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A Holistic Approach for Neurodivergent Learners In the High School Choral Classroom

Peter Allen Haley

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A HOLISTIC APPROACH FOR NEURODIVERGENT LEARNERS
IN THE HIGH SCHOOL CHORAL CLASSROOM

by

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For the Degree of Doctor of Musical Arts in

Conducting

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DEDICATION

This document is dedicated to my students—past, present, and future.

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I am indebted to Kay Haley, Becky Bumgardner, and Mary McFarland for giving me my first introduction to choral music so many years ago. Trip McGill recruited me off the Ashbrook High School soccer bus in the Fall of 2002 and changed my life forever. Paul Sims has been a pastor, teacher, and friend. Kenney Potter showed me how to nurture music and how to nurture people through servant leadership. Paul Richardson sharpened my focus across all areas of my discipline. Jordan Johnson was (and remains) the best counselor, work wife, and friend I could have hoped for. My students at East Gaston High School gave me every chance to grow and learn along with them as we made music together, and I will always remember to sound the clarion call.

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ABSTRACT

There is a wealth of literature in the fields of music education, music therapy, and psychology regarding neurodivergent people, but next to no pedagogical material relating to large-group practices, particularly within the choral rehearsal. Many, if not most high school choir directors will encounter neurodivergent students in their programs at some point and will likely not know which strategies effectively include their neurodivergent learners in their classrooms. This paper includes a survey of existing research and literature related to music education (particularly secondary choral music education) and Universal Design for Learning, and offers rehearsal techniques, classroom management strategies, and repertoire recommendations for high school choir directors to feel prepared to give all students a holistic and equitable learning experience. Finally, it advocates for expansive ethnographic and quantitative studies of contemporary music educators and students to develop a more inclusive pedagogy.

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LIST OF ABBREVIATIONS

ADHD.....	Attention Deficit Hyperactivity Disorder
ASC	Autism Spectrum Condition
IEP.....	Individualized Education Plan
LEA.....	Local Education Agency
NT	Neurotypical
SATB	Soprano, Alto, Tenor, Bass (voicing in choral works)
UDL.....	Universal Design for Learning

CHAPTER 1

INTRODUCTION

This document examines current and historical practices in music education (particularly secondary choral music education) and Universal Design for Learning, and offers rehearsal techniques, classroom management strategies, and repertoire recommendations for high school choir directors to feel prepared to give all students a holistic and equitable learning experience. There is a wealth of literature in the field of music therapy regarding neurodivergent individuals, but next to no pedagogical material relating to large-group practices, particularly as they relate to the choral rehearsal. Many, if not most high school choir directors will encounter neurodivergent students in their programs at some point and will likely not know which strategies effectively include their neurodivergent learners in their classrooms.

Design and Organization

Chapter One introduces neurodivergence, gives an overview of disability pedagogy in American education and provides a review of related literature. Chapter Two surveys contemporary classroom settings and pedagogy through the lens of Universal Design for Learning to support neurodivergent learners. Chapter Three presents appropriate, representative repertoire for a high school mixed voice choir and examines pedagogical approaches that support or discourage neurodivergent students. Chapter Four lays out the path forward through continued research that includes both quantitative and ethnographic approaches.

Disability in Education

In the years following the passage of the Education for All Handicapped Children Act (now known as the Individuals with Disabilities Education Act of 2004, or IDEA) in 1975, the landscape of public-school education has moved toward a more equitable approach for students with disabilities.¹ IDEA has two major requirements for states and their respective local education agencies (LEAs): first, provide a free, appropriate public education (FAPE) to students with disabilities; second, offer this opportunity in the least restrictive environment (LRE) possible.² As of the 2020-21 school year, more than 7.2 million infants, toddlers, children, and adolescents with disabilities were provided support services through state and local channels.³

As a result of these strides toward a more equitable learning environment for all students, the Universal Design for Learning (UDL) was developed in the 1990s to provide a curricular framework for educators seeking to level the playing field for their students.⁴ This approach requires educators to reconsider their entire curriculum to provide for students with disabilities instead of simply modifying their existing plans,

¹ Mary Adamek and Alice-Ann Darrow, *Music in Special Education, Second Edition*, 2010. Adamek and Darrow point out that before the passage of this legislation, only one in five students with disabilities were educated in public schools. This ratio is confirmed by the US Census Bureau in 2010, identifying nearly 20 percent of non-institutionalized Americans as having some form of disability.

² Congress has passed other legislation regarding persons with disabilities: Section 504 of the Rehabilitation Act (1973), the Americans with Disabilities Act (1990), and the Americans with Disabilities Act Amendment Act of 2008 are three which continue to play a part in civil rights, educational, and social justice reform efforts.

³ National Center for Education Statistics, "Students With Disabilities," *Condition of Education*, U.S. Department of Education, Institute of Education Sciences, 2022: <https://nces.ed.gov/programs/coe/indicator/cgg>.

⁴ David H. Rose and Anne Meyer, *Teaching Every Student in the Digital Age: Universal Design for Learning*, Alexandria, VA: Association for Supervision and Curriculum Development, 2002.

with the intent of providing a better education for all.⁵ A more thorough examination of UDL and possibilities for its implementation in the secondary choral classroom can be found in Chapter Two.

The lens through which disability is viewed has changed with time as well. As the field of disability studies has grown, people have shifted from seeing disability as an aberration from what might be considered “normal.” Instead, they have focused on it as a form of human diversity and, more recently, as a marker of identity, similar to gender or skin color.⁶ The former approach, termed the “medical model,” often presents disabilities as problems to be solved, while the latter “social model” looks for societal barriers which prevent persons with disabilities to participate fully in life.⁷ The social model has been crafted and adopted by many disability rights and advocacy groups around the world due to its inherently inclusive design.

Music has long been considered a passive and dynamic means through which a person’s spirit and body can be assuaged. From the Psalms of the Hebrew Bible to the writings of Shakespeare to Jean-Marc-Gaspard Itard’s early approaches to music therapy, humanity has often found solace through musical expression.⁸ As the field of music therapy has grown, there has been a simultaneous shift toward the inclusion of persons with disabilities in the music education classroom. Unfortunately,

⁵ Alice-Ann Darrow, *The Oxford Handbook of Social Justice in Music Education*, Oxford, UK: Oxford University Press, 2015.

⁶ Rosalyn Benjamin Darling, *Disability and Identity: Negotiating Self in a Changing Society*, 2013.

⁷ Tom Shakespeare, “The Social Model of Disability” in *Disability Studies Reader*, New York: Routledge, 2013: 214-221.

⁸ Ralph Vaughan Williams famously set the text of Shakespeare’s *The Merchant of Venice*, Act V, Scene 1, in his *Serenade to Music*.

contemporary music education coursework rarely goes beyond a required general course related to teaching special learners, meaning that music teachers who graduated from an education program often have a limited pedagogical framework for students with disabilities in the music classroom.

Problem Statement

Alice-Ann Darrow writes, “Today’s teachers must educate students varying in culture, language, and religious beliefs, as well as many other characteristics.”⁹ As society continues to evolve and assign values to particular areas of education, it is vital that teachers are equipped to serve their students with diverse cognitive, emotional, and physical abilities.¹⁰ While music education programs continue to stress these factors (particularly in regard to repertoire) when preparing emerging teachers for the twenty-first century classroom, neurodivergent students may not receive adequate support and attention. Perhaps the largest group of people with neurodivergence are those diagnosed with Autism Spectrum Condition (ASC). While the severity of the condition and developmental delay differs from person to person, the number of people diagnosed with ASC continues to climb year after year.¹¹ However, most music educators will have only taken a cursory course on disabled students, leaving them unprepared to support their students fully and consistently. Instead, they are left with

⁹Alice-Ann Darrow, *The Oxford Handbook of Social Justice in Music Education*, United Kingdom: Oxford University Press, 2018.

¹⁰ Donna M. Gollnick and Philip C. Chinn, *Multicultural Education in a Pluralistic Society*, United Kingdom: Merrill, 2002.

¹¹ Autism Society of America, “The ADDM Network Details Autism Prevalence Rate Increases to 1 in 44.” Autism Society.org, 2021. Accessed April 25, 2022. <https://autismsociety.org/national-statement-autism-society-addresses-increased-autism-prevalence-rates-in-2021-cdc-report/>.

curricular approaches that do not provide an accessible and inclusive environment for neurodivergent students.

