

SERVING SPECIAL EDUCATION STUDENTS IN THE MUSIC CLASSROOM:
ACCOMMODATING AND ADVOCATING FOR LEARNERS WITH EXCEPTIONALITIES

By

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Liberty University

A MASTER'S THESIS PRESENTED IN PARTIAL FULLFILLMENT
OF THE REQUIREMENTS FOR THE DGREE OF
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Abstract

Music education programs positively impact the lives of students both socially and emotionally. As the following research suggests, music may have an even greater impact on students with disabilities or exceptionalities. Due to the lack of accessibility, funding, time, training, and other issues, opportunities in music education programs may be limited to groups of students who may not fit the standard music education student profile. As teachers of common core classes may struggle to accommodate students with exceptionalities and may feel as if they are lacking in resources or other needed preparation to adequately serve these students, these struggles are also present in the music classroom. This can potentially inhibit an exceptional student from being involved in a music program or limit the student's opportunity to participate. The aim of this study is to show why students with exceptionalities may be limited in their involvement in music programs and to help uncover issues that may impede students with exceptionalities from readily participating in music programs to the same extent as students without disabilities. The study's purpose is to inform music educators and decision makers that music is an all-encompassing subject that should be accessible to all students.

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CHAPTER ONE: INTRODUCTION

“In school, music has always made me feel safe...it really did help take me away from my situation.”¹ As expressed in this quote by former exceptional music student Matilda Drake, music education programs positively impact the lives of students both socially and emotionally. As the following research suggests, music may have an even greater impact on students with disabilities or exceptionalities. According to the Americans with Disabilities Act—or the ADA—a person with a disability is defined as “a person who has a physical or mental impairment that substantially limits one or more major life activity.”² Due to the nature of these terms, the terms exceptionality and disability may be used interchangeably. Although not all exceptionalities fall under the category of disability, all disabilities are considered exceptionalities. For the purpose of this research, a person with a disability or an exceptionality will also include anyone who needs accommodations in the classroom. Unfortunately, due to lack of accessibility, funding, time, or other issues, the opportunity to participate in music education programs may be limited, or even become inaccessible for those with exceptionalities. Ideally, this is a situation that music educators should strive to avoid due to the inherent belief that music should be made available to everyone. We should advocate—or publicly support³—those who veer away from the standard uniformity that is expected in performance groups and other music classes. Thus, courses such as band, choir, music history, theory, or college music degree studies should not exclude those with exceptionalities or disabilities.

The aim of this study is to show why students with exceptionalities may be or may have

¹ Matilda Drake, phone interview by author, July 29, 2021. (Pseudonyms are used here to protect the identities of the participants.)

² *adata.org*, s.v. “person with a disability.”

³ *Cambridge Dictionary*, s.v. “advocate.”

been limited in their involvement in music programs. Whether it is due to the unique needs of these exceptional students, the lack of involvement from music teachers in the IEP process, the lack of funding for students in acquiring needed assistive technology, or any other barriers to participation in music programs, the goal of this research is to uncover why students with disabilities may not be as readily involved in music classes, or when they are, why some may still struggle. This research also identifies various resources that can be accessed by music teachers and provides information to better assist and advocate for students with disabilities and to help acquire special certifications for working with these exceptional students.

Background

There are teachers of common core classes who struggle with the ability to advocate for or accommodate students with disabilities. These teachers may feel as if they are lacking the resources or other needed preparation to adequately serve these students. According to the article, “Perceptions of Using Assistive Technology for Students with Disabilities in the Classroom,” most teachers surveyed disagreed with the idea that all students with disabilities receive what they need to be successful, thus making it more difficult to accommodate them. Unfortunately, there is often a struggle to acquire needed technologies and other resources that will help students with disabilities to become more successful.

That said, if a school cannot provide these resources to common core educators, there is a strong possibility that this struggle is greater for music educators.⁴ Though most music teachers welcome students with exceptionalities into their classrooms, the lack of funding, time, resources, and other issues may arise, thus impairing the students’ greatest potential success.

⁴ Areej Ahmed, “Perceptions of Using Assistive Technology for Students with Disabilities in the Classroom,” *International Journal of Special Education*, Vol. 33, no.1 (2018), 136.

This may result in music teachers feeling as though having students with disabilities or exceptionalities in their classes may not be an option, and consequently, be uninvolved in the education of these students. Music educators may also distance themselves from, or not involve themselves in, the Individual Educational Program (IEP) process that sets goals for students with disabilities and places them in classes accordingly. While elementary music teachers are likely to work with all students in their assigned schools regardless of the student's exceptionalities, music teachers at the secondary level, or higher, may need to become more involved with students who have disabilities in order to truly make music accessible to everyone. If students with exceptionalities acquire the needed tools, accommodations, and advocacy required to be successful, they would function more readily as members of any group, thus benefitting them with improved social, motor, and academic skills, as well as provide a healthy outlet to express themselves, and a sense of community that positively impacts them for life.

Statement of the Problem

Although there have been major strides made in the field of music education in order to accommodate and advocate for students with exceptionalities, there are still pressing issues that need to be addressed. Many exceptional music students and music teachers alike remain unaware of the resources that are available to students and how to acquire such accommodations. When these resources are not made available to students in need, the results may isolate or alienate exceptional music education students.

Statement of Purpose

Once music educators have been made aware of issues that may impede students with exceptionalities from readily participating in music programs to the same extent as students without disabilities, the purpose of this research is to help music educators make music

accessible to all. This will be accomplished by examining specific issues that may limit the ability of exceptional students to fully participate in music programs and offer possible remedies to these barriers by identifying various resources that can be accessed by music teachers in order to better assist and advocate for students with disabilities.

Research Questions

The following questions will be addressed throughout this research:

1. Have music educators sufficiently advocated for students with exceptionalities and disabilities?
2. What assistive technologies are available to music educators in order to assist students with disabilities?
3. Why is music education sometimes limited for students with exceptionalities?
4. What are the benefits of being involved in a music program for students with exceptionalities, and why should we make music more accessible to students with exceptionalities?

In answering these questions, this research will attempt to substantiate the importance of making music programs accessible to all.

Hypothesis

If music educators assist students with exceptionalities in acquiring the needed tools, accommodations, and advocacy required to be successful, these students will function more readily as members of any music classroom or group. Thus, the many benefits will include, but not be limited to, improved social, motor, and academic skills, as well as provide a healthy outlet to express themselves, and a sense of community that positively impacts them for life.

Significance of the Study

The significance of this research is to influence the field of music education by bringing to light the roadblocks that prevent the exceptional student population from fully participating in school music programs and offering reasonable solutions to the problems that students, parents, and teachers can utilize. This study will show the impact that music classes have in the lives of students with disabilities as they experience the many benefits of being involved in a music program, as music classes are often the highlight of many students' days and can be even more impactful for students who already feel different as they have the opportunity to be included as an integral part of a group.

Definition of Terms

Advocate—To publicly support.

Agoraphobia—“is a type of anxiety disorder in which you fear and avoid places or situations that might cause you to panic and make you feel trapped, helpless or embarrassed.”

The Americans with Disabilities Act (ADA)—is a law that was passed in 1990. “The ADA is a civil rights law that prohibits discrimination against individuals with disabilities in all areas of public life, including jobs, schools, transportation, and all public and private places that are open to the general public. The purpose of the law is to make sure that people with disabilities have the same rights and opportunities as everyone else. The ADA gives civil rights protections to individuals with disabilities similar to those provided to individuals on the basis of race, color, sex, national origin, age, and religion. It guarantees equal opportunity for individuals with disabilities in public accommodations, employment, transportation, state and local government services, and telecommunications.”

Asperger Syndrome (AS)—now referred to someone with high functioning autism, Asperger’s Syndrome is an outdated term. See autism spectrum disorder.

Assistive Technology (AT)—(also referred to as adaptive technology) is defined by the Assistive Technology Industry Association as, “any item, piece of equipment, software program, or product system that is used to increase, maintain, or improve the functional capabilities of persons with disabilities.”

Attention Deficit Disorder (ADD)—is the former medical term used until the DSM-5 was released to describe the ADHD Inattentive type.

Attention Deficit/Hyperactivity Disorder (ADHD)—“is one of the most common mental disorders affecting children. ADHD also affects many adults. Symptoms of ADHD include

inattention, hyperactivity, and impulsivity.” This diagnosis impacts around 8.4% of children and 2.5% of adults, and has three different types.

Attention Deficit/Hyperactivity Disorder Inattentive Type—is one of the three types of ADHD. This type of ADHD makes a person less attention to detail and more likely to forget things. Formerly referred to as ADD.

Autism Spectrum Disorder (ASD)—Also commonly referred to as Autism, “Autism Spectrum Disorder (ASD) is a complex developmental condition that involves persistent challenges in social interaction, speech and nonverbal communication, and restricted/repetitive behaviors.” Autism and its effects differ in the severity of symptoms for each person. No two cases are the same.

Bimodal Hearing—The use of two devices, such as a cochlear implant and a hearing aid.

Cerebral palsy (CP)—“is a group of disorders that affect a person’s ability to move and maintain balance and posture.”

Complex Post Traumatic Stress Disorder (C-PTSD)—is a response to chronic traumatization over the course of months or years. This trauma “can include emotional, physical, and/or sexual abuses, domestic violence, living in a war zone, being held captive, human trafficking and other organized rings of abuse, and more.”

Disability—A physical or mental impairment that substantially limits one or more major life activity.

Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)—a manual used as a diagnostic tool that is published by the American Psychiatric Association.

Down Syndrome—a condition that is caused by a person having an extra chromosome. People with Down syndrome have an extra copy of twenty first chromosome.

Dyslexia—is defined by the International Dyslexia Association as a specific learning disability that is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities.

Exceptionality—A child with an exceptionality means a child evaluated in accordance with the federal and/or state regulations as having:

- Autism
- Deaf / blind
- Developmental delay
- Giftedness
- Hearing impairment including deafness
- Intellectual disability
- Orthopedic impairment
- Other health impairments
- Serious emotional disturbance
- Specific learning disabilities
- Speech or language impairment
- Traumatic brain injury
- Visual impairment including blindness

Hearing Impairment—a problem with one or more parts of the ear or ears, the nerves coming from the ears, or the part of the brain that controls hearing.

IEP—a plan or program developed to ensure that a child who has a disability identified under the law and is attending an elementary or secondary educational institution receives specialized instruction and related services.

Individuals with Disabilities Education Act (IDEA)—A law that makes available a free and appropriate education to children with disabilities.

Leber Congenital Amaurosis (LCA)—“Is a rare type of inherited eye disorder that causes severe vision loss at birth. LCA is inherited in an autosomal recessive manner, meaning that both parents must carry a defective gene for the condition in order to pass it on to their children.”

Nystagmus—is a vision condition in which the eyes make repetitive, uncontrolled movements.

Prelingually—Before speech.

Specific Learning Disorder—according to the American Psychiatric Association this is “a neurodevelopmental disorder that begins during school-age, although may not be recognized until adulthood.” In order to diagnose a specific learning disorder, a person must show signs of difficulty in reading, writing, mathematic skills, as well as mathematical reasoning skills.

Visually Impaired— any kind of vision loss, whether it is someone who cannot see at all or someone who has partial vision loss.

504 Plan—a plan developed to ensure that a child who has a disability identified under the law and is attending an elementary or secondary educational institution receives accommodations that will ensure their academic success and access to the learning environment.

CHAPTER TWO: LITERATURE REVIEW

The research literature used is categorized by the following topics as it applies to music education:

1. What is an Exceptionality?
2. The Use of Assistive Technology.
3. The Benefits of Participation in Music Programs.
4. The Needs of College Students with Exceptionalities.
5. Advocating for Students with Exceptionalities Through Training.
6. The Role of the Teacher, Parent, and Student.
7. Why Music Programs Should Be More Accessible.

Each study, article, and public record was selected after being analyzed in order to provide an accurate depiction of the struggles of music students with exceptionalities from both a student and a teacher perspective. This chapter contains brief summaries of articles and research studies, that will be further elaborated upon in Chapter Four. Additionally, Chapter Two provides information on what an exceptionality is, how an exceptionality is diagnosed, and who diagnoses a person with an exceptionality. The following research is comprised of studies and information on various exceptionalities. What sets this research apart is that Chapter Four contains several personal interviews with music students who have struggled with the exceptionalities that are discussed throughout the chapter, as well as interviews with music teachers who have taught the exceptional student population. This allows for readers to hear first-hand accounts from both students and teachers as to where music education has been successful with exceptional students, and where it has failed.

What is an Exceptionality?

It is not uncommon for music teachers to have students needing special assistance in a music classroom. These needs for accommodation likely stem from a disability or an exceptionality. The term exceptionality is more encompassing than the term disability. The terms

exceptionality and disability will be used interchangeably due to the nature of the terms.

Although not all exceptionalities fall under the category of disability, all disabilities are considered exceptionalities. The term exceptionality may include, but is not limited to:

1. Autism,
2. Blindness or visual impairment,
3. Deafness or hearing impairment,
4. Developmental delay,
5. Giftedness,
6. Intellectual disability,
7. Orthopedic impairment,
8. Serious emotional disturbance,
9. Specific learning disabilities,
10. Speech or language impairment,
11. Traumatic brain injury.⁵

Exceptionalities may present as mild to profound and may require accommodations. For the sake of research purposes, multiple disabilities will be discussed in this and the following chapters; however, it is important to keep in mind that this research does not cover all disabilities or exceptionalities.

One means used to determine whether a person has an exceptionality is the DSM-5. “*The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)* is a manual used as a diagnostic tool that is published by the American Psychiatric Association.”⁶ This tool can be used by a physician to diagnose an exceptionality. Although a school’s IEP team may use this to aide in the process in granting access to a special education class, IEP, or 504 Plan, they cannot officially diagnose a student with an exceptionality. Only a physician is able to do this.⁷ An

⁵ “Special Education Areas of Exceptionalities,” *Olathe Public Schools* (2021), 1.

⁶ “Diagnostic and Statistical Manual of Mental Disorders (DSM-5).” *American Psychiatric Association* (May 2013), 1.

⁷ Bob Cunningham, EdM, “The difference Between a School Identification and a Clinical Diagnosis,” *Understood For All Inc* (2020), 1.

official diagnosis from a physician and the creation of an IEP or 504 Plan are steps taken toward meeting a common goal—accommodating the student. In order to best accommodate an exceptional student, seeking an official diagnosis is recommended.

When being considered for an IEP or 504 Plan, a student must be deemed to have an exceptionality by a committee. This committee is called the Identification, Placement, and Review Committee (IPRC). This process is prescribed under the Education Act, Regulation 181. “The IPRC is a formal process used by school boards to decide whether the student is exceptional and in need of special education programs and services.”⁸ This committee usually consists of the principal and two schoolboard members. The committee decides whether or not a student is exceptional by looking through his or her grades, information from observations, and assessments to determine if the student meets the criteria of being exceptional.

ADHD

One group of students who may require accommodations are those with ADHD. The article, “What is ADHD?” by Ranna Parekh, explains in detail what ADHD is, how it impacts people, provides accurate statistics concerning this population, and discusses what treatments are available. To best accommodate for a student with ADHD, one must first understand this exceptionality. Attention Deficit/Hyperactivity Disorder: “ADHD is one of the most common mental disorders affecting children; however, ADHD also affects many adults. Although there are three different types of ADHD, for the sake of this research ADHD Inattentive Type will be discussed. Symptoms of ADHD include inattention, hyperactivity, and impulsivity.”⁹ This

⁸ Alison Morse, “Understanding Categories of Exceptionality,” *Easter Seals Kids At School* (2021), 1.

⁹ Ranna Parekh, M.D., M.P.H. “What is ADHD?” *American Psychiatric Association* (July 2017), 1.

diagnosis impacts approximately 8.4% of children and 2.5% of adults. Students with ADHD tend to suffer with impulse control and act on thoughts before thinking through situations. Students with ADHD also tend to lose focus unless fully engaged in multi-tasked learning experiences. Although the H in ADHD stands for hyperactivity, it is a common misconception that those with ADHD are strictly physically hyperactive. Actually, the hyperactivity aspect of ADHD is most commonly seen in how a person's brain functions—in other words, being able to relax and shut their brains down and being able to focus on just one task or thought. “Attention Deficit/Hyperactivity Disorder Inattentive Type is one of the three types of ADHD and was formerly referred to as Attention Deficit Disorder, or ADD. This form of ADHD does not appear outwardly hyperactive.”¹⁰ ADHD Inattentive Type makes a person less attention to detail and more likely to forget things—for example, misplacing keys, wallets, credit cards, glasses, and homework assignments. Unlike the learning process for normal students, students with ADHD have an interruption in the chemical changes that happen in the brain during the learning process. Students with ADHD learn best when learning activities are brief and tasks alternate between hands-on and intensely cognitive experiences. In other words, the learning process for a student with ADHD has to include all forms of learning, including tactile, auditory, and visual. Thus, the best way to teach a student with ADHD is to keep the learning environment structured in order to keep him or her on task.¹¹

Autism

Autism Spectrum Disorder (ASD), also commonly referred to as Autism, is another category of exceptionality. It is a complex developmental condition that involves continued

¹⁰ Ranna Parekh, M.D., M.P.H. “What is ADHD?” *American Psychiatric Association* (July 2017), 1.

¹¹ Shannon K. de l' Etoile, “Teaching Music to Special Learners: Children With Disruptive Behavior Disorders,” *Music Educators Journal*, Vol. 91, no. 37 (2005), 1.

challenges in social interaction, speech and nonverbal communication, and restricted/repetitive behaviors.¹² In the article, “What is Autism Spectrum Disorder?” by Dr. J. Nathan Copeland, the author discusses autism and its many effects, as well as the levels of severity along the autism spectrum. Autism and its effects differ in the severity of symptoms for each person, and the range of severity is vast and ever changing. No two cases are the same—much like other disorders and physical impairments. In the past, a high functioning person with autism was referred to as having Asperger Syndrome (AS). Asperger’s Syndrome is an outdated term due to the offensive history and research behind the name.¹³ Although there are functioning labels for Autism, it is important to remember that those with Autism should not be treated as if those labels define them. Although labels are important in giving educators an understanding of what to expect of these students, it is important to remember that Autism is very different for everyone. That said, a student has the potential to work above or below their functionality label, depending on their individual case. Some of the most common symptoms of Autism are sensory issues which can cause stimming. Communication issues can include:

1. Speech delay
2. Lack of verbal communication
3. Difficulty understanding emotions (including their own)
4. Avoidance of eye contact
5. Difficulty understanding or interpreting abstract ideas and taking them literally
6. Difficulty making friends and keeping them

¹² J. Nathan Copeland, M.D., M.P.H., “What is Autism Spectrum Disorder?” *American Psychiatric Association* (August 2018), 1.

¹³ “What is Asperger’s Syndrome?” *Cleveland Clinic* (January 2, 2021), 1.

Lastly, some of the behavioral and emotional control issues include:

1. Finding it difficult to accept change or cope with it
2. Being overly focused on special interests to the point of excluding others
3. Expecting other to be just as interested in their special interests
4. Difficulty accepting changes of routine
5. Avoidance of loud noises
6. Stimming
7. Arranging items in a particular manner

Interestingly enough, there have been numerous studies on autism throughout the years on how those with autism respond to music. However, the unfortunate reality is that there is still limited knowledge as to exactly how music education impacts students with autism. The study, “Music Improves Social Communication and Auditory–Motor Connectivity in Children with Autism”, explained it by stating that although there is reasonable evidence to believe that it has an impact on behavioral issues and motor skills, there is little evidence to back claims that it has an impact on brain function.¹⁴ However, the study “Understanding and Teaching Students with Autism in Music Education Settings,”¹⁵ discussed why music teachers should research the impacts that music has on autistic music students and why they should know how to accommodate them. The author of the article, Dr. Amalia Allen, also discussed several topics concerning the autism diagnosis, as well as provided a section labeled “How to Prepare Music Lessons.” Additionally, she provided a video of Dr. Pamela Heaton, one of the world’s leading researchers on how music impacts people with autism. One of the most important points that Dr. Heaton mentioned was that we should not generalize the diagnosis of autism. As autism impacts

¹⁴ Megha Sharda, Carola Tuerk, Rakhee Chowdhury, Kevin Jamey, Nicholas Foster, Melanie Custoblanch, Melissa Tan, Aparna Nadig, & Krista Hyde, “Music Improves Social Communication and Auditory-Motor Connectivity in Children with Autism,” *Translational Psychiatry* (October 23, 2018), 1.

