, p.134) establish that a “holistic approach” is necessary for optimal vocal results, requiring appropriate postural, respiratory, and mental functions to operate in concert instead of competing. Proficient singing in both solo and ensemble settings is considered a sign of technical and artistic vocal competence, which is commonly associated with optimal vocal health provided solo singers obtain adequate training in the adjustments needed by their voice teacher (Smith and Sataloff, 2003, p.238). Interestingly, Webb (2007) asserts that instrumentalists possess a greater understanding of instrument maintenance compared to singers regarding the “human vocal instrument” (Davis & La Tour, 2021, p. 257). Vocal health is often emphasized in individual lessons; however, it should also be a focus of choral rehearsals (Webb, 2007). According to Halstead (2019), young singers are currently undergoing intensive training to maintain their bodies as instruments, like athletes.

Research has shown that vocal training techniques, such as *warm-up* and *cool-down* strategies, improve muscular flexibility and efficiency, leading to better vocal health and quality (Reckers et al., 2020). Therefore, this next section will focus on the *warm-up* and *cooldown* with an emphasis on the *voice student-choral singer*.

Warm-up

Titze (2008, p.36) describes the vocal *warm-up* as a “dialogue with one's body” during which the performer evaluates the “freedom and flexibility” of their voice. As singing is a highly coordinated, multisystemic, complex motor skill (Simonyan, 2014; Helding, 2015; Gudmundsdottir, et al., 2020; Ragan, 2020), *warm-ups* are a crucial component in vocal function coordination, enhancement, and performance (Webb, 2007; Titze, 2008; Williams, 2017). Literature adheres to the principles of “muscle physiology” (Sataloff 2003, p. 243) and “exercise science” (Titze 2008, p. 35) by initiating the *warm-up* process with gentle body stretches and lighter vocal exercises, gradually progressing to heavier loads and a wider range of motions to prepare the voice for the singing task. *Warm-ups* facilitate the transition from “speaking to singing” (Smith & Sataloff, 2003, p. 234), promote continued vocal and musical development and provide “mental focus” and call for attention during the rehearsal (Vick, 2003; Kirsh et al., 2013a, p. 26).

Preparation is critical for choral singing because, throughout the *warm-up*, the individual singers and the ensemble acquire the ability to listen and adjust collectively to the conductor's intended sound and vowel quality (Vick, 2003; Smith & Sataloff, 2003). Before singing, connecting the respiratory system, understanding the body as a functioning mechanism, and its alignment enable singers to concentrate on vocal production without the additional challenges associated with ensemble singing and repertoire (Smith and Sataloff, 2003; Kirsh et al., 2013a). Webb (2007) says that *warm-ups* should not be performed hastily by conductors and singers, since the ultimate objective should be the development of a healthy singing practice. Furthermore, teachers should instruct their pupils to sing *warm-ups* that are consistent with how they intend to execute the music being rehearsed (Webb, 2007).

Warm-ups in the choral setting usually occur “platoon style” (Titze, 2008, p.35), when all the singers participate together as a group. Although the choir members assemble for a collective *warm-up*, evaluating the “individual nature of human psychology and physiology” during group vocalization is one of the biggest challenges of group singing (Titze, 2008, p.36). When considering the voice as a biopsychosocial construct shaped by the interplay of socio-environmental, psychological, and biological factors and then adapting to the group

context, it becomes clear that each individual singer has a unique and specific set of needs (e.g., history of illness or fatigue, daily voice use, sleep pattern, and different personalities) (Titze, 2008; Ragan, 2020; Hart & King, 2022). Consequently, how the voice is prepared for rehearsals to accommodate the specific requirements of each singer may vary considerably. Titze (2008) suggests that choral singers begin their *warm-up* by concentrating on their individuality before joining together for ensemble work. The researcher usually advises her voice students to take a similar approach: “Go in before going out,” as a way of encouraging them to connect with themselves first before trying to connect with the collective. This is comparable to how an athlete prepares before a team practice, or how an orchestra member *warms up* individually before starting rehearsals, performances, or when the conductor arrives, thereby facilitating the transition from solo to ensemble singing (Titze, 2008).

