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Inclusive Ensembles: Differentiating for the Singer on the Autism Spectrum

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Inclusive Ensembles: Differentiating for the Singer on the Autism Spectrum

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Natalie Wilkins

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Abstract

Exceptional children belong in music classrooms. Music ensemble directors need to overcome complex challenges to meet the goal of inclusion, because ensembles often include a mixture of ages, grades, social and intellectual development stages, musical skills, and a wide variety of diverse learning needs. This study focuses on how a choral ensemble director may create an inclusive environment for students on the Autism Spectrum.

This study reviewed the current research on inclusive rehearsal environments. Analysis revealed varied methods for differentiation that allows students with special needs to thrive in a music classroom and also revealed that music can be a powerful method of therapy. Although the research indicates that there are challenges to implement inclusive choral ensembles, the benefits of doing so have been largely beneficial and positive. In conclusion, modifications and adaptations can be made to the components of instruction in order to differentiate instruction to best meet individual student's needs. Individualized instruction can be crucial for the success of a student on the spectrum participating in a choral ensemble.

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Chapter I: Introduction

According to the Center for Disease Control (CDC) (Mar. 2020), "About 1 in 6 children in the United States had a developmental disability in 2009-2017." Today's educators are facing the challenges of educating a diverse student population more than ever. Studies show a trend of increasing numbers of children with a special needs diagnosis. The CDC (Mar. 2020) reported that about 1 in 110 children had been identified with ASD in 2006. The number increases to about 1 in 54 children for 2016. If this trend continues, teachers will have an increasing number of students with ASD in their classes. Teachers must learn how to differentiate in order to meet the increasing learning needs of today's student population.

Autism Spectrum Disorder (ASD) is an umbrella term for an array of similar neurological disabilities and symptoms. Asperger syndrome is the mildest form of ASD, followed by pervasive developmental disorder- not otherwise specified (PDD-NOS,) autistic disorder (known as classic autism,) and ending with the rarest and perhaps severest forms called Rett Syndrome and childhood disintegrative disorder (CDD) (pp. 179-180). The symptoms of ASD vary for each case. Sources generally agree that deficits in social interaction, underdeveloped verbal and nonverbal communication, atypical behaviors (stimming, echolalia, obsessive interests, etc), and developmental delays are the most common symptoms. Sousa expands on these symptoms by listing repetitive behaviors or interests, mental retardation, memory and recall issues, and sensory symptoms (pp. 180-183).

Since Autism Spectrum Disorder is a neurological disorder, diagnosing ASD can be complicated. The CDC describes a two stage approach for diagnosing ASD: developmental screening and comprehensive diagnostic evaluation (Aug. 2019). Physicians usually complete

developmental screenings to all children at regularly scheduled check-ups during their first two years. Physicians check to determine whether a child is growing and obtaining skills at an average rate. If the screening reveals developmental abnormalities, the physician will suggest a comprehensive diagnostic evaluation which includes a full battery of testing, questioning, and parent interviews. Although screenings and testing for ASD should be done early in a child's life, the CDC notes that "many children do not receive a final diagnosis until much older. This delay means that children with an ASD might not get the help they need" (Aug. 2019).

"Helping" a child with ASD may take many forms depending on the unique student profile. Federal legislation[1] requires that all students have access to a *Free and Appropriate Public Education* (FAPE) in the *Least Restrictive Environment* (LRE) appropriate for the student. In order to meet these requirements, school systems utilize *Individualized Education Plans* (IEPS) and sometimes *504 Behavior Plans* to track and address the needs of students with special needs and/or behavior management issues. An IEP team, comprised of the parent/guardian, teachers, a school district representative, and a special learner expert, meet to build IEPs that best meet the needs of the student. As a result of the legislative regulation and the increasing number of students with special needs, there has been a push for inclusive educational learning environments that embrace student individuality and benefit all students.

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[1] The Supreme Court ruling in *Brown c. Board of Education* (1954) rejected the idea of "separate but equal" education in favor of a more inclusive learning environment. This ruling paved the way for Public Law 94-142 (1975) which established several important concepts including the right to a FAPE in a LRE with the use of IEPs. This law also stated that music should be an integral part of the education of students with special needs. P.L. 94-142 underwent several amendments before being renamed the Individuals with Disabilities Education Act (IDEA) in 1990, with additional amendments ranging from 1997 to recent years. The overarching principles of IDEA (zero reject, nondiscriminatory evaluations, FAPE, LRE, procedural due process, and parental involvement) provide a framework for modern inclusive education. Additional legislation such as Section 504 of the Health and Rehabilitation Act of 1973 (Public Law 93-112) and the Americans with Disabilities Act of 1990 (Public Law 101-336) further refine and promote inclusive educational environments for all students (Hammel and Hourigan, 2017, pp. 26-38).

Legislation regarding inclusive educational environments dates to the Civil Rights Movement, and many of the laws specifically addressing students with special needs were passed in the 1970s-2000s. Although addressing special needs in the classroom is a relatively new field of study the idea of an inclusive environment is prevalent in today's educational field. Suzannah Ferraioli and Sandra Harris (2011) found that:

> The existing literature divides outcome into the cognitive/academic and the adaptive/social domain. Although this work yields somewhat mixed findings, the majority of research suggests positive outcomes for children in included settings. However, the studies, as a group, cut across a wide range of types programs and students, without rigorous study designs. (p. 20)

The authors of this document reached similar conclusions in their literature review. Other trends emerged. Social benefits were discussed more frequently as a positive benefit of inclusion. Most of the research on inclusion, especially in the music classroom, focuses on the primary and elementary school environments. There are fewer studies at the secondary level. Regardless, nearly all sources view inclusion as positive and suggest that further studies be conducted in support of inclusive educational environments.

Across the literature, terms such as "differentiation," "modification," and "adaptation" were commonly associated with "inclusive environment." For the purpose of this document, they will be defined as:

> Differentiation: The process of using modifications and adaptations made to individualize education; frequently applied in whole class scenarios to target the needs of individual students

Modification: An alteration to the learning expectation (also known as curricular goals);

alterations may be in the amount learned, depth of understanding, etc.