¹⁵ Amalia Allan, “Understanding and Teaching Students with Autism in Music Education Settings,” *National Association for Music Education* (Reston: National Association for Music Education, July 15, 2021), 1.

everyone differently, teachers should never be close-minded about these students.¹⁶

The study, “Learning a Musical Instrument Can Benefit a Child With Special Educational Needs,” by Rose, Bartoli, and Heaton, provides an overview of the outcomes related to musical learning in a child with complex special educational needs. When the study began, CB was an 8 year old boy that had the diagnoses of comorbid autism spectrum disorder (ASD), attention deficit hyperactivity disorder (ADHD), sensory processing difficulties, dyslexia, and dyspraxia coordination disorder (DCD). He was evaluated using developmental measures before and after one year of learning music. During a pretesting period, CB obtained a high musical aptitude score. He also obtained an average IQ score. However, CB’s scores on the tests that measured executive function, motor abilities, and social-emotional skills were lower than that of an average student. The study followed CB throughout the course of one year and tracked his growth and development. This study directly spoke to the many benefits that music classes have on the lives of exceptional students.¹⁷

Specific Learning Disorder

According to the article, “Specific Learning Disorder,” by the American Psychiatric Association, a specific learning disorder is a category of exceptionality that is described as “a neurodevelopmental disorder that begins during school-age, although may not be recognized until adulthood.”¹⁸ This article defines what a specific learning disorder entails. Part of the

¹⁶ Serious Science, “Music in Autism,” published April 30, 29019, video.

¹⁷ Dawn Rose, Alice Jones Bartoli & Pamela Heaton, “Learning a Musical Instrument Can Benefit a Child With Special Educational Needs,” *Psychomusicology: Music, Mind, and Brain*, Vol. 28, no. 71-81 (2018), 1.

¹⁸ Deepak Penesetti, “What is Specific Learning Disorder?,” *American Psychiatric Association* (November 2018), 1.

diagnosis process for finding a specific learning disorder is by noting the characteristics of one. According to the American Psychiatric Association, “Specific learning disorder is diagnosed through a clinical review of the individual’s developmental, medical, educational, and family history, reports of test scores and teacher observations, and response to academic interventions.”¹⁹ In order to diagnose a specific learning disorder, a person must show signs of difficulty in reading, writing, mathematic skills, as well as mathematical reasoning skills.

According to the American Psychiatric Association:

“An estimated five to 15% of school-age children struggle with a learning disability (1). An estimated 80% of those with learning disorders have an impairment in reading in particular (commonly referred to as dyslexia). Dyslexia is highly prevalent affecting 20% of the population (2). Dyslexia affects male and females equally. There is a high comorbidity of specific learning disorder with other neurodevelopmental disorders (such as ADHD) as well as anxiety (1).”²⁰

Types of Specific Learning Disorders include Dyslexia, Dysgraphia, and Dyscalculia and can range from mild to severe.

Dyslexia

“Dyslexia is a type of specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary

¹⁹ “Specific Learning Disorder,” *American Psychiatric Association* (2013), 1.

²⁰ Deepak Penesetti, “What is Specific Learning Disorder?,” *American Psychiatric Association* (November 2018), 1.

and background knowledge.”²¹ The article, “DMS-5 Changes in Diagnostic Criteria for Specific Learning Disabilities (SLD)1: What are the Implications?” by the International Dyslexia Association, as suggested by the title of the article, discusses the how dyslexia is diagnosed and its far-reaching effects. While people with dyslexia most commonly struggle with word recognition, the diagnosis of dyslexia can impact all areas of academics. Although the criteria for specific learning disabilities has changed in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), the diagnosis of dyslexia still falls under the category of a specific learning disability (SLD).

Blindness and Visual Impairment

The article, “Visual Impairment,” by Dr. Jonathan H. Salvin, discusses the various reasons for and symptoms of visual impairment. Additionally, it examines potential treatments and adaptations for those with visual impairments. “Visually Impaired and/or visual impairment are the terms used to refer to any kind of vision loss, whether it is someone who cannot see at all or someone who has partial vision loss. This can also be referred to as blindness.”²² Like other exceptionalities, visual impairment and blindness are on a spectrum. Though a person completely without sight may be referred to as legally blind, usually people who are considered legally blind have some degree of sight. Thus the term visually impaired is considered more accurate. Some visual impairments can be inherited from the parents causing blindness from birth. This is called congenital blindness. Leber Congenital Amaurosis (LCA) “Is a rare type of inherited eye disorder that causes severe vision loss at birth. LCA is inherited in an autosomal recessive

²¹ “DMS-5 Changes in Diagnostic Criteria for Specific Learning Disabilities (SLD)1: What are the Implications?” *International Dyslexia Association* (2021), 1.

²² Jonathan H. Salvin, MD, “Visual Impairment,” *Teens Health*, (September 2016), 1.

manner, meaning that both parents must carry a defective gene for the condition in order to pass it on to their children.”²³ There are also conditions that may cause blindness after birth,

such as follows:

1. Amblyopia.
2. Cataracts.
3. Diabetic retinopathy.
4. Glaucoma
5. Macular degeneration.
6. Trachoma.²⁴

It is crucial for music teachers to employ techniques that will allow students with exceptionalities to succeed and more readily navigate the classroom. The article, “Teaching Singing to Students with Vision Loss,” discusses the various challenges that are faced when teaching a blind or visually impaired student. The author provides many suggested resources for music and music technology that educators can utilize when teaching a student with vision loss. She even suggests that teachers learn the way in which a visually impaired student functions in his or her navigation.²⁵

Cerebral Palsy

Cerebral Palsy (CP)“is a group of disorders that affect a person’s ability to move and maintain balance and posture.”²⁶ The article, “What is Cerebral Palsy?” examines the causes, effects, and range of severity of Cerebral Palsy. As with most exceptionalities, Cerebral Palsy

²³ “Overview Ophthalmology and Optometry Leber Congenital Amaurosis (LCA),” *UCSF Health* (2021), 1.

²⁴ *Ibid*, 1.

²⁵ Charlotte Surkin, “Teaching Singing to Students with Vision Loss,” *Journal of Singing*, Vol. 75, no.1 (September 1, 2018).

²⁶ “What is Cerebral Palsy?” *Centers for Disease Control and Prevention* (2021), 1.

includes a vast range of impairments. Depending on the severity of the case, a person with CP may be able to walk normally or may be completely wheelchair bound. CP is one of the most common motor disabilities. According to the CDC, “*Cerebral* means having to do with the brain. *Palsy* means weakness or problems with using the muscles.”²⁷ There are multiple ways it is caused. “CP is caused by abnormal brain development or damage to the developing brain that affects a person’s ability to control his or her muscles.”²⁸ A student with CP may require mobility aides, translators, and specialized assistive technology.

When helping students with exceptionalities navigate a classroom, another group to consider is those with Cerebral Palsy, or CP. “Cerebral Palsy and Music Achievement,” is a research study in which music teachers worked with students with Cerebral Palsy—both with and without mild mental retardation.²⁹ Because there are varying levels of Cerebral Palsy, student’s with CP may need assistive technology, or other accommodations, in order to be successful, depending on the extent to which the student has been affected.³⁰ However, this may vary from case to case.

According to Maria-Dolores Cano & Ramon Sanchez-Iborra, there are a few online assistive technologies in music available to students with exceptionalities, as music has been known to help students with learning disabilities and has actively played a key role in providing a better life to people with special needs. The authors also address the significant lack of

²⁷ Ibid, 1.

²⁸ Ibid, 1.

²⁹ Moidrag L. Stoshljevikj, Fadilj N. Eminovikj, Radmila M. Nikikj, Gordana I. Achikj, & Sanela R. Pacikj “Cerebral Palsy and Music Achievement.” *Journal of Special Education and Rehabilitation* (2008), 1.

³⁰ Maria-Dolores Cano & Ramon Sanchez-Iborra, “On the Use of a Multimedia Platform for Music Education with Handicapped Children: A Case Study,” *Computers and Education*, Vol. 87 (September 2015), 1.

abundance of assistive technology in music education.³¹

The Use of Assistive Technology

In order to fully understand the need for assistive technology in the music classroom, one must comprehend the extent of what assistive technology encompasses. According to ATIA.org, assistive technology—AT—is defined as “any item, piece of equipment, software program, or product system that is used to increase, maintain, or improve the functional capabilities of persons with disabilities.”³² Simply put, adaptive or assistive technology is equipment used to help a student with an exceptionality to succeed. It allows them to share in music-making in which they might otherwise not be able to participate. Assistive technology can range from something as simple as a music stand to as complex as adaptations of instruments. Although it may seem difficult to accommodate those with exceptionalities, it is not impossible. With research and time, a music teacher has the ability to make music accessible to virtually anyone with the desire to participate in a class.

Although it is not uncommon for some students with exceptionalities to not need assistive technology, there is still a large population of students with exceptionalities who do. The article, “Perceptions of Using Assistive Technology for Students with Disabilities in the Classroom” from the *International Journal of Special Education*, addresses a survey taken by teachers about access to assistive technology for students. The survey asks important questions such as; Do students receive all of their needed assistive technology? What circumstances limit students’

³¹ Areej Ahmed, “Perceptions of Using Assistive Technology for Students with Disabilities in the Classroom,” *International Journal of Special Education*, Vol. 33, no.1 (2018), 136.

³² ATIA.org, s.v. “assistive technology.”

access to assistive technology? The article also discusses whether or not socioeconomic or school funding has anything to do with students' access to assistive technology.³³

Whether high-tech or low-tech, many students with exceptionalities receive some form of assistive technology, but the process of assessing how much or how little a student needs is frequently long and difficult. In the study, “Barriers to the Use of Assistive Technology for Children With Multiple Disabilities,” by Copley and Ziviani states that assessing an individual’s assistive technology needs and the later identification of appropriate equipment has been referred to by some researchers a “trial and error”³⁴ process. Other important considerations to take into account are issues with planning, funding, and equipment, as well as time constraints.

Kimberly McCord, a Music Education Professor at Illinois State University, in the article, “Music Technology for Special Needs Students,” discusses the use of assistive music technology and what it looks like in the field of music education—as there is an extensive range of assistive technology available for the music classroom. Assistive music technology can range from simple to highly advanced. Furthermore, these technologies should be specified for the student, taking into consideration his or her disability and individual ability.³⁵

Although assistive technology is available to students in need, there are still students who do not receive any or all of their needed assistive technology in order to be successful, whether they are in need of high-tech or low-tech devices. Since accommodations and assistive technology in music education cover a wide range of students with exceptionalities, it is crucial

³³ Areej Ahmed, “Perceptions of Using Assistive Technology for Students with Disabilities in the Classroom,” *International Journal of Special Education*, Vol. 33, no.1 (2018), 1.

³⁴ Jodie Copley & Jenny Ziviani, “Barriers to the Use of Assistive Technology for Children With Multiple Disabilities,” *Occupational Therapy International*, Vol. 11, no. 4 (2004), 1.

³⁵ Chad Criswell, “Music Technology for Special Needs Students,” *Teaching Music Magazine* (October 2014), 1.

to identify what a student's individual needs are and then help him or her get what is needed to assist the student in achieving success. Thus, it is vital that music educators stay current on what is available to the exceptional student population.

The website, "Make Some Music with Assistive Technology," is rich with the latest news in assistive technology, accessibility, and updates on a global level. It has links to articles so that those interested can read the latest news in the field of assistive technology in education. This is especially helpful for music teachers who wish to stay in touch with the developments in the field of assistive technology.³⁶

The following question is posed to music educators: Why should we use assistive technology for the inclusion of students with exceptionalities in the music classroom? In the article, "Good News in Inclusive String Music Education: Adaptive Strategies for the Classroom," Kasia Bugaj examines the shift in the field of music education over the past few years to include students with exceptionalities through the use of assistive technology and better training for teachers.³⁷

The Benefits of Participation in Music Programs

A sense of belonging and community is crucial to the social development of all people. For many students with exceptionalities, participation in music programs provide numerous, far reaching benefits. The benefits include, but are not limited to, improved social, motor, and academic skills, as well as provide a healthy outlet to express themselves, and a sense of community that positively impacts them for life. This statement is supported by the

³⁶ "Make Some Music with Assistive Technology," *North Dakota Assistive Technology* (January 25, 2018), 1.

³⁷ Kasia Bugaj, "Good News in Inclusive String Music Education: Adaptive Strategies for the Classroom," *General Music Today* (January 11, 2016), 1.

following studies and by the interviews contained in Chapter Four. However, just as students with exceptionalities should be included in music programs, it is equally important to ask, how music can be incorporated into special education programs, as music can be the key to reaching students with special needs.

Hearing Impaired and Deafness

Hearing Impairment is defined as a problem with one or more parts of the ear or ears, the nerves coming from the ears, or the part of the brain that controls hearing. Much like any other exceptionality, hearing impairment has a broad spectrum that goes from hard of hearing to deafness. Some of the common causes of hearing loss include:

1. Serious infections, such as meningitis
2. Head injury
3. Listening to very loud music, especially through headphones or ear buds
4. Repeatedly being around loud sounds

Although communication with one who is deaf or hearing impaired may be more different than standard communication, it is important to remember it is not impossible. Additionally, it is important to remember that this is a condition that can occur at any age and any stage of life. Some of the most common difficulties that come with being deaf or hard of hearing are communication issues, not being able to hear, and difficulty understanding with verbal communication. It is also important to acknowledge that being deaf or hearing impaired does not prevent a person from being a musician.³⁸

“Singing Proficiency of Members of a Choir Formed by Prelingually Deafened Children with Cochlear Implants,” from the *Journal of Speech, Language, and Hearing Research*, is a study in which the participants included prelingually—before speech—deafened children with

³⁸Thierry Morlet, PhD, “What is Hearing Loss?” *Kids Health* (April 2016), 1.

cochlear implants that participated in a choir with hearing children. As a part of the study, the choir was taught a song over a two-week period. Interestingly enough, some of the prelingually deafened participants employed bimodal hearing through the use of two different assistive devices—such as a cochlear implant and a hearing aid.³⁹

Because music reaches beyond age or exceptionality, its benefits are limitless. In a study found in the journal, *Frontiers in Neuroscience*, participants were able to take part in a choir and were taught the fundamentals of singing. During this research, the impact of age related declines on the ability to sing were studied. Unlike the previous hearing loss study, the group was made up of adult participants.⁴⁰ Though the study focused on physical, age-related declines, the internal benefits from being involved in a music group such as this allows people the opportunity to be an integral part of a group and to experience a sense of community in musical performance which is a benefit that reaches far beyond age constraints.

The Needs of College Students with Exceptionalities

Because music education does not stop after high school, another vital issue to consider is what happens when a student with an exceptionality goes to college? How can a college music student get his or her needed assistive technology or other services that he or she may need? The fact remains that even if an exceptional student goes to college, he or she may receive limited or no resources whatsoever based upon his or her choice of schools. A lack of accommodations or access to needed assistive technology may prevent a student from being able to attend his or her

³⁹ Jing Yang, Qi Liang, Haotong Chen, Yanjun Liu, & Li Xu, “Singing Proficiency of Members of a Choir Formed by Prelingually Deafened Children with Cochlear Implants,” *Journal of Speech, Language, and Hearing Research* (May 21, 2019), 1.

⁴⁰ Ella Dubinsky, Emily A. Wood, Gabriel Nespoli, Frank A. Russo, “Short-Term Choir Singing Supports Speech-in-Noise Perception and Neural Pitch Strength in Older Adults with Age-Related Hearing Loss” (November 28, 2019), 1.

top choice of colleges or even college in general.

A degree path is not the only decision to ponder for an exceptional student. Students with exceptionalities, when applying to colleges, have to consider many factors such as access to assistive technology or accessible classrooms, as well as any other accommodations they may require. That said, there are numerous questions that a college student with an exceptionality must ask and consider before selecting a school. “Checklist: What to Ask Colleges About Assistive Technology,” by *Understood.org* is a website that provides insight for students with exceptionalities who are looking at colleges.⁴¹

Advocating for Students with Exceptionalities Through Training

The Americans with Disabilities Act (ADA) is a law that was passed in 1990. “The ADA is a civil rights law that prohibits discrimination against individuals with disabilities in all areas of public life, including jobs, schools, transportation, and all public and private places that are open to the general public. The purpose of the law is to make sure that people with disabilities have the same rights and opportunities as everyone else. The ADA gives civil rights protections to individuals with disabilities similar to those provided to individuals on the basis of race, color, sex, national origin, age, and religion. It guarantees equal opportunity for individuals with disabilities in public accommodations, employment, transportation, state and local government services, and telecommunications.”⁴² This law is important to those with exceptionalities because it prevents discrimination based upon ability, as well as requires schools, businesses, and other institutions to accommodate those who need accommodations. The ADA was a tremendous

⁴¹ Amanda Morin, “Checklist: What to Ask Colleges About Assistive Technology,” *Understood For All Inc* (2020), 1.

⁴² “What is the Americans with Disabilities Act?” *ADA Network* (August 2021), 1.

and necessary win for those with exceptionalities as it granted access to basic rights for those who had, in the past, faced discrimination based upon their abilities or disabilities. Although the ADA was successful, there is still a long way to go as it only upholds the bare minimum standards to prevent discrimination against those with exceptionalities.

Music teacher's lack of familiarity with the needs of students with exceptionalities can negatively impact a student's success. One option for music teachers is a certification program, such as the Assistive Technology Specialist Certificate which allows teachers to become certified assistive technology specialists. This program teaches educators how to provide assistance to those with a wide range of exceptionalities and impairments. It also helps teachers learn about state and federal mandates.⁴³

Individual Education Programs (IEPs) and 504 Plans are common in the field of education. Both IEPs and 504 Plans are used to set goals and advocate for special accommodations for exceptional students in their education. These may seem the same to those who are not properly detailed on the subject. An Individual Education Program (IEP) is defined as "a plan or program developed to ensure that a child who has a disability identified under the law and is attending an elementary or secondary educational institution receives specialized instruction and related services."⁴⁴ A 504 Plan is defined as "a plan developed to ensure that a child who has a disability identified under the law and is attending an elementary or secondary educational institution receives accommodations that will ensure their academic success and access to the learning environment."⁴⁵ The difference between an IEP and a 504 Plan is that an

⁴³ "Assistive Technology Specialist Certificate" *California State University, Dominguez Hills* (2020), 1.

⁴⁴ "What is the difference between an IEP and a 504 Plan?" *Do It* (April 9, 2021), 1.

⁴⁵ *Ibid*, 1.

IEP is written for an exceptional student who requires specialized instruction, and a 504 Plan is written for an exceptional student who does not require specialized instruction. However, both should be updated yearly to ensure accommodations are current. IEPs are protected and developed under the Individuals with Disabilities Act (IDEA) whereas 504s fall under Section 504 of the Rehabilitation Act. “The IDEA process is more involved than that of Section 504 of the Rehabilitation Act and requires documentation of measurable growth.”⁴⁶ Although these differences may seem minor, they are important in knowing how to advocate and accommodate for students with exceptionalities.

When discussing advocacy, one must consider ways that help music educators learn how to advocate for and accommodate those with exceptionalities. This leads to the question: Why should music educators become more involved in the Individual Education Program (IEP) process? In 1997, the Individuals with Disabilities Education Act of 1990, or IDEA—the law that makes available a free and appropriate education to children with disabilities—was amended. This was to include the use of assistive technology that was to be taken into account when preparing for a student with an Individual Education Program. When considering the question as to why music teachers should be involved in the IEP process, the study by McCord and Watts researched the involvement of music educators in the IEP process and focused on the knowledge and attitudes of teachers when considering the use of assistive technology in teaching exceptional students.⁴⁷ As the law requires all teachers to follow IEPs and 504 plans as they are written, involvement in the IEP development process allows music teachers to help set realistic

⁴⁶ “What is the difference between an IEP and a 504 Plan?” *Do It* (April 9, 2021), 1.

⁴⁷ Kimberly A. McCord & Emily H. Watts, “Music Educators’ Involvement in the Individual Education Program Process and Their Knowledge of Assistive Technology,” *Update: Applications of Research in Music Education* (March 9, 2010), 1.

goals for their students which may prove to be beneficial to both the teacher and the student.