Gates et al. (2013) recommend commencing with routine and simple exercises that enhance flexibility and range of motion before undertaking vocalizations that demand agility. This approach helps prevent unwarranted muscle inflammation and potentially more serious vocal complications. Research suggests that traditional vocal *warm-ups* improve technical training skills, whereas phonation straw *warm-ups* specifically decrease the phonation threshold pressure, which is the pressure required to force air into the vocal folds for sound production (Titze, 2001; Reckers et al., 2020). Consequently, the *warm-up* becomes an essential step in preparing for and negotiating the potential vocal demands that the dual singer may face in a manner that prioritizes vocal health.

Cool-down

A *cool-down* restores the voice to a comfortable speaking state, comparable to how a *warm-up* facilitates the voice’s transition from speech to singing (Smith and Sataloff, 2003). Choirs customarily perform *warm-up* exercises before each rehearsal; however, it is equally advantageous to incorporate *cool-down* exercises into the rehearsal schedule. According to the principles of “exercise science” (Titze, 2008, p.35), it is advisable to incorporate a transition from increased to decreased vocal loads, or from singing to speaking voice, following extended periods of rehearsal or vocal activity. Stretching exercises recommended following weightlifting or running are physiologically comparable to *cool-*

down vocal exercises (Smith and Sataloff, 2003). After completing an intense, long race, most runners will walk for a while before proceeding to the massage tent to avoid stiffening their muscles. The same principle applies to exerting oneself through singing (Gates, et al., 2013). Vocal damage prevention is equally dependent on the transition from speaking to singing as it is from singing to speaking (Webb, 2007). Choral rehearsals typically span a duration of ninety minutes to three hours. According to Smith and Sataloff (2003), incorporating a *cool-down* period into the schedule aids the vocal mechanism in determining the speaking range of the voice, reinforcing suitable “muscle relaxation, tone, and flexibility” (p. 234). The significance of incorporating a *cool-down* phase following a singing period has only been recognized by voice instructors recently (Smith and Sataloff, 2003). While it is a customary practice for athletes, the *cool-down* is surprisingly disregarded by singers (Halstead, 2019).

According to Reckers et al., (2020), there are significant advantages to cooling down after singing within twelve to twenty-four hours, such as enhanced “accuracy of tone production” and significant reductions in major indicators of damage to tissues and inflammation. A *cool-down* also does the laryngeal musculature a great service by preventing post exertion tightening or cramping (Gates, et al., 2013). The voice is able to recover from prolonged engagement more effectively when a choral *cool-down* is performed at the conclusion of rehearsal (Webb, 2007). (see appendix II, p. 42).

Further recommendations to regain vocal strength are engaging in a “light and gentle” cool-down routine after a rigorous practice session, rehearsal, or performance and then allowing the voice to rest for thirty minutes afterward (Gates et al., 2013, p. 38). This phase enhances the muscles' ability to recover from singing and helps to prevent vocal fatigue. Although the *cool-down* period might be short, performing a simple *cool-down* will avoid the accumulation of blood in the vocal folds' blood vessels, which would result in the folds becoming heavy (Smith and Sataloff, 2003; Gates, et al., 2013). Additional *cool-down* exercises include “lip and tongue trills,” mid-range humming, sighing from the highest to the lowest ranges of the voice, gentle shoulder movements, or an easy on-the-breath recitation of poetry while organizing and preparing for subsequent activities (Smith and Sataloff, 2003, p. 234; Halstead, 2009, p. 331).

The role of the voice instructor is crucial for the benefit of the choral ensemble, not just the *voice student-choral singer*. Smith and Sataloff (2003) suggest that when *warm-ups* and *cool-downs* are not feasible, a voice teacher should instruct the singers in a brief exercise routine while subtly conveying this information to the conductor. Therefore, ensure the singers are sufficiently prepared for the arduous nature of choral singing (Smith and Sataloff, 2003). An integrated approach is necessary for vocal health, as optimal voice production is only possible when all systems function in tandem, avoiding conflicts between them (Nix & Roy, 2018; Ragan, 2020).