An Introduction to Neurodivergence

Judy Singer is credited with the invention of the term “neurodiversity” in her honors thesis at the University of Sydney. Neurodiversity can be seen as the rejection of a “normal” means of cognitive function and instead accepting that people process the world in a variety of ways.¹² A sociologist who has autism, Singer wrote her thesis on the emergence of a new “social movement based on neurological diversity.”¹³ She credits computers and the internet alongside the social-model disability movement in linking neurodivergent people:

Linked together by computers and the Internet, the prosthetic device that binds isolated, socially-unskilled autistics into a collective social organism capable of having a public “voice,” autistics have begun to elaborate a new kind of identity. They counterpose themselves against those they have dubbed “Neurotypical” or NT, a term they have coined to sideline the word “normal” with all its prescriptive connotations. Autistics are beginning to see themselves as a kind of neurological “Other” who have existed amongst and been oppressed by the dominant neurological type, the NT, whose hegemony has until now neither been noticed nor challenged.¹⁴

Though Singer originally coined the term referring specifically to autism, “neurodivergence” has now been applied to other neurological identities that diverge from neurotypicality. Three of the most recognized forms of neurodivergence are Autism Spectrum Condition (ASC), Attention Deficit Hyperactivity Disorder (ADHD), and

¹² This worldview is further supported by Howard Gardiner’s theory of multiple intelligences and discussed in the context of the choir in Sharon Paul’s *Art & Science in the Choral Rehearsal*.

¹³ Judy Singer. “Odd People In: The Birth of Community Amongst People on the ‘Autistic Spectrum.’” In *NeuroDiversity: The Birth of an Idea*, Sydney, Australia: Self-Published, 2017: 27-70.

¹⁴ Ibid.

dyslexia. Autism can present in various areas of function like social interaction, measured intelligence, and communication, and have a wide range of variability levels. ADHD can be divided into three types: inattentive (aspects include not paying attention to detail, losing objects necessary for task completion, and inability to follow or understand instructions), hyperactive-impulsive (talking too much, fidgeting/squirming/up all the time, interrupting others), and combined (elements of both inattentive and hyperactive-impulsive are present). Dyslexia is a learning disorder in which a person has difficulty recognizing language, particularly when written, and subsequently has trouble processing the information. This can lead to issues with spoken language as well.¹⁵

Intersectionality

Over the past three decades, intersectionality has gone from a niche legal term to a cultural buzzword of immense import for research, pedagogy, and identity. Coined in 1989 by the Black American civil rights lawyer Kimberlé Crenshaw to describe how individual characteristics “intersect” with one another and overlap to allow multiple points of entry for dialogue and understanding, the word is now ubiquitous across fields of study, from disability identity to college pedagogy. With roots in Black Feminist advocacy, intersectionality is an inherently revolutionary concept, requiring people to

¹⁵ International Dyslexia Association website, “Frequently Asked Questions,” <https://www.dyslexiaida.org/frequently-asked-questions-2/>.

constantly contextualize their states of being based on their multifaceted identities and those of others in their orbit.¹⁶

Applied to the field of disability studies, intersectionality has deep meaning for both researchers and advocates. When disability research is more inclusive of and engaged with its subjects, the application of intersectional theory allows for new perspectives, connections, and lines of questioning. It also further personalizes those for whom the researchers might wish to advocate. As a means of engagement, intersectionality also has value to provide disabled persons opportunities to be seen as complex humans, going far beyond simplistic observations of a wheelchair, guide dog, or facial characteristics that might indicate a disability.

There is tremendous value in taking account of one's own intersectionality so that one may understand how they connect with others. People can also discover facets which may be advantageous in a certain situation but adverse in another context. Perhaps most importantly, it gives people with cultural privileges the opportunity to reflect on what gives them power in certain circumstances, and then find ways to elevate others whose station in life has equal worth. When these intersectionalities are observed, the prospect for a more equal balance in representation and opportunity can occur. Within the secondary choral classroom, teachers who are aware of their own intersectionalities can in turn recognize the diverse means of engagement with their students and better serve them.

¹⁶ Kimberlé Crenshaw, "Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics," *University of Chicago Legal Forum*: Vol. 1989, Article 8.

Review of Selected Literature

As previously stated, there is a wide range of literature from the intersecting fields of music education, music therapy, and general pedagogy (centered around UDL) that offers a wealth of insights regarding neurodivergent learners. This review includes accounts from case studies, peer-reviewed journals, professional publications, and other sources. It provides an account of music education pedagogy as it relates to special learners, as well as contemporary approaches to the inclusion of special learners in the music classroom.

Mary Adamek and Alice-Ann Darrow's *Music in Special Education* is a helpful resource that gives the reader a thorough inventory of historical and current issues related to music in special education (Part I) as well as approaches and analyses regarding students with disabilities in the music classroom (Parts II and III). Part I also includes teaching strategies and management techniques for music educators, making the text a particularly valuable means for evaluating one's own teaching practices.

The Dyslexia Empowerment Plan by Ben Foss provides parents and caregivers a framework for supporting children who have been diagnosed with dyslexia. Foss models his text much in the same way that Adamek and Darrow do, dividing the book into three large parts: "Know the Facts," "Empowering Your Child," and "Changing the World."¹⁷

Helen Farrell of Melbourne, Australia's Department of Education offers an integrative approach to curriculum in her work published in the University of Florida's *Assessment in Music Education: Integrating Curriculum, Theory, and Practice*. Farrell

¹⁷ Ben Foss, *The Dyslexia Empowerment Plan*, New York: Ballantine Books, 2013.

writes that “*The Arts* (italics by author) are important for *all* students, including those with disabilities and impairments...The focus of this paper is to develop an understanding of the extraordinary complexities that encompass assessment and reporting about musical thinking in students with disabilities and impairments.”¹⁸ Farrell rightly posits that educators should find curricular means through which all students can be celebrated and empowered, regardless of their cognitive or physical differences. Furthermore, she argues that this is a continual and contextualized process, as educators, researchers, and scientists are persistently faced with new environments and variables that present unique challenges with each passing year.

Alice Hammel’s *Teaching Music to Students with Special Needs: A Practical Resource* is the partner to Hammel’s second edition of *Teaching Music to Students with Special Needs: A Label-Free Approach*. In *A Practical Resource*, Hammel divides areas of concern into six intersecting domains: communication, cognitive, behavioral, emotional, sensory, and physical. Considering the overwhelming amount of information that educators are responsible for knowing, the partition of these domains is an excellent means for assisting classroom teachers in identifying specific realms where students may need support. This comprehensive volume provides educators with curricular modifications, suggestions for utilization of the resource, and fleshed out unit plans that apply Hammel’s abiding principles. Given its recent publication, Hammel’s text is the

¹⁸ Helen Farrell, “Integrating Curriculum, Theory, and Practice: Assessment in Music Education for Students with Disabilities and Impairments.” in *Assessment in Music Education: Integrating Curriculum, Theory, and Practice*. Chicago: GIA, 2007.

embodiment of contemporary music pedagogy and research on disabled students and is a worthwhile investment for any K-12 music educator.

The Oxford Handbook of Social Justice in Music Education is another recent text that proposes several considerations for music educators at all levels. Alice-Ann Darrow's chapter "Ableism and Social Justice: Rethinking Disability in Music Education" provides an historical review of disability history and educational reform, music education's association among students with disabilities, and ultimately advocates for the implementation of UDL in creating music education curricula. While this may seem a daunting task, the historical and social contexts Darrow provides make a strong argument for the necessity of tearing down existing plans in favor of "inclusive attributes that accommodate students with the widest range of learner characteristics."¹⁹

Stephen Sieck's *Teaching With Respect: Inclusive Pedagogy for Choral Directors* is among the most forward-looking choral pedagogy texts. Having taught secondary and post-secondary students, Sieck approaches the practice of inclusivity by drawing on his own personal experiences and linking them to relevant research. The book is divided into two major portions: "Creating an Inclusive Choir," and "Choir, Identity, and Marginalization." Within the first section, Sieck devotes a chapter to "Teaching Singers with Diverse Abilities" by addressing topics like ableism, the terms used in rehearsal,

¹⁹ Darrow, *Oxford Handbook of Social Justice in Music Education*, 2015.

legal requirements, and implementing plans to fulfill an inclusive vision before closing with a discussion of UDL in the choral classroom.²⁰

Assistive Technology

The inclusion of technology in the contemporary choral classroom is a common occurrence, given the proliferation of devices acquired and distributed by LEAs to their corresponding schools. As Paul Louth points out in his chapter in *The Oxford Handbook of Social Justice in Music Education*, there are innumerable opportunities to implement and supplement music learning through technology, but educators must discern best practices for the inclusion of such resources. Louth writes, “music educators have an ethical responsibility to consider new technologies as media that potentially shift learning toward emancipatory or ideological ends.”²¹ There are several established technologies to support students’ learning goals:

- **RF Systems:** Radio frequency (RF) systems allow hard of hearing students to better understand their instructor through a paired microphone which can be worn around a teacher’s neck or attached to their shirt or jacket. The microphone broadcasts directly to the student’s hearing aid or cochlear implant.
- **Portable Voice Amplifiers:** Teachers can wear a headset or lavalier microphone that broadcasts to a small speaker and amplifies their speaking voice so that their risk of vocal fatigue is reduced. The speaker can often be attached via a belt or the waistline of the teacher’s clothing, allowing for immediate portability. This

²⁰ Stephen Sieck, *Teaching with Respect: Inclusive Pedagogy for Choral Directors*, Milwaukee, WI: Hal Leonard, 2017.