The Role of the Teacher, Parent, and Student

According to the Cambridge Dictionary, the word advocate means “someone who publicly supports something,” or “to speak in support of an idea or course of action.”⁴⁸ As these definitions apply to education, both are important. Part of a teacher’s job is to advocate for all students, especially those who cannot advocate for themselves or need extra help. Thankfully, in recent years, laws such as the Americans with Disabilities Act (ADA) and the Individuals with Disabilities Education Act (IDEA), as well as Individual Education Programs (IEPs) and 504 Plans are in place to ensure accommodations are made and to advocate for those with exceptionalities. Although these laws are in place to support those with exceptionalities, they cannot work unless they are followed, and followed to the fullest extent, which may require teachers to go above and beyond the minimum required standards. However, it is also important to remember advocacy is a job that does not lie solely with teachers. Advocacy is equally the responsibility of the teacher, the student, and the parents.

Advocacy is an area in which parents, teachers, and students should be involved as it brings to light the needs of the student. Advocating for the needs of students with exceptionalities is not only the responsibility of the teacher, school, or school system. The roles of teacher, parent, and student are all important in assuring that students with exceptionalities have equal and successful opportunities. In the article, “Music Education for Students with Disabilities: A Guide for Teachers, Parents, and Students,” the authors, Kaitlin Merck and Ryan Johnson, discuss the considerable part that the inclusive classroom has come to play in American

⁴⁸ *Cambridge Dictionary*, s.v. “advocate.”

education. The article provides solid information on the subject of inclusion in the music classroom and addresses the issues that still remain with current inclusion practices.⁴⁹

Why Music Programs Should Be More Accessible

With the laws and push towards advocacy and inclusivity, it should be no surprise that accessibility is a major topic of discussion. Thankfully, laws such as the Americans with Disabilities Act and the Individuals with Disabilities Education Act require minimum standards for accessibility for those with varying forms of exceptionalities in both the education system, as well as privately owned businesses. However, accessibility and advocacy is something that is ever expanding as needs change and become more apparent.

Patrick Anderson is a Paralympian who became an advocate for the disabled community. In the article, “(dis)Ability and Music Education: Paralympian Patrick Anderson and the Experience of Disability in Music,” several issues are addressed. One such issue is the isolation mentality in the field of music education as it applies to people with exceptionalities. The idea of isolating, or making a student feel isolated is polar opposite of what music education is all about. In fact, being a part of a music group should instill feelings of belonging and a sense of community in all members of the group. As music educators, we should allow our students to experience a healthy outlet in which to express themselves and provide a sense of unity which will positively impact them for life.⁵⁰

⁴⁹ Kaitlin A. Merck & Ryan M. Johnson, “Music Education for Students with Disabilities: A Guide for Teachers, Parents, and Students,” *The Corinthian*, Vol. 18, no. 6 (June 2017), 2-7.

⁵⁰ Adam Patrick Bell, “(dis)Ability and Music Education: Paralympian Patrick Anderson and the Experience of Disability in Music,” *Action, Criticism, and Theory for Music Education*, Vol. 16, no. 3 (November 2017), 108-128.

CHAPTER THREE: METHODOLOGY

Chapter Three outlines how the research and data were collected for this study. This chapter also clarifies the preventative measures that were taken to ensure that the research was conducted fairly and ethically.

Research Plan and Design

This study uses a mixed methods research model and gathers research through a historical approach. The use of mixed methods research is also made apparent, in part, due to the questions being addressed and the fact that both statistical data and first-hand accounts are being collected in the research. Furthermore, because the subject matter draws attention to the issues of a minority population and the problems that they face on a daily basis, the research utilizes a mixed methods participatory-social justice design.⁵¹ The tools and research methods that were used include: interviews with human subjects, books, and online articles. Subjects were obtained for interviews who fit the descriptions of either music educator and/or music student with an exceptionality that required an IEP or a 504 plan. The risk factors should be considered very minimal due to the nature of the information gathered. When conducting the interviews, descriptors indicating the identity of any human subjects have been hidden.

To ensure that interviews are being conducted ethically, the IRB is involved to make certain that no physical or psychological harm will come to any human subject that is participating in this research. Since the interview questions all involve personal testimony, the risk involved is minimal, and the interviews will provide a sense of cathartic release as the participants are able to discuss situations that may not have been handled properly.

⁵¹ John W. Creswell & J. David Creswell, *Research Design: Qualitative, Quantitative, and Mixed Method Approaches*, 5th ed., (Thousand Oaks: Sage Publications, Inc., 2018), 65.

In order to protect the identity of the human subjects involved in this study, pseudonyms are used in place of participants' names. Additionally, participants' gender, location, and age may be changed.

The interview questions were formulated to provide a realistic prospective from both music educators and exceptional music students as to how exceptionalities are addressed in music education programs. These questions provide insight into the areas in which music education programs are succeeding and where they may be lacking. The questions were carefully considered when being written in order to ensure that there was minimal risk involved to the human participants.

CHAPTER FOUR: RESEARCH FINDINGS

Chapter Four contains interviews that were conducted to aid in research and to support the hypothesis that was formulated for this study. These interviews and questions were approved by the IRB to ensure ethical research was conducted. The interviews provide a unique perspective to this study due to the fact that it adds both student and educator viewpoints. Interviews from music educators Bill Buffet, Steve Bailey, Tristian Wagner, and Ruth Jones are included in Chapter Four. Additionally, interviews from music students Elizabeth Santana, Sam Washington, Hazel Brown, Matilda Drake, and Emily Smith are included to provide a first-hand perspective from music students with exceptionalities.

The Use of Assistive Technology and the Outcomes

According to Cano and Sanchez-Iborra, there are a few online assistive technologies in music available to students with exceptionalities, as music has been known to help students with learning disabilities and has actively played a key role in providing a better life to people with special needs. The authors also address the significant lack of abundance of assistive technology in music education. This study presented the results of a case study where students with exceptionalities took a three-month music course on a program called PLAIME. At the end of the program, the study revealed that students advanced in their music knowledge, made positive improvements in behavioral issues, and were able to efficiently manage on the computer platform—all positive outcomes.⁵²

In the field of education, and to the students who utilize them, adaptive and assistive technologies are vastly important. Assistive technologies afford students with exceptionalities

⁵² Maria-Dolores Cano & Ramon Sanchez-Iborra, "On the Use of a Multimedia Platform for Music Education with Handicapped Children: A Case Study," *Computers and Education*, Vol. 87 (September 2015), 1.

the opportunity to develop greater confidence in their own ability and help them realize their potential as a valued part of any student population. Although there have been major strides in standard classrooms, music classrooms have been sluggish in the move toward music technology for students with exceptionalities—as this could be a result of the music teacher not being included in the Individual Education Program (IEP) process. Regardless of a student’s socioeconomic condition, music educators should be advocates for the use of assistive technology in the music classroom in order to provide all students—including those with exceptionalities—the same opportunities for success. Music teachers need to become familiar with the different assistive technologies that may be required by a student with an exceptionality to accommodate that student as effectively as possible in his or her environment.

What portion of students with exceptionalities receive needed assistive technology? The truth is that—although many receive some form of assistive technology—many students are in need of more specific, or higher tech, assistive technologies but have not been granted such assistive devices. According to the article, “Perceptions of Using Assistive Technology for Students with Disabilities in the Classroom” from the *International Journal of Special Education*, most teachers surveyed disagreed with the idea that, regardless of socio-economic level, all students with exceptionalities have the opportunity to receive the assistive technology they need. Although most students with special needs have some form of assistive technology, whether or not that student receives all of his or her needed assistive technology is very dependent upon funding. Socio-economic factors and funding being made available to schools represent key determiners in whether or not a special education student receives all of his or her needed assistive devices. Although all students with exceptionalities have an opportunity to receive assistive technology, delays in receiving such assistance can be discouraging and

frustrating to the student.⁵³

Why do some students not receive their needed assistive technology? Assistive technology can be as simple and low-tech as a gel grip on a pen or pencil to a more costly computer or computer program. Whether high-tech or low-tech, almost all students with exceptionalities receive some form of assistive technology, but the process of assessing how much or how little a student needs is frequently long and difficult. In the research study, “Barriers to the Use of Assistive Technology for Children With Multiple Disabilities,” it states that assessing an individual’s Assistive Technology needs, and the later identification of appropriate equipment has been referred to by some researchers a “trial and error”⁵⁴ process. Other important considerations to take into account are issues with planning funding, and equipment, as well as time constraints. Furthermore, because of the virtual hoops that many students and teachers alike must jump through in order to fully equip exceptional students, it is the student who pays the price when they do not receive the needed assistance.

When considering the acquisition of assistive technology, it is important to take into account which technologies are available to music educators in order to assist their students with exceptionalities. Furthermore, one must consider exactly what assistive music technology looks like. Assistive technology can take many forms and can be as simple or advanced as needed. According to Kimberly McCord, a Music Education Professor at Illinois State University, assistive music technology can be low-tech tools—like tuba stands, adjustable Orff instrument

⁵³ Areej Ahmed, “Perceptions of Using Assistive Technology for Students with Disabilities in the Classroom,” *International Journal of Special Education*, Vol. 33, no.1 (2018), 1.

⁵⁴ Jodie Copley & Jenny Ziviani, “Barriers to the Use of Assistive Technology for Children With Multiple Disabilities,” *Occupational Therapy International*, Vol. 11, no. 4 (2004), 1.

stands, and gel grip pencils, or high-tech equipment—such as instruments that are specifically designed for students with exceptionalities like the Soundbeam, the Magic Flute, or the Skoog. There is an extensive range of assistive technologies available to the music classroom. As each student is a unique individual, these technologies should be specified for the student, taking into consideration his or her disability and individual ability.⁵⁵

One such example of a life-changing, high-tech tool for exceptional students is Eyegaze. This is a high-tech source of assistive technology for wheelchair-bound students who are completely paralyzed from the neck down, or have limited arm use. This device helps the student to be able to use a computer by simply helping him or her record notes. As the name suggests, the Eyegaze is operated by the user gazing at the computer screen and selecting the desired options by merely looking at the screen. A couple of down sides to this device include the fact that it is only semi-portable, and it takes students who use it much longer to complete tasks. Although it is a good source for students who cannot use a standard computer or tablet, there are additional improvements that need to be made. For music students with this type of exceptionality, Eyegaze can be invaluable for subjects such as music theory, music history, or composition classes.⁵⁶

The use of assistive technology is a necessity for blind and visually impaired students—that includes those with vision loss to the degree that it cannot be corrected by wearing glasses. Unfortunately, these students present some of the biggest challenges for music teachers. Thankfully, assistive technology can be easily accessed for blind and visually impaired students,

⁵⁵ Chad Criswell, “Music Technology for Special Needs Students,” *Teaching Music Magazine* (October 2014), 1.

⁵⁶ Nancy Cleveland, “Eyegaze Technology: Tell Your Story with Your Eyes,” *EyeGaze Inc.* (January 18, 2019), 1.

and is often times found at no cost. There is software that can transition traditional notation into Braille. However, this software is most commonly used by teachers and professors who know how to translate Braille. Braille embossers, Braille note takers, and laptops are just a few of the assistive technologies that blind or visually impaired students regularly use successfully. In addition to technologies, other accommodations—such as environmental adaptations and alterations—should be made as needed for blind or visually impaired students.⁵⁷ Making environmental adaptations for a visually impaired or blind student results in that student being able to function more freely and independently.

A student's involvement in a music program has the propensity to reach beyond just learning music. It has a tendency to help students grow behaviorally, socially, and academically. The goal as music educators should be to reach all students on many levels. Thus, it is important that music teachers stay informed and up-to-date on the latest in music education. The website, "Make Some Music with Assistive Technology," is rich with the latest news in assistive technology, accessibility, and updates on a global level. It has links to articles so that those interested can read the latest news in the field of assistive technology in education. This is especially helpful for music educators who wish to stay in touch with the developments in the field of assistive technology. Overall, this is a good, valuable resource for those who have little to no knowledge of assistive technology and desire to learn the basics in order to effectively advocate for their students.⁵⁸

⁵⁷ Toby W. Rush, "Incorporating Assistive Technology for Students with Visual Impairments into the Music Classroom," *Music Educators Journal* (November 23, 2015), 1.

⁵⁸ "Make Some Music with Assistive Technology" *North Dakota Assistive Technology* (January 25, 2018), 1.

As music educators, we should ponder the following question: Why should we use assistive technology for the inclusion of students with exceptionalities in the music classroom? The answer is simple, we should do it because new technologies exist to help eliminate feelings of isolation and to incorporate students with exceptionalities into the music classroom. In the article, “Good News in Inclusive String Music Education: Adaptive Strategies for the Classroom,” Kasia Bugaj examines the shift in the field of music education over the past few years to include students with exceptionalities. Until recently, string teachers were ill-equipped and untrained to handle students with physical limitations, but now newer and better assistive technology has been created to aid students in playing stringed instruments. Thankfully, this shift in the field of music education incorporates training for educators in order to successfully include students with special needs.⁵⁹

ADHD

One group of students that may require accommodations are those with ADHD. To best accommodate for a student with ADHD, one must first understand this exceptionality. Unlike the learning process for normal students, students with ADHD have an interruption in the chemical changes that happen in the brain during the learning process. Students with ADHD learn best when learning activities are brief and tasks alternate between hands-on and intensely cognitive experiences. In other words, the learning process for a student with ADHD has to include all forms of learning, including tactile, auditory, and visual. Thus, the best way to teach a student with ADHD is to keep the learning environment structured in order to keep him or her on task.⁶⁰

⁵⁹ Kasia Bugaj, “Good News in Inclusive String Music Education: Adaptive Strategies for the Classroom,” *General Music Today* (January 11, 2016), 1.

⁶⁰ Shannon K. de l’ Etoile, “Teaching Music to Special Learners: Children With Disruptive Behavior Disorders,” *Music Educators Journal*, Vol. 91, no. 37 (2005), 1.

Sam Washington is a young man who, as a child, received an official diagnosis of attention deficit disorder, referred to as ADD, but is now referred to as Attention Deficit/Hyperactivity Disorder (ADHD) inattentive type.⁶¹ He has been a music student for fifteen years and is currently working on a master's degree in music. Sam is an instrumentalist who plays percussion and trombone. Although Mr. Washington has the diagnosis of ADHD inattentive type, he and his family never pursued an IEP or 504 plan to help with accommodating his disorder. They felt as if this would help him feel more "normal" and learn to cope on his own. Sam struggled in high school and college music classes with the organizational aspects as well as the work load. When discussing his music literature class, Sam said that sometimes the amount of information became overwhelming and things eventually became jumbled up in his mind due to the amount of information given in a singular class session. Sam described the pace of these classes as "rapid." Although Sam struggled in these classes, his musical abilities are incredibly impressive. Sam has perfect pitch and total recall which are both wonderful assets for him when composing.

When Sam was asked if he had ever experienced a music teacher who was unwilling to accommodate him, he recalled an experience from college when he was a music education major. In one specific course, Sam said that he felt as if his issues were never really taken into consideration, and with this particular professor, "it was either their way or the highway." This is what prompted Sam to change his major from education to performance. When asked if he ever felt discriminated against due to his diagnosis, he said that people had a preconceived notion that he was unable to learn music quickly and efficiently. Washington also recalled a time in high school when his private music teacher told him he was unlikely to make it into a higher

⁶¹ Sam Washington, phone interview by author, July 29, 2021. (Pseudonyms are used here to protect the identities of the participants.)

ensemble due to his diagnosis. Sam voiced that this private music teacher made him feel as if he believed Sam was incapable of learning due to his diagnosis. Whether it was telling him that he would not likely be admitted into the higher level ensemble, or assigning him parts that were far beneath his learning capabilities, the teacher made it clear exactly what inaccurate opinions he held of Sam.

Up to this point in his academic career, Sam has used little to no accommodations. Although he was offered accommodations, Sam only used extended time on AP tests and the ACT, as his main struggle was with reading comprehension. He was also medicated and tried to adapt with just medication. Finding the right medication to help him focus—but did not make him feel sick or not himself—was a long trial and error process. These medications can alter the eating and sleeping habits of a student, as well as alter the student's personality when taken. When asked if he had regrets in not pursuing accommodations, he stated that he, perhaps, regrets not having extra time in music theory.

Sam discussed a few negative memories from his music classes. One of his biggest struggles was having to complete a large quantity of material within a given time frame. Another experience that Mr. Washington recalled was in a rehearsal where the teacher's music score contained an error in the section in which he had a solo. Although Sam played the piece properly according to his score, the director assumed that Sam was not paying attention after being corrected multiple times. When Sam insisted he was, in fact, playing his part properly, he and the director got into a verbal altercation. After, he and the director finally compared scores where the error was found to be in the teacher's score.

When asked if he thought any of the negative experiences that impacted his learning had to do with a lack of funding, Sam talked about his experience in middle school band. Sam

describes his middle school as not having actual walls. They used dividers, and frequently during practices, students would throw things over the dividers that made it incredibly difficult for him to focus and learn. Knowing that this was a poor design the school system did not fund a project to correct the issue.

Sam said his best experience in a music class was in jazz improv. He said the reason why it was such a good experience for him was that this particular class utilized all forms of learning—visual, auditory, and tactile—as well as focused on personal growth goals. Sam recalled, “The experience, in general, it made me a better musician with the teaching that way. I was able to demonstrate a lot of things that I couldn’t before. I feel like, in music, we measure success on how well we can regurgitate information. That class wasn’t that. It was how well could you develop yourself through the learning, and I felt like that was one of the best experiences I had as a musician.”⁶²

Sam said that music has helped him to communicate with others even better than through words. He believes that music is a universal language and an outlet for him. Although he was involved in sports, Sam alluded to the fact that he has had a stronger sense of community in music. After leaving sports, the relationships that were built began to dissipate over time. However, Mr. Washington stated that the relationships that he has built in music have been lasting. He said that he could meet another musician for the first time, discuss a musical concept for a few hours, not see that person again for a few years, later run into him or her again, and that person would still remember him and their discussion. Sam articulated, “Me having a short attention span sometimes and not really having what normal people have, whatever normal is, knowing that people see past that and see you as a musician, is something that I think is

⁶² Sam Washington, phone interview by author, July 29, 2021.

priceless.”⁶³

“I feel like it would be a lot easier if people would, you know, take the time to understand these learning disorders.”⁶⁴ He recalled back to elementary school, when he was first diagnosed, as being some of the more difficult times in his life. He was thankful that the teachers in his elementary school took the time to work with him and help get him diagnosed. When he finally received the proper diagnosis and went on medication, his grades rose significantly, and he has since remained successful. Though he believes that he would have been even more successful with an extended time accommodation in his daily education, Sam acknowledges that there are students who abuse 504 plans and ultimately fail in the end. He made reference to a friend with a similar diagnosis to his who did just that. Sam believes that these plans need to have stricter regulations to avoid such abuses. He also said that these plans need to be more individually specified towards the student in order to require them to reach their maximum potential.

Throughout his music education, Sam said he has had teachers and professors advocate for him. He stated that, although he was diagnosed in elementary school with the help of his teachers, back then most teachers were less willing to advocate for him than in college. Although that is encouraging news from the higher education realm, this shows that there is still work to be done at the primary and secondary levels in accommodating students with exceptionalities.

When asked how his diagnosis impacts him in his daily life, Sam replied by saying that he becomes overwhelmed when he has an agenda and a long list of things to get done. He also frequently loses items like his keys or his wallet, at times he is forgetful, and even loses track of

⁶³ Sam Washington, phone interview by author, July 29, 2021.

⁶⁴ Ibid.

time. In spite of these obstacles, Sam has done amazingly well for himself and has made it into graduate school where he was offered and accepted a teaching assistant position in music.⁶⁵

Autism

Autism is another category of exceptionality. It is a complex developmental condition that involves continued challenges in social interaction, speech and nonverbal communication, and restricted/repetitive behaviors.⁶⁶ Interestingly enough, there have been numerous studies on autism throughout the years and how those with autism respond to music. However, the unfortunate reality is that there is still limited knowledge as to exactly how music education impacts students with autism. The study, “Music Improves Social Communication and Auditory–Motor Connectivity in Children with Autism,” by Dr. Jadhav Mandar and Dr. Mary Ann Schaepper, explains that although there is reasonable evidence to believe that music has an impact on behavioral issues and motor skills, there is little evidence to back claims that it has an impact on brain function.⁶⁷

In the study, “Understanding and Teaching Students with Autism in Music Education Settings,” it discussed why music teachers should research the impacts that music has on autistic music students and why they should know how to accommodate them. Some of the noteworthy reasons from this article as to why music teachers should be familiar with autism include the rising rates of the ASD (Autism Spectrum Disorder) diagnosis, as well as the potential of music

⁶⁵ Sam Washington, phone interview by author, July 29, 2021.