Hydration, rest, and sleep

Adequate hydration is critical to protecting vocal health (Webb, 2007). Water is consumed to soothe dehydrated airways, “promote thin mucus,” and prevent illness (Gates, et al., 2013, p. 34). As Gates et al., (2013) established, effective singing necessitates well-hydrated membranes, allowing the vocal folds to vibrate more efficiently and decreasing the subglottal pressure required to initiate motion; therefore, minimizing the effort required to produce one’s voice reduces the likelihood of developing most vocal disorders. Recent research indicates that systemic hydration is the most straightforward and affordable technique for enhancing the quality of the voice, supporting its incorporation as part of a vocal hygiene regimen (Alves et al., 2019). You can achieve surface hydration by inhaling humid air, nebulizing, and/or avoiding dry environments. According to Alves et al. (2019), the nebulization of isotonic solutions was the sole factor reducing the phonation threshold pressure and indicating the potential benefits of the nebulizing substances. Vocal function efficiency is impaired by dehydration, which modifies the viscosity of lubrication in the tissues of the vocal folds (Sataloff & Smith, 2012). An individual's optimal water intake will differ based on body weight, physical activity (including speaking and singing), and climatic conditions (Gates, et al., 2013).

Vocal rest is the “safest and most convenient therapeutic intervention” (Sataloff & Smith, 2012, p. 114). *Absolute voice rest*, as defined by Smith and Sataloff (2012, p.311) is “total silence of the phonatory system,” is exclusively necessary for severe vocal fold injuries. *Relative voice rest*, conversely, is defined as limited, conservative use of the voice (Sataloff & Smith, 2012). An extended period of complete voice rest exceeding two weeks may be

detrimental to the health of the voice (Sataloff & Smith, 2012). Prolonged periods of vocal rest are known to cause vocal membranes to become weakened (Gates, et al., 2013). Halstead (2019) asserts that sleeping is the simplest and most effective way to achieve vocal rest. Sleep is critical for preserving cognitive processes, recovering, and facilitating learning and performance (Helding, 2019; 2020). Maintaining consistent sleep patterns and refraining from engaging in strenuous voice use are highly recommended practices for exceptionally fatigued bodies, as the voice is inherently resilient but necessitates sufficient rest to recover (Halstead, 2019).

Concerning optimal hydration levels, Gates et al. (2013) establish that alcohol will draw water from the body within the first three hours of its consumption; therefore, the literature advises against consuming alcohol twenty-four hours before a performance. Furthermore, with respect to rest, they also establish that when vocal activity ceases and the voice is allowed to recover, strength, control, and endurance are enhanced; the muscles become more effective at rebounding during rest periods (Gates, et al., 2013). Therefore, to prevent fatigue and efficiently manage the demands of their singing, voice student-choral singers must prioritize rest, hydration, sleep, and engaging in efficient vocal practice (Halstead (2019).

Deliberate Practice

Practice is predominantly a solitary and personal undertaking that requires “cognitive acknowledgment” of areas necessitating improvement (Beynon, 2020, p. 179; Ragan, 2020). Ericsson et al. (1993, p. 363) define *deliberate practice (DP)* as “a regimen of effortful activities designed to optimize improvement,” whereas Rainero (2012, p. 203) defines it as “the application of intentional strategies during a practice session.” Additional terms, such as “structured” and “organized practice,” are synonymous in their ability to delineate the execution of these strategies and establish a correlation between implementing intentional practices and progress (Rainero, 2012, p. 203). By identifying and emphasizing strengths while “eliminating weaknesses” (Jørgensen, 2004, p. 85), this form of *practice* seeks to attain superior and expeditious outcomes, exercising prudence to prevent the use of “the dysfunctional filling time strategy,” as Jørgensen (2004, p. 91) states that effective practice places a higher value on quality than quantity. Therefore, *DP* enables

the *voice student-choral singer* to intentionally test out the recommended training tasks established by their conductor or voice instructor (Jørgensen, 2004; Benyon, 2020).

Vocal health as *deliberate practice*

Nix and Roy (2018) establish that although vocal hygiene education “makes intuitive sense” for singers and performers, controversy exists around it. Hackworth, (2007, p.20) identified that vocal hygiene instruction is not enough for reliable “vocal behavioral changes” because instruction in “behavior modification” is necessary for efficiency. Therefore, just as *DP* necessitates monitoring, personalized evaluation, and feedback, for vocal health to be a long-term behavioral change, one-on-one guidance and “periodic, careful monitoring” are required (Ericsson, Krampe, and Tesch-Römer, 1993; Williamon and Valentine, 2000; Ericsson, 2008; Nix & Roy, 2018, p. 118; Ericsson and Harwell, 2019). Moreover, for singers and professional voice users (Phyland and Miles, 2019), adopting a vocal hygiene protocol entails acquiring *declarative knowledge* about a new vocal behavior, followed by procedural application to establish and automate the change (Helding, 2020).