²¹ Paul Louth, *The Oxford Handbook of Social Justice in Music Education*, 2015.

- can be particularly effective when working with a larger ensemble or when students are spread out across a room.
- PlayScore 2: A phone/tablet application capable of scanning sheet music and reproducing the notation as audible music. Individual lines of music can be amplified or muted, allowing students to rehearse solo material with accompaniment, or a chorister to practice their part without hearing the full harmonic context. For students with dyslexia, the option to isolate a particular line while also hearing and seeing it played at a slower tempo can assist in their learning process.
 - ForScore: A music reading and notation application available on Apple products like Macs, iPads, and iPhones. Hard copies of works can be digitally converted into PDF files, then opened in the application. ForScore automatically organizes the files using filters like composer, instrument, and key, and users can create sets based on the repertoire they choose to prepare and perform. The use of ForScore or similar applications allows musicians to make their own notes in the digital score using a variety of colors and textures, which can be particularly helpful for visual learners who may need additional stimuli, such as highlighting their part throughout a work.²² In a society that continues to emphasize eye-catching graphics for users of phones and tablets (and even more so for

²² Temple Grandin, "How does visual thinking work in the mind of a person with autism? A personal account." *Philosophical Transactions of the Royal Society B*. 364:1437–1442, 2009.

adolescents who have never known a world without such devices), applications like ForScore hold an ever-growing importance.²³

Working Memory and Cognitive Load

Many if not most people can offer a working definition of the difference between a person's short-term and long-term memory. However, not everyone may be aware that there is a sort of in-between stage, defined as "working" memory. Our working memory is like short-term in that it can hold small bits or chunks of information for a limited period. It distinguishes itself by allowing a person to hold those bits and consequently manipulate or act upon them. For instance, a teacher could ask a choir to sing an ascending/descending major scale on solfège syllables, then ask them to sing it again while leaving out the third and sixth scale degrees. This requires the students to not only retain the instructions regarding singing the scale, but also the specific syllables to audiate instead of phonate.²⁴

Students with ADHD may experience working memory deficits, but those deficits can vary:

Students with low working memory often perform well on the first few steps of a complex task, but then lose focus and begin making mistakes or forgetting important information; with ADHD, performance is much more variable. Students with low working memory typically exhibit reasonable social adjustment, whereas problems with social integration, hyperactivity, or impulsive behavior are often characteristic of ADHD. ADHD students may also change behavior based on medication level, time, amount of sleep, or mood,

²³ Cal Newport has also rightfully raised a word of caution regarding the proliferation of technology throughout our entire lives in his books *Deep Work*, *A World Without Email*, and *Digital Minimalism*, and in interviews with the *New York Times*.

²⁴ Leigh VanHandel. "Music Theory and Working Memory," In *The Routledge Companion to Music Theory Pedagogy*, New York: Routledge, 2020.

whereas working memory levels are more stable, so student behavior is more consistent over time.²⁵

When a person is overwhelmed by the influx of information or unique stimuli and has difficulty processing what they are experiencing, their cognitive load is becoming a burden for their brain. Much like an internet router overtaxed by too many bandwidth requests at once making every user's connection slower, the brain's working memory can become overloaded by processing requests. Cognitive load is divided into *intrinsic* and *extraneous* loads, respectively handling the inherent difficulty of a task as well as immaterial components that still require the working memory stores.²⁶

Overall, there are several published resources relating to inclusive approaches for students with disabilities, but few provide practical application strategies for the twenty-first-century student. These students are children of the digital age, with their studies, grades, and teachers available with a tap of a computer or a swipe of a phone. The proliferation of technology has had a profound impact on music education as well, with recordings, rehearsal tracks, and sight-reading materials distributed via PDFs, emails, and classroom websites instead of cassette tapes, burned CDs, and paper copies. Moreover, there is a significant lack of writing and data which come from neurodivergent teachers. Chapters Two and Four address these gaps in more detail.

²⁵ Ibid.

²⁶ Ibid.

Methodology and Positionality

This document includes a survey of existing research and literature related to music education pedagogy, music therapy, Universal Design for Learning, and neurodivergent learners to create a cohesive argument for developing inclusive curriculum resources for twenty-first-century choral music educators that can be incorporated into existing classroom and rehearsal practices. These recommendations are further supported through autoethnography as I recall my personal observations and experiences from seven years as a high school choir director in North Carolina. Heewon Chang writes that “Autoethnography is not about focusing on the self alone, but about searching for understanding of others (culture/society) through self. Thus, self is a subject to look into and a lens through which to gain an understanding of a societal culture.”²⁷

Closely connected to methodology is an acknowledgement of my own positionality within this research. I was diagnosed with a combined form of ADHD in high school and subsequently began taking medication for it until beginning the second year of my master’s degree. As I have learned more about ADHD and its various forms, I’ve come to recognize the areas of my own academic experience where I lacked appropriate support. When I began my first full-time job in church music, it was difficult for me to organize my days outside of the regularly occurring meetings, rehearsals, and services each week. As I moved into a full-time teaching position two years later, I quickly found that the regimented, 90-minute block schedule did wonders for my sense

²⁷ Heewon Chang, *Autoethnography As Method*, Walnut Creek, California: Left Coast Press, 2008: 48-49.

of organization, and I could much more easily compartmentalize tasks into my planning period.

I also found that I could relate to other students I knew to be ADHD and recognize when they were having issues focusing and remaining on task. In doing so, I came to the realization that my own pedagogical training had left a void specifically relating to neurodivergent students, and I began to assess my own techniques to try and meet the needs of my students. While my positionality as a current educator and former student with ADHD has provided me with personal insight into the topic explored in this document, I also acknowledge that my experience is not representative of all people with ADHD or all neurodivergent learners. Thus, while this study is informed by my own experiences as a neurodivergent individual, it also reveals the need for greater research conducted by and with neurodivergent students and teachers.

CHAPTER 2

APPLYING UNIVERSAL DESIGN FOR LEARNING TO EXISTING FRAMEWORKS

Even with strides made in the past two decades, music educators continue to report feeling a lack of preparedness and support to provide inclusive opportunities for their students with disabilities.²⁸ In the secondary choral classroom, neurodivergent learners may find multiple obstacles before a rehearsal ever begins, meaning that teachers must prepare their whole class—not just the people, but the space and materials as well—to support inclusive efforts from the time students enter until the moment they leave. This intentional effort to create a classroom space and curriculum with the needs of disabled students in mind aligns with both the tenets of disability pedagogy and Universal Design for Learning. As bell hooks has written, “Disability pedagogy is against all forms of oppression, domination, and repression and is for the development of educational spaces that are safe, inclusive, and liberatory.”²⁹ Educators who adopt the tenets of Universal Design for Learning will give themselves and their students far greater chances for success than those who simply abide by the policies laid out by their LEA.³⁰

²⁸ VanWeelden, Kimberly, and Jennifer Whipple, “Music Educators’ Perceptions of Preparation and Supports Available for Inclusion,” *Journal of Music Teacher Education*, 23(2), 2014: 33-51

²⁹ bell hooks, *Teaching to Transgress: Education as the Practice of Freedom*, Oxfordshire, England: Routledge, 1994.

³⁰ This is not to say that Local Education Agencies do not seek to support students of all levels of cognitive and physical ability. Rather, the author believes that not enough is being done to close the opportunity gap between students with disabilities (not just those with neurodivergence) and those without.