⁶⁶ Jadhav Mandar, M.D. & Mary Ann Schaepper, M.D., M.Ed, DFAPA, “What Is Autism Spectrum Disorder?” *American Psychiatric Association* (2021), 1.

⁶⁷ Megha Sharda, Carola Tuerk, Rakhee Chowdhury, Kevin Jamey, Nicholas Foster, Melanie Custoblanch, Melissa Tan, Aparna Nadig, & Krista Hyde, “Music Improves Social Communication and Auditory-Motor Connectivity in Children with Autism,” *Translational Psychiatry* (October 23, 2018), 1.

being the special interest of an autistic student. The author of this article, Dr. Amalia Allen, also discussed several topics concerning the autism diagnosis, as well as provided a section labeled “How to Prepare Music Lessons.” This section advises music teachers how to handle an ASD student’s IEP or 504 accommodations, how to stay organized throughout that process, resources such as with whom to keep in contact, and as a list of considerations for a teacher when writing lesson plans.

Dr. Allen provided a video of Dr. Pamela Heaton, one of the world’s leading researchers on how music impacts people with autism.⁶⁸ Discussion points in Dr. Heaton’s video include the fact that people with autism have an exceptional response to pitch, some autistic music students have the ability to remember complex pieces of music, and people with autism are likely to pick up on the emotions of a piece of music better than they would pick up on social cues for emotion—such as facial expressions or vocal cues. However, one of the most important points Dr. Heaton mentioned was that we should not generalize the diagnosis of autism. Although one student may be low intellectually, there are accomplished scientists, musicians, and even college professors at prestigious universities throughout the world with autism. As autism impacts everyone differently, teachers should never be close-minded about these students.⁶⁹

Mrs. Matilda Drake is a former music student who has been diagnosed with multiple exceptionalities and was served under an IEP during her school years.⁷⁰ Her exceptionalities include: autism, generalized anxiety and depression, agoraphobia, Complex Post Traumatic Stress Disorder (C-PTSD), and dyslexia. Mrs. Drake was involved in both band and choir

⁶⁸ Amalia Allan, “Understanding and Teaching Students with Autism in Music Education Settings,” *National Association for Music Education* (July 15, 2021).

⁶⁹ Serious Science, “Music in Autism,” published April 30, 2019, video.

⁷⁰ Matilda Drake, phone interview by author, July 29, 2021.

programs from elementary school through high school. She is currently taking music electives at the college level as she is studying to become a Registered Nurse—RN. Mrs. Drake did not officially receive the diagnosis of autism until the age of twenty-one, as this diagnosis has made an impact on her and her education. For several years, Matilda was in denial when a medical professional brought this diagnosis to her attention. However, after several years, and reading online forums written by others with autism, she was finally ready to face her official diagnosis. Mrs. Drake expressed that autism makes her feel as though she is constantly out of place. She said, “It feels like everyone has a manual on how they are supposed to live life, and I didn’t get one.”⁷¹ Since her acceptance of her autism diagnosis, Mrs. Drake and her doctor have worked on learning different coping mechanisms that she can employ as needed.

When asked if she ever struggled in a music class, Matilda responded with an overwhelming, “Yes!”⁷² Mrs. Drake recalls her struggles in music class starting all the way back to fourth grade and the teacher’s instructions not resonating with her. She noted that although her peers all seemed to understand and be on the same page as the teacher, Matilda felt lost due to the auditory nature of the teacher’s instructions. She said, as a music student with dyslexia, it would have been much easier for her to keep up had her music been highlighted, or had the instructor taken the time to physically point to where the class was in the music score each time they began a new section. Mrs. Drake also recalls her middle school band experience, where the director’s expectations were far too high for such a young age group. Additionally, the band director had a bad temper which resulted in a lot of frequent yelling at students. She went on to say that, at times, this became too much for her to handle. Matilda also made reference to a high

⁷¹ Matilda Drake, phone interview by author, July 29, 2021.

⁷² Ibid.

school choir director who showed blatant favoritism and did not really care for her because she was just being Matilda. She recalled how this director would have students audition for parts during times that were not conducive to ensuring a successful audition. The director would allow other students to walk in and out of the classroom, walk around the room, and even talk while others were auditioning. For a student with autism, this was something that can cause over stimulation, and ultimately, they shut down. Mrs. Drake states, “He just really didn’t seem to care, or even acknowledge that he was being inconsiderate. I mean, even for someone who is neurotypical.”⁷³

Though she did receive accommodations in many of her classes, Matilda never received accommodations in a music class. Yet, she did note that, in general, music teachers needed better practice rooms where students did not get over stimulated. Although she has dyslexia, due to her anxiety, she never asked for accommodations. She would occasionally stay behind and ask for clarity for notes that the students were asked to make in their music score during class, but the teacher would often times dismiss her questions.

When asked about the accommodations she received in school, Matilda mentioned that she tested in a different classroom with an aide when she was in elementary school. However, for college, she has been offered the option of testing in the testing center, extended time on assignments and tests, extra scratch paper, and a reader. She has successfully utilized these accommodations since she has been enrolled in college.

In her interview, Matilda was asked if she ever felt discriminated against. She referred back to her high school choir director who she felt frequently played favorites. She noted that he, himself, never did anything to her directly. However, he would clearly see and hear other

⁷³ Matilda Drake, phone interview by author, July 29, 2021.

students bullying her and not intervene or attempt to stop them. In reference to this, Mrs. Drake said: “It almost felt like they had permission from the teacher to bully because I was different, or in their mind, ‘weird’.”⁷⁴ When asked if a music teacher ever made her feel like she was unable to succeed in class, she said she felt that way multiple times. Though Matilda was forced by her mother to drop out of her high school’s marching band during her first semester, she was allowed to take concert band the next semester. However, after staying after class several times to ask questions about the music, in order to ensure that she was learning it properly, the band director told her that she was not allowed to continue in band because he believed that she did not know what she was doing. This also served as the answer from Mrs. Drake about whether or not she was ever denied access to taking a class based on her exceptionality. As for choir, Matilda recalls a time when the director said to her, “Well, you’re never going to get a solo here.”⁷⁵

When asked about her worst experience in a music class, Mrs. Drake discussed the time in sixth grade when her middle school band director threw a music stand at her and called her stupid because, according to her teacher, she did not have her section “in line”⁷⁶ as a section leader. As a first year band student and first chair clarinetist, Matilda had never previously heard the term section leader, nor had the teacher taken time to explain her responsibilities as a section leader. Though she did not sustain any injury from this incident, a piece of the music stand did break off and hit her. Matilda stated that this embarrassing situation made her, “feel about one centimeter tall... That was probably the worst, being called stupid in front of everybody.”⁷⁷

⁷⁴ Matilda Drake, phone interview by author, July 29, 2021.

⁷⁵ Ibid.

⁷⁶ Ibid.

⁷⁷ Ibid.

Later, when she went to apologize and ask what the expectations were for a section leader, the band director continued yelling at her and said, “I expect you not to be a retard.”⁷⁸ The band director was dismissed not too long after this event took place.

Matilda’s said in her interview that her best experience in a music class was with her second high school choir director. She remembers a teacher that was kind, accommodating, and always willing to help. The choir director was always available for questions and was very encouraging to students. Her fondest memory was when she auditioned to be a soprano in a higher level ensemble as an alternative to filling a position in the alto section. Matilda said she felt more comfortable singing for this particular director because of the encouragement she felt, and the fact that her teacher required audition conditions to be respectful and quiet so that the student auditioning could do his or her very best. Ultimately, she made it into the soprano section. Matilda also was granted access to a piano whenever she desired. When asked about the impact music has had on her life, she alluded to the fact that it was one of the ways in which her family was able to bond, even through a myriad of family issues, they have all bonded over music. As well, Mrs. Drake recalled, “In school, music has always made me feel safe...it really did help take me away from my situation.” Even now, she uses music to comfort her and help her find and express her emotions. It helps her put into words what she’s feeling. “Music is kind of like a hug.”⁷⁹ Matilda believes that music has given her a community that she otherwise would not have had. She said that she has met some of her best friends in music classes, and it stands as a form of bonding with her family. She said, “Music has definitely been a very big part of my

⁷⁸ Matilda Drake, phone interview by author, July 29, 2021.

⁷⁹ Ibid.

life in a lot of ways, but especially when it comes to making friends!”⁸⁰ Music not only provided a source of entertainment for her and her friends, but also provided a topic of discussion over which they could bond.

Matilda believes that some of her difficulties with her first high school choir director could have been corrected through specialized teacher training. The lack of consideration while auditioning, and ignoring or allowing bullying, were two issues that she believes could have been and should have been fixed. Additionally, Mrs. Drake believes that the middle school band director, who resorted to inappropriate name calling, could have greatly benefitted from better training and, perhaps, would have made better decisions in handling situations with students and understanding her exceptionalities. When asked if she believes that any of her difficulties may have stemmed from a lack of funding, Matilda said, “Yes.”⁸¹ She mentioned that in her second high school, many times, she was given a “copy of a copy”⁸² of sheet music because the school was unable to afford to purchase new copies of music. As someone with dyslexia who normally struggled with reading, this impacted Mrs. Drake’s ability to read the music. She said that adding a grainy photocopy into that equation made it nearly impossible for her.

When asked how her exceptionality impacted her in her daily life, Matilda replied that it impacted her emotionally. She said that sometimes her emotions “come out wrong.”⁸³ This can look like her shutting down when things become too difficult. She also struggles with appropriate voice tone when expressing her feelings. Matilda gave an example. She said that one

⁸⁰ Matilda Drake, phone interview by author, July 29, 2021.

⁸¹ Ibid.

⁸² Ibid.

⁸³ Ibid.

day while she was riding in a car with her friend, she felt irritated. As they passed by a beautiful tree, she tried to point it out to her friend who at the time was driving. As she pointed out the beautiful tree, her voice tone came across as irritated as opposed to excited or happy. She said over time, and with training, she has become better at regulating herself. Matilda also alluded to “toxic routines”⁸⁴ as being something from which she struggles to keep away. Due to her autism and C-PTSD, as well as struggling with social skills, she finds it difficult to create and maintain friendships. Additionally, Matilda mentioned her use of masking in order to fit in to social situations. In spite of a few negative experiences she has had in music classes, it is clear Matilda loves music, and it has positively impacted her for life.⁸⁵

Specific Learning Disorders

A specific learning disorder is, according to the American Psychiatric Association, “a neurodevelopmental disorder that begins during school-age, although may not be recognized until adulthood.”⁸⁶ Part of the diagnosis process for finding a specific learning disorder is by noting the characteristics of one. According to the American Psychiatric Association, “Specific learning disorder is diagnosed through a clinical review of the individual’s developmental, medical, educational and family history, reports of test scores and teacher observations, and response to academic interventions.”⁸⁷ In order to diagnose a specific learning disorder, a person must show signs of difficulty in reading, writing, mathematic skills, and mathematical reasoning skills.

⁸⁴ Matilda Drake, phone interview by author, July 29, 2021.

⁸⁵ Ibid.

⁸⁶ Deepak Penesetti, “What is Specific Learning Disorder?,” *American Psychiatric Association* (November 2018), 1.

⁸⁷ “Specific Learning Disorder,” *American Psychiatric Association* (2013), 1.

Hazel Brown is a former music student with diagnosed ADHD and learning disabilities who was offered accommodations through an IEP.⁸⁸ Hazel was involved in music classes for thirteen years and began her music education in middle school. She took part in a variety of ensembles and other music courses throughout her musical career, including an attempt at a music degree from a local community college. Hazel articulated during her interview that she struggled from the beginning while learning her instrument—the violin—in early middle school which continued all the way through her attempt at college. In her interview, Miss Brown often said she “felt rushed” and that she was “expected to learn things on the spot.”⁸⁹ When discussing how she felt when she was put on the spot, Miss Brown said, “I felt like it was the end of the world sometimes.”⁹⁰ Her diagnosis of ADHD presented itself as a lack of focus in the classroom and as anxiety while testing. However, Hazel never used the accommodations that were available to her during her attempt at college. She indicated that getting up and leaving the classroom for testing accommodations would have been like acknowledging her disability to the entire class, and that would have been “embarrassing.” She went on to say that she would have felt more comfortable using available accommodations in college if it was set up so that she could have taken her tests before the actual scheduled time, or at least been scheduled to go directly to the testing center. She expressed that professors should do this for their students with disabilities and spare them the embarrassment. When asked about her experiences in the classroom, Hazel stated the following: “It was hard to gather the right information that I was learning from the teacher because I was either distracted, or it was hard to, like, fit in with everybody else in the classroom.” She especially remembered that there was a strong emphasis on homework in her

⁸⁸ Hazel Brown, phone interview by author, July 29, 2021. (Pseudonyms are used here to protect the identities of the participants.)

⁸⁹ Ibid.

⁹⁰ Ibid.

theory class. Hazel said that she “usually felt scared and embarrassed to ask questions in class.”⁹¹ She often felt “isolated” from the general population of students, and she felt “rushed”⁹² when asked questions in front of other people.

When Hazel was in middle and high school, she did use her accommodations. She used to take her tests and quizzes in the testing center. However, when she was in college, she said that she was unaware of how to set up her accommodations and did not realize the extent to which they were offered to college students. Again, she expressed embarrassment about using accommodations in college. Although Hazel was unaware of the availability of accommodations for disabled college students, she did take full advantage of them up to that point. When it came time for college, she said that she felt “embarrassed” and “uncomfortable”⁹³ for even asking for accommodations. She indicated that if the college had been more organized and clear about the accommodations available to her, she would have been more inclined to use these services. Once more, Hazel suggested that teachers schedule students with disabilities to go directly to the testing center on the day of the test to avoid a disabled student from feeling awkward walking out in front of an entire class. Although she struggled to ask for accommodations in college, Hazel did have music teachers who advocated for her throughout the years. Additionally, through middle and high school, Hazel had her parents to advocate for her. As a young adult college student, it became confusing to her as to what she needed to do to receive the accommodations that she needed in order to be successful.

When asked if music helped Hazel express herself, she alluded to having trouble

⁹¹ Hazel Brown, phone interview by author, July 29, 2021.

⁹² Ibid.

⁹³ Ibid.

articulating her thoughts clearly. Hazel said the hardest experience she had in the classroom was sharing about her life in front of the class. She said, “At times, it’s really hard for me to open up to friends about it because they don’t know, and they never ask, kinda, how I’m doing with it... It’s just been really hard to connect with friends because of that.”⁹⁴ Her best experience was being able to play “Ode to Joy” in front of her orchestra class and finding out she was equal as good as her peers. She also felt like she fit in at that moment. Hazel said that music classes have helped her express herself and helped her through depressing times in her life. It has been a way for her to express her feelings and journal in a way in which other people will listen. Music has influenced her life because it has allowed her many opportunities and has given her a way to express herself and fit in and spread happiness. “Music is almost like magic, it’s really beautiful to see different kinds of music put together now these days, to help spread the love and spread the support for people right now.”⁹⁵ Hazel has been surrounded by musicians and music her entire life. She said that the connections gained throughout the years have helped her establish herself in a career, as well as find bands to play with and new places to play. Additionally, she said that because of her personal growth, she does not regularly struggle as much. However, she still struggles with feeling accepted by her peers and family members. Hazel Brown made it a year and a half into an Associate of Music degree program before dropping out. She went on tour with a band after leaving college, as she is an excellent violinist.⁹⁶

Dyslexia

Another form of exceptionality is Dyslexia. “Dyslexia is a specific learning disability that

⁹⁴ Hazel Brown, phone interview by author, July 29, 2021.

⁹⁵ Ibid

⁹⁶ Ibid.

is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge.”⁹⁷ While people with dyslexia most commonly struggle with word recognition, the diagnosis of dyslexia can impact all areas of academics. Although the criteria for specific learning disabilities has changed in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), the diagnosis of dyslexia still falls under the category of a specific learning disability (SLD).

Emily Smith is a former music student who was diagnosed with dyslexia.⁹⁸ Miss Smith took music classes for sixteen years and earned a Bachelor of Arts degree in General Music with a concentration in voice and piano. She attempted a Master’s degree in music production. Although she has dyslexia, Emily rarely struggled in the musical portions of her music classes; where she struggled in these classes was in the reading. Although Emily had an official diagnosis of dyslexia, she never sought out or used any type of accommodations past elementary school. Miss Smith then went on to say that she wishes she had asked for accommodations, as that was one of her biggest regrets. When asked if she ever felt discriminated against because of her disability, Miss Smith discussed what led her to being homeschooled. When Emily reached second grade, one of her teachers tried to have her placed in special education classes because

⁹⁷ “DMS-5 Changes in Diagnostic Criteria for Specific Learning Disabilities (SLD)1: What are the Implications?” *International Dyslexia Association* (2021), 1.

⁹⁸ Emily Smith, phone interview by author, July 29, 2021. (Pseudonyms are used here to protect the identities of the participants.)

the teacher was unwilling to work with her. Nevertheless, throughout her time of homeschooling, Emily thrived. She took private music lessons and even a few music classes during her senior year of high school.

As Miss Smith continued her interview, she said that when reading music, she would occasionally mix up letters and feel as though the lines were jumbled. Although this could be a direct result of dyslexia, this is not uncommon for standard music students to have trouble following the lines and keeping track of where they are in a musical score.

As for receiving accommodations, when Emily was in elementary school, she took tests in a testing center and had a teacher stand by her just in case she needed assistance during classwork. One thing that Emily pointed out was that she was unaware that she could receive accommodations in college. She also did not know that it was standard for students to make teachers aware of their learning disabilities. Although she knew people could ask for help, and some people tested in the testing center, she never knew that the same accommodations applied to her and her specific needs. Emily believes that had she had an IEP and had been established in that process, she may have been more comfortable and more likely to ask for accommodations when she was in college and in graduate school.

Emily recalled that one of her worst class experiences in music was taking her music history classes. This was due to the amount of reading and the tremendous amount of content that she had to absorb. Miss Smith states, “I think I got the lowest grade in music history out of all of my music classes, and that was a contributing factor.”⁹⁹ She remembers the notes from her music history classes as being overwhelming due to the fact that the notes were massive packets of fill-in-the-blank statements. They were also seldom given to her in the correct order. That

⁹⁹ Emily Smith, phone interview by author, July 29, 2021.

said, the immense task of filling out the note packets was an incompatible technique to her learning style. When asked what her most positive experience was in a music class, Emily said it was when she was recognized for her efforts.

In describing the impact that music has had on her life, Emily said, “It’s been the determining factor that has made my life so great, and what it is now.”¹⁰⁰ She also said that music has given her a community, as well as a way to express herself in a clean way. She also uses her music to tell stories that people otherwise may not listen to if they were not set to music. As for the community, Emily moved in order to be around her community of songwriters. She says that many of these people are her best friends.

Miss Smith absolutely agreed when asked if she believes that any of her issues in the music classroom could have been solved through the specialized training of teachers. She believes that there are a lot of educators who follow outdated practices when dealing with exceptional students, and that there are teachers who create a harsh environment for those who do not meet the standard mold. She also believes that some of these issues could have been avoided had they been provided with better resources to both the students and the professors. Miss Smith also recalled occasions when music professors advocated for her at times when school became overwhelmingly difficult. As she understands her exceptionality, in her daily life, Emily uses proofreaders in her job to ensure that she does not make errors.¹⁰¹

Blindness and Visual Impairment

It is crucial for music teachers to employ techniques that will allow students with

¹⁰⁰ Emily Smith, phone interview by author, July 29, 2021.