Subsequently, viewing vocal health as a theory to practice learning process ranging from a *cognitive stage* (learning about it) to an *associative stage* where the singer practices and improves the learned skill and consequently moves towards an *autonomous stage* where vocal health and care is ingrained consistently (Schmidt & Wrisberg, 2000; Williamon and Valentine, 2000; Searce, 2016). Moreover, *practice* serves as a system bridging the gap between “possessing the information” and “making it habitual” (Hackworth, 2007, p. 21), or as Sutton (2011, p. 92) expresses, “knowing and doing.”

Vocal practice strategies

According to Woody (2022, p. 45), incorporating “prep time,” during which the student commences their *SPS* with well-defined objectives and concentrates on identifying and rectifying errors, increases efficiency and cognitive concentration throughout the process. Thinking about the intention, “style, and nuance” of the music, “mentally singing each note,” being conscious of the larynx position, vocal tract shape, and breath support are all effective mental practice techniques that Halstead (2019) suggests when one is ill or resting the voice. “Bite-size” (Rainero, 2012, p. 204), “chunk” (Webb, 2007, p. 30), and “reductionist practice” (Moss Erickson, 2022, p. 92) indicate that singers can sustain focus, accelerate

the memorization and assimilation of text and interpretation, and sustain interest and concentration, all while avoiding vocal overexertion. Moss Erickson (2020) recommends that singers divide the material into manageable segments and independently practice the text, rhythm, vowels, and melody until each element becomes comfortable before merging them. This "reductionist" practice approach improves "imprinting" by repeating fewer components (Moss Erickson, 2022, p. 88). SPS encourages reflection in action, allowing the student to apply the vocal knowledge gained during choral rehearsal or voice lessons (Schön, 1983). Consequently, a comprehensive vocal health approach encompassing "proper practice habits, attention to vocal conservation, and health" supports our *voice student-choral singers* in preventing most vocal injuries and fatigue while also continuing their vocal development (Webb, 2007; Halstead, 2019, p. 267).

Vocal consistency recommendations

Miller (1996) defines *marking* as "a technique for sparing the voice during the rehearsal process." *Marking* prevents singers from using their "full voice," requiring a decrease in volume, an octave reduction in high pitches, and an octave elevation in low pitches while allowing singers to learn the notes and rhythms with minimal effort (Webb, 2007; Chapman & Morris, 2023, p. 569). To facilitate rehearsal, adequate emotional investment and textual clarity are necessary (Miller, 1996; Chapman & Morris, 2023). Before rehearsals, teachers and students should identify and evaluate specific phrases and pitches for *marking* (Miller, 1996). Chapman (2020, p. 339) cautions young singers to use "full support" to reduce the risk of voice fatigue caused by imprecise marking.

For singers who struggle with vocal resilience during rigorous choral rehearsals, "lip-syncing" serves as a brief vocal rest while maintaining cognitive interest and comprehending the complexities of the score (McCoy, 2011, p. 300). According to Kirsh et al. (2013), keeping open communication with the voice instructor and choral conductor is fundamental for duality singers' vocal health and consistency. Vocal health education is essential for improving pedagogical practices and the overall effectiveness of the phonatory and laryngeal systems (Reckers et al., 2020). McCoy (2011) and Smith and Sataloff (2003) emphasize the importance of voice teachers instructing their students how to sing in both contexts, assisting them in developing soloist skills while instructing them to flourish as

choristers. Failure to do so may not address all choral singing vocal challenges (McCoy, 2011).

Conclusion

Although this study focuses on the challenges duality singers face, the findings may impact the wider singing community, particularly in the areas of vocal health, vocal practice, and the transfer of vocal knowledge from solo to ensemble settings. According to Smith and Sataloff (2003) and McCoy (2011), training is essential for a successful transition between solo and choral singing contexts. To optimize voice students' vocal development and allow them to benefit from the music-making process of the choral experience, voice instructors should have technical vocal knowledge about the adjustments that singers should make to sing healthily while also advancing their musical and vocal abilities (Smith and Sataloff, 2003; McCoy, 2011). Prioritizing vocal health continuously enables singers to reach their full potential and deliver powerful performances (Nix & Roy, 2018).