Universal Design for Learning

More than two decades of work and research had been completed by the time the Center for Applied Special Technology (now known as CAST) developed and published its UDL Guidelines in 2008.³¹ UDL has three central and distinct tenets to guide its implementation through multiple means of learning: Engagement (The “Why” of Learning, or motivation to rehearse and perform), Representation (The “What” of Learning, or musical content), and Action and Expression (The “How” of Learning, or rehearsal techniques). Each tenet has sub-categories that provide greater focus and direction for educators as they build out inclusive approaches through accessibility, building, and internalization.³² While existing curricula can be helpful for teachers seeking to implement UDL in their classrooms, their overall design should first and foremost seek to invite students with varying skills and abilities to be engaged throughout the learning process.³³ The American Institutes for Research says this about the “UDL Umbrella:”

The good news is that UDL is not in conflict with other methods and practices. It actually incorporates and supports many current research-based approaches to teaching and learning, such as the following:

- Cooperative learning
- Differentiated instruction
- Performance-based assessment

³¹ CAST.org, “Timeline of Innovation,” <https://www.cast.org/impact/timeline-innovation>.

³² CAST.org, “The UDL Guidelines,” <http://www.udlguidelines.cast.org>.

³³ Stephen Sieck’s *Teaching with Respect* includes an excellent section on translating UDL guidelines to the choral rehearsal.

- Project-based learning
- Theory of multiple intelligences
- Principles of student-centered learning³⁴

With these inclusive approaches in mind, high school choir directors can take an active role in making their classrooms more accessible for all learners while also ensuring that their rehearsal processes are more efficient and inclusive for students with varying levels of cognitive and physical ability.

It is also important to note that many disability and special education advocates are skeptical of UDL's approach to inclusion.³⁵ Critics have objected to the application of UDL within existing educational paradigms, allowing a curricular overhaul only when it is seen as a benefit for all students, or convenient for educators, administrators, and school boards to do so. This aligns with the tenets of convergence theory, which was first introduced by the Black American civil rights lawyer Derrick Bell in the *Harvard Law Review*. Bell suggested that there was a convergence of interests which led to the *Brown v. Board of Education* ruling, rather than a shift in morality within the American education and justice systems.³⁶ While Bell's theory was focused on the racial injustices brought to light during the era of desegregation, disability advocates have since applied convergence theory to social and public concerns such as inclusive pedagogy. Michael

³⁴ American Institutes for Research, "TEAL Center Fact Sheet No. 2: Universal Design for Learning," http://www.lincs.ed.gov/sites/default/files/2_TEAL_UDL.pdf.

³⁵ Susan Baglieri, "Toward Inclusive Education? Focusing a Critical Lens of Universal Design for Learning." *Canadian Journal of Disability Studies*, 9(5), 2020: 42-74.

³⁶ Derrick A. Bell, Jr., "Brown v. Board of Education and the Interest-Convergence Dilemma," *Harvard Law Review*, Vol. 93, No. 3 (Jan., 1980): 518-533. <https://doi.org/10.2307/1340546>.

Murphy also raises the point that UDL's relatively recent introduction into pedagogical thought has led to enthusiasm around the adoption of the approach while also lacking a wide range of research to support it.³⁷ Despite these valid critiques, UDL is still an important tool creating more accessible and inclusive environments for a variety of learners. To this end, this document reinforces the importance of UDL as a framework that benefits all students while centering the needs of neurodivergent learners.

Classroom Layout and Physical Space

One can walk into a dozen different high school choir rooms across the country and find a variety of designs intended for student use. It is imperative for teachers to ensure that their students enter a welcoming space that embraces and supports their abilities.³⁸ With the proliferation of technology in classrooms over the past three decades, many classrooms now have a dedicated projection screen, TV monitor, or interactive Smart Board connected to a desktop computer. Whatever the "display" might be, each day's agenda should be made available for students, so they are aware of the period's progression: warm-ups, specific pieces in rehearsal, announcements, and so on. Neurodivergent singers may find this particularly helpful, as the development of a daily schema can help them anticipate transitional moments and better prepare for what action they may need to take next.

³⁷ Michael Murphy, "Belief Without Evidence? A Policy Research Note on Universal Design for Learning." *Policy Futures in Education*, 19(1), 2021: 7-12. <https://doi.org/10.1177/1478210320940206>.

³⁸ To this end, Alexandria Carrico and Katherine Grennell provide an exhaustive list of considerations in the second chapter of their book *Disability and Accessibility in the Music Classroom*.

The physical space students inhabit in the classroom can also be manipulated. Directors may opt to have singers stand for longer periods of time to support healthy singing habits. Additionally, having movable chairs allows for greater flexibility in seating arrangements.³⁹ One hurdle that many teachers will have to overcome is a room designed and built before the Americans With Disabilities Act of 1990 that does not include reasonable accommodations for people with mobility issues. I experienced this issue while teaching in a school where construction was completed in 1972. My classroom was equipped with double doors to accommodate anyone using crutches or a wheelchair, but there were two steps leading down into the area designed for students to sit. Thus, students with mobility issues were forced to exit the school building entirely, walk down a sidewalk along the school's front drive, and be let in through an external door that led to the band and choir storage space. This was terribly inconvenient for all parties involved, to say nothing of a major safety concern.

As teachers go about arranging their ensembles to sit in specific places, they should be cognizant of students who may have trouble processing visual stimuli, whether displayed on a screen via static text, or dynamic imagery like a YouTube video or concert recording. While a 504 or IEP may dictate the necessity of a student's seating at the front of class, all students should be provided with clear sight lines for the director as any screens or whiteboards. Moreover, regardless of voicing, it is worthwhile

³⁹ Some secondary choral teachers have begun including large exercise balls as alternatives to rigid chairs to encourage development of students' core muscles. Others will offer each student a music stand to keep their arms and hands free as they should be during performances and encourage greater sight lines with the director.

for students to change seats occasionally so that they have varying levels of proximity to the front of the room and can experience different acoustical environments.

Rehearsal Structure

It is imperative that teachers have a predetermined plan for each rehearsal so that pieces can be approached with specific focuses for effective retention. More than a century's worth of research has shown that the first and last things encountered during any period of learning are best retained, with everything between those bookends relegated to a lower level of preservation.⁴⁰ With this in mind, teachers should consider holding off on completing administrative tasks like announcements or paperwork until later in the rehearsal period to give students a sort of "brain break" before the final approach to repertoire is made.⁴¹

Furthermore, established, consistent routines and procedures provide a classroom management framework that can prevent wasted moments in rehearsal. For instance, I had an autistic student who wanted to go to the bathroom at the same time every day as part of their personal routine. As a form of accommodation, the student, teaching assistant, and I established an understanding that whenever the student was ready, they would signal, be given a head nod or verbal confirmation in response and depart for the bathroom.

⁴⁰ Sharon Paul, *Art & Science in the Choral Rehearsal*, 2020.

⁴¹ As with any other educational setting, there are always exceptions to the rule- a planned fire drill, assembly, or early dismissal for athletic travel can necessitate alterations to such plans.

Feedback

When rehearsal begins, directors must hold multiple chunks of information in their minds simultaneously so that they are prepared to give appropriate, helpful feedback:

- Their aural image of the piece including all technical and expressive aspects, based on their historical knowledge and score study
- Their expectations of the ensemble they are conducting, influenced by previous experiences with those singers as well as others of similar ages and capabilities
- The specific goals they wish to accomplish in each rehearsal, determined by time allotted and the singers' preparation to that point

The process for delivering this feedback should be systematic, with clear points for the students to expect, process, and synthesize. In her book *Art & Science in the Choral Rehearsal*, Dr. Sharon Paul writes that "As often as possible, we should frame our critiques with positive language of collaboration rather than dominance, and encouragement and warmth rather than negativity."⁴² This form of positive communication aimed at creating collaborative dialogue has become part of best practice for choral educators and directors have developed systems that model these values. For instance, Dr. Paul A. Richardson, Professor emeritus of Music at Samford University, has created a three-point process of analysis can be conveyed in this way:

⁴² Sharon Paul, *Art and Science in the Choral Rehearsal*, 37-38.