¹⁰¹ Ibid.

exceptionalities to more readily navigate the classroom. In the article, “Teaching Singing to Students with Vision Loss,” it discusses the various challenges that are faced when teaching a blind or visually impaired student. The author provides many suggested resources for music and technology that teachers can utilize when teaching a student with vision loss. She suggests that educators learn the way in which a visually impaired student functions in his or her navigation. Another method stressed by the author is explanation and physical correction. This method has been used successfully and uses elements from the Alexander Technique which is a hands-on approach to teaching basics such as posture, mouth shape, and tongue placement. When using hands-on techniques, the teacher describes what is being done and why. Additionally, it is imperative for the teacher to ask the student’s preferences on how to address his or her individual challenges before getting started, as the approach that a teacher chooses is important when teaching a blind or visually impaired student—as with any student with an exceptionality.¹⁰²

Elizabeth Santana is a musician who is visually impaired.¹⁰³ Her conditions include: Leber congenital amaurosis—called LCA—a rare type of congenital eye disorder that causes extensive vision loss at birth, Nystagmus—repetitive, uncontrolled eye movement, anxiety, depression, chronic migraine, dyslexia, and light sensitivity. Due to her multiple disabilities, Elizabeth had an IEP, but only once does she recall a music teacher showing up to an IEP meeting. Elizabeth was involved in music from elementary school through college. She is an accomplished soprano and has a Bachelor of Arts in Music Performance. Miss Santana has been involved in music for eighteen years and is currently working in the field of music. When asked if she had ever struggled in a music class, this is what she said, “When I started college, I was the

¹⁰² Charlotte Surkin, “Teaching Singing to Students with Vision Loss,” *Journal of Singing*, Vol. 75, no.1 (September 1, 2018), 1.

¹⁰³ Elizabeth Santana, phone interview by author, July 29, 2021. (Pseudonyms are used here to protect the identities of the participants.)

only person there with a visual impairment probably since, I believe, the 1980s. And in the 80s is when my specific college started their disability office, in general, because they didn't have one before. My godfather, who is totally blind, actually helped with that.”¹⁰⁴ She also noted that at the time she was in college, none of her professors had any experience working with a student who was visually impaired. They did not know what to do with her or where to put her; especially in the music department. She felt as though she was the oddball.

Miss Santana says that she was fortunate enough to have had her advisor obtain Braille music for her. Although she went to a school for the blind in middle and high school, and was involved heavily in music, she never learned how to read Braille music until she went to college. However, when it comes to music theory, she regularly questions whether she knows as much as others without visual impairment because one of her professors taught himself Braille music and then taught it to her—all within the same semester. Due to the similarities between Braille music and the Braille alphabet, coupled with her dyslexia, Elizabeth found it difficult to learn how to read Braille music.

Some of the assistive technologies that Elizabeth regularly used in her learning included: Braille, a Braille piano, a Braille embosser, a cane, sunglasses, an iPad with voiceover, an audio recording device, a sharpie marker, and large paper. Although she obtained these items over time, it was very difficult for her to receive her braille papers, music, lyrics, and even syllabi within a reasonable time-frame. To make matters worse, these were materials that were provided to other students at no cost. Elizabeth, however, had to rely on herself, and the kindness of her godparents, to fund equipment and write things out in Braille—assignments, syllabi, tests, quizzes, etc.—in order to make necessary adaptations for her. This was incredibly expensive and

¹⁰⁴ Elizabeth Santana, phone interview by author, July 29, 2021.

cost Elizabeth and her godparents quite a bit of money. Her godparents provided the school with a Braille embosser during her senior year of college, but this was only after she struggled to obtain her music and other written materials for three years.

In addition to the accommodations provided through assistive technologies—a cane, sunglasses, an iPad (provided by the division of blind services), an audio recording device, Braille, and a Braille embosser, Elizabeth’s accommodations included being able to test in the testing center. Although she was allowed to record lectures in college, she wishes that they would have provided a note-taker who could have typed notes for her throughout the lecture. Elizabeth also has issues with the continual use of PowerPoint presentations at the college level. It is very common in college for professors to only consider auditory and visual learners. However, this creates issues for those with exceptionalities. Another issue was that many of her professors did not consider her exceptionality when emailing her the materials she needed. Although it sounds simple enough, Elizabeth’s professors would send her PDFs of PowerPoint presentations or other documents which were not able to be read by her voiceover app. As for the testing center, there were numerous issues that arose when her readers assisted her in reading tests. These situations included: being asked to take her test out in the lobby where she could be distracted and anxious as opposed to inside the testing center where she could have privacy in an office, readers not reading their instructions before helping with a test and not knowing it was supposed to be open book, making her feel rushed, readers taking phone calls and text messages during her tests, over booking the testing center when Elizabeth needed to take a test, and changing readers frequently so that they did not know how to accommodate her.

During college, Elizabeth struggled to succeed in music history due to the professor’s lack of training and his unwillingness to accommodate her and her exceptionality. Because of

this, she had to take both of her music history courses twice. When asked if she ever had a professor unwilling to accommodate her, Miss Santana said the following: “I almost had a handbell instructor, because handbells was required for the music majors, every single one of them. And I was kind of looking forward to it because during a previous semester, I had actually just voluntarily taken it because somebody needed help in there... So, I went in there and helped them, and I even played in the concert. All it took was a little bit of extra practice.”¹⁰⁵ After that semester, the school required Elizabeth to find a “substitute course”¹⁰⁶ because, even though she had proven that she was able to play, the professor was not willing to put in the extra time for her and was too concerned about his performance to give her an opportunity. In her senior year of college, Elizabeth took another ensemble that required her to play an instrument. Once again, she stated that it took extra practice, but it went well.

When asked if Elizabeth ever felt as if she was separated from the general population of students, she shared about her time in elementary school. Elizabeth recalled that she was the only visually impaired student at her school, and she only had one friend. Additionally, she was placed in a special education class. From there, Elizabeth ended up in a school for the blind in fifth grade, and it was from that school that she graduated. When Miss Santana went to college, being the only visually impaired student, she felt isolated and discriminated against at times. Although she tried to give others the benefit of the doubt, Elizabeth still felt disappointed in how people responded to her. For several of Elizabeth’s college courses, she was separated from the rest of the class and made to take a directed study. This made her feel as if she did not learn as much in music theory, music technology, or piano. These were also the courses that she was

¹⁰⁵ Elizabeth Santana, phone interview by author, July 29, 2021.

¹⁰⁶ *Ibid.*

required to take as a directed study. Elizabeth wishes that she could have taken music technology with the general class population and modified certain parts of the course in which she needed additional instruction. Regrettably, the professor only had her write a list of music apps that would be useful for a visually impaired student. As well, there were times that Elizabeth felt discriminated against by other students because they would leave her out of study groups or were rude to her when she was included.

Another situation that negatively impacted Elizabeth was when she applied to become a music major. In the beginning, Elizabeth came to the school with the intention of becoming a music education major. However, the school strongly discouraged her at every turn, and eventually, she gave up and applied to be a music performance major. The chair of the music education department was the same handbell professor who was unwillingly to make accommodations for her. That said, the school also tried to discourage Elizabeth from majoring in performance because they deemed it “too difficult”¹⁰⁷ for her due to the foreign language requirement—although Elizabeth is bilingual—and the amount of performing that was required for a music performance degree. The school then took it upon themselves, without consent from Elizabeth, to admit her to the music department as a general music major. However, Elizabeth finally put her foot down and was able to be admitted to the music program as a performance major.

In her classes, Elizabeth would have an occasional person offer to help her. For instance, she learned the Curwen hand signs through the assistance of a friend from one of her music classes. As the friend would sign into Elizabeth’s hand, she would feel and replicate these hand signs in order to learn them. In choir and most other performance classes, Elizabeth received

¹⁰⁷ Elizabeth Santana, phone interview by author, July 29, 2021.

assistance from another student to help her on and off the stage so that she would not have to use her cane, as she needed to be able to hold her folder. As well, depending on how bright the stage lights were, she would sometimes have to wear her sunglasses.

When asked about her worst classroom experience, Elizabeth told a story about a presentation in her Aural Skills class where a student was presenting and did not take time to acknowledge her questions after the presentation. This made Elizabeth feel very upset and isolated as the presenting student entertained other students' questions but ignored hers without intervention or correction from the professor. However, the next day was her best class experience. Another student noticed her struggles from the previous day and took the time to write out everything in the presentation with a sharpie on a large piece of paper so that Elizabeth could be included and not miss out on what was happening. Her classmate also stopped occasionally to ensure that she was on the right page.

In her interview, Miss Santana referred to performing as, "the best feeling in the world."¹⁰⁸ She had high praise for her college voice teacher and was complimentary of how accommodating she was. When asked if music had an impact on her life, she responded with an overwhelming, "Yes!"¹⁰⁹ Elizabeth uses music to help her remain calm in situations in which she may otherwise feel anxious. She especially loves listening to and singing spirituals and hymns. Elizabeth says that she uses spirituals and hymns to express her love for God, and it helps her meditate with a heart of worship. Music also has helped her stay connected to people with similar interests and values as her own, and has helped her build friendships that she would likely never have otherwise had. In reference to music, Elizabeth says, "It just kind of helps me

¹⁰⁸ Elizabeth Santana, phone interview by author, July 29, 2021.

¹⁰⁹ Ibid.

express myself...It's just a part of my being, and it's a gift. I can't really explain it."¹¹⁰

Elizabeth stressed the idea that professors and teachers should be more eager and willing to ask students with exceptionalities how they need to be accommodated, as well as what they need to succeed on an individual level. This is due to the fact that every situation is unique. However, she did express that she has seen others abuse their accommodations in the past. Nevertheless, Elizabeth still believes accommodations are good and necessary, but there should be accountability for students who receive them. She also pointed out that music educators should receive more training in how to handle students with exceptionalities because most colleges and universities do not require music education students to learn how to accommodate exceptional students. When asked how her exceptionality impacts her in her daily life, Elizabeth said, "I can do everything you can, it's just, I have to do some things differently. Except driving, of course!"¹¹¹

Cerebral Palsy

Accommodations and assistive technology in music education cover a wide range of students with exceptionalities. For instance, "Cerebral Palsy is a group of disorders that affect a person's ability to move and maintain balance and posture."¹¹² As there are varying levels of Cerebral Palsy, these students may need assistive technology, or other accommodations, in order to be successful, depending on the extent to which the student has been affected. In the study, "Cerebral Palsy and Music Achievement," teachers worked with several students with Cerebral

¹¹⁰ Elizabeth Santana, phone interview by author, July 29, 2021.

¹¹¹ Ibid.

¹¹² "What is Cerebral Palsy?" *Centers for Disease Control and Prevention* (2021), 1.

Palsy—with and without mild mental retardation. The research results, along with an analysis of the music curriculum content, indicated that the ability of students with Cerebral Palsy to do the tasks within the curriculum required the teachers to alter their approach. The teachers involved in the study then decided to figure out how they could assist the students in achieving success. Their decision to make use of computer based assistive technology facilitated this process to a large extent, thus allowing the student to experience success.¹¹³

Bill Buffet is a high school band director with a master's degree in education.¹¹⁴ He has been a band director for twenty-one years. When Mr. Buffet was asked why he decided to become a band teacher, he replied that his middle and high school band directors were both positive role models and helped instilled in him a love for music education. This is yet another strong example of how music educators positively impact the lives of their students. In his twenty-one years of teaching, Mr. Buffet has had the opportunity to work with multiple students with varying types of exceptionalities.

Of his exceptional education students, the most common types of exceptionalities that Mr. Buffet sees are ADD—now referred to as ADHD inattentive type—and ADHD. However, he is currently working with a wheelchair bound student who has cerebral palsy—CP. Even with the student's limited mobility and other physical limitations, Mr. Buffet has accommodated the student to the best of his ability. He also offered high praise as he mentioned how bright and positive this student is. Due to physical limitations, the student is playing percussion. Mr. Buffet said that, as a band director, he does not see exceptionalities as much as teachers of common core classes do. However, Mr. Buffet stated that he has worked with approximately fifty to sixty

¹¹³ Moidrag L. Stoshljevikj, Fadilj N. Eminovikj, Radmila M. Nikikj, Gordana I. Achikj, & Sanela R. Pacikj "Cerebral Palsy and Music Achievement." *Journal of Special Education and Rehabilitation* (2008).

¹¹⁴ Bill Buffet, phone interview by author, July 30, 2021. (Pseudonyms are used here to protect the identities of the participants.)

exceptional students throughout his twenty-one years of teaching.

When asked if he has ever had to make accommodations for a student, and if so, what types of accommodations has he had to make, he said this. Most commonly he sees students with 504 plans and IEPs, and with those, the accommodations vary. Some of the accommodations include giving extra time on assignments, giving extra extensions on assignments, and occasionally, depending on the student, allowing a student to use a scribe. Bill also mentioned that he regularly attends IEP and 504 plan meetings for his students who have him for multiple classes. Mr. Buffet then continued describing what those meetings generally entailed. Bill said that, normally, they ask his input on the student's progress, and how the student copes in various situations. However, when it comes to accommodations, his student with CP is a new experience for him. Although he has worked with students with learning disabilities in the past, Mr. Buffet has limited experience with students who have physical limitations. When asked if he had ever struggled to accommodate an exceptional student, Mr. Buffet replied, "It's never been a problem, we've always made it work."¹¹⁵ His advice on accommodating students with exceptionalities is to always stay in contact with the student's parents.

During his interview, Mr. Buffet was asked to discuss any training that he may have received for working with exceptional education students. Mr. Buffet shared his personal background. He said that although he receives professional development training and lists of specific accommodations for each exceptional student, he has never taken a specific course to train him on how to work with students with exceptionalities. He also mentioned that there were sections in classes within his bachelor's and master's programs that briefly mentioned exceptional student education. However, there were no specific classes required for him to take

¹¹⁵ Bill Buffet, phone interview by author, July 30, 2021.

as a music education major that taught him how to accommodate students with exceptionalities.

The next question that Mr. Buffet was asked was in regards to his worst experience with an exceptional education student. Although he says he has not had many, there was a particular time that he recalled when a student was abusing a 504 plan. When Mr. Buffet attended the meeting with this student, the student admitted, without prompting, that abusing the 504 plan was mostly by choice. The student was intentionally leaving items in the band room such as food, personal belongings, and homework. As well, the student's assigned area was deliberately being left messy after rehearsals. Mr. Buffet commented that he was thankful that he has not had any major issues, and that was about the worst thing with which he has had to personally deal while working with an exceptional student.

Mr. Buffet stated that the best experience he has had with an exceptional student is his student with CP with whom he is currently working. He finds it encouraging to see his student overcome physical limitations. Both he and his colleagues in the band program refer to this student as "a positive light." "Just very happy, never complains, you know?"¹¹⁶ They are very encouraged by this student's attitude. The student is well liked by both teachers and peers, sees the best in everything in spite of physical limitations, and helps bring a perspective to the band that they likely would not otherwise have. In his current position, Mr. Buffet has been fortunate enough to never have had to struggle to obtain resources for his exceptional education students and speaks highly of the people in charge of accommodations at his school. Mr. Buffet has a high comfort level in working with exceptional students. However, he feels that it is a lot of paperwork for results that could be achieved by emailing the student and parents. He describes this process as challenging, but understands the value of keeping the teacher in charge of the

¹¹⁶ Bill Buffet, phone interview by author, July 30, 2021.

exceptional student, or the EC assistant, involved in the process in order to keep track of the student's progress. Nevertheless, it is all about learning and adapting to the capabilities of the student.

Mr. Buffet is familiar with assistive technologies for music students, and for students with physical limitations. He has seen adaptable or adapted instruments. These instruments are commonly rebuilt or altered in some form to accommodate for a student's physical limitations. However, Bill has never personally had to do that himself. Mr. Buffet believes that music, particularly general music, is therapeutic for students with exceptionalities, especially when a student is provided the opportunity to play different instruments that can be adapted to varying exceptionalities and abilities. He said, "It's good for the human soul; it excites you."¹¹⁷ Mr. Buffet sees music education as a way for students with exceptionalities to build a community and be part of a group that they likely would never be able to otherwise experience. He said it gives students a sense of belonging and believes that being a part of a music program is crucial for students with exceptionalities.¹¹⁸

Hearing Impaired and Deafness

Since music education reaches far beyond childhood and into old age, the elderly is another population that must be considered, as aging can bring about certain forms of disability. In a study from the journal, *Frontiers in Neuroscience*, participants were able to take part in a choir and were taught the fundamentals of singing. Unlike the other hearing loss study, the group was made up of adult participants. This study's objective was to show the impact of age related declines on the ability to sing. It investigated whether ten weeks of choir participation

¹¹⁷ Bill Buffet, phone interview by author, July 30, 2021.

¹¹⁸ Ibid.

could improve aspects of hearing in older adults. Particularly, speech-in-noise (SIN) perception was being tested. The choir underwent pre- and post-testing over a ten-week period. The results indicated that the choir participants showed improvements in speech-in-noise perception, the ability to match pitch, and other improvements. The findings supported the beliefs that short-term choir participation is helpful for mitigating age-related hearing loss.¹¹⁹ Additionally, the internal benefits, such as having the opportunity to be an integral part of a group and to experience a sense of community that result from being a part of a choir, reach far beyond age constraints. This demonstrates how music education is not just enjoyable, but also beneficial for all ages.

In another study, the participants included prelingually deafened children with cochlear implants that participated in a choir with hearing children. As part of the study, the choir was taught a song over a two-week period. The choir members with cochlear implants showed incredible accuracy in both pitch and tempo and performed just as well as the children with normal hearing. The use of bimodal hearing—such as using a cochlear implant and a hearing aid—contributed to the development of better music ability in these children with cochlear implants. However, it was important for their musical training to begin soon after the implantation. The overall findings of this study indicated that music training could facilitate singing proficiency in prelingually deafened children with cochlear implants.¹²⁰ The application of this study to the music classroom shows how students with exceptionalities, when given the opportunity and proper tools, can assimilate into the group and experience success.

¹¹⁹ Ella Dubinsky, Emily A. Wood, Gabriel Nespoli, Frank A. Russo, “Short-Term Choir Singing Supports Speech-in-Noise Perception and Neural Pitch Strength in Older Adults with Age-Related Hearing Loss,” *Frontiers in Neuroscience* (November 28, 2019), 1.

¹²⁰ Jing Yang, Qi Liang, Haotong Chen, Yanjun Liu, & Li Xu, “Singing Proficiency of Members of a Choir Formed by Prelingually Deafened Children with Cochlear Implants,” *Journal of Speech, Language, and Hearing Research* (May 21, 2019), 1.

The Benefits and Outcomes of Participation in Music Programs

For many students with exceptionalities, participation in music programs provides numerous, far reaching benefits. These benefits include, but are not limited to, improved social, motor, and academic skills, as well as providing a healthy outlet to express themselves, and a sense of community that positively impacts students for life. However, just as students with exceptionalities should be included in music programs, it is equally important to ask, how music can be incorporated into special education programs—as education is not a one-way learning experience. Music can be the key to reaching students with special needs. This is true from infancy to old age. Often times, music and visual supports have successfully helped with comprehension in students with various forms of exceptionalities. The use of visual and audio aids act as a memory cue in order to aide in the memorization and comprehension processes. For instance, using a student’s favorite song as a teaching tool, setting multiplication tables to music, or “Using flash cards, song story books, digital pictures, and even physical gestures can increase students' understanding of the lyrics they are hearing or singing.”¹²¹

The study, “Learning a Musical Instrument Can Benefit a Child With Special Educational Needs,” provides a look into both the positive and negative impacts that music and music education have on exceptional students. Although it is assumed that music can benefit students with exceptionalities, there is still only limited research that has been done on its impact and any negative results that may potentially arise. This study is unique because it shows the results over an entire school year and measures the growth and/or decline the test subject experienced with pre and post-trial testing. However, when reading this research, it is important to take into consideration that every case is unique. In this case study, the researchers were limited to the

¹²¹ Michelle Lazar, “It’s a Snap! 4 Ways to Use Music With Special Needs Students,” *Edutopia* (September 18, 2014), 1.

data from a one human subject experimental group and the control group. That considered, it provided a good look into how similar research should be conducted as music and other arts based learning has been a topic of interest for years.