Adaptation: An alteration to the learning process usually made to the instructional

method or materials; alterations may target a learning mode, use a certain type of

assessment, etc.

Teachers may differentiate on the basis of content, process, product, affect, and/or environment.

These manipulatable components of instruction are defined as:

Content: What the student is expected to be able to know, understand, or do

Process: How content is taught

Product: A student creation that can be assessed to measure learning

Affect: Student's attitude and emotions towards learning

Environment: Where the learning happens

Teachers also create modifications and adaptations based on the students' readiness, interests,

and learning profile, which are defined as:

Readiness: Preparation level for new content

Interests: Subjects of passion

Learning Profile: The ways the student learns best

Though differentiating based on a learner's readiness, interests, and learning profile by making

modifications and adaptations to content, process, product, affect, and environment is beneficial

for **all** learners, some researchers suggest considering additional factors when differentiating for

students with special needs. Sousa (2007) suggests that one may consider social interaction, need

for structure, and unique learning styles when differentiating for a student with ASD (p. 191).

Alice Hammel, Ryan Hourigan, and Alice-Ann Darrow, leading figures in special needs research within the music field, are proponents of a "label-free" approach. Rather than attempt to make generalizations based on the student's diagnosis, they encourage differentiation in the context of domains of identified needs such as cognition, communication, behavioral, emotional, physical, and sensory (Hammel and Hourigan, 2017, p. 14). All researchers agree that specialized education should focus on the needs of the individual learner rather than a specific diagnosis.

By employing effective differentiation techniques, teachers can successfully teach a diverse student population including students with Autism Spectrum Disorder. This skill is imperative for modern day diversity in the inclusive classroom. The study will explore the place of music in the education of a child with ASD, challenges music teachers face, and differentiation techniques a music educator can use to develop an inclusive ensemble.

Chapter II: Music on the Brain

Brain research demonstrates that music can be a powerful tool, especially for students with special needs. Both music therapists and music educators study brain research to develop methods to better serve students with special needs. Researchers consider music and autism in various learning domains. Cognitive, communicative/social, emotional/behavioral, and physical domains are commonly identified.

People are surrounded by music. Music plays on car radios, television programs and commercials, at restaurants, and many other places. Music is often an integral part of people's lives, with hearing as the primary sense. In fact, the ability to hear is one of the first senses to develop in utero (Berger, 2016, p. 38). Studies demonstrate that music activates many parts of the brain simultaneously, perhaps even more efficiently than any other activity examined. Berger states, "Apparently, human brains are wired to process music. Music is a whole-brain-whole-body experience. Music is essential for growth and development of children of *all* abilities and *any* function" (p. 23). Every child should have access to a music education that meets their needs.

Because music is so intricately linked to brain function and development, music is a powerful therapy tool. There is a significant overlap between music therapy and music education. However, it is important to understand the difference. While music is often therapeutic, music education is not music therapy. The American Music Therapy Association (2015) notes:

Music therapy interventions focus on enhancing social, communicative, motor/sensory, emotional, and academic/cognitive functioning, or music skills in individuals with ASD.

Music therapy services are based on each client's individual abilities, noting preferences, needs, the family's values, beliefs, and priorities.

Music therapy is a treatment designed and implemented by certified music therapists that targets goals and needs of a subject. A music therapist could work closely with educators in order to better support educational goals. An increasing number of schools are employing music therapists for that reason. Music educators should not be expected nor attempt to perform the work of a music therapist.

Music therapists, music educators, and researchers who study ASD commonly divide areas of need into domains. Brain function directly relates to cognitive function, so nearly all related parties identify a cognitive domain. As stated earlier, music is crucial to healthy cognitive development and function. Music is pattern based, similar to many other academic subjects, especially language and math. While music is worth studying for music's sake alone, it also enriches other educational subjects. Music is commonly used to teach information in other subjects. The alphabet song is the most basic example of this concept. Pamela Ott, a music therapist who created *Music for Special Kids* (2011) as a resource book of music related activities for people who work with children with developmental disabilities such as ASD, also suggests using songs to teach days of the week, months of the year, spelling, math, science, and history. Many teachers of standard subjects, especially at the elementary level, use music as a teaching tool.

The communication domain likely could be viewed separately from the social domain. However, the lack of communication skills becomes problematic when emotions spiral into behavior, thus affecting the social domain. Improving communication will lead to positive

emotional development, and improving emotional expression develops positive communication skills. Music is nearly synonymous with expression; therefore, music deals heavily with communication. Music educators can use music to target specific emotional and/or communicative skills as well. Lessons, especially in an elementary lesson, can and should frequently use children's books, stories, and other activities rooted in literature and language development. For example, music educator and professor Joan Ekroth-Riley teaches a lesson on emotion and vocal exploration using the children's book There's a Nightmare in My Closet by Mercer Mayor (1968). She guides the students through creating a series of sound effects as she reads the books to them. She discusses why those sound effects are appropriate in the context of the story, and also discusses that many students have a natural fear of monsters in the closet. In this lesson, Eckroth-Riley ties literacy to emotions; communication to expression. Ott (2011) notes that educators can omit words or sounds in a familiar song and encourage students to speak/sing (pp. 24-27). She also highlights how music can be used to identify feelings and emotions. Ott advocates for a systematic approach that involves asking simple questions like, "How do you feel?" before playing specific emotions on instruments, then moving into mood music (pp. 129-132). She uses musical activities to target specific deficiencies in the emotional/communication domain.

As mentioned before, behavior is a result of brain state, which has a lot to do with emotion. Since music can alter the brain state, music can change behavior. Berger (2016) states that "Music pacifies and quiets the amygdala!" because music stops the body from over-producing neurochemicals called catecholamines (like adrenaline and cortisol) which puts the body in a state of fear and/or anxiety (p. 41). The amygdala is a key part of the brain in

emotion and behavior. <u>Responsive Classroom in Music, Art, PE, and Other Special Areas</u>, published by the Center for Responsive Schools, is a handbook for managing classroom behavior through positive methods. In the book, the authors describe the use of energizers. Energizers are activities, usually music or music related, that affect the moods of the students. Regarding the power of music, the authors observe "...listening to music can reenergize students or help them feel calmer and more relaxed… Choose music that will help evoke the mood or energy level you think students need..." (p. 147). Many undesired behaviors can be altered using music.