- Here's what we're doing well (positive language of collaboration)
- Here's what we can improve on (actionable items that are familiar to students)
- Here's how we can improve it (concrete techniques that can be executed in that moment)

Collaboration in Rehearsal

Students and teachers alike can be served by a collaborative approach in the rehearsal, giving students a sense of ownership and intrinsic value as they work to perfect their craft. Using the language of the collective— “What do we think about the dynamics we just sang?” as opposed to “I’m not sure I liked the dynamics you just used” moves the responsibility of music making from an all-powerful director to a more balanced division of labor between director and singers. This method of direct instruction, aligned with proper sequencing of concepts, makes for an efficient approach in rehearsal where both singing and constructive dialogue take place in lieu of a constant stream of negative feedback from the instructor.⁴³

Moreover, neurodivergent students (particularly those with autism) may find that the act of problem solving within a rehearsal is an attractive one that they can execute alongside their neurotypical peers.⁴⁴ This can be seen as a means of self-esteem and self-advocacy for neurodivergent learners who may navigate both the academic, artistic, and social constructs of a rehearsal differently than neurotypical students.

⁴³ Sharon Paul, *Art & Science in the Choral Rehearsal*, 2020.

⁴⁴ Isabelle Soulières, Michelle Dawson, et. al, “Enhanced visual processing contributes to matrix reasoning in autism,” *Human Brain Mapping*, Vol. 30, Issue 12, 2009: 3837-4214.

Rather than guiding neurodivergent students through a process designed or intended for their neurotypical peers, they can be encouraged to grow in self-awareness to recognize their own personal strengths and difficulties.⁴⁵

As the ensemble moves toward its music-making goals for a set of repertoire, it can also be helpful to collectively determine approaches to the repertoire that serve as reminders for specific concepts. Constantly reminding students of performance objectives before they sing a passage in rehearsal may have a long-lasting effect but given the fact that directors generally don't speak instructions to their singers during performances, this may not be an effective approach to improvement, much less memorization. Instead, directors can collaborate with their singers to create a gesture to use in rehearsal and performance that gives a visual cue at the exact moment the singers need to be reminded.⁴⁶ For example, my advanced high school choir was having difficulty remembering to use strong, clear diction in a work, so the students were given an assignment to come up with their own gesture that would remind everyone what needed to be accomplished. Students gave a thirty-second elevator pitch on the rationale of the gesture, then the ensemble came to a consensus on a gesture that a student described as "crisp."

⁴⁵ Yasmine White and Sonia Belasco, *Autism and the Power of Music*, USA: Future Horizons, 2021: 178-181.

⁴⁶ Directors may also attempt to embody the score within their gesture, providing a nonverbal means of communication easily understood by the singers.

Decoding Symbols

The musical world is replete with symbols not found elsewhere in everyday life, notated on pages of music and in the gestures of conductors. Decodifying this language is a necessary step towards students becoming fluent in musical language and symbology, leading them towards a deeper investment in their practice through self-direction and collaboration. There is a tremendous amount of information that regularly appears on each page of the average choral work: clefs, key signatures, staves, bar lines, note heads and beams, ties and slurs, phrase markings, letters and symbols for dynamic expression and intensity, articulation, measure numbers, and text. In these instances, it can be easy for teachers to fall victim to the “curse of expertise,” where trained musicians with well-developed schema become frustrated at their students’ difficulty mastering various elements of music. A sequenced approach to music literacy can accomplish the goal of deciphering these symbols and establishing a schema from which singers can operate.

As students develop their schemas for these musical aspects, they can more efficiently and effectively apply their natural musical skills to a variety of works in rehearsal. Moreover, the fonts chosen for display and printing by teachers can have a bearing on their readability for students with visual processing issues. Sans serif fonts (such as Calibri, the font used for this document) have been shown to help people with dyslexia process texts at a higher rate than those with serifs (such as Times New Roman), although more research is required to determine the consistency of this

typographical approach.⁴⁷ A holistic methodology grounded in Universal Design for Education will provide neurodivergent learners with the opportunity to expand their artistry through intentional approaches, such as those mentioned above. It is incumbent upon directors to implement these tactics in rehearsals of appropriate repertoire for their ensembles.

⁴⁷ Elizabeth Russell-Minda, et. al. 2007, "The Legibility of Typefaces for Readers with Low Vision: A Research Review," *Journal of Visual Impairment & Blindness*, 101 (7), 2007: 402-415.

CHAPTER 3

REHEARSAL STRATEGIES TO SUPPORT NEURODIVERGENT SINGERS

It is important to not only frame UDL approaches within the classroom setting, but the rehearsal as well. Neurodivergent singers deserve the opportunity to be fully immersed in a high school choral program with pedagogy that addresses their specific needs. In the following chapter, techniques related to warm-ups and rehearsals will be presented through the lens of inclusivity to demonstrate how contemporary choral educators can better serve their neurodivergent students. As stated previously, many educators may find the ensuing material to resemble best practices for choir directors. Further research is required to determine the most effective means for educating neurodivergent singers and implement them in contemporary pedagogy.

Repertoire selection may be the single-most influential decision that conductors make toward the success of their ensembles. For decades, texts used in choral methods courses have stressed the necessity of choosing pieces from a variety of periods, styles, and genres that provide students with a breadth of the choral repertory.⁴⁸ However, if effective pedagogy is not employed to support every singer in the ensemble, then directors may find that some singers are falling behind or becoming disinterested in the rehearsal. In selecting works to fit an ensemble's skill level, a programmatic theme, or specific event or season of the year, directors must be cognizant of the inherent

⁴⁸ The author chooses not to employ the term "choral canon," as it has become a sort of code word for "Western art music written between 1400-present day."

challenges for every one of their singers and prepare to instruct them in effective, efficient, and inclusive ways. Rhonda Fuelberth and Christy Todd recommend the following considerations when choosing repertoire to promote inclusivity in the choral rehearsal and ensemble:

- Pieces with limited layers of complexity so that each selection builds on previous knowledge and contains only one new challenging component (e.g., rhythmic complexity, divisi, key changes);
- Pieces that include repetition (e.g., a returning theme or anchor section);
- Selections where call-and-response or imitation is used;
- Music that offers variable levels of challenge (e.g., Kurt Runestad’s Soweto Gospel Choir transcription of “Khyumbaya,” which incorporates elements of call-and response as well as challenging divisi);
- Literature that offers opportunities for rote teaching or supported note-reading;
- Resources beyond the choral octavo (e.g., folk songs, rounds and canons, popular music).⁴⁹

As these works were selected, attention was given to crafting a narrative reflecting the life cycle: birth, childhood, adolescence, growth, love, aging, and death. Programming a concert around a particular theme can give a sense of clarity and consistency to students throughout the rehearsal process as the various works

⁴⁹ Rhonda J. Vieth Fuelbirth and Christy Todd, “‘I Dream a World’: Inclusivity in Choral Music Education,” Edited by Alice M. Hammel and Alice-Ann Darrow. *Music Educators Journal* 104 (2): 38–44.

simultaneously speak to the common thread. For neurodivergent learners, this stable idea provides an extra waypoint to orient and focus their efforts. Given the realities of many public-school contexts regarding religious content, the author was sensitive to selecting pieces expressing a particular faith tradition, and works were chosen first based on narrative quality within the scope of a programmatic theme.

Moreover, these works are presented as appropriate and representative repertoire selections for a standard high school-aged mixed chorus and offer directors a diverse set of genres and styles that includes both well-known pieces and composers (“Dirait-on” and “Hark, I Hear the Harps Eternal”) and selections that may be less familiar (“KidSong,” and “Come, fra verd’erbette”).⁵⁰ Beyond the challenges inherent in the music, there are aspects of rehearsing and performing that require extra attention for neurodivergent learners. Teachers aware of their neurodivergent students’ intersectionalities can make further inroads with their singers by amending or modifying their pedagogy and strengthening classroom rapport.

The repertoire discussed in this chapter is suitable and typical for high school mixed ensembles and offers a diverse set of teaching points including language, rhythm, and expression. While these techniques are offered in relation to specific choral works,

⁵⁰ Many state choral/vocal associations publish repertoire lists in a variety of voicings as a courtesy for their membership as directors select works to perform at annual performance adjudication events. The author encourages directors looking to expand their repertoire lists to visit the Institute for Composer Diversity’s Choral Works Database: <https://www.composerdiversity.com/choral-diversity-database>.

they can be applied across the breadth of the literature and reflect a holistic approach for neurodivergent singers.⁵¹

Warm-up Techniques

An essential part of every rehearsal is the diligent preparation of the instrument through warm-up. Conductors should strive to activate the body, mind, breath, and voice in exercises that prepare singers for the technical and expressive aspects of the repertoire they are about to rehearse. These approaches will vary based on the amount of time allotted for each rehearsal, so a 45-minute slot will obviously have to limit activities more than a 90-minute block.⁵² Teachers should have an established warm-up routine to breed familiarity for all students, while at the same being cautious to not use the same exercises in the same order day after day so as to avoid a sense of “going through the motions” instead of intentional focus. The following exercises are presented as effective approaches to voice building for neurodivergent students with varying levels of difficulty in terms of technique and cognitive load.