The cognitive, behavioral, and social-emotional benefits of arts based learning in childhood have long been a source of interest to researchers and those working in politics and public policy. At the same time, music perception and production have been of particular interest to cognitive neuroscientists, and the application of this knowledge has produced new insights into music and the mind for typically developing children, as well as those with special needs.¹²²

In this particular research, quantitative methods were used to evaluate the benefits of music learning programs in schools. The studies used by the researchers reported that there was an overall gain in the range of behavioral, cognitive, and social-emotional skills. Some of their research focused on the concept of near-transfer effects as related to skill-specific preparation—for example, motor abilities and auditory memory. Other studies examined the idea of the far transfer of musical learning—for example, improvements in reading, intelligence, nonverbal reasoning, and enhancement of spatial skills by listening. The works of Karkou and Glasman suggest that, “music learning within the school environment promotes social inclusion and well-being.”¹²³

The authors’ research offers an overview of the outcomes related to musical learning in a child with complex special educational needs. When the study began, the human test subject, CB, was an 8 year old boy that had the diagnoses of comorbid autism spectrum disorder (ASD), attention deficit hyperactivity disorder (ADHD), sensory processing difficulties, dyslexia, and dyspraxia coordination disorder (DCD). Before and after one year of learning music, CB was

¹²² Dawn Rose, Alice Jones Bartoli & Pamela Heaton, “Learning a Musical Instrument Can Benefit A Child With Special Educational Needs,” *Psychomusicology: Music, Mind, and Brain*, Vol. 28, no. 71-81 (2018), 1.

¹²³ *Ibid.*, 1.

evaluated using developmental measures. During the pretesting period, he obtained a high musical aptitude score. He also obtained an average IQ score. However, CB's scores on the tests that measured executive function, motor abilities, and social-emotional skills were lower than that of an average student. The study lasted one academic year which is approximately nine months. CB's teachers and his parents both expressed that they believed he would benefit greatly from participating in a music program. Due to the fact that his family was musically inclined, CB spent a large quantity of time engaging himself in musical activities by his own choice before the study even began. However, he was not involved to a large extent in music classes. During this study, CB learned how to play the tenor horn in a school music class.

In order to measure CB's musical aptitude, Gordon's Primary Measures of Music Audiation (PMMA) was used. The Beery test was utilized to test his visual and fine motor skills, and the Wechsler Abbreviated Scale of Intelligence (WASI) was used to assess his intelligence. "The WASI includes Matrix Reasoning, Block Design, Vocabulary, and Similarities subtests, which combine to provide a Full Scale IQ score."¹²⁴ The Children's Memory Scale (CMS) was utilized as a way to measure CB's long-term memory, short-term memory, working memory, and executive function. These evaluations were administered to CB before and after the school year to measure the growth made throughout the year.

The results of this research indicated that for impairments in developmental disorders, it is important to have a flexible teaching approach and family support for the student to learn music in a school setting during childhood. The post testing revealed improvements in CB's fluid intelligence and motor skills. Although teacher and parent reports suggested a decline in CB's

¹²⁴ Dawn Rose, Alice Jones Bartoli & Pamela Heaton, "Learning a Musical Instrument Can Benefit A Child With Special Educational Needs," *Psychomusicology: Music, Mind, and Brain*, Vol. 28, no. 71-81 (2018). 3.

social-emotional functioning, his musical progress was good. “The mixed-methods approach of this case study has provided a deeper understanding of how a child with complex learning and behavioral disorders in a mainstream school can benefit from learning a musical instrument, specifically for motor skills and fluid intelligence.”¹²⁵ CB relied on learning his music by ear, and this was a necessary adaptation for his success. The authors suggested that because CB was invested in his identity as a horn player, along with the framework of support from his parents and teachers, he was able to learn and was provided the motivation to overcome the difficulties he faced in his daily life. At the conclusion of this study, CB was still playing his tenor horn.

The Needs of College Students with Exceptionalities and Making the Right Decision

Because music education does not stop after high school, another vital issue to consider is what happens when a student with an exceptionality goes to college? How can a college music student get his or her needed assistive technology? What other accommodations must be considered when picking a school? The sad fact remains that even if a student with exceptionalities goes to college, he or she may receive limited to no resources based upon his or her choice of schools. Thus, a chosen degree path is not the only consideration that must be taken into account. Frequently, these students must find ways to either struggle through without needed accommodations and assistive technology or fund their own basic equipment.

The reality is that huge limitations exist for students with exceptionalities as to where they can attend college and still receive services while following their desired degree path. According to understood.org, students with exceptionalities, when applying to colleges, have to

¹²⁵ Dawn Rose, Alice Jones Bartoli & Pamela Heaton, “Learning a Musical Instrument Can Benefit A Child With Special Educational Needs,” *Psychomusicology: Music, Mind, and Brain*, Vol. 28, no. 71-81 (2018). 8.

look at factors such as the assistive technology policies of the college, if there is access to assistive technology, when it can be accessed, and how to access it. Additionally, they must consider whether or not classrooms are accessible. Thus, there are numerous questions that a college student with an exceptionality must ask before selecting a school.¹²⁶ The good news is that there are schools that take into consideration the needs of college students with exceptionalities. It is relatively simple to go online and find lists of schools that are among the top fifty colleges and universities that accommodate students with exceptionalities. As with any college student, it is highly recommended to make at least one visit to perspective schools, view the campus in person, and ask many questions.

Mr. Steve Bailey is an Associate Professor of Music and has been teaching for forty years.¹²⁷ His experience lies between church music and college instruction. As his parents were both teachers, this inspired Mr. Bailey to become a teacher, as well as the music teachers that inspired him throughout the years. He has a master's degree in church music and has used it, not only in his ministries throughout the years, but also as a music professor. When asked if he had ever worked with students with exceptionalities, Mr. Bailey stated that he had worked with students who were dyslexic, had Asperger's syndrome (AS is now referred to as autism spectrum disorder), and had autism. Through the years of working as a professor, he estimates that he has worked with approximately ten students with exceptionalities.

In sharing about his experiences with exceptional education students, Mr. Bailey began by recalling one of his students with autism who had problems focusing and would occasionally have mood swings during lessons. When this happened, Mr. Bailey would take a few minutes

¹²⁶ Amanda Morin, "Checklist: What to Ask Colleges About Assistive Technology," *Understood.org* (2020),1.

¹²⁷ Steve Bailey, phone interview by author, August 1, 2021. (Pseudonyms are used here to protect the identities of the participants.)

and let the student gain composure before continuing with the lesson. He went on to recall having other students who would either write things backward or incorrectly when they were instructed to write something down on paper for their assignments. When accommodating these students, he would kindly point out their errors and help the students correct them. However, he said that most of his students with this type of exceptionality would let him know the best way in which to accommodate them if any accommodation was necessary. Mr. Bailey said, “I’ve had people (students) on the autism spectrum. I’ve had people who just sometimes act differently than I do which is not right or wrong, it just caused me to have my radar go up and say, “I may need to pay a little bit more attention to this person.””¹²⁸ In other words, attend to the students’ specific needs as individuals.

Next, Mr. Bailey was asked to describe his worst or hardest experience with an exceptional student. He said that one of his most difficult experiences was teaching an exceptional education student who had an enormous attitude of defeat and became very discouraged. This had an extreme impact on Mr. Bailey as a teacher. His best experience, however, was being able to watch students with exceptionalities overcome obstacles, regardless of their diagnoses. Mr. Bailey said that he was always very willing to work with exceptional students, and had never taught a student with exceptionalities that he was unable to accommodate. When asked if he was familiar with assistive technologies, or if he had ever used any in his teaching to accommodate a student, he answered, “No.”¹²⁹

Mr. Bailey views music as therapeutic and believes that it creates a sense of community for those with exceptionalities where they can thrive and not feel threatened. He stated,

¹²⁸ Steve Bailey, phone interview by author, August 1, 2021.

¹²⁹ Ibid.

“Absolutely, music is almost magical at times, and I think it reaches people in bunches of different ways.”¹³⁰

The Outcome of Advocating for Students with Exceptionalities Through Training

The lack of familiarity with the needs of students with exceptionalities can negatively impact a student’s success. Certification programs, such as the Assistive Technology Specialist Certificate, allow educators to become certified assistive technology specialists. This program teaches educators how to provide assistance to those with a wide range of exceptionalities and impairments. It also helps teachers learn about state and federal mandates. This course is recommended for those in the field of special education, as well as any other educator who wants to become proficient in meeting the needs of students with exceptionalities in his or her classroom. In the field of music education, this program may assist a teacher in helping to meet the needs of—and advocating for—students that require special assistance.¹³¹ For both the student and the teacher, this could be the difference between success and failure.

In advocating for students with exceptionalities, why is it important for music educators become more involved in the IEP process? As well, have music educators done a good job of advocating for exceptional students? In 1997, the Individuals with Disabilities Education Act of 1990, or IDEA—the law that makes available a free and appropriate education to children with disabilities—was amended. This was to include the use of assistive technology that was to be taken into account when preparing for a student with an Individual Education Program. The study, “Music Educators’ Involvement in the Individual Education Program Process and Their Knowledge of Assistive Technology,” researched the involvement of music educators in the IEP

¹³⁰ Steve Bailey, phone interview by author, August 1, 2021.

¹³¹ “Assistive Technology Specialist Certificate” *California State University, Dominguez Hills* (2020), 1.

development process. Additionally, it focused on the knowledge and attitudes of the teachers when considering the use of assistive technology in teaching exceptional students. Regrettably, though most music teachers appreciated the use of assistive technology, they still had limited knowledge on the subject, and many continued to have little involvement in the educational planning for the students with exceptionalities. Fortunately, most music teachers recognized the need for in-depth preparation to effectively teach this population of students.¹³²

Tristan Wagner is a high school choral director who has been teaching for twenty-eight years.¹³³ Mr. Wagner has taught a wide age range of music students that spans from elementary school through college. He has three degrees, that include two master's degrees—one in vocal performance and another in music education with a focus in secondary education. Mr. Wagner's own experience as a student inspired him to become a music teacher. He began piano lessons at the age of four and fell in love with music and performing soon after. Throughout his years of teaching, Mr. Wagner estimates that he has taught approximately sixty students with exceptionalities. Over the years, he has worked with students with exceptionalities that range from ADHD and learning disabilities to autism and Down Syndrome. Mr. Wagner said he has seen a lot of ADHD students over the years because music helps those with ADHD release excess energy.

One of Mr. Wagner's current students, whom he has taught for four years, is on the autism spectrum. He describes this student as very talented and has taken piano, music history, music theory, and choir with Mr. Wagner. Mr. Wagner has had to advocate for this student and

¹³² Kimberly A. McCord & Emily H. Watts, "Music Educators' Involvement in the Individual Education Program Process and Their Knowledge of Assistive Technology," *Update: Applications of Research in Music Education* (March 9, 2010), 1.

¹³³ Tristan Wagner, phone interview by author, August 1, 2021. (Pseudonyms are used here to protect the identities of the participants.)

make accommodations for some of these courses. In order to register for music theory as an elective, Mr. Wagner had to advocate on behalf of the student because, originally, the school administration did not feel as though the student could be accommodated and was not capable of succeeding. Mr. Wagner helped the student gain access to this class and assured the administration that the student was quite capable and would be well accommodated.

When asked about accommodating students with exceptionalities, Mr. Wagner discussed the fact that he has had students with IEPs and followed them closely. Additionally, he mentioned that students who are more profound in their exceptionality have aides who assist them in each class. He recalled the times that he had to change his teaching style in order to accommodate students due to behavioral goals as set forth in their IEPs. He said that he had to be far more patient with them which, ultimately, made him a better teacher. Mr. Wagner confirmed that he has been involved in IEP and 504 meetings yearly. He said in his interview that he received training in both his undergraduate and graduate degree programs to work with exceptional students—which included proper terminology and reading IEPs and 504 plans. Mr. Wagner is thankful that he has never had to struggle to obtain resources to accommodate a student. He stressed that teachers should follow IEP plans to the letter of the law in order to protect both the student and the teacher. Mr. Wagner said, “You have to follow their IEP, and all of them are different, just like regular people in my classroom.”¹³⁴

Some of Mr. Wagner’s most disappointing experiences were times when students were unruly or when classes were too difficult for students to succeed. Some students have even found classes, like chorus, too difficult because they struggled with pieces that were written in foreign

¹³⁴ Tristan Wagner, phone interview by author, August 1, 2021.

languages—such as Latin. In order to accommodate students who struggled with foreign languages, Mr. Wagner, at times, had to allow those students to complete alternate assignments. He went on to share that he believes that the best experiences with exceptional students are when they are able to fit into general student population without struggling. He, then, referenced his current student with autism with whom he is working. Mr. Wagner repeated that not only is this student extremely talented, but also has a great personality; music suits this student well. Mr. Wagner loves to see students succeed—when nothing stops them from being successful.

However, Mr. Wagner believes that funding has had an impact on the extent to which he has been able to accommodate students. If given access to better funding, resources, and technology, Mr. Wagner believes that he would be able to make an even greater impact on students. He stressed that music is much more than just sitting and blindly listening to a personal device. He feels that a computer program, or another technological resource, would make learning a more active experience, thus students would be more engaged in learning. Because the arts do not receive as much funding, Mr. Wagner said that they usually do not receive this type of technology. He was unaware of any specific assistive music technologies, as the school has never provided any for him to use.

When asked about his comfort level in working with exceptional students, Mr. Wagner simply said that he is fine with it. Throughout his career, he has worked with the learning disabled all the way to students with Asperger's syndrome (autism spectrum disorder). Some of his more difficult experiences were with some of the more profoundly autistic students. He also recalled some minor behavioral issues with one of his students with Down syndrome. However, he was able to easily take control of those situations and correct any behavioral issues. Mr. Wagner stated that students with exceptionalities, especially on the elementary school level, love

music. He expressed that his overall experience in working with exceptional students was positive, and his comfort level is high.

Mr. Wagner feels that he has been able to reach exceptional students through music. He believes that the change of scenery—having a break from their typical classroom situation—is refreshing for students with exceptionalities. He indicated that one of his favorite things to hear from a student is them saying that they love music and that they cannot wait to come back. He expressed just how incredibly rewarding it is. Mr. Wagner believes that music is not only a therapeutic and helpful asset for exceptional students to express themselves, but for all students. He said, “I think being human is all about expressing yourself, no matter who you are.”¹³⁵ According to Mr. Wagner, music is a beneficial way for students to be able to create connections with their peers. He believes that not only does music and the arts help students to express themselves, it also helps them build a community with their peers and teacher with whom they otherwise may not connect. In the words of Mr. Wagner, music is for everyone, and it makes everyone’s life better.¹³⁶

The Roles and Responsibilities of the Teacher, Parent, and Student

Advocating for the needs of students with exceptionalities is not solely the responsibility of the teacher, school, or school system. The roles of teacher, parent, and student are all important in assuring that students with exceptionalities have equal and successful opportunities. When parents are involved in their student’s education, there is less of a chance that the student’s needs will be overlooked. However, it is not uncommon for parents, teachers, and students to be uncertain where to look for help in advocating for the student’s needs. One good resource is the

¹³⁵ Tristan Wagner, phone interview by author, August 1, 2021.

¹³⁶ Ibid.

article, “Music Education for Students with Disabilities: A Guide for Teachers, Parents, and Students,” by Merck and Johnson. In the article, the authors discuss the considerable part that the inclusive classroom has come to play in American education. It provides solid information on the subject of inclusion in the music classroom and addresses the issues that still remain with current inclusion practices. According to the authors, there are two the main issues affecting the inclusion of students with exceptionalities into the music classroom. The first is that music teachers, while receiving their teacher training, were not taught how to properly incorporate students with exceptionalities into the music classroom. That said, colleges and universities need to incorporate this type of instruction into the training of upcoming music teachers. However, there is the second issue which is teacher educators, themselves, have had little to no training in how to teach future educators ways to integrate students with exceptionalities into music classrooms. Merck and Johnson stated that this article was meant to guide teachers, parents, and students through the ever changing laws pertaining to music education, thus allowing students with exceptionalities to make the most of their music experience in the classroom.¹³⁷

Why Music Programs Should Be More Accessible

Why should music educators make music more accessible to students with exceptionalities? Patrick Anderson is a Paralympian who became an advocate for the disabled community. In the article, “(dis)Ability and Music Education: Paralympian Patrick Anderson and the Experience of Disability in Music,” several issues are addressed such as the different types of disabilities, disability terminology, and disability as an identity. When discussing terminology, the article points out that terminology can change from country to country. Additionally, it

¹³⁷ Kaitlin A. Merck & Ryan M. Johnson, “Music Education for Students with Disabilities: A Guide for Teachers, Parents, and Students,” *The Corinthian*, Vol. 18, no. 6 (June 2017), 2-7.

addresses the isolation mentality in the field of music education as it applies to people with exceptionalities. The author went on to discuss the way in which music teachers address their students and how some of the terminology used can be hurtful or offensive. Thus, it is important to recognize the impact that both music programs and music teachers have on the lives of students. Because of this, we must acknowledge this mutually beneficial relationship and how it can enhance—or even change—the lives of both the student and the teacher. In doing so, we allow our students to experience a healthy outlet in which to express themselves and provide a sense of community which will positively impact them for life.¹³⁸

Ruth Jones has been a music educator for twenty-four years and has had experience in both primary and secondary education.¹³⁹ Although she originally started her degree in another field, Mrs. Jones decided to follow her passion and pursue a degree in music education. Mrs. Jones has two masters degrees, a Master of Science in Education, and a master's degree in church music. She was inspired to become a music teacher through the positive experiences she had with her own music teachers during her childhood. Throughout her career as a music teacher, Mrs. Jones has worked with children with varying types of exceptionalities. These students ranged from Down syndrome and nonverbal autism to dyslexia and ADHD. She even taught a class for children with exceptionalities. Over the years, she estimates that she has worked with a minimum of twenty children with exceptionalities.

Mrs. Jones had many stories that she was willing to share when asked to share her experiences. She recalled that she and another teacher worked with a child who was profoundly

¹³⁸ Adam Patrick Bell, “(dis)Ability and Music Education: Paralympian Patrick Anderson and the Experience of Disability in Music,” *Action, Criticism, and Theory for Music Education*, Vol. 16, no. 3 (November 2017), 108-128.

¹³⁹ Ruth Jones, phone interview by author, August 1, 2021. (Pseudonyms are used here to protect the identities of the participants.)

autistic. Over the course of one year, they were able to help the profoundly autistic student learn to read. One important decision they made, and, perhaps, the one that had the biggest impact on the student, was incorporating the student into mainstream classes. Being around peers helped the student become more cooperative. The student interacted, participated, and fed off the positive behavioral cues of other classmates. Mrs. Jones went on to say, “So, I tried to be inclusive with them by not treating them separately, but treating them as if they could learn just as well as the regular classroom kids... And I took them as far as I could take them, as far as their music education is concerned.”¹⁴⁰

Another one of Mrs. Jones’s autistic students was nonverbal, but enjoyed drawing. When this student was in her classroom, Mrs. Jones provided the student with paper and pencils. The student would then draw concepts that were being discussed throughout the lesson—for example, notes and rests. She recalled one particular day that this student was more restless than normal, and to settle the student down, she allowed the student to walk around with her while she showed the class several different instruments. While doing this, she allowed the student to play the instruments and to discover. This particular student became especially fond of the handbells that were in the classroom. Mrs. Jones taught the student how to arrange the handbells from “Do” to “Do.” From that point forward, the student was able to arrange the handbells independently.

As for accommodations, Mrs. Jones said she really did not have much to do. She figured out what the individual student needed and allowed them to participate to the best of their ability. Her goal was to include everyone. Even though Mrs. Jones has worked with exceptional students in the past, she has never participated in an IEP or 504 meeting. However, she attended a parent

¹⁴⁰ Ruth Jones, phone interview by author, August 1, 2021.

conference with several other teachers from the fine arts program that was called by the parent of an autistic child. Although Mrs. Jones has worked with several exceptional education students, she said that, other than her college classes, she has had no specialized training for working with exceptional students.

One of Mrs. Jones's worst experiences was with her nonverbal autistic student. The school year was just beginning and the student was being uncooperative. In the middle of class, the student decided to promptly change clothes into an extra pair of clothing that was in a bag. As the student attempted to strip down and change, Mrs. Jones had to stop the student's behavior while still solely managing her other students. Thankfully, she was able to prevent the student's wardrobe change in the middle of the classroom. However, Mrs. Jones recalled this as one of her most difficult experiences with an exceptional education student. Incredibly, her best experience was with the same student. After working with the student for a few weeks, Mrs. Jones was able to get the student to not only recognize pitch, but also replicate pitches on an instrument.

When asked if she believes that there are any exceptional students that could have been better accommodated had she had access to more resources or training, Mrs. Jones said, "Yes."¹⁴¹ She also said that as she has aged, her comfort level has dropped to a five on a scale from one to ten. She stated that if an aide is present, that helps her tremendously. However, if there is not one, it is a challenge. She also expressed that she is unaware of assistive technologies for exceptional education students in the music classroom. When asked if she feels like she has been able to reach any of her exceptional music students, Mrs. Jones referred back to the student whom she taught to recognize pitch.