Music education overlaps with the social domain in so many ways. First, music classrooms tend to be especially collaborative. In many other subjects, individuals work collaboratively only when group work is assigned. In music classes, students frequently work as an ensemble in order to make music. Music ensembles at any grade level require teamwork, communication, and collaboration. An ensemble of simultaneous solos does not sound very musical. Individuals must be able to function in both whole-class ensemble environments and also in small groups: many musical ensembles can be subdivided into parts, and the individuals in each part must work cohesively as one. High levels of collaboration and cooperation automatically creates a social environment. As a result, music classrooms tend to foster close-knit social groups. This is especially true when the music class is an ensemble, such as band or choir. The music classroom is a base for social development.

Rhythm is intricately related to movement, and many musical activities require physical motion, so music includes a web of relationships with the physical domain. Berger (2016) notes that the perception of rhythm may be related to vestibular sense, and "Additionally, because the auditory and the motor cortexes [*sic*] in the brain are very close to each other, music's rhythm

implicates movement, which in turn stimulates muscular motor activities (foot tapping, clapping, dancing)" (p. 36). Brain function is tied to some of the core elements of music and music making. For example, playing instruments in an ensemble not only requires rhythmic fluency, but the movement of playing exercises refines fine motor skills as well. Playing instruments is often a critical part of music therapy for these reasons. Standard music therapy instruments include guitar, piano, and various percussion instruments. Ott (2011) also suggests autoharp, boomwhackers, handbells, QChord, and specific percussion instruments (pp. 51-98). These instruments are standard in many music classrooms. Dance and movement also involve rhythm and motion. Dance and movement are key parts of a music classroom in both elementary and intermediate levels. Many of the most popular teaching methodologies, such as Orff-Schulwerk and Dalcroze, make frequent use of dance and movement activities. Activities may include clapping, stomping, patschen, tapping, making locomotor or non-locomotor movements in a steady beat, dancing folk dances, etc. The physical domain includes many music-related skills.

Brain research shows that music relates to many skills necessary for successful functioning as a healthy individual. Those skills are often divided into domains, like cognitive, communicative/social, emotional/behavioral, and physical. Music is a powerful tool for all students, and can be especially powerful for students with Autism Spectrum Disorder participating in a choral ensemble when implemented effectively.

Chapter III: The Inclusive Choral Ensemble

Music plays an important role in all human development. Therefore all music educators should strive to create inclusive classrooms. Students with Autism Spectrum Disorder (ASD) belong in choral ensembles when directors set up an inclusive environment and differentiate appropriately. Although professionals in the field do not agree on a universal definition of "inclusive environment," themes such as fostering a welcoming atmosphere, developing essential attributes as a teacher, and developing a healthy class structure emerge.

Inclusion, especially for students with special needs, is a relatively new concept, so esearch concerning inclusion is still growing and developing. In 2011, Ferraioli and Harris published a report stating:

Despite the importance of evidence-based literature in treatment planning and placement decisions for individuals with autism, there is limited outcome research on inclusion… leaving educators and providers to use the available models and provide close monitoring of outcome case by case, remaining open to changes as needed (pp. 19-28).

In some ways, this statement remains true. Educators and providers still closely monitor inclusion efforts and adjust approaches as necessary. This will probably never change given the unique needs and goals of each student with ASD. Additional research on this topic has been limited. In the initial publication, Ferraioli and Harris also say, "Although this work yields somewhat mixed findings, the majority of research suggests positive outcomes for children in included settings" (pp. 19-28). This trend has certainly been true for music and ASD related research. Without much conclusive data, leading pedagogues including Hammel, Hourigan, and Tomlinson often reference personal experiences in addition to research to better support their

claims in their publications. Certain characteristics of an inclusive environment become apparent across the research and literature that does exist on inclusion.

Researchers agree that fostering an inclusive atmosphere is multifaceted. Each researcher has their own ideas about what factors are most important. Tomlinson (2014) writes that in an inclusive environment that supports differentiation, "the learning environment is seen as key to student success… environment, curriculum, and instruction [are] firmly linked" (p. 15). Lapka (2006) examined a high school band program that includes many students with special needs. She identifies the following five signs as a sign of a model program: teacher attitudes, collaboration, curriculum modifications, accomodations, and peer tutors (pp. 54-59). Since a high school band program is a secondary music ensemble, Lapka's observations may be applicable to a choral ensemble. Aspects regarding curriculum, instruction, modifications, and accommodations are all essential to differentiation and will be discussed in a later chapter. Their relevance to inclusive environments show that inclusivity and differentiation go hand in hand.

Nearly all researchers agree that focusing on progress rather than mastery is a fundamental element of an inclusive environment built on differentiation. Focusing on progress means that a teacher will assess continually, collect data, and track a student's progress toward a learning goal appropriate for the student. Teachers tracking progress often use formative, or embedded, assessments to collect data on student progress and inform teaching methods. In a mastery based educational program, all students have the same goal regardless of how close or far they are away from mastery. In other words, both students with special needs and gifted students will be challenged appropriately. Teachers usually assess mastery at the end of a unit with summative assessments that are often higher-stakes than formative assessments. Progress

based educational programs provide flexibility, individualization, and redefines success in a way that makes it more appropriate for all students.

The choral conductor has a significant educational influence on the members of a choral ensemble. Researchers recognize certain attributes as essential in an inclusive environment. Tomlinson (2014) describes a philosophy of differentiation useful for teachers in an inclusive environment. The philosophy consists of beliefs that "diversity is normal and valuable," "every learner has a hidden and extensive capacity to learn," it is the "teachers responsibility to be an engineer of student success," and that "teachers should be champions of every student who enters their doors" (pp. 26-27). Other teacher attributes Tomlinson outlines include, "the teacher appreciates each child as an individual," "the teacher remembers to teach the whole child," "the teacher sets high expectations- and provides lots of ladders," and "the teacher promotes student independence" (pp. 53-56). In other words, Tomlinson believes that teachers should create environments in which teachers and students work together to learn the content (p. 48.) Tomlinson places a lot of responsibility on the teacher to set up and foster an inclusive educational environment. The high school band director identified by Lapka (2006) maintained a positive attitude and sought out students with special needs to include in the band ensemble (pp. 54-59). The band director's enthusiasm likely created a more welcoming environment for students with special needs.