- Intentional motions/stretching: a major aspect of rehearsal and performance for singers is the use of the whole body; outside of a PE class, students may find the only time they’re on their feet for sustained periods of class time is in the choir room. Therefore, activating the body through intentional movements to focus

⁵¹ Many of the strategies presented were implemented in the rehearsal process for the author’s lecture-recital.

⁵² Eric Wilkinson and Scott Rush provide rehearsal rubrics for the aforementioned blocks of time in their *Habits of a Successful Choir Director* (2017), implementing the Fibonacci sequence to structure the rehearsal each day. The book also includes a helpful chapter related to warmup exercises.

coordination as well as engage the musculature takes precedence in the warm-up process. Some examples may include:

- Stretching both hands up directly over the head
- Extending the arms parallel to the floor with palms perpendicular to the floor while simultaneously exhaling, experiencing suspension of breath, then returning the hands to the chest during inhalation
- Gently moving the head from side to side and touching the chin to the chest to combat neck tension
- Articulating consonants while watching the conductor gesture in a variety of beat patterns and articulations
- Lip trills with and without pitch patterns to activate the breath through resistance without creating tension in the vocal process
- Singing using solfege syllables and Curwen hand signs
 - Major scale/minor scales (natural, harmonic, melodic)
 - “Solfege ladder” or additive scale (Do, Do-Re-Do, Do-Re-Mi-Re-Do, etc.)
 - Solfege ladder where pitches are audiated instead of sung (Example: leave out Sol and Ti to focus on descending thirds)⁵³
- Tuning a chord across multiple vowels [mi], [me], [ma], [mo], [mu]

These exercises help neurodivergent students to build and strengthen their schemas related to technical aspects of performance that can be transferred between pieces in

⁵³ It is imperative that teachers stress accuracy over speed. As students get more comfortable with singing the exercise, they tend to rush and often sing out of tune or with misaligned vowels.

rehearsal. In my experience, being able to remind neurodivergent students of warm-up approaches during literature work helped reinforce their approach to phonation, and in turn, their confidence while singing. In *Autism and the Power of Music*, Yasmine White and Sonia Belasco also note that music’s “natural, built-in structure...often establishes a routine...This makes songs and singing a great way to grab hold of language and practice words and phrases.”⁵⁴ Doing this at the outset of class in a low-stakes environment further helps neurodivergent students process the information without the burden of other information from earlier in the lesson.

“Jenny Rebecca” by Carol Hall, arranged by Clair T. McElfresh

Mixed Chorus a cappella

The structure of the work includes an opening portion that returns on the last page, and in between are two verses with nearly identical harmonic and rhythmic structures with the sopranos singing the melody throughout. Occasional lowered third and seventh scale degrees provide additional harmonic color and are approached with appropriate voice leading by the composer. The strophic pattern within the verses makes learning pitches and rhythms simpler for singers, and those with knowledge of solfege syllables can make quick work of the harmonies, even with the occasional chromaticism.

Teaching by rote is also a worthy consideration, particularly because the singers can employ the syllable [du], which is what the altos, tenors, and basses will primarily

⁵⁴ Yasmine White and Sonia Belasco, *Autism and the Power of Music*, USA: Future Horizons, 2021: 84.

phonate when the piece is sung on text. In doing so, students who may not process visual information as easily as neurotypical students will have a different point of entry into the music. This simplifies the learning process for all learners by moving directly to the repetitive “text” for the majority of the work without using other syllables like [da], [di], or [tu].⁵⁵ Tapping the beat or division of the beat on a part of the body like the collarbone, hip, or thigh when rehearsing can be an effective means for internalizing rhythm and may also serve as an analog for autistic students who are used to “stimming,” a kind of repetitive behavior like flapping hands, or tapping feet, that is a key symptom of autism and is also found in people with ADHD.⁵⁶⁵⁷

“KidSong” by Stephen Caldwell

Mixed Chorus with piano

The greatest challenge in this piece for conductor and choir alike comes in the shifting rhythms, particularly when moving between a simple meter such as 4/4 to an asymmetric 7/8 that has a 2+2+3 grouping one measure and a 3+2+2 grouping the next. Working against one’s own memory as a singer or conductor presents an increased level of difficulty, as one’s brain may have a strongly defined aural image for these songs. Directors might be tempted to have singers read the whole work on text from the beginning of the learning process, given an assumed familiarity with most of the songs.

⁵⁵ The author doesn’t ascribe to the thought that different syllables are “neutral.” Directors may still choose to implement these syllables in this work as well as others to achieve a desired vocal color.

⁵⁶ American Psychiatric Association, “Understanding Stimming: Repetitive Behaviors with a Purpose,” 2020, <https://www.psychiatry.org/News-room/APA-Blogs/Understand-Stimming-Repetitive-Behaviors-Purpose>.

⁵⁷ Children and Adults with Attention-Deficit/Hyperactivity Disorder (CHADD), “Stimming and Fidgeting Helps Some People with ADHD to Pay Attention,” <https://chadd.org/adhd-weekly/stimming-and-fidgeting-helps-some-people-with-adhd-to-pay-attention/>. 2022.

However, the addition of these rhythmic disruptions as well as four-part harmonies may create too great a burden for students' cognitive loads.⁵⁸ A good rule of thumb for directors is to choose two of three musical elements (rhythm, pitch, or text) to execute at one time to ensure that their singers do not get overwhelmed. Alternating between the options gives neurodivergent students a chance to experience the same material in a variety of ways and thus provides multiple means of engagement, benefitting the singer's memory.⁵⁹

It is imperative that the choir secures these rhythms early on using a counting system like count-singing or takadimi to ensure rhythmic integrity. However, directors should also be wary of the tempo at which they ask students to articulate the rhythms during the learning process, as the singers can easily become overwhelmed by the complex task of reading the rhythms, translating them to the "language" of count-singing, then verbally articulating them. As directors complete their score study, they should be prepared to give visual cues through their conducting in rehearsal and performance to assist the singers in remembering rhythmic patterns, chiefly across transitions from one song to another.⁶⁰

⁵⁸ The author writes this sentence having boldly gone down this path in their first rehearsal of the piece, against their better judgement.

⁵⁹ Rhonda Fuelberth and Linda Ewell Laird, "Tools and Stories: Preparing Music Educators for Successful Inclusive Classrooms Through Universal Design for Learning," in *Exemplary Programs and Approaches in Arts and Special Education*, Washington, DC: Office of VSA/Accessibility Education Division, The John F. Kennedy Center for the Performing Arts, 2014: 159-181.

⁶⁰ This applies whether or not the students will perform the work from memory.

“Dirait-on” from *Les Chansons de Roses* by Morten Lauridsen

Mixed Chorus with piano

Morten Lauridsen styled the closing movement of his song cycle as a French folk song from the early 20th century, influenced by the music of composers of the era: “I designed this piece in the style of a French folk song, and for that, I wanted to use a chord that was very French and I went to the music of Ravel and Debussy for a single sonority from which to gather my materials for the melody and the harmony, and for the overall piece.”⁶¹ The relatively simple melody is thus easy to learn for students of varying stages of literacy and can be taught quickly through solfege syllables or by rote instruction. Once all four voices enter the texture, there is almost always a doubling of the melody line or a staggered canonic entrance within a measure’s time. There are few moments of *divisi*, and the vocal ranges are not demanding.

High school students with little to no experience with French diction may find the prospect of singing the language daunting at first, but this can be overcome by directors with proper score study and communication. Most directors should have familiarity with the International Phonetic Alphabet and can thus transcribe the text into IPA symbols that are easier for students to process, even if the language may be unfamiliar.⁶² To assist students who have difficulty processing visual information as quickly as others, teachers should also be prepared to speak the text in an echo pattern, as well as record the text so that students can listen to it on-demand via their own

⁶¹ Morten Lauridsen. YouTube interview: https://www.youtube.com/watch?v=oT-Mh_a4H1c.

⁶² There are numerous websites dedicated to providing IPA transcriptions of choral works as well as solo pieces.

personal device or through a school-issued one.⁶³ This allows for students who may have missed the information (because they were distracted, absent, or otherwise) to revisit it for reinforcement.