Mrs. Jones feels that music is both helpful and therapeutic as a resource for exceptional

¹⁴¹ Ruth Jones, phone interview by author, August 1, 2021.

students, and that students with exceptionalities need the arts in the same way those without exceptionalities need the arts. She said, “Some kids, you can’t reach them any other way, other than through the arts of some kind.” She believes that the arts are a wonderful way for students with exceptionalities to express themselves and relate to their peers. Mrs. Jones not only believes music is good for standard children in education, but also those with exceptionalities. It helps both parties build a community that is potentially lacking, and helps students from all walks of life and ability levels learn from each other.¹⁴²

Applying Studies to Interview Findings

The interview findings from both the students and teachers support the findings of multiple research studies. The student interviews support the claim that there is a lack of fluidity when an exceptional education student attends college in both resources and information about what accommodations are available to a disabled student. These findings were supported by the article from *understood.org* entitled, “Checklist: What to Ask Colleges About Assistive Technology.” When questioned about their collegiate experiences, all five of the students interviewed knew of the existence of accommodations in their college or university. However, three out of five did not know what applied to them, to what extent they could be accommodated, or how to properly arrange and utilize these accommodations. The two students that were able to utilize their accommodations struggled to obtain their full accommodations and did not get these issues resolved until the end of their college careers. Although Mr. Bailey, the college professor, adapted to his students’ needs, it appeared as though there was a lack of communication between the disability office, the students, and the professor. This does not necessarily reflect negatively on students or professors, but on the lack of communication,

¹⁴² Ruth Jones, phone interview by author, August 1, 2021.

training, and clarity for students and professors from the college or university's disability office. This responsibility should not fall solely on the shoulders of the professors, the students, or family members. If records clearly indicate that a student has a diagnosed exceptionality, whether a student has been previously served under an IEP or 504 plan, contact should be made to the student directly upon admission to the school.

Some of the commonalities among the music teachers that were interviewed are that all four educators did not realize the variety or extent to which assistive technologies were available to exceptional music students. However, some of the teachers were more aware of these assistive technologies—specifically Mr. Buffet who discussed adaptive instruments such as those mentioned in the article, “Good News in Inclusive String Music Education: Adaptive Strategies for the Classroom.” That said, none of the teachers were overly aware of online resources such as the website “Make Some Music with Assistive Technology,” or the range of assistive technologies as discussed in the article, “Music Technology for Special Needs Students.” Another notable finding is that only two of the music educators were involved in IEP or 504 plan meetings. Mr. Buffet and Mr. Wagner were both actively involved in the IEP process for their students. The study, “Music Educators’ Involvement in the Individual Education Program Process and Their Knowledge of Assistive Technology,” not only referred to music teachers’ selective involvement in the IEP process, but also the lack of knowledge of assistive technology for music—even among those in support of its use. In their own way, all four advocated for their exceptional students. Additionally, they all received some form and level of training in working with exceptional students—though most agreed that they would benefit from more. However, of all the educators interviewed, Mr. Wagner was the strongest advocate and had the highest amount of training in working with exceptional education students. One resource that may prove

helpful for those who are wanting specialized training in assistive technology is the Assistive Technology Specialist Certificate. When the teachers were asked if they believed that music provides exceptional students with a sense of community that they might otherwise be lacking, the teacher's all agreed that music does, in fact, provide this to students. This supports the findings in the article, "(dis)Ability and Music Education: Paralympian Patrick Anderson and the Experience of Disability in Music," that discusses how music provides a community for students who may not otherwise have it, as well as why this is important for these students.

Several commonalities were found in the experiences of the five music students that were interviewed. As previously stated, there was a lack of knowledge as to what accommodations were offered at the college level in their education. Out of five students, only two knew about, and readily used, their accommodations while in college. Of the two, both struggled to obtain those accommodations, and neither of the students were able to obtain accommodations to the fullest extent that would or should have been offered to them. As for the other three students, all three voiced regrets for not having known what was available to them and wished they had been able to use their accommodations. All three held the belief that they would likely have done better in their classes had they had accommodations. All five exceptional students who were interviewed expressed that they felt rushed and overwhelmed by their classes, even at the elementary and middle school level. Another common theme throughout the interviews was a feeling of shame or embarrassment due to the way in which their accommodations were handled. This was, in part, due to the fact that students would first have to attend their classes on test days and exit the classroom in front of their peers to go to the testing center to take their tests. There was a sense of anxiety from three of the students when asking for needed materials that should have been provided to them. Four out of five students expressed feelings that music teachers

doubted their ability based on their exceptionality. Two out of five said they have experienced situations from both music teachers and peers that can only be considered blatant discrimination based upon their exceptionality. The two students, Mrs. Drake and Miss. Smith, who both have been diagnosed with dyslexia reported becoming jumbled when attempting to read music on occasion. Three out of five believe there should be better regulations on receiving accommodations, as they have seen them abused by peers in the past, and believe that there should be a clearer definition as to who qualifies for these accommodations. Four out of five students reported that some of their issues could have been avoided had the schools received better funding. All five students shared these common beliefs, including: the belief that teachers should receive specialized training to work with exceptional students, music helps them express themselves, music has provided them with a community that they likely would not otherwise have. More points to consider include: three out of five of the students interviewed have completed a bachelor's degree in music, one out of five is in the process of completing a bachelor's degree in nursing, one out of five has attempted a master's degree in music, one out of five is in the process of a master's degree in music with a teaching assistant position, four out of five are actively pursuing careers in music, and five out of five of these students have attempted college. Although not all of these exceptional students continued on a traditional path, and not all of them have employed in a music based career, these students have all beaten the odds. They have all refused to allow their exceptionalities to define them as people, students, and musicians.

CHAPTER FIVE: CONCLUSION

Summary of Purpose and Study

The goal of this research is to remind music educators and decision makers that music is an all-encompassing subject that should be accessible to all students. Music teachers should remember that music classes are often the highlight of many students' days, and it can be even more impactful for students who already feel different to have the opportunity to be included as an integral part of a group. It is troubling that students with disabilities still struggle to receive needed assistive technology, and worse, those in lower income areas are many times overlooked due to their socioeconomic level and/or a lack of school funding. This is precisely why it is vital for music educators to be advocates for securing assistive technology for students in need. It is helpful to have a teacher advocating for a student as the teacher can give a firsthand account as to where the student is struggling and can clearly communicate why that student may need to be provided more or better adaptive equipment. It is important to recognize the impact that participation in music has on a student, regardless of disability or socioeconomic condition.

At every level—elementary school through college—teachers should advocate for the rights of their students and to remember that a differently abled student has the ability to succeed. Although it is apparent through research studies that strides are being made to make music education fully available to all students, the interviews contained in this research confirm that there is still much more to be done. Both the testimonies of educators and students alike have confirmed that the knowledge of available resources and accommodations for students with exceptionalities is still limited. This is a situation that can only be rectified with time, research, and training. Correcting it will require a willingness from music educators to actively pursue

specialized training, as well as actively searching for new resources and assistive technologies for music. It may also require standards in schools and universities to change for the betterment of the students with exceptionalities. If the goal of accommodations—those set forth in IEPs and 504 plans—is to allow the greatest chance for student success, why is it that both students and teachers still have difficulty finding and acquiring resources? Why are educators required specialized sensitivity training each year, but are not required annual training in accommodating exceptional education students and where to find the resources for those whose education depends on them? Though some lacked funding and access to resources, the music educators who were interviewed in this study gave their students the best possible accommodations with the resources and training they were provided.

The student interviews provide another side to this research and make it apparent that there is still a long way to go in accommodating students with exceptionalities in the music classroom. The goal should be, as music educators, to be sensitive to the feelings of anxiety and embarrassment of students requiring accommodations and the stigma of needing an IEP or 504 plan. Music teachers should always strive to make all students feel comfortable in order to develop their love of music, and should attempt to incorporate students with exceptionalities into the standard student population in a way that makes them feel as if they are an integral part of the group. Music teachers involvement in the IEP or 504 planning process provides attainable goals for students participating in music classes and helps the teacher understand what accommodations should be made for the student. Although there are times that students abuse these accommodations, this is not the case for most students. To avoid abuse of an IEP or 504 plan, students should be evaluated frequently, and empowered to work to their fullest potential.

Before students with exceptionalities go to college, it is important that they ask questions and find a school that will advocate for their individual needs. Unfortunately, not taking time to take this step can impede college success. Information on accommodations should be provided to students with exceptionalities when they apply to a college or university. When a college or university accepts a student with special needs, they should make a commitment to that student to provide specific information on where to go to set up and receive needed accommodations and meet personnel who can assist them through the process. Students with exceptionalities should easily be able to find out what specific accommodations are available to them from their college or university.

The student interviews from this study unmistakably showed a problematic lack of clear information for college students from the disability offices at their schools. Since, however, there are a number of schools that do a great job of accommodating college students, students with special needs, they should never be deprived of their full accommodations. A list of the top twenty-seven colleges and universities that are recognized as schools that go a good job of accommodating students with exceptionalities can be found online using the following link: <https://www.theedadvocate.org/2020-best-colleges-universities-for-people-with-disabilities/>

Summary of Findings

Overall, this research has established two main conclusions. First, music education does indeed, make a positive impact on many exceptional students. Secondly, there are still strides that need to be taken in accommodating students with exceptionalities. This is not to say that research is not on the right track, but there are still clear and apparent needs. This research study provides a fresh perspective on previous research, as exceptional students were asked to share

¹⁴³ Matthew Lynch, "2022 Best Colleges and Universities for People with Disabilities," *The Advocate* (December 18, 2019), 1.

their personal experiences. This will, hopefully, allow music educators to become more aware of the positive benefits that music provides to students with exceptionalities.

The most important finding of this study is one on which both music teachers and exceptional music students agreed—it is the positive impact that music has on the lives of many students with exceptionalities. Music is a tool that breaks down barriers, and helps bring those with exceptionalities together with their peers. It helps bring together those who are unable to participate in social activities—such as sports—and provides a community and the opportunity to be a part of a “team.” It is important that these students have a place to feel accepted and supported. For many, that is what music does. It is a bonding experience, a way to make friends, and a way to express themselves when they feel they cannot. This is why it is important that research continues and adaptations are made, as needed, to exceptional music education programs.

Regardless of ability, age, whether it is a hobby or career, music impacts people’s lives. For students with exceptionalities, it is often the highlight of their school day and the way in which they connect with teachers and peers. However, providing the necessary tools for students with special needs can be the difference in success and failure in their pursuit of music.

Recommendations for Future Study

With these findings, several recommendations have been compiled for those interested in pursuing similar topics. The first recommendation is to include students, not just teachers, in the consortium of subjects as to allow for well-rounded data to be gathered. Although many music educators may believe that great strides have been made in the inclusion of exceptional students in the music classroom, it became apparent in the student interviews for this study that music educators are not doing as well as we thought in advocating for and accommodating these students. Another suggestion is to interview school administrators, as it appears some

communication errors stem from admissions personnel and/or administrators that ultimately prevent students and teachers from knowing what accommodations are available and how and where to access these resources. However, this is not always the case, therefore it is imperative to find from where the error in communication lies. Good administrators are the best advocates of both students and teachers. Finally, to all, find out how important music is in the lives of exceptional students. Discuss the positive impacts music has had on them, both socially and academically, and how music has impacted them in their personal lives. The goal as a music educator should be to break down barriers and truly make music accessible to everyone, and to recognize the impact that participation in music has on a student, regardless of ability or socioeconomic condition.

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Appendix A IRB Application

Date: 10-22-2021

IRB #: IRB-FY20-21-713

Title: Serving Special Education Students in the Music Classroom: Accommodating and Advocating for Learners with Exceptionalities. **Creation Date:** 3-9-2021 **End Date:**

Status: Approved

Principal Investigator: Kathryn Lambert

Review Board: Research Ethics Office

Sponsor:

Study History

Submission Type Initial

Review Type Expedited

Decision Approved

Key Study Contacts

Member Rebecca Watson

Role Co-Principal Investigator

Contact rwatson10@liberty.edu

Member Kathryn Lambert

Role Principal Investigator

Contact klambert6@liberty.edu

Member Kathryn Lambert

Role Primary Contact

Contact klambert6@liberty.edu

Initial Submission

IRB Overview

Application for the Use of Human Research Participants

Before proceeding to the IRB application, please review and acknowledge the below information:

Administrative Withdrawal Notice

This section describes the IRB's administrative withdrawal policy. Please review this section carefully.

Your study may be administratively withdrawn if any of the following conditions are met:

- Inactive for greater than 60 days and less than 10% of the app has been completed
 - Duplicate submissions
 - Upon request of the PI (or faculty sponsor for student submissions)
 - Inactive for 90 days or more (does not apply to conditional approvals, the IRB will contact PI prior to withdrawal)
-

*required

I have read and understand the above information.

Study Submission & Certification

This section describes how to submit and certify your application. Please review this section carefully. Failure to understand this process may cause delays.

Submission

- Once you click complete submission, all study personnel will need to certify the submission before it is sent to the IRB for review.
- Instructions for submitting and certifying an application are available in the IRB's Cayuse How-tos document.

Certification

- Your study has not been successfully submitted to the IRB office until it has been certified by all study personnel.
- If you do not receive a “submission received by the IRB office” email, your study has not been received.
- Please check your junk folder before contacting the IRB.

*required

I have read and understand the above information.

Moving through the Cayuse Stages

In Cayuse, your IRB submission will move through different stages. We have provided a quick overview of each stage below.

In Draft

- The In Draft stage means that the study is with the study team (you). In this stage, the study team can make edits to the application.
- When the IRB returns a submission to the study team, the submission will move back to the In-Draft stage to allow for editing.

Awaiting Authorization

- Each time a study is submitted, it will move from In-Draft to Awaiting Authorization.
 - During this stage, the submission must be certified by all study personnel listed on the application (PI, Co-PI, Faculty Sponsor). This ensures that every member of the study team is satisfied with the edits.
 - Please note, the IRB has not received your submission until all study personnel have clicked “certify” on the submission details page.
-

Pre-Review

- When your application is submitted and certified by all study personnel, your study will move into the Pre-Review stage.
 - Pre-Review means the IRB has received your submission. The majority of the IRB review occurs during the Pre-Review stage.
 - Once received, an IRB analyst will conduct a cursory review of your application to ensure we have all the information and documents necessary to complete a preliminary review. This cursory review usually occurs within 3 business days of receipt.
 - If additional information or documents are needed to facilitate our review, your submission will be returned to you to request these
 - changes. Your study will be assigned to an analyst once it is ready for
 - review. Preliminary and any subsequent reviews may take 15–20 business days to complete depending on the IRB's current workload.
-

Under Review

- Studies will only move into the “Under Review” stage when the analyst has completed his or her review and the study is ready for IRB approval.
-

*required

✓ I have read and understand the above information.

Finding Help

The IRB has several resources available to assist you with the application process. Please review the below information, or contact our office if you need assistance.

Help Button Text (?)

- Some questions within the application may have help text available.
- Please click on the question mark to the right of these questions to find additional guidance.

Need Help? Visit our website, www.liberty.edu/irb, to find:

- Cayuse How-Tos
- FAQs
- Supporting document templates

Contact Us:

- irb@liberty.edu
- 434-592-5530
- Office Hours: M-F; 8:00AM-4:30PM

*required

I have read and understand the above information.

*required

Acknowledgement

Please acknowledge that you have reviewed and understand the above information. You can refer back to this information at any time.

I acknowledge that I have read and understand the above information. Take me to the IRB



application.

Project Information

*required

What type of project are you seeking approval for?

Please make the appropriate selection below.

Research

- Research is any undertaking in which a faculty member, staff member, or student collects information on living humans as part of a planned, designed activity with the intent of contributing relevant information to a body of knowledge within a discipline.
-

Archival or Secondary Data Use Research ONLY

- Archival data is information previously collected for a purpose other than the proposed research. Examples include student grades and patient medical records.
 - Secondary data is data that was previously collected for the purpose of research. For example, a researcher may choose to utilize survey data that was collected as part of an earlier study.
-

Doctor of Nursing Practice (DNP) Scholarly Project

- This option is specific to doctor of nursing practice (DNP) students' evidence-based practice scholarly projects.
-

*required

Please indicate the primary purpose of this project:
Why is this project being proposed?

Doctoral Research

Masters Research

***Note: Students must enter themselves as PI and their faculty sponsor under Faculty Sponsor.**

*required

Have you passed your thesis proposal defense or been told by the faculty member chairing your thesis committee that you may submit your project to the IRB?

Yes

No

N/A

Undergraduate Research

Faculty Research

Class Project

Other

Study Personnel

Please fill in all associated personnel below.

Please note: All study personnel must complete CITI training prior to receiving IRB approval. The IRB will accept either of the following CITI courses: "Social & Behavioral Researchers" or "Biomedical & Health Science Researchers."

- [IRB Training Information](#)
 - [CITI Training Website](#)
-

*required

Primary Contact

The individual who will receive and respond to communication from the IRB should be listed as the primary contact. For student projects, the primary contact will be the student researcher(s). For faculty projects, the primary contact may be the researcher or a student(s), administrative assistant, etc. assisting the faculty member. The same individual may be listed as the primary contact and the principal investigator.

Name: Kathryn Lambert

Organization: Graduate Music Studies

Address: 1971 University Blvd , Lynchburg, VA 24515-0000

Phone: 4345822000

Email: klambert6@liberty.edu

*required

Principal Investigator (PI)

The principal investigator (PI) is the individual who will conduct the research or serve as the lead researcher on a project involving more than one investigator.

Name: Kathryn Lambert

Organization: Graduate Music Studies

Address: 1971 University Blvd , Lynchburg, VA 24515-0000

Phone: 4345822000

Email: klambert6@liberty.edu Co-

Investigator(s)

Co-investigators are researchers who serve alongside the principal investigator and share in the data collection and analysis tasks.

*required

Faculty Sponsor

Projects with students serving as the PI must list a faculty sponsor, typically a dissertation or thesis chairperson/mentor.

Name: Rebecca Watson

Organization: Teacher Education

Address: 1971 University Blvd , Lynchburg, VA 24515-0000

Phone: 8308326419

Email: rwatson10@liberty.edu

*required

Will the research team include any non-affiliated, non-LU co-investigators?

For example, faculty from other institutions without Liberty University login credentials. Note: These individuals will not be able to access the IRB application in Cayuse, however, the information provided below allows the LU IRB to verify the training and credentials of all associated study personnel. Yes

No

Conflicts of Interest

This section will obtain information about potential conflicts of interest.

*required

Do you or any study personnel hold a position of influence or academic/professional authority over the participants?

For example, are you the participants supervisor, pastor, therapist, teacher, principal, or district/school administrator? Yes

No

*required

Do you or any study personnel have a financial conflict of interest?

For example, do you or an immediate family member receive income or other payments, own investments in, or have a relationship with a non-profit organization that could benefit from this research? Yes

No

Funding Information

This section will request additional information about any funding sources.

*required

Is your project funded?

Yes

No

Study Dates

Please provide your estimated study dates.

*required

Start Date

01/26/2021

*required

End Date

07/31/2021

Use of Liberty University Participants

Please make the appropriate selection below:

*required

I do not plan to use LU students, staff, and/or faculty as participants.



- Note: Use of LU students, faculty, or staff also includes the use of any existing data.

I plan to use a single LU department or group.

- You will need to submit proof of permission from the department chair, coach, or dean to use LU personnel from a single department.

I plan to use multiple LU departments or groups.

- If you are including faculty, students, or staff from multiple departments or groups (i.e., all sophomores or LU Online) and you have received documentation of permission, please attach it to your application. Otherwise, the IRB will seek administrative approval on your behalf.

*required

Purpose

Please provide additional details about the purpose of this project.

Write an original, brief, non-technical description of the purpose of your project.

Include in your description your research hypothesis/question, a narrative that explains the major constructs of your study, and how the data will advance your research hypothesis or question. This section should be easy to read for someone not familiar with your academic discipline.

The purpose of this study is to gather and present information from both experienced teachers and students in order to offer various ways in which music teachers can accommodate and advocate for students with exceptionalities/disabilities as they interact together in music programs. I will be interviewing several music teachers and music students regarding their personal experiences, as well as comparing their experiences to the basic requirements as set forth by the American's with Disabilities Act (ADA).