Another important skill a choral director should have is the ability to collaborate. A choral director can draw from a variety of resources to help determine what differentiation methods are appropriate for a singer on the Autism Spectrum. IEP and 504 Plan Documents will provide valuable details on the student's challenges, goals, and needs. The members of the IEP

team can provide more details and answer specific questions. Choral directors might also find other teachers, the special education coordinator, paraprofessionals, therapists, and the student's parents valuable assets in the student's education. The choral director's ability to create a network of resources to assist with the inclusion of a student with ASD will affect the learning environment.

A choral director should consider what effects the choral setting or format in which the individual student with ASD should be placed might have on inclusion efforts. The choral format will create a certain kind of environment and lend itself to certain differentiation techniques. Legally, students are to have access to a Free Appropriate Public Education (FAPE) in the Least Restrictive Environment (LRE) made possible by reasonable accomodations. Reasonable accommodations would include those specified in a student's IEP and/or 504 plan. In other words, students do not have a legal right to choose the choral ensemble in which they are placed, but they legally can not be excluded from an ensemble based solely on their diagnosis. How a choral ensemble fits into the education of a student with ASD is very dependent on the individual needs of the student. Hammel and Hourigan (2017) write "Some specific students with special needs have a very difficult time with large groups and loud music. For those students, a smaller chamber group, sectional setting, or adaptive performance class may be more appropriate" (p. 161). Creating an appropriate environment for the student is the first step for inclusion. The most common choral formats are self-contained choirs, mainstream choirs, and hybrid choirs like a buddy choir or inclusive choir that uses peer tutors.

A self-contained classroom is a classroom which only includes students with special needs. A student with special needs may receive all of their education from the special education

teacher in the room, or they may be mainstreamed into classes with neurotypical students for a few subjects when appropriate. A self-contained choir would only include students with special needs. There are very few self-contained choirs that always function as a choir. More often, a self-contained choir is formed when a self-contained music class functions as choir. For example, the students in a self-contained classroom may sing a song together at a holiday concert, thus functioning as a self-contained choir. A choir of this nature is most likely a best fit for students needing extensive assistance to learn the music and/or function in the choral environment.

In a self-contained choir, choosing the appropriate music is critical. Adamek and Darrow (2010) write, "Music educators can be highly challenged when planning adaptive music classes for older students with severe disabilities. The music of the early elementary curriculum is no longer age appropriate, but the skill level of the students might still be very low (pp. 206-207). An appropriate repertoire will allow the director to differentiate in ways that best suit the needs of the singers. They continue, "...thinking about building music skills developmentally, music educators can utilize age-appropriate music but continue to work on developing basic music skills, such as responding to sound, steady beat, matching pitch, and responding to music through movement" (pp. 206-207). Adamek and Darrow recommend focusing on the created experiences and music learning rather than a performance heavy curriculum. Selecting age-appropriate music will gain the interest of the students, and focusing on music learning keeps the learning at an accessible level. Teaching with a focus on music learning lends itself to a progress-based environment that values progress determined by formative assessments rather than a

mastery-based environment that values mastery determined by summative assessments in the form of performances.

For some students with ASD, placement in a mainstreamed choir is a better fit. Mainstreamed choirs are likely a good fit for high functioning students who need very few adjustments to be successful. A mainstreamed choir can also be a good fit for students with higher needs if differentiation techniques are used effectively. Hammel and Hourigan (2017) suggest starting out students on the spectrum in music lessons or smaller ensembles before slowly orienting them into a larger ensemble to determine the best option (p. 161). This process creates scaffolding for the student with ASD, the neurotypical students in the ensemble, and the director thus increasing the chance of successful inclusion.

The director may find that the singer with ASD can participate in a mainstreamed choir in select ways. For example, the director may modify the expectations by exempting the student from performances and adapting an assessment rubric that better fits the goals of the student. In this scenario, the student would attend rehearsals that are likely highly structured and include a greater routine which tends to provide a more stable environment for students with ASD. Adamek and Darrow (2010) also support "vary[ing] the level of participation that is expected of the student" by having a student participate in specific activities, the first or last 20 minutes, or whatever might be appropriate for the student (pp. 204-205). They said, "Keep the student actively involved as much as possible, building on the student's abilities" (p. 205). If a director begins by meeting the student at the level the student is assessed, the director's attempts at creating an inclusive environment and employing differentiation techniques will be more successful.

Many mainstreamed choral ensembles have a specific purpose, eg. jazz choir, show choir, madrigals, an auditioned concert choir, beginning choir, etc, or serve a specific gender. These factors should be taken into consideration. If a student does not meet the requirements of the ensemble with reasonable accomodations, that specific ensemble may not be the best fit. Regarding auditioned mainstream ensembles, Hammel and Hourigan (2017) state, "As long as there is a place for all students in a music program (a second or third ensemble, as well as a select ensemble), it is okay for there to be a place for select students who may or may not have special needs" (p. 161). A student with ASD should not be mainstreamed into an ensemble unless the ensemble is a good fit for the student. Directors can develop rubrics in order to more objectively evaluate any student's membership in a specific choir, especially one that is auditioned.

For some students with ASD, a self-contained choir may be too restrictive and a mainstreamed choir may not offer the right amount of support they need to be successful. In these cases, a hybrid ensemble may be a better fit. For example, a student who does not need to attend choir with an aid but may not be independent enough to successfully complete all tasks all the time may be successful working with a peer buddy in a hybrid choral format. In recent years, "buddy choirs" and the use of "peer mentors" have become more popular. A buddy choir is a choir that mixes neurotypical students with students with special needs. A buddy choir may or may not employ the use of peer mentors. In some cases, peer mentors are employed in mainstreamed choral ensembles to make the inclusion of a student with special needs possible. In other formats, an ensemble may consist of mentor-mentee pairs or small groups. Peer mentors are usually neurotypical or gifted students that assists both academically as well as socially,

since these are usually the two biggest domains of need, especially with students with ASD. In one case, a gifted student acted as a student teacher and gave additional directing cues, provided a social model, encouragement, and additional instruction to students with special needs (Lapka, 2006). Students frequently learn best and more naturally from their peers, so peer tutors and buddy choirs are often very effective choral formats.