While choral conductors and voice instructors can impart vocal health and efficient practice knowledge, especially to young singers with a demanding schedule, a willingness to take control of one's voice and a sense of bodily awareness are required, as the singer bears the ultimate responsibility for their vocal health (Gates et al., 2013). Future projects will include supervised SPS settings, where students can demonstrate their understanding and see how they apply theoretical knowledge in practice. Furthermore, investigate the relationship between the *voice student-choral singer* and their SPS and possibly consider whether the duality singer is experiencing a cognitive dissonance, that manifests in distinct singing styles (Smith and Sataloff, 2003; Hackworth, 2007; Baughman, 2017; Holding, 2020).

Finally, Howell (2023, p. 39) declares, "There is a robust and expanding field of study that addresses how to practice efficiently... your applied teacher will most likely not be aware of this research." Although this assertion probably shaped my musical upbringing, I strongly oppose such a situation for the students under my guidance. I work to gather the knowledge to create systems tailored to their needs, providing enhanced support while also remaining current in my ongoing professional development (Callaghan, 2014).

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Appendix 1

PARE/PASE Stop or Go, reflective practice framework (López-Hernández, 2023).

PARE/PASE (STOP/GO)

NAME: _____

DATE: _____ TIME: _____

PIANO ☐WATER ☐*Note: This acronym can be completed out of order.*

CONCEPTOS A TRABAJAR	PENSAMIENTO	ACCIÓN	SENSACIÓN/RESULTADO	EXPERIENCIA
Technical Work. Repertoire Work Goals or Objectives	Guide Questions: What did you think to accomplish that action? What happened before you sang?	Guide Question: What action did you execute? How did you do that?	Guide Question: What was the sensation? How or what was the result? What happened?	Description of my experience. How did that make me feel as a student/singer?
1)				
2)				
3)				
Stop Moment / Go Moment/Reflections: 				

(López-Hernández, 2023)

Appendix 2

Cooldown example (Webb, 2007, p.30).

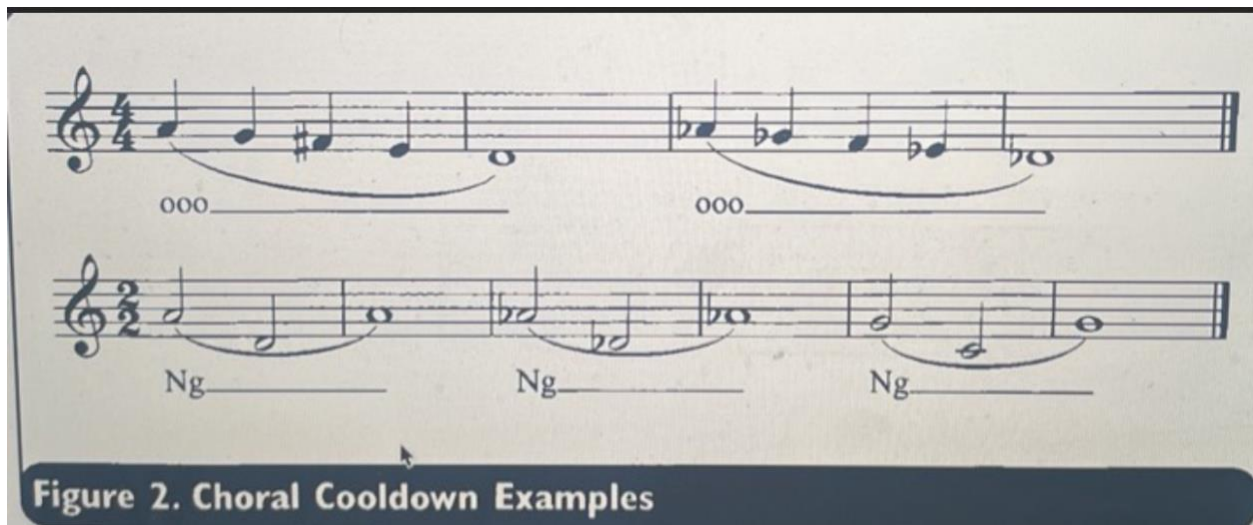


Figure 2. Choral Cooldown Examples