Furthermore, directors should have the text and IPA available for students on a screen or display as a reference point throughout the rehearsal so that in moments where they may not be singing, they can still be reminded of the French vowels and elisions necessary to properly express the text. This can be particularly helpful for neurodivergent learners who may have either not been listening to the instructor or had trouble processing what they heard, giving them an additional means of orientation for the foreign language.

“Come fra verd’erbette” by Maddalena Casulana

Mixed chorus a cappella

“Come fra verd’erbette” appears in Casulana’s second book of madrigals, published in Venice in 1570. The work is representative of middle-to-late Renaissance madrigals with imitative polyphony across four voices and a tonal center of F major that is modified by occasional chromaticism.⁶⁴ Students unfamiliar with appropriate vocal approaches to Renaissance music may find themselves over-singing and not realize it; teachers should be prepared to vocally model the appropriate style for the choir. This

⁶³ With many districts adopting a single service provider like Google to streamline their email, documents, storage, and the like, it is easier than ever for teachers to create their own classroom site replete with reference materials like these. Videos can be uploaded to a private YouTube channel, where closed captioning can also be offered for students who may have an issue processing auditory information.

⁶⁴ The author acknowledges this work was the most challenging to prepare for rehearsals, as an aural image had to be constructed without the aid of any extant recordings.

helps the singers to develop an aural image, which can be especially helpful for autistic students who have difficulties processing multiple stimuli.

Another approach which can be effective is to play recordings of madrigal performances that are indicative of proper methods for achieving clarity and vitality in the overlapping voices. After hearing the recording, directors can then have the choir isolate a homophonic passage to focus first on unified tone and then shape the phrase with proper growth and decay. However, a student with ADHD might disengage with the recording and miss some of the salient details; in these instances, directors should be prepared to reinforce those points by again modeling for the choir and drawing focus back to the task at hand.

“Happy We!” from *Acis and Galatea* by G.F. Handel, edited by Ryan Kelly

Mixed Chorus with four-hand piano

“Happy We” is a choral arrangement of a duet found at the end of *Acis and Galatea*’s first act as the two lovers find each other after a time of courting. Ryan Kelly writes that in the 1739 revision, Handel added a carillon to the existing orchestration, supplementing the dramatic colors with crisp, buoyant bell tones.⁶⁵ This arrangement is a fine example of a Handel chorus that is replete with homophony and melismatic passages without the fugal structure that is found in his Chandos Anthems and Esther (both composed while at Cannons) or later works like *Israel in Egypt* and *Messiah*.⁶⁶

⁶⁵ Ryan Kelly, “Happy We!” London, Boosey and Hawkes, 2018.

⁶⁶ Donald Burrows, “Handel,” Oxford: Oxford University Press, 1994.

A particular aspect of Ryan Kelly's edition is the proliferation of dynamic markings within sections of the work to create a greater sense of drama. Teachers may find that a mention of the contrasts in intensity before an attempt begins does not linger within students' working memory long enough to be actualized when singing. In these instances, teachers may choose to call out the dynamic level of the forthcoming phrase as the singers finish the preceding one. While this approach may achieve the intended effect of the singers starting at the proper intensity, it can be a large distraction to neurodivergent students who are trying to focus on executing the tasks already articulated by the teacher. Teachers should instead hold their feedback until the choir finishes a passage so that their message can be relayed in a clear manner without the students being otherwise engaged by a task.

A better tactic would be to have the students speak or intone the text on a specific pitch in rhythm and modify their dynamics as notated. This removes the necessity of articulating each pitch (a particularly challenging task in this piece, given the tempo and melismas) and allows students to concentrate their efforts on the dynamics, which can be transferred back to the notated pitches. Directors should also take time to relate the aspects of their gesture related to dynamics within the work so the singers can be visually reminded as well. Students can also explore kinesthetic expressions of dynamics themselves throughout rehearsal to remind themselves of the variety across pages of a work, thus giving neurodivergent learners multiple avenues through which they can support their own technique and memory.

“When Memory Fades” by Jayne Southwick Cool, arranged by Eric Nelson

Mixed Chorus with piano

The strophic framework of the hymn provides singers with recurring rhythmic patterns that often find the alto, tenor, and bass parts moving concurrently while the soprano part sings the melody. All four parts sing the melody at some point in the work, so teachers would do well to introduce it to the whole choir at once and streamline the learning process. This is also an excellent opportunity to encourage transfer principles like stressing the first eighth note in a grouping and deemphasizing the second to create a greater sense of word stress and expression.⁶⁷

For neurodivergent students, simply talking about this principle may not be an effective means to communicate. Instead, teachers should engage the students physically, having them move their hands outwards and inwards in relation to their body to “feel” the syllables that need to receive more weight. In my experience, this kinesthetic synchronization with the aural elements affords singers another means for developing expressive connections. Speaking the text without pitch to emphasize certain syllables can also be a successful tactic to build in the proper stress.

Choral music often features texts that are evocative and full of emotion. “When Memory Fades” certainly fits into that category. Given the text’s delicate nature, conversations about dementia, Alzheimer's, and the final season of life can evoke an

⁶⁷ Dr. Judy Bowers has developed “Rules for Expressive Singing” that encourage singers to enliven their performances through guidelines like “The Rule of the Steady Beat” and “The Rule of Word Stress.” See *Choral Journal*, Vol. 53 No. 3 for the full listing of rules.

emotional response for any student who has seen a loved one diminish in this way. Teachers should be careful not to trigger students by diving into a discussion of the text without first giving notice that the topic will be broached. Teachers may also find that some students on the autism spectrum will over-share their personal experiences.

This “info-dump” is a sign of comfort for those students and should not be discouraged by teachers. Instead, teachers should embrace the students’ willingness to share and simultaneously be prepared to guide the conversation back to a place of relevancy. For students who may not be as comfortable expressing themselves verbally, teachers should also allow them to document their thoughts and feelings on paper or through a word processing program.

In the spring of 2018, my high school program’s final concert was built around the theme “Words Matter,” and we concluded with the Concert Choir’s performance of Jake Runestad’s “Please Stay.” The work incorporates messages of support for people considering suicide, including from people who had contemplated self-harm and decided against it. We had several emotional conversations in rehearsal about the presentation of this work and its message. Within the past two years, our school district had seen two choral students complete suicide, with one of the students being a close relative of one of my singers.

Ultimately, the students felt that it was important we closed the concert with this piece rather than one with a faster tempo or upbeat feel. Before the piece was performed, we presented statistics related to suicide among adolescents in our state

and country and stated the necessity of concluding the concert with this message. With careful and intentional approaches to conversations, teachers can ensure that neurodivergent students have the chance to express themselves freely.

“Hark, I Hear the Harps Eternal” INVITATION (NEW) from *Southern Harmony* (1854),

arranged by Alice Parker

Mixed Chorus a cappella

The tune moves throughout the parts both within and across verses, including occasional doubled or canonic entrances between octaves. Once the tune is introduced, teachers may point out the way it travels between sections and have students mark it in their scores. This is vital for awareness of the tune, given that most students will be concerned only with what happens in their individual part and nowhere else. When attention is given to the location of the tune in each verse, students can better recognize how to support the melody through their own harmonized part. In such instances, teachers should have all their students seated while rehearsing and ask any part singing the tune to stand if they are singing it. In so doing, the students can engage their whole body and develop a kinesthetic awareness of the melody that in turn will support their memory.⁶⁸

The parts supporting the tune through harmony are challenged by the ever-changing rhythmic structures accompanying the word “hallelujah,” as every verse

⁶⁸ Nicola Shaughnessy, “Knowing Me, Knowing You: Autism, Kinesthetic Empathy and Applied Performance,” ed. Dee Reynolds and Matthew Reason in *Kinesthetic Empathy in Creative and Cultural Practices*, Chicago: Intellect, 2012: 33-50.