This researcher has conducted observations in several choral ensembles that embody inclusive principles. In one non-auditioned ensemble at the elementary level, the teacher taught her students to be "good friends" and actively help their peers when needed. The teacher explicitly taught the students that everyone is unique and will struggle with something at one point or another, which is why it is always important to be a good friend and help one another out. By explicitly teaching this concept, she increased student acceptance of diversity while simultaneously promoting a welcoming atmosphere in which all students can be included.

This researcher also completed a series of observations of another children's choir and their director. Their conductor strives to create an inclusive ensemble. Although there is an audition process, every student who auditions for the choir is accepted, so the ensemble serves a diverse population of singers. The conductor frequently begins rehearsals with formative assessments disguised as warm-up games. For example, he might sing a melodic or rhythmic pattern, then ask a single student to sing the pattern right back to him. Because he conducts formative assessments on a one-on-one basis during the choral rehearsal, he is able to monitor student progress. In addition to maintaining a focus on progress rather than mastery, the conductor purposefully includes elements in order to promote diversity. For example, he frequently programs music in foreign languages. For one concert, he asked this researcher to

perform a sign language translation of one of the pieces while the students sang. He explained to the students that some people can not hear, so we can do things like sign lyrics to make music more accessible to all people. During these observations, the choral director purposefully strove to build an inclusive ensemble despite an auditioning process by using a progress focused teaching style that uses frequent formative assessment to guide instruction as well as elements that celebrate diversity in the teaching materials.

A succinct definition of an inclusive environment is elusive, but inclusive environments share certain characteristics. They have an element of inclusion in which a diverse classroom of students can be educated. An open minded teacher focused on the success of their students with the ability to differentiate appropriately guides the learning process. A choral director possessing these qualities will place a singer with ASD into the most appropriate choral ensemble format. Once an inclusive environment is established, appropriate differentiation techniques can be employed.

Ch. IV: Differentiating for the Singer on the Autism Spectrum

Once a music educator develops an inclusive ensemble, the director can differentiate appropriately in order to successfully include a student with ASD. Directors can differentiate their instruction by making modifications and adaptations to the components of instruction (content, process, product, affect, and environment) in order to better meet individual student's readiness needs, interests, and learning profiles. Directors often use the domains of needs to determine which differentiation technique would best serve the student with ASD. Individualized instruction can be crucial for the success of a student on the spectrum participating in a choral ensemble.

Hammel and Hourigan (2017) state that "Typically, the percentage of students with disabilities in performing ensembles is far less that the overall percentage is students with disabilities in a school." (p. 155). This may suggest that performing ensembles, such as choral ensembles, have been inaccessible for students with ASD. Differentiation techniques level the playing ground and make performing ensembles more accessible to students with ASD. As discussed in chapter one, teachers differentiate by making modifications and adaptations to the components of instruction (content, process, product, affect, and environment) based on a student's readiness needs, interests, and learning profiles. Differentiation is good teaching and will benefit all students in the class. It is also an extremely important tool for inclusive classrooms when a teacher may be teaching students with IEPs and neurotypical students simultaneously.

A choral director should be cautious about assuming the singer's needs and abilities based on a diagnosis of Autism. As mentioned before, there are several subcategories of ASD,

and each individual has a unique set of abilities and needs. Using a label free approach allows educators to focus on the individual student's need rather than making assumptions based on a diagnosis. Using a label-free approach is especially crucial for twice exceptional students. Hammel and Hourigan (2017) describes, "Students who are designated as 'twice exceptional' are intellectually gifted and also possess a special need that requires an Individualized Education Program (IEP) or 504 Plan for appropriate inclusion in public school classrooms" (p. 180). Teachers who generalize a student's educational needs and assets based on a diagnosis run the risk of failing to meet the complex needs of twice-exceptional students.

While teachers should use a label-free approach, there are common symptoms of ASD of which teachers working with students with ASD should be aware. Sousa (2007) identifies deficits in social interaction, communication, memory and recall; and the presence of repetitive and/or obsessive behaviors or interests, sensory symptoms, and mental challenges as common symptoms of ASD (pp. 179-183). Other researchers identify similar symptoms. Directors may consider differentiation techniques based on the domain of need (cognitive, communicative/social, emotional/behavioral, and physical).

The Cognitive Domain

The cognitive domain is perhaps the most foundational domain of need that a choral director should examine. Hammel and Hourigan (2013) says:

> ...much of the research points to genetic and neurodevelopmental challenges that occur early in life. These challenges affect a person's ability to process judgement, creativity, emotions, speech, and language, as well as the processing and interpretation of sensory

information. Consequently, these difficulties have a profound affect on the ability of a

child to learn. (p. 54)

As a result, many students with ASD have Individualized Education Plans (IEP) to which choral

directors should adhere. Since learning as measured by progress is at the core of an inclusive

choral ensemble, choral directors need to use differentiation techniques to help overcome

challenges a singer with ASD may need to overcome in the cognitive domain.

Many researchers stress the importance of making the relevance of a task obvious to the

student with ASD to engage their attention. Learning key signatures may seem pointless to a

singer on the Autism Spectrum unless they understand that identifying the correct key signature

will allow them to identify and start on the correct Solfege syllable when sight reading. Making

connections between concepts will increase cognitive function.

One method a choral director can use in the cognitive domain is to complete a task

analysis. In a task analysis, the director will break a concept into the smallest elements of skills

and/or knowledge a student needs to complete the task. For example, in order for a student to

sing an assigned rhythm in four/four time including two eighth notes, a quarter note, and a half

note requires that the student be able to keep and understand a steady beat in addition to counting

the beats correctly. After the task is broken into the smallest elements, the teacher methodically

and deliberately teaches each part allowing extra time for comprehension. Hammel and Hourigan

(2013) notes that "Repeated practice with specific questions and skills can dramatically improve

the ability of a student with autism to consider more abstract questions and to respond

reflectively during a music class or ensemble" (p. 58). The teacher may need to repeat teaching

methods and increase the connection to relevance before scaffolding to new concepts.