Furthermore, I will discuss the potential positive impact that participating in music programs has on students with exceptionalities and why it is crucial for music teachers to be the best advocates they can be for these students. I will include several studies that will cover a broad spectrum of what will be considered to be an exceptionality per my research. Finally, I will end my research with resources for music teachers to access, including assistive technologies and other advocacy resources.

Investigational Methods

Please indicate whether your project involves any of the following:

*required

Does this project involve the use of an investigational new drug (IND) or an approved drug for an unapproved Use?

Yes

No

*required

Does this project involve the use of an investigational medical device (IDE) or an approved medical device for an unapproved Use?

Yes

No

Participant Information

Participant Criteria

Please provide additional information about your participants.

*required

What characteristics make an individual eligible to be in your study (i.e., your inclusion criteria)?

- For example, do your participants have to be 18 or older? Must they work in a specific career or field? Do they have to be part of a specific racial or ethnic group?
- If you will have multiple participant populations/groups, like a teacher group and an administrator group, please list the populations/groups separately and provide the inclusion criteria for each.

In order to participate, participants must be 18 or older and are, or have been, a music teacher or music student with an exceptionality.

*required

Will your participant population be divided into different groups (or different procedures)?

(i.e., experimental and control groups) Yes

No

*required

Are you related to any of your participants?

Yes

No

*required

What characteristics make an individual ineligible to be in your study (i.e., your exclusion criteria)?

For example, will you exclude persons under 18 years of age?

Anyone under the age of 18, not a current or former music teacher or music student with exceptionalities, will not be considered for this study.

*required

Types of Participants

Who will be the focus of your study? (Check all that apply).

Adult Participants (18-65 years old)

Minors (under 18 years)

Seniors (65+)

College or University Students

Active Duty Military

Discharged or Retired Military

Inpatients, Outpatients, or Patient Controls

Pregnant Women

Fetuses

✓ Individuals with Cognitive Disabilities ✓ Individuals with Physical Disabilities

Individuals Incapable of Giving Consent

Prisoners or Institutionalized Individuals

Specific Ethnic or Racial Group(s)

Other Potentially Elevated Risk Populations

*required

Please provide a rationale for selecting the above groups(s).

(i.e., Why will these specific groups enable you to answer your research question? Why is the inclusion of these groups necessary?)

This is an underserved group in the field of music education, and it needs to be addressed in order to provide unlimited opportunities for students with exceptionalities. Their first-hand experiences will help identify the areas of music education where this group has been under served.

*required

Provide the maximum number of participants you plan to enroll for each participant group.

You will not be approved to enroll a number greater than the number listed. If at a later time it becomes apparent that you need to increase your sample size, you will need to amend your protocol prior to doing so. As appropriate, sample sizes should be justified in accordance with the study design and methodology.

The maximum number of participants I would like to involve in this study is 15.

Recruitment of Participants

This section will collect additional information on the recruitment of potential participants.

*required

How will you contact potential participants to recruit them for your study?

- Be specific. Examples include email, a phone call, social media, snowball sampling, flyers, etc.
- If you plan to use phone calls or emails, please describe how you will obtain the phone numbers/email addresses (e.g., publicly available, list will be provided to you, personal acquaintances, etc.).
- Please state whether the same recruitment template will be used for all recruitment methods. For example, if separate recruitment templates are required (e.g., one for email and one for social media), please attach both below.
- If you will follow-up with participants (phone, email, etc.) please say so in your below response.

Participants will be contacted via email and phone calls. I obtained the participants phone numbers and emails over the years because all participants are professional acquaintances. All recruitment materials will be the same for all participants. I will send the followup document if I have not received an initial response within a week.

*required

Describe the location and timing of recruitment.

Unless you are recruiting at a specific event, please refrain from listing an exact date (you can provide a general estimate, or simply state "recruitment will begin upon IRB approval.").

Recruitment will begin upon IRB approval.

*required

How and when will you ensure that participants meet your study criteria?

For example, a screening survey or verbal confirmation.

Participants will provide both verbal and written confirmation they meet the criteria of this study.

*required

Attach your recruitment documents as separate Word documents* here.

*If you are using a proprietary screening tool (e.g., PAR-Q), it can be submitted as a PDF.

Depending on your above responses, you may need to attach multiple documents:

- Screening Survey/Instrument
- Email(s)
- Letter(s)
- Social media post(s)
- Flyer(s), etc.

[Recruitment Letter.docx](#) Sample documents: [Recruitment \(Letter/Email\)](#) , [Recruitment \(Follow-up\)](#) , [Recruitment \(Flyer\)](#)

[Recruitment Followup.docx](#)

[Recruitment\(Verbal\).docx](#)

Note: If any recruitment documents will need to be provided in a different language, those documents should be attached here.

Consent

Determination of Consent Waiver Eligibility

The below questions will help us determine if your project qualifies for a waiver of consent, consent elements, or signed consent.

*required

Does your project involve deception?

Deception may include, but is not limited to, the following:

- Withholding the full/true purpose of the study.
- Withholding information about experimental/controls groups.
- Audio/video recording or photographing participants without their knowledge.

Yes

No

*required

Does your project involve anonymous data collection methods?

Yes

No

*required

Does your project involve a participant population where signing forms is not the norm?

Yes

No

Obtaining Parental Consent and Child Assent

This section will gather details about the parental consent and child assent processes.

*required

Does your study require parental/guardian consent?

If any of your participants are under 18 years of age, parental consent is most likely a requirement. Yes

No

*required

Is child assent required for your study?

Assent is required unless the child is not capable of assenting due to age, psychological state, or sedation OR the research holds out the prospect of a direct benefit that is only available within the context of the research.

- Children under the age of 13 should receive a separate child assent form written at their grade level that they can read or that can be read to them.
- Children between the ages of 13 and 17 can provide assent on the parental consent form.

Yes

No

*required

Obtaining Consent

This section will gather details about the consent process.

*required

How and when will you provide consent information to participants?

For example, will consent be provided as an attachment to your recruitment email, as the first page participants see after clicking on the survey link, etc.?

Consent forms will be provided once participants respond to recruitment emails.

*required

How and when will signed consent be obtained?

For example, participants will type their names and the date on the consent form before completing the online survey, participants will sign and return the consent forms when you meet for their interview, etc.

If your study is anonymous and qualifies for a waiver of signed consent, please state the following in the below box: "A waiver of signed consent has been requested." Consent forms will be requested to be signed and returned before or the day of interviews.

Please attach your consent form(s) as separate Word documents.

If you have multiple participant groups, you may need to submit a consent form for each group.

[Consent-2.docx](#) Sample documents: [Consent](#) , [Consent \(Medical\)](#)

Note: If any documents written in a language other than English will need to be provided to potential participants, those documents should be attached here.

Procedures

Study Design

This section gathers additional information about planned procedures.

*required

Will your study involve any of the following?

Check the applicable boxes. If none apply, select "N/A."

Extra costs to the participants (tests, hospitalization, etc.)

Alcohol consumption

Protected Health Information (from health practitioners/institutions)

VO₂ Max Exercise

Pilot study procedures (which will be published/included in data analysis)

Use of blood

The use of rDNA or biohazardous material

The use of human tissues or cell lines

Fluids that could mask the presence of blood (including urine/feces)

Use of radiation or radioisotopes

N/A

Procedures

This section will gather additional information about all planned study procedures.

*required

In an ordered list, please describe the procedures for each participant group.

Be concise. Please include time estimates for each procedure. For example:

1. Online survey. 10 minutes.

2. Interview. 30-45 minutes.

If different participant groups are involved, you must also specify which procedures correspond to each group. For example:

1. Online Survey. 15 minutes. (All participants).
2. Focus Group. 45 minutes. (4-5 participants from Group A).
3. Recorded Interview. 30 minutes. (3 participants from Group B).

A recorded interview that will take approximately 1 hour will be conducted with all participants.

Please attach all of your data collection instruments as separate Word documents*.

*If any of your data collection instruments are proprietary/validated instruments, you may submit them as PDFs.

Possible attachments may include:

- Survey/Questionnaire questions
- Interview questions
- Observation protocols
- Session outlines
- Prompts
- Checklists
- Educational handouts, etc.

[Thesis Interview Questions Student and Teachers .docx](#)

Note: If any documents written in a language other than English will need to be provided to participants, those documents should be attached here.

Compensation

Note: Certain states outlaw the use of lotteries, raffles, or drawings as a means of compensating research participants. Research compensation exceeding \$600 per participant within a one-year period is considered income and will need to be filed on the participant's income tax returns. If your study is grant funded, the Office of Sponsored Programs (OSP) policies might affect how you compensate participants. Contact the IRB or OSP for additional information.

*required

Will this project involve participant compensation?

Compensation may include gift cards, meals, extra credit,
etc. Yes

No

Study Sites & Permissions

This section will gather information about study locations and any necessary permissions.

*required

Please state the actual location(s)/site(s) at which the study will be conducted.

Be specific. Include the city, state, school/district name, clinic name, etc.

Due to COVID, all interviews will be conducted remotely via phone call and/or in the office or place of residence of the participants depending on the wishes of the participant.

*required

Will you need to receive conditional IRB approval before your study location(s) will grant permission?

The conditional IRB approval letter states that a study is ready for complete IRB approval once documentation of permission is received.

Yes

No

Please submit any permission letters you have obtained.

- If you are still in the process of obtaining permission letters, they can be uploaded at a later time.
- If you would like us to review your permission request template(s) or permission letter template(s), please submit those here.

Sample documents: [Permission \(Request Letter\)](#) , [Permission \(Example Letter\)](#)

Privacy & Data Analysis

This section will collect additional information about how you plan to protect privacy and analyze your data.

*required

Describe the steps you will take to protect the privacy of your participants.

- If you are conducting interviews, will you use a private setting where others will not overhear?
- If you plan to use online surveys, will they be anonymous or stored securely in an online database?
- If you plan to use hardcopy surveys, will the data be stored in a locked cabinet/desk?

Interviews will be conducted in a private setting, and all data collected will be secured in a password protected file on a password protected computer.

*required

Where will the data be stored and who will have access to the data?

I.e., a password-locked computer, a locked drawer, and locked filing cabinet, etc; only the researcher; the researcher/faculty committee. A password-locked computer will be used to store data.

*required

Will the data be destroyed after three years?

It is strongly advised that data be retained for a minimum of 3 years after the study has been completed.

✓ Yes

*required

Describe how the data will be destroyed.

I.e., it will be deleted from the computer, paper copies will be shredded, etc.

It will be deleted from the computer.

No

*required

How will the data be analyzed?

As applicable, describe the statistical methods to be used, any use of data analysis software/packages, whether you will use grouping or themes, etc.

Research data will be categorized in groupings.

*required

What will be done with the data and resulting analysis?

Include any plans for publication or

presentation. Data will be presented in my thesis presentation.

*required

Will this project involve the use of archival data or secondary data?

- Archival data is information previously collected for a purpose other than the proposed research. Examples include student grades and patient medical records.
- Secondary data is data that was previously collected for the purpose of research. For example, a researcher may choose to utilize survey data that was collected as part of an earlier study.
- If you plan to collect documents from participants or an organization (meeting minutes, policies, syllabi, notes, etc.) please respond "yes."

Yes

No

*required

Media Use

This section gathers additional information about any planned use of media and/or audio/video devices.

*required

Will this project involve any of the following?

Check the applicable boxes. If none apply, select "N/A."

Audio recording

Video recording

Photography

N/A

*required

If a participant chooses to withdraw from the study, how will their recordings and/or photographs be disposed of?

All audio recording will be deleted if a participant wishes to withdraw from the study.

*required

Confidentiality

Confidentiality means that the researcher can identify participants and link them to their data, but the researcher will not reveal participant identities to anyone outside of the study.

*required

Based on the above definition, are any aspects of your study considered confidential?

Yes

No

*required

Confidential Data Collection

This section will gather additional information about the confidential aspects of your project.

*required

Can participant names or identities be deduced from the raw data?

Note: If you are audio/video recording or taking photographs of participants, check yes.

Yes

*required

Describe how names or identities could possibly be deduced and any steps to prevent this from happening:

Due to an audio recording of participants. However, recordings will be stored in password locked files on a password locked computer.

No

*required

Will a person be able to identify a subject based on other information in the raw data (i.e., title, position, sex, etc.)?

Yes

No

*required

Describe the process you will use to ensure the confidentiality of the participants during data collection and in any publication(s).

For instance, you may be able to link individuals/organizations to identifiable data; however, you will use pseudonyms or a coding system to conceal their identities. Pseudonyms will be assigned to each participant.

*required

Do you plan to maintain a list or code book linking pseudonyms or codes to participant identities?

Yes

*required

In the below box, state:

1. Where the list or code book will be stored.
 2. Who will have access to the list or code book.
-

For example, in a locked cabinet or drawer; in a separate password-protected folder.

This will be stored in a password protected folder.

*required

The researcher(s) affirm that the list or code book will be stored separately from the raw data.

Failure to store the list or code book separate from the data would defeat the purpose of providing pseudonyms or codes to participant identities, as one would be able to easily deduce participant identities.

Yes

No

*required

Anonymity

Anonymity means that although the researcher knows whom he or she invited to participate in his or her study, once the data is collected, the researcher cannot link individuals to their personal data. This means that no personally-identifying information can be collected in an anonymous study.

*required

Based on the above definition, are any aspects of your study considered anonymous?

Yes

No

Risks & Benefits

Risks

This section will gather additional information about any potential risks involved with your project.

*required

Describe the risks to participants and any steps that will be taken to minimize those risks.

If the only potential risk is a breach in confidentiality if the data is lost or stolen, state that below. Remember:

- Risks can be physical, psychological, economic, social, or legal.
- No study is completely without risk.

Risks or discomforts from this research include discussing possible negative experiences participants have had throughout their music career.

*required

Will alternative procedures or treatments that might be advantageous to the participants be made available?

Yes

No

*required

Is this project considered greater than minimal risk?

Remember, minimal risk means that the probability and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests. Yes

No

Benefits

This section will gather additional information about any potential benefits involved with your project.

*required

Describe the possible direct benefits to the participants. If participants are not expected to receive direct benefits, please state "No direct benefits."

Remember:

- Completing a survey or participating in an interview will not typically result in direct benefits to participants.
- Benefits are not the same as compensation. Do not list gift cards, meals, etc. in this section.

A direct benefit participants should expect to receive from taking part in this study is a sense of cathartic release, as both students and teachers discuss their experiences and situations in which they were involved—both good and bad—throughout their education/careers. Furthermore, participants may experience personal growth as they expand their knowledge of the researched topic.

*required

Describe any possible benefits to society.

For example, increased public knowledge on the topic, improved learning outcomes, etc.

Benefits to society include better awareness of the inclusivity of students with exceptionalities in music. Additionally, this study helps provide information to music educators as to the availability of resources and ways to better advocate for students with exceptionalities.

Evaluation of Risks and Benefits

This section establishes whether or not the study is worth doing based on the risks and benefits described.

*required

Evaluate the risk-benefit ratio.

Why is the study worth doing, even with any identified risks?

This study will help advocate for an underserved group in music education.

Attachments

Human Subjects Training Documentation

Note: This upload is only required for non-affiliated, non-LU personnel. If you are affiliated with LU, we are able to view your CITI training report.

External Investigator Agreement

Note: This upload is only required for non-affiliated, non-LU personnel. If you are affiliated with LU, you are able to provide certification within the Cayuse system.

Proof of Permission to Use LU Participants, Data, or Groups

Note: If you are not using LU participants, data, or groups, you do not need to include an attachment here.

DNP Permission

Note: If you are not in the Doctor of Nursing Practice Program (School of Nursing), you do not need to include an attachment here.

Sample documents: [Permission \(Request Letter\)](#) , [Permission \(Example Letter\)](#)

Recruitment

Note: If you are strictly using archival data, you may not need to include an attachment here.

[Recruitment Letter.docx](#) Sample documents: [Recruitment \(Letter/Email\)](#) , [Recruitment \(Follow-up\)](#) , [Recruitment \(Flyer\) Recruitment Followup.docx](#)

[Recruitment\(Verbal\).docx](#)

Parental Consent

Note: If your study does not involve minors, you will not need to provide an attachment here. Sample documents: [Parental Consent](#)

Archival Data Forms, Templates, or Collection Sheets

Note: If you are not using archival data, you will not need to provide an attachment here.

Archival Data Permission

Note: If you are not using archival data, you will not need to provide an attachment here.

Sample documents: [Permission Letter-P.docx](#), [Permission \(Request Letter\)](#) , [Permission \(Example Letter\)](#)

Data Collection Instruments

Note: If you are strictly using archival data, you may not need to provide an attachment here.

[Thesis Interview Questions Student and Teachers .docx](#)

Site Permission

Note: If you do not require external permission(s) to conduct your study, you may not need to provide an attachment here.

Sample documents: [Permission \(Request Letter\)](#) , [Permission \(Example Letter\)](#)

Child Assent

Note: If your study does not involve minors, you will not need to provide an attachment here.

Sample documents: [Child Assent](#)

Consent Templates

Note: If you are strictly using archival data, you may not need to provide an attachment here.

[Consent-2.docx](#) Sample documents: [Consent](#) , [Consent \(Medical\)](#)

Debriefing

Note: If your study does not involve deception, you will not need to provide an attachment here.

Sample documents: [Debriefing](#)

Appendix B

Teacher questions:

- What is your job title?
- How long have you been a teacher?
- What made you decide to pursue teaching?
- What is your highest degree?
- Have you, yourself, ever been diagnosed with an exceptionality?
- Have you ever taught students with exceptionalities? (That is, have you ever had a student who was, or is, physically or academically impaired in any way?)
- If you answered yes to the previous question, approximately how many students with exceptionalities have you taught?
- Can you share some of your experiences while working with exceptional education students?
- Have you ever had to make accommodations for a student?
- If you answered yes to the previous question, describe that experience.
- Have you ever been involved in an IEP or 504 meeting?
- If you answered yes to the previous question, describe that process.
- Have you ever received training in working with students with exceptionalities?
- Have you ever struggled to obtain resources, or struggled in any way, to accommodate an exceptional education student?
- If you answered yes to the previous question, what was that experience? How was it resolved?
- Have you ever had an exceptional education student for which you had to advocate?
- Have you ever had an exceptional education student that you were unable to accommodate?
- If you answered yes to the previous question, describe that experience.

- Describe your worst or most disappointing experience while teaching a student with an exceptionality.
- Describe your best experience while teaching a student with an exceptionality.
- Have you ever had an exceptional education student that you believe could have been better accommodated had you more readily had access to resources or training?
- What is your comfort level in working with students with exceptionalities?
- With what types of technologies are you familiar for students with exceptionalities?
- How did you discover these resources?
- Have you ever reached an exceptional education student through music?
- Do you believe that music education is helpful and therapeutic for exceptional education students?
- Do you believe that music education is a way for students with exceptionalities to relate to their peers and express themselves?

Student questions:

- What is your official diagnosis?
- Were you ever involved in music classes?
- How long were you involved in music classes?
- Did you ever struggle in a music class? If yes, please elaborate.
- Was a music teacher or professor ever unable or unwilling to accommodate you? If yes, please elaborate.
- Did you ever feel discriminated against or separated from the general population? If yes, please elaborate.
- Have you ever required accommodations? (Assistive technology, a reader, a note taker, testing in a testing center, extended time, etc.?) If yes, what type?

- Has a music teacher ever made you feel like you were unable to succeed in his or her class based upon your exceptionality? If yes, please elaborate.
- Have you ever been denied access to taking a class based upon your exceptionality? If yes, please elaborate.
- What was your worst experience in a music class because your exceptionality?
- What was your best experience in a music class?
- Has music had an impact in your life? If yes, please elaborate.
- Do you believe that being involved in music has helped you express yourself? If yes, please elaborate.
- Do you believe that music has given you a community that you likely otherwise may not have had? If yes, please elaborate.
- Have you had any negative experiences in a music classroom that you believe could have been fixed by the teacher receiving specialized training? If yes, please elaborate.
- Have you had any negative experiences in the music classroom that you believe could have been the result of a lack of funding? If yes, please elaborate.
- How far did you make it in school? (High School, Undergraduate, or Graduate Degree?)
- What are your normal accommodations outside of the music classroom, if any?
- Do you have, or have you had, an IEP or 504 plan?
- Has a music teacher ever advocated for you? If yes, please elaborate.
- How does your exceptionality impact you normally?