Every verse also includes moments of doubling at the rhythmic level, which can aid in the rehearsal process. Drawing attention to these instances gives singers the opportunity to listen for verbal cues from others around them to ensure that they are properly coordinated both within and outside their parts. Teachers should give students the opportunity to circle within their sections so that they can first solidify their own material then coordinate across the choir. This action can reinforce bonds within sections and allow for specific, student-led conversations to take place where neurodivergent students may feel more comfortable and confident participating than in a large-group dynamic. For those students who may not wish to express themselves verbally in those moments, they may choose to write down their thoughts via paper or a digital device so their classmates can “hear” from them. In either case, creating the space for such interactions also increases the likelihood of empathetic growth across the ensemble.⁷⁰

Many of the techniques that are considered best practices for choral teaching are also appropriate for neurodivergent learners. However, there is a heightened awareness required to ensure that both experienced and emerging educators approach or revise their pedagogy with inclusion at the forefront to ensure that all students are exposed to equitable methods for learning and performing music. It is the author’s hope

⁷⁰ Lynda A. Laird, “A Little Bit More the Same than Yesterday: A Mixed Methods Exploration of Choir Member Empathy and Attitude toward Individuals With Disabilities,” *Student Research, Creative Activity, and Performance – University of Nebraska-Lincoln School of Music*, 101, 2016. http://digitalcommons.unl.edu/musicstudent/101?utm_source=digitalcommons.unl.edu%2Fmusicstudent%2F101&utm_medium=PDF&utm_campaign=PDFCoverPages.

that as research continues, more information will be gathered related to neurodivergent students and educators in the choral classroom.

CHAPTER 4

SUMMARY AND CONCLUSION

Even with strides made in the past two decades, music educators continue to report feeling a lack of preparedness and support to provide inclusive opportunities for their students with disabilities.⁷¹ It is apparent that collegiate music education programs need to revise their coursework to help future teachers fill this void and in turn more effectively train future musicians at all levels of their primary education. Contemporary music education pedagogy focuses on the “average” group of students, (i.e., neurotypical children and adolescents) who interact with the world in a “normal” fashion. These approaches are confirmed through decades of case studies, ethnographic research, and other means of data gathering.

Recent studies suggest that successful musical education and development of children and adolescents with learning disabilities can have a positive impact on their social and emotional wellbeing.⁷² This is important for music educators who desire to educate the whole person—body, mind, spirit, and voice—as opposed to making their students with disabilities into a kind of mascot for their program. As Shelley Moore writes, “Inclusive education relies on the diversity of its ecosystem to not only promote coexistence and tolerance, but to thrive on the learning and interaction of each person in the

⁷¹ Kimberly VanWeelden and Jennifer Whipple, “Music Educators’ Perceptions of Preparation and Supports Available for Inclusion,” *Journal of Music Teacher Education*, Vol. 23, No. 2, 2014: 33-51.

⁷² Eva Margaret Wilde and Graham Frederick Welch. “Attention Deficit Hyperactivity Disorder (ADHD) and Musical Behaviour: The Significance of Context.” *Psychology of Music*, Vol. 50, No. 6, 2022: 1940-1960.

community.”⁷³ Placing greater value on the possibilities of a diverse ensemble rather than its inherent challenges can yield great benefits for teachers and students alike.

As of now, most pedagogical approaches related to neurodivergent singers in the secondary choral rehearsal closely resemble long-established best practices. Until data is collected to clarify best practices for neurodivergent singers, many of these best practices are the most logical methods for supporting these students. The dearth of research related to neurodivergent teachers and musicians needs to be filled with data that shows the best way forward to center and encourage our friends, colleagues, students, and family members with neurodivergence.

Neurodivergent students (indeed, all disabled students) deserve a holistic approach that provides support for them from the moment they enter a classroom to the moment they exit through space for movement, easily viewed displays, scores prepared for concise visual processing, auditory support, clearly defined objectives and feedback, and malleable rehearsal strategies including changes of pace and approaches to developing technique. To advance this inclusive agenda will require years of focused, intentional study on the part of music researchers so that verified, actionable data is available to present a full picture of the educational landscape.

⁷³ Shelley Moore, *One without the Other: Stories of Unity through Diversity and Inclusion*, Winnipeg, MB: Portage & Main Press, 2016: 6.

Need for Future Study

The approaches suggested in Chapters Two and Three are based on existing research regarding neurodivergent persons in music classrooms, generalized education settings, the world at large, and the author's personal experiences from seven years of high school teaching. Empirical research has established that certain approaches are effective for neurodivergent learners in generalized classroom settings: preferred seating to have closer proximity to instructors, accessibility features like closed captioning and audio recordings, and modified materials all contribute to the students' success. Applying such tactics in the high school choral classroom should not present an overwhelming challenge to directors who find themselves needing to become more inclusive of their neurodivergent students. Rather, they often reflect what music educators consider best practices, in terms of classroom space, instructional materials, and pedagogical approach.

Teachers may also be developing other methods for neurodivergent singers not currently reflected in research, based on their personal experiences, assumptions, and educational background. Emily Guthe's research published in 2016 offers a small sample of teachers' perceptions regarding students with various disabilities and her findings reinforce the need for a fulsome investigation into appropriate methodologies.⁷⁴ To date, we lack documented context from neurodivergent and neurotypical teachers and neurodivergent students about specific methods of inclusion and instruction that may or

⁷⁴ Emily Guthe, "The Choral Process: Enhancing the Success of Students with Disabilities Within the Choral Structure," *The Choral Journal* 57, no. 10 (05, 2017): 51-55.

may not be effective. These perspectives are essential as educators seek to advocate for their students and themselves. Without amplifying the voices of those most in need of inclusive pedagogy, we do ourselves and our students a disservice.

There is a dearth of pedagogical research that gives neurodivergent educators and students an opportunity to express their views on the contemporary educational landscape.⁷⁵ Quantitative and ethnographic research must become a priority for music education scholars to ensure that educators and students alike are beneficiaries of forward-thinking approaches that maximize the potential of every second spent in the high school choral classroom. These could include:

- Working with publishers to provide flexible digital scores that isolate vocal parts to limit the amount of information for students with visual processing issues
- Advocating for publishers to use serif-free fonts to assist dyslexic students in reading texts with less issue
- Determining repeatable kinesthetic approaches (akin to Curwen hand signs representing solfege syllables) to signify expressive elements in music like dynamic intensity, articulations, and phrasing to be used in rehearsal and support singers' memories

⁷⁵ In April 2021, the author interviewed a colleague who is legally blind and had attended a large, public university in the Southeast U.S. to train as a music educator. While not identifying as neurodivergent, the person's account of becoming a trained musician outlined the frustrations that many disabled musicians face as they seek to master their profession, including advocating for themselves, securing funding for necessary adaptive/assistive technology, and navigating a world designed for the "average" person.

- Amending existing rehearsal pacing rubrics to acknowledge shorter attention spans in students
- Providing teachers with topics for guided conversation regarding pieces so that students have opportunities to discuss their work verbally or digitally

With the goal of gathering data to support inclusive pedagogy, the author has developed an initial survey tool to collect data from current music educators regarding their dispositions related to teaching neurodivergent learners (see Appendix A). In developing the tool, the author drew upon other quantitative and ethnographic examples where educators were asked about their years of experience, classroom environment, and dispositions regarding various aspects of their profession. The survey is intended to establish a baseline of data regarding contemporary education practices related to neurodivergent learners so that a representative context can be established for creating a more inclusive curriculum for the learners who need it most.

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APPENDIX A
SURVEY QUESTIONS

The following list of questions can be used to interview teachers regarding their pedagogical approach to neurodivergent students.

1. In what state do you currently teach?

2. What grades do you currently teach?

3. How many years of teaching experience do you have: [0-2, 3-6, 7-10, 11-15, 15-20, 21+]

4. How long are your class periods?

5. Do you teach semester-long or year-long choirs?

6. Approximately how many students are you teaching in the 2022-2023 school year?

7. Approximately how many of your students have a 504 or IEP?

8. Do your students with disabilities participate in the full class period?

9. Do your students with disabilities come to class with another faculty or support staff member? Does that person remain throughout the class period?

10. Approximately how many of your students have documentation for neurodivergence (Autism Spectrum Disorder [ASD], Dyslexia, Dyspraxia, Dysgraphia, Dyscalculia, Auditory Processing Disorder, Visual Processing Disorder, and/or Attention Deficit Hyperactivity Disorder [ADHD]?)

11. What accommodations, if any, are required for you to provide for your students with documented neurodivergence? These may include preferred seating, reduced scores,

12. Aside from required accommodations, have you employed other strategies when preparing materials for neurodivergent learners?

13. What rehearsal strategies have you employed for neurodivergent learners?

14. Have you used certain strategies for specific diagnoses and different strategies for other ones?

15. What strategies have been most successful?

16. What is your background in working with students with disabilities?

17. Do you feel that your undergraduate education program or alternative licensure program adequately prepared you to teach neurodivergent learners in a high school choral classroom?

OPTIONAL:

Have you been diagnosed with any form of neurodivergence?

If yes: are you willing to disclose?