Another powerful differentiation strategy is to teach according to learning modality, which is an element of a learner's profile. Learning modalities refer to the way an individual's brain learns best: aural, visual, or kinesthetic/tactile. Most learners have a primary learning mode in which they learn best. Choral directors who teach through a variety of learning modes will reach more students. A choral director can also cater to the preferred learning mode of a student with ASD if needed. For example, a student who learns best aurally may more efficiently learn their part if they listen to recordings of their parts. A director can input a student's part into Finale, enable the colored noteheads, then print a copy for a student who learns best visually in order to help them make visual connections between pitches. A tactile learner may enjoy creating and using manipulatives to remember the order of the lyrics. Likewise, a kinesthetic learner may enjoy creating and sequencing movements to accompany the lyrics in order to learn them.

Tomlinson (2014) recommends trying tiered activities to meet students at their readiness levels (p. 133). Many teachers already tier their questions and/or tasks based on Bloom's Taxonomy. Tiered activities or questioning allows students to progress steadily one level at a time, fitting with the scaffolding technique. A choral director may assign writing assignments, such as a reflection on their performance in rehearsal or a music theory worksheet, based on the readiness level of a singer. Using tiers allows singers with ASD to learn at the most appropriate level for their current skills, reducing frustration and anxiety.

The most effective differentiation strategies to overcome challenges in the cognitive domain will differ based on the student, but are likely to be strategies that meet the student at their readiness level and then build from there or strategies that appeal to the learning profile of the student. Many of the strategies related to the cognitive domain can (and should) be

implemented across the ensemble for all students in the ensemble. These strategies especially

increase the likelihood of success for a student on the Autism Spectrum.

<u>The Communicative/Social Domain</u>

Communication issues and social difficulties are two of the most frequently identified

characteristics associated with Autism Spectrum Disorder. A cohesive choral ensemble functions

when the director has effective communication with the singers while the singers are functioning

individually as a whole. In other words, a choral ensemble thrives on communication and is

therefore very social. This social environment brings many benefits as well as challenges to

students with ASD.

Eye contact may be one issue that arises in singers with ASD. Hammel and Hourigan

(2013) state that students on the Autism Spectrum may struggle to make and maintain eye

contact because the student "does not receive the necessary communicative information through

eye gaze because of cognition interruptions or language delays" (p. 33). Regardless of the

causes, Hammel and Hourigan continue observing that, "Learning to make eye contact is critical

to the overall communication development of students with autism. Through appropriate eye

contact, a student gains further information and begins to develop a new channel of

communication" (p. 35). A student's ability to gain information from eye contact has

implications for cognitive function as well as communication skills. Hammel and Hourigan also

suggest improving eye contact skills by deliberately insisting and encouraging eye contact from

all students (p. 35). "In a band classroom, this type of eye contact can be rehearsed as a global

skill that all students are mastering," they say. "By creating a universal goal, everyone (all

students, rather than just the student with autism) can benefit from the same set of expectations"
(p. 90). Eye contact is important in both a band and a choral ensemble, because students need to
be able to watch the director in order to receive and follow the conducting. Targeting and
rehearsing this skill will strengthen and increase the singer's ability to make and maintain eye
contact as well as make sense of and process the information they receive in doing so. Directors
can further aid this process by deliberately and explicitly teaching all students what a certain cue
or gesture means.

Hammel and Hourigan (2013) outline "steps to effective communication with students
with autism in the music classroom:" Establish eye contact, encourage joint attention, encourage
reciprocation, and reflection (pp. 43-45). Thus, after eye contact is encouraged, the director and
student can focus on a concept together. Then the student is encouraged to respond. Reflecting
on the interaction will guide a teacher's future endeavours to engage the student in
communication. This process could occur in a conversation as the student walks through the door
into class. By practicing this routine, the student will become more adept at communicating in
social settings.

Students with ASD may attempt to avoid interacting in social situations. For example,
Hammel and Hourigan (2013) point out that, "Echolalia can be a way for students with autism to
excuse themselves from engaging with the world around them" (p. 35) Echolalia is when
someone repeats a word or phrase originally said by someone else. Simply repeating something
verbatim is very low in cognitive complexity and is hardly interactive. Choral directors can work
to decrease the occurrence of echolalia "much like eye contact issues… deliberately and
consistently insist on attention," (Hammel and Hourigan, 2013, pp. 35-36).

For some students, communicating in social environments will be very difficult. In certain cases, students with ASD may be almost or entirely non-verbal. In these situations, a student's placement in an ensemble that demands vocal participation should be strongly reconsidered. A self-contained choir, instrumental ensemble, or general music setting may be the best place for students who have immense struggles with verbal communication. In these cases, a Picture Exchange Communication System is a common way of overcoming communication issues. "PECS is a system of picture icons to use in place of or along with verbal prompts." (Hammel and Hourigan, 2013, p. 45). Hammel and Hourigan also point out that teachers can make their own icons or use a program called Boardmaker (p. 46). In cases where directors are implementing PECS, directors are using an adaptation so that the student can communicate (product) in a way that better fits the readiness of the student.

Social stories are another technique educators can use to overcome deficits in communication and social skills. "Social stories are short stories written for a person with autism to help them understand and behave appropriately in specific social situations" (Hammel and Hourigan, 2013, p. 49). Like a task analysis, they say, "Each step in the process of an event of procedure is depicted visually, and a scripted story is created and rehearsed" (p. 12). Social stories help reframe events as a more formal structured interaction. Choral directors may find social stories as useful supports. For example, a choral director may choose to develop social stories to teach a singer on the Autism Spectrum how to enter the rehearsal space, initiate an interaction with a peer buddy, then get set up for the beginning of rehearsal. Social stories can be retaught, rehearsed, and expanded as needed.

Communication and social interaction are key elements of a choral ensemble. A director can use many tools and techniques to overcome a student's challenges in this domain and even better educate other singers in the ensemble. Many of the described strategies to overcome challenges in this domain are meant to target and specifically help students with ASD.

The Emotional/Behavioral Domain

Educational environments function more efficiently when students adhere to behavioral expectations. However, behavior issues often result from emotional stimulation. Students with special needs face the emotional challenges of their exceptional needs in addition to many of the same challenges their neurotypical peers face in adolescence. In many cases, students with special needs also have issues understanding, processing, and coping with their emotions. Hammel and Hourigan (2013) list anxiety as an emotion "central to the life [of] students who struggle with autism" (p. 73). Students with ASD are at a higher risk of having problems in the behavioral domain if they also have issues in the emotional, communication, or cognitive domains. A teacher who can manage behavior and teach students strategies to overcome emotional issues will be able to teach more effectively. Commonly used behavior management strategies such as comprehensive classroom management plans and intervening during a behavior cycle will help choral directors manage strategies for successful inclusion and differentiation. Other behavior management strategies can be used to target specific needs.

A comprehensive classroom management plan applies to all students in the classroom. Teachers create a set of rules and plan appropriate consequences. The plan is taught to the students before misbehavior begins so that the teacher need only enforce the plan and

consequences. Comprehensive classroom management plans provide formal structure from which many students with ASD benefit. Some students with ASD will need a more supportive and extensive behavior plan called a 504 Plan. Like with IEPs, choral directors should participate in the development of and adhere to a student's 504. There are many behavior management strategies a choral director can use.

Many behavior specialists identify a behavior cycle. Teachers can manage student behavior by intervening appropriately in the cycle. Hammel and Hourigan (2013) identify a simple behavioral cycle: the antecedent, behavior, and consequence. They suggest that teachers identify the three stages by asking what happened right before the behavior, what the intent of the behavior was, and what reward does the student receive from the behavior? (pp. 74-75). Once the teacher can identify these things, they can begin working to alter, reduce, or eliminate the inappropriate behaviors. For example, a choral director might notice that a singer on the Autism Spectrum becomes agitated when the director plays videos or recordings for the ensemble. The agitation grows into aggression towards the singer's peers which results in the student's removal from the environment. If the director is tracking behavior, they might notice that the video or recording is the antecedent to the aggression (behavior) and removal (consequence.) The director could talk to the student and/or try a variety of techniques to overcome the antecedent. In this example, the student may be consciously, or unconsciously, irritated by the sound of the video or recording. (Many students with ASD have sensory issues.) In the future, the director may provide ear plugs or lower the volume before playing the video or recording thus decreasing discomfort and eliminating aggressive behavior stimulated by the noise sensitivity. This sort of

intervention can be used for any struggling student, and is effective for students on the Autism Spectrum.

Behaviors that are disruptive and/or non-compliant may not be as easily managed. In those cases, a teacher may consider using differential reinforcement techniques. "In general, differential reinforcement involves either giving or withholding reinforcement, depending on whether the behavior is desirable or undesirable" (The IRIS Center, 2005, p. 5). The technique is dependent on the individual student and may be successful because the technique is based on change resulting from positive reinforcement rather than only the enforcement of negative consequences.

Ferraioli and Harris (2011) point out that "[Challenging] behaviors may be more likely to arise in a new inclusion setting because of anxiety associated with change, decreased rates or quality of reinforcement, and/or higher student to teacher ratios." They suggest using self-management techniques in those situations. "Because self-management techniques can be skill-based, easy to teach, and require minimal additional support from peers and/or classroom teachers, they are often conducive to inclusive education settings" (pp. 12-28). Self-management strategies need to be explicitly taught. When used effectively, students begin taking ownership for their own behaviors and learn to manage their own emotions, which is an extremely important skill for students struggling with Autism.

Cognitive coachings, a similar behavior intervention strategy, also seek to shift the ownership and responsibility of behavior to the individual. During a cognitive coaching,

> Students are asked why they engage in a particular behavior and are coached to try more
> successful ways of achieving their goals. Making students aware of how their behavior

affects them and others is a primary goal of this method… Students are encouraged to

think before acting and to make choices that are consistent with their overall academic

and social well-being. (Hammel and Hourigan, 2013, p. 11)

Cognitive coachings seek to reconcile the emotional response with an appropriate behavioral

response. This may be an overwhelming challenge for students with ASD. Hammel and

Hourigan note that these coachings need to happen every day if possible regardless and that

"Once a student is able to cognitively comprehend these relationships, her behavior may be

modified for a lifetime" (p. 12). Although cognitive coachings may require additional effort on

the choral director's part, the director would be accomplishing much more than simply changing

a single classroom behavior.

Regardless of ideal classroom management and individualized interventions targeting a

specific factor of the behavior cycle, behavioral issues may still arise from students on the

Autism Spectrum. Many students with ASD engage in a behavior known as stimming or

self-stimulation. Self-Stimulation is usually in the form of an odd or repetitive behavior and

"Many professionals who work with children on the autism spectrum explain stimming as a form

of self-imposed isolation" (Hammel and Hourigan, 2013, pp. 75-76). Although isolation suggests

that the student is not engaged or participating in the lesson, professionals also note that

stimming has a "calming effect [on the] sensory motor system," and that sometimes, "the student

must engage in these behaviors for learning to take place" (Hammel and Hourigan, 2013, p.

112). Deciding whether to intervene or allow stimming behaviors can be difficult. To further

complicate issues, stimming can be distracting for other students. One student rocking back and

forth on tightly packed risers during a choral concert can be difficult to tolerate. In an inclusive

environment, the teacher has two options: change the individual's behavior or desensitize everyone else. Hammel and Hourigan (2013) suggest consulting an occupational therapist first to see if changing the behavior would be better for the student (p. 12.) If not, desensitizing everyone else may be healthier.

Emotional stimulation causes behavioral incidents. "These behavioral outbursts are forms of communication and function as an indication that something is amiss in the student's environment" (Hammel and Hourigan, 2013, p. 73). A choral director's ability to select and implement appropriate techniques to manage student behavior impacts the director's teaching effectiveness.

The Physical Domain

The physical needs domain ranges from an accommodation for a physical mobility issue, or for physical therapy in order to develop the muscles needed to use a healthy breathing technique. The physical demand of being present in a choral ensemble is rather low. The student needs to be able to make it to the classroom, which they should be able to do since every school must be compliant with the Americans with Disabilities Act. The choral director can help make the classroom even more accessible and functional for students with physical mobility needs by creating a sensible arrangement, placing important/frequently used items within easy reach, etc. This is an alteration of the learning environment. Additional alterations to the learning environment or the student's physical location within it may need to change in order to overcome sensory issues, which are common in people with ASD. Sensory issues are related to the physical domain, though they do not directly concern mobility. Although choral directors frequently ask

students to stand in order to prepare the body for better posture and technique, a student can sit and continue to participate if necessary. Since the body is the students' instrument in choral music, every student must learn how to control and use the body for singing. Students on the spectrum may have additional diagnoses or issues. A choral director may need to collaborate with a physical therapist in order to better prepare and train the body for the physical skills needed to sing properly, such as breathing techniques and posture. Other students may also benefit from this approach. Generally, solutions to the needs in the physical domain serve the exceptional student, though some techniques also benefit other students.

This researcher has had the opportunity to observe a few choral directors who differentiate appropriately for singers on the Autism Spectrum. The director of a non-auditioned elementary ensemble had her singers sit on the floor or stand. One student with ASD who attended with an aide sat in a chair in the back of the class. He has a condition that keeps the tendons and muscles in his feet and ankles tensed up so that he frequently walks on tiptoes. Sitting in a chair was a better option for him than sitting on the floor or standing for the duration of the rehearsal. The singer also had many stimming behaviors and frequently walked laps around the classroom while making unintelligible noises. When the students became distracted, the teacher said, "Eyes," and her students redirected their attention towards her. She reminded them that anything could happen during a performance and that it was their responsibility to continue singing. She told them that they could start practicing focus. Essentially, the teacher was desensitizing them to the behavior of the student with ASD. The teacher maintained control

over the classroom and kept the students focused on educational progress while effectively collaborating with the aide who handled the behavior of the student with ASD.

The conductor of another children's choir I completed a series of observations with also differentiates for students on the spectrum. Because the conductor uses formative assessments during choral warm ups, he is able to closely monitor student progress. He presents patterns at difficulty levels appropriate for individual students. For example, he gave a rhythmic pattern that mixed eighth note triplets with eighth note duplet to a young gifted and talented singer. He presented a rhythmic pattern of quarter notes and eighth notes without syncopation to an older singer who has several diagnoses including ASD. In addition to modifying the content on the basis of student readiness, the conductor adapted expectations as needed. For example, the singer with dyslexia is not expected to follow along in the music. Instead, she learns her parts aurally. In addition, the conductor provides additional support for students with ASD as needed. One of the singers with ASD self-stimulates by rocking vigorously and becomes distracted. Activities that are high energy or unfamiliar frequently over-excite him. During several concerts, this researcher sat next to the student in order to monitor behavior by proximity and to redirect the student's focus to the music or task at hand as needed. By using differentiation techniques, the conductor was able to include and better educate students of varying needs.

Differentiation techniques better meet the needs of all students, and can be critical for the education of students with Autism Spectrum Disorder. There are a variety of differentiation techniques to address a variety of needs related to cognition, communication/social skills, emotional/behavioral challenges, and physical needs.

Chapter V: Conclusion

Choral directors face many challenges that they need to overcome to effectively teach a student with Autism Spectrum Disorder. Although limited, existing research suggests that the key to success is two pronged: the director must create and place the student in an appropriate inclusive ensemble and then effectively differentiate to meet the needs of all students in the ensemble.

There is substantial information available describing the benefits of music, the details of ASD, and even about how music can play a positive role in the education of a student with ASD. However, specific research about a student's inclusion into a choral ensemble is almost nonexistent. Several successful techniques for differentiation have been identified, though data regarding inclusion are less conclusive. The fact that inclusion and differentiation makes a positive impact on the instruction effectivity for students with ASD is clear.

Brain research concludes that music is beneficial for students on the Autism Spectrum. The music therapy field is growing and overlaps with music education. Professionals in both fields must address the challenges presented by working with a student with ASD. Music therapists seek to use music to treat client behaviors while music educators seek to educate the student. Regardless of their intentions, music therapists and music educators examine domains of need (cognitive, communication/social, emotional/behavioral, and physical). Music stimulates the brain and increases function in all of these domains. Therefore, music is beneficial for students with ASD who may have needs in these domains.

In order to better serve students with ASD, music educators need to make inclusive ensembles available. Selecting the appropriate choral ensemble format, such as self-contained,

mainstreamed, or a hybrid of the two like buddy choirs, for the student is essential. In order to make an ensemble more inclusive, directors may develop a progress-based teaching style and encourage an atmosphere that welcomes all students. Directors may also improve personal qualities and skills and commit to an inclusive teaching philosophy.

Choral directors also need to select and implement differentiation techniques in their ensemble, especially for students with ASD. Most differentiation techniques will benefit all students in the classroom. However, directors may need to use some techniques to target the needs of singers with ASD. Many techniques target needs of a specific domain, but may benefit the needs in multiple domains. Instructional differentiation occurs when an educator examines the readiness needs, interests, and learning profiles of the student and then makes modifications or adaptations to the components of instruction (content, process, product, affect, and environment). Since there are so many manipulatable factors of differentiation, directors can find techniques to address practically every challenge.

For students with ASD or any special need, differentiation techniques implemented in an inclusive educational environment makes a huge impact on the student's education. More research is needed, especially on the inclusion of students with ASD in a choral ensemble, though the existing research is positive. This research is especially critical because classrooms are becoming more diverse.

As more research becomes available and applicable, more teachers will choose to shift to inclusivity and differentiation. Choral ensembles will be more suitable for students with ASD and directors will be able to effectively meet their needs using differentiation techniques. Experimental ensembles/music making experiences will become more numerous. Many

independent ensemble and music directors have already embraced the ideals described in this study.

Music educators have an obligation to educate all students in their classrooms. Educators can better serve a diverse population of students by creating inclusive environments and adopting differentiation techniques. Inclusive ensembles and differentiation practices are crucial to the success of students with Autism Spectrum Disorder in choral ensembles.

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